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## **The Impact of the Grain Glitch Fix on Specified Cooperatives**

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### **ABSTRACT**

This study investigates the effect of the “Grain Glitch Fix” on the tax and accounting method choices of Specified Agricultural Cooperatives. While the fix was intended to level the playing field between corporate producers and Specified Coops, its modifications also created planning opportunities for both Specified Coops and their patrons that had the potential to expand each eligible patron’s Qualified Business Interest Deduction by as much as 29% or reduce it to as little as 11% of their business income. This study focuses on two such opportunities: a Specified Coop’s decision to retain or pass-down its IRC §199A(g) deduction to eligible patrons and its choice to adopt (or not adopt) the pooling method of accounting to increase their IRC §199A(g) deduction amount. The results and conclusions of this paper contribute to existing literature on the Grain Glitch Fix by showing the differential impact of a Specified Coop’s tax rule and accounting method choices on its retention and distribution levels vary depending on the Specified Coop choice and patron being considered.

JEL Classifications: K34: Tax Law; M48: Government Policy and Regulation; Q13:  
Cooperatives

## Section 1. Introduction

This study examines the effect of the “Grain Glitch Fix” on the tax and accounting method choices of a unique set of firms, Specified Agricultural Cooperatives (“Specified Coops”). The IRS defines a “specified agricultural or horticultural cooperative” as an organization which qualifies for taxation under subchapter T and is engaged in either the manufacturing, production, growth, or extraction of an agricultural or horticultural product, or the marketing of an agricultural or horticultural products which its patrons have manufactured, produced, grown, or extracted, or the provision of supplies, equipment, or services to farmers or to organizations manufacturing or marketing an agricultural or horticultural product. Most agricultural commodity marketing and farm supply cooperatives would be classified as “specified cooperatives”.

The Qualified Business Income Deduction (“QBID”), enacted as a part of the Tax Cuts and Jobs Act of 2017 (“TCJA 2017”), allowed eligible patrons who sold their agricultural product to corporate producers a non-cash deduction equal to 20% of their Qualified Business Income (“QBI”). IRS guidelines describe cooperative patrons who have their farm organized as sole proprietorships, partnerships, S corporation trusts or estates (a business form other than a C corporation) as “eligible patrons. Most, but not all, patrons of agricultural marketing and supply cooperatives would be eligible patrons. The IRS has a precise definition of QBI but, in general terms, it can be thought of as the net income of the farming operation not including investment items such as capital gains or losses. If, however, the patron sold the same product to a Specified Coop, their QBID was based on 20% of gross distributions received from the coop.<sup>1</sup> This disparity, known as the “Grain Glitch”, created a marketing advantage and perceived incentive for eligible patrons to sell their product to Specified Coops rather than corporate producers to obtain a higher QBID and maximize their after-tax returns [Kenkel, McKee, Boland and Jacobs, 2019; Greenberg, 2018]. The Consolidated Appropriations Act of 2018 (“CAA 2018”) addressed the Grain Glitch disparity by modifying and increasing the complexity of the QBID for Specified Coop eligible patrons in three ways (“Grain Glitch Fix”).<sup>2</sup> First, it requires patrons to compute their initial QBID under IRC §199A(a) in the same manner as if they had sold their product to a

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<sup>1</sup> See Internal Revenue Code (“IRC”) §199A.

<sup>2</sup> The definition of “patron” includes any individual, trust, estate or corporation who does business with the coop on a cooperative basis (Treasury REG. §1.1388-1(e)). Eligible patrons include non-corporate farmers while ineligible patrons primarily consist of corporations.

corporate producer. Next, it introduced a new deduction to Specified Coops under IRC §199A(g) but gives them the option of passing it down to eligible patrons to include in their own QBID. Finally, it requires eligible patrons to reduce their QBID by the “IRC §199A(b)(7) reduction”. While this reduction was designed to offset their pass-downed Section 199A(g) deduction amount its required regardless of whether the Specified Coop passes down their IRC §199A(g) deduction or not.<sup>3</sup>

While the Grain Glitch Fix was intended to level the playing field between corporate producers and Specified Coops, its modifications also created planning opportunities for both Specified Coops and their patrons by expanding an eligible patron’s QBID to as much as 29% or reducing it to as little as 11% of QBI [Nigh, 2018].<sup>4</sup> This study focuses on two such opportunities: a Specified Coop’s decision to retain into unallocated equity its IRC §199A(g) deduction amount or transfer it to allocated equity by passing-down it down to eligible patrons in the form of higher qualified distributions and its choice to adopt (or not adopt) the pooling method of accounting to increase their IRC §199A(g) deduction amount.<sup>5</sup> It should be noted that Specified Coops could also distribute profits in the form of non-qualified distributions instead of retaining the funds as unallocated equity. The tax distinction between qualified and non-qualified allocated equity is discussed later in the paper. Historically, few agricultural cooperatives have made non-qualified distributions although more cooperatives have adopted the practice since TCJA 2017. The assumption that the cooperative retained profits as non-qualified allocated equity rather than unallocated equity would not affect the distribution year affects discussed in this paper, but it would add an additional patron benefit and cooperative tax effect in the future year when the non-qualified revolving equity is redeemed. Since Specified Coops are only allowed to pass-down their IRC §199A(g) deduction to eligible patrons, the analysis is stratified across the coop’s primary (eligible) and secondary (ineligible) patron groups. When eligible patrons are considered, I suggest Specified Coops always have incentive to pass-down into allocated equity their entire IRC §199A(g) deduction to eligible patrons for two reasons. First, it

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<sup>3</sup> The 2018 Act IRC §199A modifications retro-actively took effect beginning January 1, 2018.

<sup>4</sup> As further discussed later in this paper, while the patron’s 20% IRC §199A(a) & 9% IRC §199A(b)(7) calculations are similar the respective calculation bases are different at both the Specified Coop and patron levels so the maximum may not be necessarily be equal to 29% of the patron’s QBI.

<sup>5</sup> Using a case study approach, Kenkel and Briggeman [2018] suggest the Grain Glitch Fix is beneficial to eligible patrons who sell their product to grain, corn and soybean Specified Coops as opposed to similar corporate producers. See also Kenkel, McKee, Boland and Jacobs [2019].

allows the coop to increase distributions to patrons by the passed-down IRC §199A(g) amount in a tax-deductible manner that doesn't impact their own tax position. Second, patron after-tax returns are maximized by the sum of the increased tax-sheltered distribution received plus an additional after-tax return "bump" ranging from 11-20% of the passed-down IRC §199A(g) amount. The evidence supporting a Specified Coop's incentive to adopt the pooling method of accounting is mixed, however, and varies based on the wage expense of the patron. The patron's reduction of their QBID from marketing with a cooperative is limited by their W-2 wage expense. Therefore, patrons with higher ratios of W-2 wages to operating revenue (which we term "high-wage" patrons) will see the full reduction in their QBID due to marketing through a cooperative while patrons with no W-2 wages (which we term "low-wage" patrons) experience no effect on their QBID. In general, specialty crop producers and large commodity crop producers tend to have higher W-2 wage to income ratios while smaller commodity crop operations might be family operations with no W-2 wages. Specified Coops with high-wage patrons have no incentive to adopt the pooling method of accounting as it provides them little to no after-tax return benefit. On the other hand, low-wage patrons benefit from belonging to pooling specified coops as their after-tax returns increase thru a combination of the larger passed-down IRC §199A(g) deduction and/or restriction (or elimination) of their IRC §199A(b)(7) reduction. I suggest that Specified Coops have incentive to adopt the pooling method of accounting when the marginal benefit to patrons after-tax returns exceeds the cost of maintaining this separate accounting system. I further suggest Specified Coops with increased levels of low-wage farmers in their patron base will have increased incentive to adopt the pooling method of accounting. When ineligible patrons are considered, Specified Coops benefit under the new law by retaining their IRC §199A(g) deduction passed down into unallocated equity while patrons are worse off because their qualified coop distributions decrease by a like-amount. This disparity is exacerbated for Specified Coops that adopt the pooling method of accounting. In both instances, Specified Coops I suggest have a choice of either retaining their newfound unallocated equity to support current operations (or finance projects) or transferring it to allocated equity by issuing non-qualified distributions to ineligible patrons. The latter option allows each ineligible patron to approximate eligible patron after-tax returns by redeeming their non-qualified equity certificates for cash at a time of their choosing in a manner that is tax deductible to the Specified Coop. I suggest Specified Coops will have incentive to make non-qualified distributions when the marginal benefit of increasing ineligible patron allocated equity exceeds the marginal cost of

reducing their unallocated equity levels. Furthermore, I suggest this incentive will be greatest for Specified Coops that adopt the pooling method of accounting.

The results and conclusions of this paper contribute to existing literature on the Grain Glitch by showing the differential impact of tax rule and accounting method choices on their retention and distribution levels vary depending on the Specified Coop's choice and patron being considered. They are generalizable across Specified Coop types and are of interest to academics, Specified Coop management, patrons, and practitioners. This paper is structured as follows: Section 2 discusses the tax rules associated with Specified Coops while Section 3 discusses the Grain Glitch Fix. An analysis is provided in Section 4 while Section 5 contains a summary and conclusion.<sup>6</sup>

## **Section 2. Taxation of Specified Cooperatives**

As previously discussed, Specified Coops are a subset of agricultural coops that manufacture, produce, grow, or extract agricultural or horticultural products.<sup>7</sup> They provide a means for farmer-patrons who are both the coop's owners and primary users to combine their resources in areas such as processing, transportation, packaging and distribution as well as to gain access to markets that are individually beyond their reach [Burt, 2014]. Their primary source of income derives from activities tied directly to the volume of business conducted by its patrons ("patronage income").<sup>8</sup> As with any trade or business, Specified Coops may deduct ordinary business expenses to determine their distributable net margins [Sexton, 1990; Frederick, 2019]. Additionally, IRC Subchapter T allows for two additional distribution related deductions: Patronage Dividends and Per-Unit Retains.<sup>9</sup> Patronage Dividends represent net margin distributions to patrons based on the quantity (or value) of business done with the coop.<sup>10</sup>

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<sup>6</sup> Appendix A contains a listing of terms used in this paper.

<sup>7</sup> Treasury REG. §1.199A-8(a)(4) defines a Specified Coop based on the types of products they are associated with, including: horticultural, viticulture and dairy products, livestock, the products of poultry and bee raising, edible products of forestry and all products raised or produced on farms and processed or manufactured within the United States.

<sup>8</sup> IRC §1388(L)(4). Kenkel and Briggeman [2018] estimate that 85% of the income generated by their case study coops was patronage sourced while the remaining 15% came from non-patronage sourced activities (incidental income that is not directly related to the marketing, purchasing, or service activities of a Specified Coop and merely enhances its overall profitability). Accordingly, focuses on the QBID's effect on Specified Coop retention/distribution policies of patronage related income and does not address the impact of the Grain Glitch Fix on its non-patronage sourced activities.

<sup>9</sup> IRC §1382.

<sup>10</sup> IRC §1388.

Patronage Dividends can either be qualified or non-qualified. Qualified Patronage Dividends are currently deductible to the Specified Coop with patrons recognizing their like value into gross income. Patronage Dividends not meeting qualified criteria are classified as “Non-Qualified” Patronage Dividends. While the cash portion of the distribution is considered qualified and deductible to the Specified Coop when paid (and included in patron gross income), the equity portion is considered non-qualified and deductible to Specified Coops in the year it redeems the equity for cash with the patron including the cash received into gross income.<sup>11</sup> Patronage Dividends are classified as “Qualified” when: (a) at least 20% of the distribution fair value is in the form of cash with the remainder paid out in coop equity; (b) the distribution is made within 8.5 months of the tax year in which the patronage income is earned; and (c) each patron consents to recognizing the fair value of the distribution’s equity into gross income in the year received.<sup>12</sup> Because no established market for Specified Coop equity exists, Patronage Dividend equity distributions are typically redeemed by the coop at a later date at face value for cash. Royer and Wissman [1989] suggest Non-Qualified Patronage Dividends offer an alternative means for Specified Coops to distribute net margins that may be preferred by patrons with relatively higher marginal tax rates relative to the Specified Coop.

Per-Unit Retains represent an equity investment by patrons in their Specified Coop and consist of equity allocations to a patron, the amount of which is determined without reference to coop net margins.<sup>13</sup> If the patron agrees to include the per-unit retain certificate amount into gross income in the year received, its classified as a “qualified” with the Specified Coop being allowed a current like-amount deduction from their net margin. Per-Unit Retains not meeting these criteria are classified as non-qualified.<sup>14</sup> Similar to Non-Qualified Patronage Dividends, Specified Coops are allowed a deduction (and patron required to include into gross income) in the year it redeems its non-qualified equity certificates for cash.

A Specified Coop’s ability to deduct both Patronage Dividend and Per-Unit Retains currently or upon cash redemption is consistent with the Subchapter T approach that views

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<sup>11</sup> IRC §1382(c) and 1383. Specified Coops use *Non-Qualified Written Notices of Allocation* to notify patrons of their non-qualified distribution as well as its cash/equity split.

<sup>12</sup> IRC §1385. Specified Coops use *Qualified Written Notices of Allocation* to notify patrons of their qualified patronage dividend distribution as well as the cash/equity split.

<sup>13</sup> IRC §1388(f). A Specified Coop uses *Per-Unit Retain Certificates* are used to disclose to the recipient the fair value of the per-unit retain allocation. The certificate must be issued prior to 8.5 months after the close of the tax year to be classified as qualified.

<sup>14</sup> IRC §1388(d).



Specified Coops as extensions of their patrons with its income subject to tax only once, either at the Specified Coop or patron level. Any remaining Specified Coop taxable income is subject to tax at the corporate tax rate of 21%.<sup>15</sup>

### **Section 3. The Grain Glitch**

TCJA 2017 created the QBID by allowing the Domestic Production Activities Deduction (“DPAD”) to expire.<sup>16</sup> Under the new law, farmers organized as sole proprietorships, partnerships, S corporations, trusts or estates that deliver their product domestically to corporate producers are allowed a non-cash QBID under IRC §199A(a) equal to 20% of their Qualified Business Income or “QBI.”<sup>17</sup> If the same farmer, however, delivered the same product to a Specified Coop, their deduction was computed as 20% of their gross distributions received from the Specified Coop. This disparity, known as the Grain Glitch, represented an unintended consequence of TCJA 2017 and created a marketing advantage to Specified Coops and perceived incentive for non-corporate farmers to sell their product to the coop rather than corporate producers to obtain a higher QBID and maximize their after-tax returns [Nigh, 2018].

CAA 2018 amended TCJA 2017 to address the Grain Glitch disparity with the Treasury providing additional guidance by issuing Treasury REG’s. §1.199A-7 thru 1.199A-12.<sup>18</sup> Under the fix, the Section 199A(a) rules for non-corporate farmers who sell their product to corporate producers remain unchanged. The modification, however, increased the complexity a Specified Coop eligible patron’s QBID by reinterpreting their IRC §199A(a) deduction and adding both a potential IRC §199A(g) deduction and IRC §199A(b)(7) reduction as follows:

$$QBID = 199A(a) + 199A(g) - 199A(b)(7)$$

Under the new rules, Specified Coop eligible patrons are required to include all payments received from the Specified Coop into the determination of their QBI, thus ensuring their the IRC

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<sup>15</sup> IRC §1381.

<sup>16</sup> IRC §199 (repealed). The DPAD was created as part of the American Jobs Creation Act of 2004 (“AJCA 2004”) to compensate U.S. manufacturing companies for the loss of export tax relief and incentivize businesses, including Specified Coops and to keep and/or create jobs in the United States [Harris, 2007].

<sup>17</sup> QBI is defined as: “of qualified items of income, gain, deduction or loss with respect to any trade or business conducted within the United States” (Treasury REG. §1.199A-3(b)).

<sup>18</sup> Since the Grain Glitch Fix modifications pertain primarily to a Specified Coop’s patronage related activities this study does not consider the impact of these provisions on its non-patronage sourced activities.

§199A(a) deduction is computed in a similar fashion as farmers who sell their product to corporate producers.<sup>19</sup> CAA 2018 also introduced a DPAD-like IRC §199A(g) deduction initially available to Specified Coops and computed as 9% of their Qualified Production Activity Income, or “QPAI”.<sup>20</sup> The coop can elect, however, to pass-down some or all of this deduction to eligible patrons but must also reduce their qualifying distribution deduction under IRC §1382 by the passed-down IRC §199A(g) amount. If passed-down, their IRC §199A(g) deduction is not subject to a second limitation at the eligible patron level since it was already subject to limitations at the coop level. Finally, eligible patrons are required to reduce their QBID by as much as 9% of QBI under the IRC §199A(b)(7) reduction.<sup>21</sup> While this reduction was designed to offset the eligible patron’s pass-downed IRC §199A(g) deduction, it is required regardless of whether the Specified Coop passes-down their deduction or not.<sup>22</sup>

#### **Section 4: Analysis**

The influence of the Grain Glitch modifications on Specified Coop tax and accounting method choices is investigated in this section.<sup>23</sup> Part A examines a Specified Coop’s decision to retain or pass-down its IRC §199A(g) deduction and their choice of adopting (or not adopting) the pooling method of accounting to their primary patron group (eligible patrons). Since Specified Coops are not allowed to pass-down their IRC §199A(g) deduction to ineligible patrons, Part B examines how this restriction impacts their distribution policies and choice of adopting (or not adopting) the pooling method of accounting to their secondary patron group (ineligible patrons)<sup>24</sup>. See Appendix B for numerical example equations provided in this section.

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<sup>19</sup> Treasury REG. §1.1999(c)(7). Each patron’s IRC §199A(a) deduction is subject to a capital/wage limitation.

<sup>20</sup> QPAI is based on the Specified Coop’s domestic revenues less cost of goods sold and ordinary business expenses. The IRC §199(g) deduction is subject to a Specified Coop a taxable income and 50% wage limitation.

<sup>21</sup> The IRC §199A(b)(7) reduction is subject to a wage limitation defined as 50% of the eligible patrons W-2 wages [Treasury REG. §1.199A-7(f)(2)].

<sup>22</sup> It’s important to note, however that while the IRC §199A(g) & IRC §199A(b)(7) calculations are similar the respective calculation basis are different at both the Specified Coop (QPAI) and eligible patron (QBI) levels so the amounts are not expected to be the same in all instances.

<sup>23</sup> In all instances I assume the Specified Coop has sufficient taxable income and wage levels to preclude restriction of its IRC §199A(g) deduction. This assumption appears reasonable as Kenkel and Briggeman [2018] reports that their “representative” wheat coops had an average IRC §199A(g) deduction of .073 per bushel which was less than 50% of their average labor expense of 0.15 per bushel. Additionally, I assume the patron’s have invested in sufficient capital to preclude restriction of their IRC §199A(a) deduction.

<sup>24</sup> Kenkel and Briggeman [2018] show that 89% of their sample patron group are eligible patrons while the remaining 11% consist of ineligible patrons.

**Part A: Eligible Patrons & Tax Choice**

Assume a Specified Coop processes, markets and sells product delivered by eligible patrons on the domestic market. It's QPAI consists of their patronage domestic production gross receipts ("DPGR") less the sum of the initial payment made to eligible patrons for the agricultural product delivered ("IP") and ordinary business expenses incurred ("CEXP"). QPAI is further reduced by the Specified Coop's IRC §199A(g) deduction to equal its net margin ("NM"). Conditional on the coop distributing NM to eligible patrons in a sufficient amount to reduce its taxable income to zero,<sup>25</sup> the impact of it retaining or passing-down its IRC §199A(g) deduction to eligible patrons on its qualified distribution levels is shown below<sup>26</sup>:

*Specified Coop Retains IRC §199A(g) Deduction:*

$$1) DPGR - (IP + CEXP) = QPAI - (QPAI * 9\%) = NM - QD1 = 0$$

*Specified Coop Passes-down their IRC §199A(g) Deduction to Eligible Patrons:*

$$2) DPGR - (IP + CEXP) = QPAI - (QPAI * 9\%) = NM - [(QD2) - 199A(g)] = 0$$

Equation 1 assumes the Specified Coop retains its IRC §199A(g) deduction into unallocated equity and distributes its remaining NM to eligible patrons in a qualifying distribution ("QD1"). Equation 2 assumes the Specified Coop transfers its IRC §199A(g) deduction to allocated equity by passing it down to eligible patrons. This allows them to increase their qualifying distribution amount ("QD2") by the passed-down IRC §199A(g) amount and distribute it to eligible patrons in a tax-deductible manner under IRC §1382 that doesn't impact their own tax position. The intuitive explanation for Equation 2 is that the cooperative is passing on what would be its taxable income to the patrons in a tax-deductible form and thus eliminating taxation at the cooperative level. When the cooperative retains the IRC §199A(g) deduction it has less potentially taxable income and is therefore passing on less tax-deductible patronage to the patrons.

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<sup>25</sup> It should be noted that while some pooling cooperatives structure commodity payments in the form of an initial payment and one or more subsequent payments, most grain and commodity marketing cooperatives make a single payment for the value of the commodity. In the case of grain cooperatives our term "IP" can simply be thought of as the payment for the purchase of the grain.

<sup>26</sup> This assumption is consistent with Kenkel and Briggeman [2018] who suggest that historically agricultural coops have retained only a small portion of their patron's patronage net margins into unallocated equity.

The after-tax return to eligible patrons, conditional on whether the Specified Coop retains or passes-down its IRC §199A(g) deduction, is shown below:

*Specified Coop Retains IRC §199A(g) Deduction:*

$$3) (IP+QD1)-PEXP=QBI1-\{[QBI1-[(QBI1*20\%)-(QD1-PEXP)*9\%]] * MTR\} = ATR1$$

*Specified Coop Passes-down their IRC §199A(g) Deduction to Eligible Patrons:*

$$4) (IP+QD2)-PEXP=QBI2-\{[QBI2-[(QBI2*20\%)-(QD2-EXP)*9\%]]+199A(g)\} * MTR\} =ATR2$$

Equation 3 assumes the Specified Coop retains its IRC §199A(g) deduction. Qualifying Business Income (“QBI”) consists of the sum of IP and QD1 received less ordinary business expenses incurred (“PEXP”). QBI is further reduced the explicit tax paid to equal their after-tax rate of return (“ATR1”). The intuitive explanation for Equation 3 is that the patron’s taxable income is their taxable income from their farming operation less a deduction of 11% of their QBI. The 11% deduction is the net of their 20% deduction from doing business in a non-corporate form, less the 9% offset for marketing through a cooperative. Equation 4 assumes the Specified Coops passes-down its Section 199A(g) deduction. In this instance, the eligible patron’s after-tax return (ATR2) is computed in a similar manner as ATR1 except the QBID is increased by the passed-down IRC §199A(g) deduction. Setting Equations 3 & 4 equal, the increase to eligible patron after-tax returns attributable to the Specified Coop passing-down its IRC §199A(g) deduction is shown in Equation 5 as follows:

$$5) ATR2 = ATR1 + (QD2-QD1) + [(QD2-QD1) * 20\% - ((QD2-QD1)* 9\%)] * MTR]$$

199A(a)                      199A(b)(7)

Since QD2 exceeds QD1 by the passed-down IRC §199A(g) deduction amount, Equation 5 simplifies to:

*Reconciliation of Patron After-Tax Returns Assuming Specified Coop Retains (ATR1) or Passes-Down (ATR2) their IRC §199A(g) Deduction to Eligible Patrons:*

$$6) ATR2 = ATR1 + 199A(g) + [(199A(g) * 20\%) - (199A(g)* 9\%)] * MTR]$$

199A(a)                      199A(b)(7)

or

$$6A) \text{ Zero-MTR Farmers: } ATR2 = ATR1 + 199A(g)$$

$$6B) \text{ High-Wage Farmers: } ATR2 = ATR1 + 199A(g) + [(199A(g) * 20\%) - (199A(g) * 9\%)] * MTR]$$

$$6C) \text{ Low-Wage Farmers: } ATR2 = ATR1 + 199A(g) + [(199A(g) * 20\%) - 0] * MTR]$$

Equation 6 shows patrons always benefit when a Specified Coop passes-down its IRC §199A(g) deduction to them in three ways. As shown in Equation 6A, zero-MTR farmers benefit by the incremental increase in their tax-sheltered qualified distribution equal to the §199A(g) amount which was the amount of increased patronage. Kenkel and Briggeman [2018] show that as few as 20% of the patron base in their study consists of high-wage farmers which sufficient wage levels to preclude restriction of their IRC §199A(b)(7) reduction while as many as 80% of Specified Coop eligible patrons are low-wage farmers whose IRC §199A(b)(7) reduction is restricted or eliminated due to the wage limitation. Accordingly, high-wage farmers receive an additional tax-effected after-tax return “bump” equal to a net 11% of their IRC §199A(g) amount (Equation 6B). Finally, as shown in Equation 6C, low-wage farmers after-tax returns further increase by their tax-effected after-tax return bump equal to as much as 20% because the 9% reduction from marketing through a cooperative is limited by their W-2 wages and is therefore not binding. Eligible low or high-wage farmers with relatively higher/lower MTR’s receive a higher/lower incremental “bump” in after-tax returns.

### ***Part B: Eligible Patrons & Accounting Method Choice***

Kenkel and Briggeman [2018] suggests the availability of the IRC §199A(g) deduction provides Specified Coops incentive to reconsider how they characterize eligible patron payments for agricultural product delivered. Rather than treating the initial payment as a commodity purchase (cost of goods sold) and subsequent payments as qualified distributions, adopting the pooling method of accounting allows them to classify all payments as qualified per-unit retains paid in money, or PURPIMs. Under the pooling method, Specified Coops separately account for and market the agricultural product delivered by patrons on a “crop pool” basis with its value not determined until the pool is processed and sold. Total PURPIM payments (“TPURPIM”) consist of the initial payment (“IPURPIM”) when the product is first delivered and final payment

(“FPURPM”) after the entire crop is sold and pool closed out.<sup>27</sup> FPURPIMs can be thought of as being comparable to Patronage Dividends but in a pooling Specified Coop there is no bright line between FPURPIMs and patronage distributions.<sup>28</sup>

Conditional on a pooling Specified Coop passing down its IRC §199A(g) deduction (“P199A(g)”) to eligible patrons, the effect of it adopting (or not adopting) the pooling method of accounting on its IRC §199A(g) amount and distribution levels is shown in Equation 7 below<sup>29</sup>:

*Pooling Specified Coop Passes-Down its IRC §199A(g) Deduction to Eligible Patrons:*

$$7) DPGR - CEXP = PQPAI - (PQPAI * 9\%) = PNM - [(IPURPIM + FPURPIM) - P199A(g)] = 0$$

Since the initial payment is classified as IPURPIM, Pooling Specified Coop Qualified Production Activity Income (“PQPAI”) consists of DPGR less CEXP. Compared to its non-pooling counterparts, PQPAI increases by the initial payment now classified as IPURPIM to increase their Section 199A(g) deduction by IPURPIM times 9%. TPURPIM payments (IPURPIM plus FPURPIM) close out the pool and when netted against the passed-down IRC §199A(g) amount reduce taxable income to zero. The after-tax return to Pooling Specified Coop eligible patrons is shown in Equation 8 below:

*Pooling Eligible Patron After-Tax Returns - Specified Coop Passes-Down its IRC §199A(g) Deduction to Eligible Patrons:*

$$8) TPURPIM - PEXP = PQBI - \{ [PQBI - (PQBI * 20\%) - (TPURPIM - PEXP) * 9\%] + P199A(g) \} * MTR = PATR$$

Pooling patron Qualifying Business Income (“PQBI”) consists of its TPURPIM received less PEXP. The pooling Specified Coop’s IRC §199A(a) deduction (“P199A(a)”) is defined as (PQBI\*20%) while their IRC §199A(b)(7) reduction amount (“P199A(b)(7)”) is defined as (TPURPIM-PEXP)\*9%). PQBI is further reduced by the patron’s explicit taxes paid to equal their after-tax return (“PATR”). Comparing the after-tax returns of non-pooling (“ATR2”) and pooling eligible patrons (“PATR”) by setting equations 4 & 8 equal, the effect of the pooling Specified

<sup>27</sup> Hammond [1976] states that upon delivery patrons receive an IPURPIM based on perceived market conditions. As the crop year progresses and sales from the pool are made (and allocable expenses deducted) patrons receive the same per-unit progress payments based on the average price of the pool regardless of their crop quality and variety generally receive the same per-unit payments until late in the pool period. When the crop in the pool has been disposed of and pool closed out the patrons receive an equalization payment to bring their total PURPIM payments in line with their actual crop values based on each patron’s delivered crop variety and quality.

<sup>28</sup> In multiple rulings, the IRS agreed that the payments from pooling cooperative made to its members for their commodities are classified as PURPIMS.

<sup>29</sup> This assumes the Specified Coop opens and closes out its pool in the same tax year.

Coop adopting the pooling method of accounting on patron after-tax returns is shown in Equation 9 as follows:

$$9) \text{ PATR} = \text{ATR2} + \{[\text{P199A(g)} - 199\text{A(g)}] - [\text{P199A(b)(7)} - 199\text{A(b)(7)}]\} * \text{MTR}$$

PATR varies from non-pooling patron after-tax returns (“ATR2”) by the tax-effected difference between their respective IRC §199A(g) amount less the IRC §199A(b)(7) reduction amounts. Since the difference between these two amounts is attributable to the pooling Specified Coop’s initial payment recharacterized as IPURPIM, Equation 9 is reduced to the following equation:

*Reconciliation of Non-Pooling Eligible Patron After-Tax Returns (ATR2) and Pooling Specified Coop Eligible Patron After-Tax Returns (PATR):*

$$10) \text{ PATR} = \text{ATR2} + \left\{ \left[ \frac{(\text{IPURPIM} * 9\%)}{\text{P199A(g)} - 199\text{A(g)}} - \frac{(\text{IPURPIM} * 9\%)}{\text{P199A(b)(7)} - 199\text{A(b)(7)}} \right] * \text{MTR} \right\}$$

or

$$10A) \text{ Zero-MTR Farmer: PATR} = \text{ATR2}$$

$$10B) \text{ High-Wage Farmer: PATR} = \text{ATR2} + \{[(\text{IPURPIM} * 9\%) - (\text{IPURPIM} * 9\%)] * \text{MTR}\}$$

$$10C) \text{ Low-Wage Farmer: PATR} = \text{ATR2} + \{[(\text{IPURPIM} * 9\%) - 0] * \text{MTR}\}$$

Equation 10 shows patrons benefit from belonging to a pooling Specified Coop as their after-tax return is a function of the net tax benefit difference between the incremental changes in their IRC §199A(g) deduction less IRC §199A(b)(7) reduction amounts while providing mixed evidence on the benefit eligible patrons realize from belonging to a pooling Specified Coop. As shown in Equation 10A, zero-MTR farmers receive no benefit from belonging to a pooling specified coop as their after-tax returns remain unchanged from their non-pooling counterparts. Additionally, high-wage farmers receive no after-tax benefit from belonging to pooling coop as their tax-effected incremental increase in their IRC §199A(g) deduction is offset by their tax effected incremental increase in their IRC §199A(b)(7) reduction (Equation 10B). On the other hand, low-wage farmers whose IRC §199A(b)(7) reduction is reduced or eliminated due to the wage limitation do benefit from belonging to a pooling Specified Coop as their tax-effected after-tax return bump increases to as much as 20% of IPURPIM (Equation 10C). I predict that Specified Coops will have incentive to adopt the pooling method of accounting when the marginal benefit to eligible patrons after-tax returns exceeds the cost of maintaining this separate

accounting system. I suggest Specified Coops with increased levels of low-wage farmers in their patron base will have increased incentive to adopt the pooling method of accounting.

***Part C: Ineligible Patrons***

Specified Coop's are not allowed to pass-down their IRC §199A(g) deduction on patronage-income sourced to ineligible patrons. The impact of this restriction on non-pooling and pooling Specified Coop distribution levels and patron after-tax returns is shown below:

*Specified Coop Retains IRC §199A(g) Deduction:*

$$11) \text{IDPGR} - (\text{IIP} + \text{ICEXP}) = \text{IQPAI} - (\text{IQPAI} * 9\%) = \text{INM} - \text{IQD} = 0$$

*Pooling Specified Coop Retains IRC §199A(g) Deduction:*

$$12) \text{IDPGR} - \text{ICEXP} = \text{IQPAI} - (\text{IQPAI} * 9\%) = \text{INM} - (\text{IIPURPIM} + \text{IFPURPIM}) = 0$$

Equation 11 shows a non-pooling Specified Coop's Qualified Production Activity Income ("IQPAI") is the difference between the domestic production gross receipts received attributable to non-eligible patrons less the sum of their initial payment ("IIP") and allocable coop ordinary expenses incurred. The coop benefits by retaining their IRC §199A(g) deduction and increasing their unallocated equity levels. Conversely, patron qualifying distribution levels ("IQD") are reduced by a like-amount to bring coop taxable income to zero. Equation 12 shows this disparity is exacerbated for pooling Specified Coops due to the reclassification of the coop's initial payment as IIPURPIM and subsequent increase to their Qualified Production Activity Income ("IQPAI") by a like-amount. The resulting increase in the coop's Section unallocated equity by its IRC §199A(g) amount (PI199A(g)) by IPURPIM\*9% results in a corresponding reduction in remaining PURPIM payments ("FPURPIM") to bring their taxable income to zero. The intuitive explanation is that retaining the IRC §199A(g) deduction decreases the cooperative's potentially taxable income and therefore decreases the amount of tax-deductible patronage.

The impact of the reduced Specified Coop distribution levels on non-pooling and pooling ineligible patron after-tax returns is shown below:

*Non-Pooling Ineligible Patrons After-Tax Returns:*

$$13) (\text{IIP} + \text{IQD}) - \text{IPEXP} = \text{IQBI} * [1 - \text{MTR}] = \text{IATR}$$



*Pooling Ineligible Patrons After-Tax Returns:*

$$14) (IIPURPIM + ISPURPIM) - IPEXP = PIQBI * [(1 - MTR)] = PIATR$$

Equation 13 shows a non-pooling patron's Qualified Business Income ("IQBI") is the sum of IAP and the IQD less allocable ordinary business expenses. Equation 14 shows pooling patron Qualified Business Income ("IQBI") consists of the sum of their PURPIM payments (IIPURPIM and ISPURPIM) less allocable ordinary business expenses. Ineligible patrons with higher/lower MTR rates will have lower/higher after-tax returns (IATR & PIATR). Since SPURPIM is less than IAP by the incremental increase in the pooling coop's Section 199A(g) deduction amount, PIQBI is lower than IQBI by the same amount. Ineligible patrons with higher/lower MTR rates will have lower/higher after-tax returns (IATR & PIATR). The intuitive explanation is that the pooling structure allows the cooperative to further increase its IRC §199A(g) deduction, which when retained, further reduces potential taxable income and therefore further reduces tax deductible patronage.

The impact of the incremental reduction in pooling coop ineligible patron distribution levels on their after-tax returns is shown by comparing Equations 13 and 14 as follows:

*Reconciliation of Non-Pooling Eligible Patron After-Tax Returns (IATR) and Pooling Specified*

$$15) PIATR = IATR - [(IIPURPM*9\%) * (1 - MTR)]$$

Equation 15 shows patrons are worse off belonging to a Specified Coop that has adopted the pooling method of accounting. PIATR is lower than IATR by the tax-effected reduction in the initial PURPIM payment attributable to Specified Coop's retained Section 199A(g) deduction. Additionally, this disparity increases as the patron's MTR increases. I suggest Specified Coops have a choice of what to do with their newfound increase in unallocated equity. Consistent with Kenkel and Boland [2017], they can retain the Section 199A(g) deduction amount and use the funds to support current or future operations.<sup>30</sup> Alternatively and consistent with Kenkel and Briggeman [2018], they can transfer these amounts from unallocated equity to allocated equity by

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<sup>30</sup> Kenkel and Boland [2017] examine the impact of the DPAD on changes in profit distribution and retention strategies of grain marketing and farm supply cooperatives. They suggest that since 2004 marketing coops have been able to use the non-cash DPAD deduction to retain profits as unallocated equity without an increase in their tax liability. They cite anecdotal evidence from discussions with coop Boards of Directors suggesting that grain marketing coops took full advantage of the DPAD to reduce their effective tax rate on patronage income to shift retention from allocated to unallocated equity rather than distribute the cash to patrons.

making a non-qualified distribution to ineligible patrons in the amount of (IPURPIM \*9%) \* MTR. This latter option provides the ineligible patron a pre-tax return comparable to their eligible patron counterparts and allows them the opportunity to redeem their non-qualified equity certificate in a year of their choosing in a manner that is tax deductible to the Specified Coop. I predict Specified Coops will have incentive to make non-qualified distributions when the marginal benefit of increasing ineligible patron allocated equity exceeds the marginal cost of reducing their unallocated equity levels. Furthermore, I suggest this incentive will be greatest for Specified Coops adopting the pooling method of accounting.

### **Section 5: Summary and Conclusion**

This paper examines the influence of the Grain Glitch Fix on the tax rule and accounting method choices of Specified Coops. Some readers may find the analysis and discussion easier to follow then specific numerical examples are provided. Numerical examples of the equations are provided in Appendix B. This paper extends prior research in this area by showing the differential impact of these choices on the Specified Coop's retention and distribution of patronage sourced income varies on the Specified Coop choice and patron considered. When eligible patrons are considered, I show Specified Coops have incentive to pass-down their IRC §199A(g) deduction in a manner that doesn't impact their own tax position but maximizes patron after-tax returns. In contrast, a Specified Coop's incentive to adopt the pooling method of accounting varies depending on patron type considered. When the coop's eligible patron base consists primarily of high-wage farmers, I show Specified Coops have little to no incentive to adopt the pooling method of accounting as it provides their patrons little to no after-tax return benefit. On the other hand, low-wage farmers do benefit from belonging to a pooling coop as their after-tax returns are maximized thru the reduction or elimination of their Section 199A(b)(7) reduction. Finally, when ineligible patrons are considered, I show Specified Coops benefit under the new law thru increases to their unallocated equity levels attributable to their retained Section 199A(g) deduction while patrons are worse off thru corresponding reductions in their coop distributions by a like-amount. This disparity is exacerbated for Specified Coops which adopt the pooling method of accounting. In both instances I suggest Specified Coops have a choice of either retaining their increased unallocated equity to support current operations (or finance projects) or transfer it to allocated equity in the form of non-qualified distributions. This allows the ineligible patrons to approximate eligible patron after-tax returns by redeeming the non-qualified equity certificates for cash at a time of their choosing in a manner that is tax deductible

to the Specified Coop. As Specified Coops expand their activities to developing non-patronage sources of income related to ESG related activities they should consider the how the Grain Glitch Fix impacts their retention and distribution policies related to non-patronage sourced income.

## References

- Burt, L. 2014 (March). "A Brief Introduction to Agricultural Cooperatives". Oregon State University Extension Service. pgs. 1-37.
- Frederick, D.A. 2019. "Tax Treatment of Cooperatives". United States Department of Agriculture. Rural Business and Cooperatives Development Service. Cooperative Information Report 23. pgs. 1-10.
- Greenberg, S. 2018. "The 'Grain Glitch' Needs to be Fixed". *Tax Foundation*, February 8, 2018.
- Hammond, T.J. "Cooperative Market Pooling". Circular of Information 657, Agricultural Experiment Station, Oregon State University. November 1976.
- Harris, P.E. 2007. "The Domestic Production Activities Deduction." *Agricultural Law Journal*: Drake University. pgs. 1-142.
- Kenkel, P and M. Boland. 2017 (Summer). "Implications of Equity Structure on Governance of Agricultural Cooperatives". *Cooperative Accountant*. pgs. 2-13.
- Kenkel, P and B.C. Briggeman. 2018. "Impact of Tax Reform on Agricultural Cooperatives and its Members". *Journal of Cooperatives*. pgs. 1-22.
- Kenkel, P. G. McKee, M. Boland and K. Jacobs. 2019. "The New Role of Agricultural Cooperatives in Pooling and Distributing Tax Deductions." *Western Economics Forum*. Fall 2019, Vol 17, Issue 2, pgs. 16-23.
- Nigh, V. 2018. "Grain Glitch No More". *Market Intel* (March 22, 2018), pgs. 1-3.
- Royer, J.S. and R.A. Wissman. "Non-Qualified Notices: An Alternative for Distributing Cooperative Earnings." United States Department of Agriculture; Agriculture Cooperative Service; ACS Research Report Number 80. pgs. 1-56.
- Sexton, R.J. 1990. "Imperfect Competition in Agricultural Markets and the Role of Cooperatives: A Spatial Analysis." *American Journal of Agricultural Economics* 72 (3): pgs. 709-720.

**Appendix A**

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<b>Term</b>	<b>Description</b>
AJCA 2004	American Jobs Creation Act of 2004
TCJA 2017	Tax Cuts and Jobs Act of 2017
CAA 2018	Consolidated Appropriations Act of 2018
Specified Coop	Coop that manufactures, grow, extract or markets agricultural or horticultural products.
Eligible Patrons	Non-corporate farmers who are both owners/users of the Specified Coop.
In-Eligible Patrons	Specified Coop corporate farmers who are both owners/users of the coop.
Patronage Income	Specified coop income derived from activities tied directly to the volume of business conducted by its patrons.
Non-patronage Income	Incidental Specified Coop income that is directly related to its marketing, purchasing or service activities that enhance its overall profitability.
Patronage Dividend	Payments of net margins to patrons based on volume of business done with the Specified Coop.
Per-Unit Retains	Specified Coop “retains” an amount of equity for each unit of commodity handled.
DPAD	Domestic Production Activity Deduction.
QBID	Qualified Business Income Deduction.
DPGR	Domestic Production Gross Receipts.
AP	Coop Advance Payment.
CEXP	Coop level expenses.
NM	Coop net margins.
PEXP	Patron level expenses.

**Appendix A (Cont'd)**

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<b>Term</b>	<b>Description</b>
QPAI	Qualified Production Activity Income.
QD	Qualified Distribution (patronage dividend/per-unit retain).
QBI	Qualified Business Income.
MTR	Marginal Tax Rate.
ATR	After-tax returns.
PURPIM	Per-unit Retain Payments Paid in Money.

## Appendix B

### Grain Glitch Formulas with Supporting Numerical Examples

#### Part A: Eligible Patrons & Tax Choice

DPGR	=	Domestic Production Gross Receipts (10M)
IP	=	Initial Advance Payment (5M)
CEXP	=	Specified Coop Expenses (2M).
QPAI	=	Qualified Production Activity Income (3M)
NM	=	Specified Coop Net Margin (2.73M)
QD1	=	Qualified Distribution-Specified Coop Retains 199A(g) amount (270k)
QD2	=	Qualified Distribution-Specified Coop Passes-Down 199A(g) amount (270k)
PEXP	=	Patron level expenses (1M)
QBI	=	Ineligible Patron Qualified Business Income (6.73M or 7M)
ATR1	=	Patron After-Tax Return- Specified Coop Retains 199A(g) amount (6.73M)
ATR2	=	Patron After-Tax Return- Specified Coop Retains 199A(g) amount (7M)

#### ***Impact to Specified Coop***

*Specified Coop Retains IRC §199A(g) Deduction:*

$$1) \text{ DPGR} - (\text{IP} + \text{CEXP}) = \text{QPAI} - (\text{QPAI} * 9\%) = \text{NM} - \text{QD1} = 0$$

$$\text{--199A(g)--} \quad \text{--1382--}$$

$$\mathbf{10M - (5M + 2M) = 3M - 270k = 2.73M - 2.73M = 0}$$

**Note:** *Specified Coop retains its IRC §199A(g) deduction of 270k into unallocated equity and distributes its remaining NM of 2.73M to eligible patrons in a qualifying distribution (“QD1”).*

## Appendix B (Cont'd)

### Grain Glitch Formulas with Supporting Numerical Examples

*Specified Coop Passes-down their IRC §199A(g) Deduction to Eligible Patrons:*

$$2) \text{ DPGR} - (\text{IP} + \text{CEXP}) = \text{QPAI} - (\text{QPAI} * 9\%) = \text{NM} - [(\text{QD2} - 199\text{A}(g))] = 0$$

$$\text{--}199\text{A}(g)\text{--} \quad \text{-----}1382 \text{-----}$$

$$10\text{M} - (5\text{M} + 2\text{M}) = 3\text{M} - 270\text{k} \quad = 2.73\text{M} - [3\text{M} - 270\text{k}] = 0$$

***Note:** Specified Coop transfers its IRC §199A(g) deduction of 270k to allocated equity by passing it down to eligible patrons. This allows them to increase their qualifying distribution amount (“QD2”) by the passed-down IRC §199A(g) amount to 3M and distribute it to eligible patrons in a tax-deductible manner by netting it against their passed-down IRC §199A(g) amount of 270k under IRC §1382 that doesn’t impact their own tax position.*



**Impact to Eligible Patrons After-Tax Returns**

*Specified Coop Retains IRC §199A(g) Deduction:*

$$3) (IP+QD1)-PEXP=QBI1-\{[QBI1-[(QBI1*20\%)-(QD1-PEXP)*9\%]]*MTR\}=ATR1$$

$$\begin{array}{cc} 199A(a) & 199A(b)(7) \\ \text{-----QBID-----} & \\ \text{-----Explicit Tax-----} & \end{array}$$

*Specified Coop Passes-Down its IRC §199A(g) Deduction to Eligible Patrons:*

$$4) (IP+QD2)-PEXP=QBI2-\{[QBI2-[(QBI2*20\%)-(QD2-PEXP)*9\%]]+ 199A(g)\} *MTR \} =ATR2$$

$$\begin{array}{cc} 199A(a) & 199A(b)(7) \\ \text{-----QBID-----} & \\ \text{-----Explicit Tax-----} & \end{array}$$

*Reconciliation of Patron After-Tax Returns Assuming Specified Coop Retains (ATR1) or Passes-Down (ATR2) their IRC §199A(g) Deduction to Eligible Patrons:*

$$6) ATR2 = ATR1 + 199A(g) + [(199A(g) * 20\%) - (199A(g)* 9\%)] * MTR]$$

$$\begin{array}{cc} 199A(a) & 199A(b)(7) \end{array}$$

**Zero-MTR Farmers (MTR=0%)**

**3) (5M+2.73M)- 1M = 6.73M - [6.73M-[(6.73M\*20%) - (2.73M-1M)\*9%]] \*0% } = 6.73M**

**4) (5M+3M) - 1M =7M - [7M - [ (7M\*20%) - (3M -1M)\*9%] + 270k]\*0% } = 7M**

**6A) 7M = 6.73M + 270k**

*Note: Eligible patron's always benefit when a Specified Coop passes-down its IRC §199A(g) deduction. First, zero-tax farmers after-tax returns increase by the incremental increase in their tax-sheltered qualified distribution equal to the §199A(g) amount of 270k.*

**High-Wage Farmers with High MTR (MTR=30%)**

*Note: High-wage farmers receive an additional tax-effected after-tax return “bump” of 8,910 (270k\*20%\*30%) equal to 11% of their IRC §199A(g) amount.*

$$3) (5M+2.73M) - 1M = 6.73M - [6.73M - [(6.73M*20\%) - (2.73M-1M)*9\%]] * 30\% \} = 5,068,090$$

$$4) (5M+3M) - 1M = 7M - [7M - [(7M*20\%) - (3M-1M)*9\%] + 270k]*30\% \} = 5,347,000$$

$$6C) 5,347,000 = 5,068,090 + 270k * [(270k * 11\%) * 30\%$$

**Low-Wage Farmers with High MTR (MTR=30%)**

$$3) (5M+2.73M) - 1M = 6.73M - [6.73M - [(6.73M*20\%) \} ]30\% \} = 5,114,800$$

$$4) (5M+3M) - 1M = 7M - [7M - [(7M*20\%) + 270k]*30\% \} = 5,401,000$$

$$6C) 5,401,000 = 5,114,800 + 270k * [(270k * 20\%) * 30\%$$

*Note: Low-wage farmers after-tax returns further increase by their tax-effected after-tax return bump of 16,200 (270k\*20%\*30%) equal to as much as 20% because their IRC §199A(b)(7) reduction is restricted or eliminated due to the wage limitation. Eligible low or high farmer patrons with relatively higher/lower MTR's receive a higher/lower incremental “bump” in after-tax returns.*

**Part B: Eligible Patrons & Accounting Method Choice**

DPGR	= Domestic Production Gross Receipts (10M)
CEXP	= Specified Coop Expenses (2M).
PQPAI	= Qualified Production Activity Income (8M)
PNM	= Pooling Specified Coop Net Margin (2.73M)
PEXP	= Pooling Patron level expenses (1M)
PQBI	= Pooling Qualified Business Income (6.73M or 7M)
PATR	= Pooling Patron After-Tax Return- Specified Coop
PQPAI	= Ineligible Patron Qualified Production Activity Income (1M or 3M)
IPURPIM	= Initial Per Unit Payment in Money (2M)
FPURPIM	= Final Per Unit Payment in Money (73k)
PQBI	= Pooling Patron Qualified Business Income (2.81M or 2.63M)

*Pooling Specified Coop Passes-Down its IRC §199A(g) Deduction to Eligible Patrons:*

$$7) \text{ DPGR} - \text{CEXP} = \text{PQPAI} - (\text{PQPAI} * 9\%) = \text{PNM} - [(\text{IPURPIM} + \text{FPURPIM}) - \text{P199A(g)}] = 0$$

$$\text{P199A(g)} \quad \text{-----P1382-----}$$

$$7) \text{ 10M} - \text{2M} = \text{8M} - \text{720k} = \text{7.28M} - [(\text{5M} + \text{3M}) - \text{720k}] = 0$$

*Pooling Eligible Patron After-Tax Returns - Specified Coop Passes-Down its IRC §199A(g)*

*Deduction to Eligible Patrons:*

$$8) \text{ TPURPIM} - \text{PEXP} = \text{PQBI} - \{ [\text{PQBI} - [(\text{PQBI} * 20\%) - (\text{TPURPIM} - \text{PEXP}) * 9\%]] + \text{P199A(g)} \} * \text{MTR} = \text{PATR}$$

$$\text{P199A(a)} \quad \text{P199A(b)(7)}$$

$$\text{-----PQBID-----}$$

$$\text{-----Explicit Tax-----}$$

*Reconciliation of Non-Pooling Eligible Patron After-Tax Returns (ATR2) and Pooling Specified Coop Eligible Patron After-Tax Returns (PATR):*

$$10) \text{ PATR} = \text{ATR2} + \{ \text{IPURPIM} * 9\% - (\text{IPURPIM} * 9\%) \} * \text{MTR}$$

$$\text{P199A(g)} - \text{P199A(g)} \quad \text{P199A(b)(7)} - \text{P199A(b)(7)}$$

***Zero-MTR Farmers (MTR=0%)***

$$8 \text{ (5M+3M)} - \text{1M} = \text{7M} - [\text{7M} - [(\text{7M} * 20\%) - (\text{8M} - \text{1M}) * 9\%] + \text{720k}] * 0\% = \text{7M}$$

$$10A) \text{ 7M} = \text{7M}$$

**Note:** As shown in Equation 10A, zero-MTR farmers receive no benefit from belonging to a pooling specified coop as their after-tax returns (7M) remain unchanged from their non-pooling counterparts (7M).

**High-Wage Farmers with High MTR (MTR=30%)**

$$8) (5M+3M) - 1M = 7M - [7M - [(7M * 20\%) - (8M - 1M) * 9\%] + 720k] * 30\% = 5,347,000$$

$$10B) 5,347,000 = 5,347,000 + \{[(5M * 9\%) - (5M * 9\%)] * 30\%$$

$$5,347,000 = 5,347,000 + 0$$

*Note: high-wage farmers receive no after-tax benefit from belonging to pooling coop as their tax-effected incremental increase in their IRC §199A(g) deduction is offset by their tax-effected incremental increase in their IRC §199A(b)(7) reduction.*

**Low-Wage Farmers with High MTR (MTR=30%)**

$$8) (5M+3M) - 1M = 7M - [7M - [(7M * 20\%) - 0] + 720k] * 30\% = 5,536,000$$

$$10C) 5,536,000 = 5,401,000 + [(5M * 9\%) - 0] * 30\%$$

$$5,536,000 = 5,401,000 + 135,000$$

*Note: Low-wage farmers whose IRC §199A(b)(7) reduction is reduced or eliminated due to the wage limitation do benefit from belonging to a pooling Specified Coop as their tax-effected after-tax return bump increases by 135,000 or to as much as 20% of IPURPIM.*

**Part C: Ineligible Patrons**

IDPGR	= Ineligible Patron Domestic Production Gross Receipts (3.3M)
IIP	= Ineligible Patron Initial Advance Payment (2M)
ICEXP	= Ineligible Patron Specified Coop Expenses (300k)
IQPAI	= Ineligible Patron Qualified Production Activity Income (1M or 3M)
INM	= Ineligible Patron Specified Coop Net Margin (910k or 2.73M)
IQD	= Ineligible Patron Qualified Distribution
IIPURPIM	= Ineligible Patron Initial Per Unit Payment in Money (2M)
IFPURPIM	= Ineligible Patron Final Per Unit Payment in Money (73k)
IPEXP	= Ineligible Patron level expenses.
IQBI	= Ineligible Patron Qualified Business Income (2.81M or 2.63M)

*Specified Coop Retains IRC §199A(g) Deduction:*

$$11) \text{ IDPGR} - (\text{IIP} + \text{ICEXP} = \text{IQPAI} - \text{IQPAI} * 9\%) = \text{INM} - \text{IQD} = 0$$

I199A(g)

$$3.3\text{M} - (2\text{M} + 300\text{k}) = 1\text{M} - 90\text{k} = 910\text{k} - 910\text{k}$$

*Note: A non-pooling Specified Coop's benefits by retaining their IRC §199A(g) deduction of 90k and increasing their unallocated equity levels. Consequently, total distributions to patrons are equal to 2.91M (2M + 910k).*

*Pooling Specified Coop Retains IRC §199A(g) Deduction:*

$$12) \text{ IDPGR} - \text{ICEXP} = \text{IQPAI} - (\text{IQPAI} * 9\%) = \text{IN} - (\text{IIPURPIM} + \text{IFPURPIM}) = 0$$

I199A(g)

$$3.3\text{M} - 300\text{k} = 3\text{M} - 270\text{k} = 2.73\text{M} - (2\text{M} + 73\text{k}) = 0$$

*Note: This disparity is exacerbated for pooling Specified Coops due to the reclassification of the coop's initial payment as IIPURPIM and subsequent increase to their Qualified Production Activity Income ("IQPAI") by a like-amount. The resulting increase in the coop's Section unallocated equity by its IRC §199A(g) amount to 270k reduces total PURPIM payments to 2.73M (2M + 73k).*

*Non-Pooling Ineligible Patrons After-Tax Returns:*

$$\begin{aligned}
 13) \text{ (IIP + IQD)} & \quad - \text{IPEXP} = \text{IQB} * [1 - \text{MTR}] & = \text{IATR} \\
 \text{(2M + 910k)} & \quad - \text{100k} = \text{2.81M} * [1 - 30\%] & = \text{1.967M}
 \end{aligned}$$

*Pooling Ineligible Patrons After-Tax Returns:*

$$\begin{aligned}
 14) \text{ (IIPURPIM + IFPURPIM)} & - \text{IPEXP} = \text{PIQBI} * [(1 - \text{MTR})] & = \text{PIATR} \\
 \text{(2M + 730k)} & - \text{100k} = \text{2.63M} * [1 - 30\%] & = \text{1.841M}
 \end{aligned}$$

*Reconciliation of Non-Pooling Eligible Patron After-Tax Return (IATR) and Pooling Specified Coop Eligible Patron After-Tax Returns (PATR):*

$$15) \text{ PIATR} = \text{IATR} - [(\text{IIPURPM} * 9\%) * (1 - \text{MTR})]$$

$$\mathbf{1.967M = 1.841M - [(2M * 9\%) * (1 - 30\%)]}$$

*Note: Equation 13-15 shows ineligible patrons are worse off belonging to a Specified Coop that has adopted the pooling method of accounting. Non-Pooling patron after-tax returns (PIATR) of 1.841M are lower than pooling eligible patron after-tax returns (IATR) of 1.967M by the tax-effected reduction in the initial PURPIM payment attributable to Specified Coop's retained Section 199A(g) deduction. Additionally, this disparity increases as the ineligible patron's MTR increases.*