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Implications of Restricting the Use of Cash Tax Accounting by Agriculture

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Table of Contents

Executive Summary

- Tax reform proposals being considered by Congress would require additional farms and livestock operations to use accrual accounting for tax purposes.
  - Cash accounting is currently allowed for most agricultural operations.
- In its current form, the proposed policy would cause the following impacts:
  - Reduce equity in farm and livestock operations by as much as $4.84 billion
  - Reduce working capital by as much as $12.1 billion
  - Change the way farms are allowed to manage their capital each year, which leads to increased financial volatility
  - Increase interest expenses due to higher short-term lending needs
  - Decrease after-tax purchasing capacity generated in each of the first four years
  - Increase the record-keeping burden for farm managers
- The reform will directly impact businesses such as farms, ranches, dairies, poultry producers, and hog operations, and it will indirectly impact businesses that sell products and services to these operations.

Background and Objectives

- Tax reform proposals being considered by Congress would require additional farms and livestock operations to use accrual accounting for tax purposes.
  - Cash accounting is currently allowed for most agricultural operations.
  - The legislative proposals, in their current form, would require an accrual tax basis for operations with annual gross receipts exceeding $10 million.
  - Aggregation rules extend this requirement to operations smaller than $10 million. The aggregation rules are based on the common employer rules, which determine whether multiple businesses have to provide similar benefits to all employees of the businesses. These rules are also used in determining the 50-employee rule for the Affordable Care Act. As a result, farm and ranch operations with revenues below $10 million that are aggregated with other businesses under a common employer could be required to use accrual tax accounting as well.
- Informa Economics was commissioned by Kennedy and Coe, LLC and Farmers for Tax Fairness to analyze impacts of mandating an accrual tax basis for these agricultural operations.

Tax Differences for an Example Farm Using Cash vs. Accrual Accounting

- Farms and livestock operations are subject to relatively unique cash flow challenges due to volatility in production and commodity prices. The use of cash accounting for taxes has helped producers manage such challenges. If a farm uses a cash tax basis, income can be deferred to later years. This deferral is used to manage working capital and allows the farmer to avoid paying significant taxes at a higher marginal tax rate in an exceptional year. This is important since, due to the cycles in farming, the capital may be needed to survive periods of low profitability.
- Ultimately, over a full profitability cycle, taxes will be paid on all of the income earned regardless of the tax basis (unless the farmer dies), but the accrual basis forces taxes to be paid each year based on that year's "accrual earnings."
- Since farmers have already been paying taxes on a cash basis, the income that has been deferred to future years would be immediately taxable (payable over a four-year standard transition period).

Tax Differences for an Example Farm Using Cash vs. Accrual Accounting (Continued)

- Since that cash has already been invested in growing crops, purchasing inputs, and elsewhere in the economy, many farmers likely will not have adequate cash on hand to cover the tax bill and continue farming without increasing their borrowing.
- Paradoxically, the reduction in equity driven by these tax payments could also reduce the borrowing capacity for many farmers.
- If the tax bill associated with deferred income comes in an unprofitable farm year or if the producer cannot otherwise meet the capital requirements, the farmer or livestock producer may have to downsize to survive (e.g., sell land or livestock).
- Feedlots, dairies, hog farms and other capital-intensive livestock operations strive to run near the capacity of their facilities in order to lower per unit costs. Reducing herd size due to a shortfall of capital could result in lower per-unit-cost margins and create further challenges to the sustainability of such producers. If a number of operations need to sell at the same time, it could result in temporary lower market prices.
- The need for accrual accounting processes within the business will also create a burden for operators unaccustomed to accrual practices. Accrual accounting is generally more complex in farming because farm and livestock operations are subject to production cycles that can be greater than one year.

Tax Differences for an Example Farm Using Cash vs. Accrual (Continued)

- The side-by-side examples in the next page illustrate the same farm; the only difference is in terms of accounting and the tax consequences.
- The example is meant to demonstrate the differences in how income is accounted for using a cash versus an accrual tax basis.
- As a result of being the same farm, all purchasing and marketing decisions are the same, which is why the same production, sales, inventory, and revenue are shown each year.
- The Profit and Loss statements are hypothetical, but they use the U.S. average farm price, as well as national yields and expense data from USDA-ERS to create a realistic historical example.
- While this hypothetical farm has <$10 million in gross receipts, under the aggregation rules, many smaller farms could be required to shift to accrual accounting.
- The cash-basis farmer is able to use year-end purchasing decisions to maintain a consistent income. This is only available if the capital is kept within the business.
- This capital management decreases income “shown” in good years, but increases it for bad years such as in 2013, when actual accrual income was $622,837 but the farmer was able to keep recordable net income steady at $805,100.
- This example also shows that the cash basis allows farm income to have less variability, which allows the farmer to avoid high marginal tax rates in exceptionally profitable years, such as 2011.

Tax Differences for an Example Farm Using Cash vs. Accrual (Continued)

- It should be noted that if the cash-basis farmer exits farming on January 1, 2014 and can liquidate prepaid expenses at cost, taxes are paid on the revenue from their ending inventory and from the prepaid expense liquidation. In the accrual example, the farmer will not have a tax bill if they exit in 2014. This will cause the total taxes paid by each example to reconcile.

Profit and Loss Example for 5,000 Acres of Corn Using Cash Basis Accounting for Taxes

Year	2010	2011	2012	2013
Price per Bushel	$5.18	$6.22	$6.89	$4.60
	Inventory is in bushels			
Beginning Inventory	0	36,618	74,969	24,350
+ Corn Production	764,118	735,851	616,881	801,827
- Sales	727,500	697,500	667,500	667,500
Ending Inventory	36,618	74,969	24,350	158,677
	Income in USD			
Revenue	3,765,631	4,338,574	4,598,612	3,070,500
+ Old Crop Sales	0	227,768	516,482	112,009
+ New Crop Sales	3,765,631	4,110,806	4,082,130	2,958,491
Expenses	2,960,531	3,533,474	3,793,512	2,265,400
+ Current Year Expenses	2,751,000	2,851,369	2,512,245	1,613,083
+ Next Year's Expenses	209,531	682,105	1,281,267	652,317
Net Income Before Taxes	805,100	805,100	805,100	805,100
Federal Taxes[3]	265,572	265,572	265,572	265,572

Profit and Loss Example for 5,000 Acres of Corn Using Adjustments for an Accrual Tax Basis

Year	2010	2011	2012	2013
Price per Bushel	$5.18	$6.22	$6.89	$4.60
	Inventory is in bushels			
Beginning Inventory	0	36,618	74,969	24,350
+ Corn Production	764,118	735,851	616,881	801,827
- Sales	727,500	697,500	667,500	667,500
Ending Inventory	36,618	74,969	24,350	158,677
	Income in USD			
Revenue	3,765,631	4,338,574	4,598,612	3,070,500
+ Old Crop Sales	0	227,768	516,482	112,009
+ New Crop Sales	3,765,631	4,110,806	4,082,130	2,958,491
Accrued Expenses[1]	2,751,000	3,060,900	3,194,350	2,894,350
Accrual Inventory Adjustment[2]	131,832	180,013	-185,756	446,687
Net Income Before Taxes	1,146,463	1,457,687	1,218,506	622,837
Federal Taxes[3]	400,752	523,997	429,281	193,396

[1]It is important to note that a portion of pre-paid expenses can be accrued into the current year under accrual accounting, and although these rules are accounted for in the actual estimation, in an effort to maintain simplicity they are not included in this example.

[2]Inventory is valued at cost for the "Accrual Inventory Adjustments"

[3]All sample years use the 2014 tax bracket for single tax payers and apply the tax brackets to the various income levels rather than use an assumed effective rate.

Volatility Under the Two Accounting Methods

- The “real world” profitability of the farm is the same in both examples (previous slide), but it is expressed differently for tax purposes.
- The average annual tax bill is significantly more for the “accrual basis.”
- If the example were drawn out to show several unprofitable years (i.e., a full profitability cycle), income and tax numbers would realign.
- However in production agriculture, the accrual tax basis nearly always provides for higher volatility, which reduces the stability of the farm sector.
- The table below shows the volatility from the previous example.

Comparison of the Cash and Accrual Example

4 Year Average

Item	Cash	Accrual
Production (bushels)	729,669	729,669
Standard Deviation	*79,902*	*79,902*
Net Income Before Taxes (Reportable)	$805,100	$1,111,373
Standard Deviation	*$0*	*$351,810*
Taxes	$265,572	$386,856
Standard Deviation	*$0*	*$139,317*
Net Income After Taxes	$539,528	$724,517
Standard Deviation	*$0*	*$212,493*

Working Capital Background

- Under accrual accounting, due to the higher tax bill in any given year, many farmers will not have sufficient cash on hand and will need to supplement or replace cash (if feasible) through borrowing.
- The Agricultural Resources Management Survey (ARMS) is a compilation of financial data developed by USDA's National Agricultural Statistics Service (NASS) and the Economic Research Service (ERS).
- An estimate of the working capital needs from the proposed tax reform was developed using ERS ARMS income and balance sheet data for farms with annual farm receipts greater than $5 million, which have average sales (2011-2012) of $10.1 million.
- This data may dramatically undercount the number of affected farms due to the application of the aggregation rules. Agricultural operations are often divided into multiple related operating entities which are counted separately in the ERS data.

Working Capital Background (Continued)

- The ARMS data is prepared on an accrual basis, which means cash adjustments are needed to determine the levels of deferred annual income and prepaid expenses.
- A farmer that has used a cash tax basis and is switching to an accrual tax basis will need to pay taxes on deferred income, which is primarily held in two forms:
  - Deferred income from inventory. By waiting until after the first of the year to sell inventory, a farmer defers current year income until the next year. This deferred income is taxable under an accrual tax basis.[1]
  - Deferred income from pre-paid expenses and investment in growing crops. By incurring expenses in the current year, income and subsequent taxes are lowered in cash accounting.[2] This allows the company to use current-year profits as capital in the next year.

[1]Under accrual accounting inventory can be valued at cost, which allows for a portion of income to continue to be deferred.
[2]A portion of expenses are also allowed to be deducted under accrual accounting, but this varies by farm and overall is much less than what is allowed through cash accounting.

Limitations to the Use of ARMS Data in Tax Analysis

- The USDA has tried to address many issues in the ARMS data, and it is the best available data for the analysis. However, there are certain caveats to using ARMS data for tax analysis:
  - Certain inventory, such as purchased livestock for re-sale, is not allowed to be deducted using a cash basis. Therefore, the estimate of deferred income may include some overestimation since it reflects all inventory.
  - Other accounting issues, such as accounts payable not being correctly paired to physical receivables, will cause the estimate to be understated.
  - Although likely to involve a very small number of farms, some operations may be using an accrual tax basis already, which will reduce the estimated impact of the change in accounting method.
  - Even after aggregation with other business entities, a portion of the farms included in the analysis may not currently meet the proposed $10 million annual revenue threshold. Still, it is also likely that businesses over $10 million in revenue will hold a higher portion of contingent tax liability than smaller operations.
    - There are also farms that have less than $5 million in annual sales and are not included in the analysis, but after aggregation with other business entities would meet the $10 million revenue threshold, thus this analysis may underestimate the impact of the proposal.

Direct Working Capital Implications

- The standard transition period to pay deferred income taxes when changing from a cash to accrual tax basis is four years.
- The policy change could incorporate differing tax rates for the transition period, which will cause the impact to farming to vary.
- Although specific knowledge of a special tax rate is unknown, this analysis looked at a variety of tax rates for discussion purposes (results on the next slide).
- If a special rate is not applied, farmers in the upper brackets will face a greater impact as they will pay taxes on their current-year income in addition to the one-time transitional tax bill that is spread over the first four years.
- Depending on the tax rate applied, the policy change will cause livestock and farming operations to pay up to $1.2 billion in additional taxes per year for four years.
- The total direct negative impact on working capital from the tax policy change (over four years) will be as high as $4.84 billion.
- In aggregate, these farms have less than $1.4 billion in current cash on hand to pay the additional taxes (USDA-ERS ARMS Balance Sheet for 2012).
- Therefore, farmers will either have to change how they market their crops and livestock or use additional operating lines of credit to cover the shortfall. In a worst-case-scenario, some farmers might need or choose to sell revenue producing assets (i.e., land, breeding livestock, or equipment) to raise cash to pay taxes.

Direct Working Capital Implications Using Different Tax Rates

Description		Estimated Taxes from the Transition to Acrrual Accouting: Using a 39.6% Tax Rate		Using a 30% Tax Rate		Using a 25% Tax Rate
Assets: Livestock inventory[1]	+	$ 1,019,931	+	$ 1,019,931	+	$ 1,019,931
Assets: Crop inventory[1]	+	1,247,146	+	1,247,146	+	1,247,146
Assets: Purchased inputs[2]	+	169,606	+	169,606	+	169,606
Assets: Cash invested in growing crops[2]	+	83,800	+	83,800	+	83,800
Cumulative deferred income		$ 2,520,483		$ 2,520,483		$ 2,520,483
Tax Rate	x	**39.6%**	x	**30%**	x	**25%**
Taxes from deferred income		$ 998,111		$ 756,145		$ 630,121
Number of farms (highest income category 2012)	x	4,853	x	4,853	x	4,853
Total direct loss of working capital to livestock and farming from taxes on deferred income		$ 4,843,833,023		$ 3,669,570,472		$ 3,057,975,393
Transition period (years)	÷	4	÷	4	÷	4
Annual direct loss of working capital from taxes on deferred income		$ 1,210,958,256		$ 917,392,618		$ 764,493,848

[1]Under accrual accounting inventories are likely to be valued at the lesser of market or cost. For the ongoing impact, this needs to be taken into consideration. However the above analysis is for the one time impacts associated with the four year transition associated with cash to accrual tax basis. Since the inventories will be liquidated before the end of the four year transition period, the difference in cost and market value will be recognized. Therefore no discount was given to the inventory.

[2]A portion of farm supplies and pre-paid inputs are allowed to be deducted under an accrual basis. In an effort to capture these allowable deductions, this analysis assumed that 50% of purchased inputs and cash invested in growing crops will be continue to be deducted. This broad assumption likely understates the impact, but also serves as a broader measure to counter any special tax provisions not specifically analyzed. Alternatively, if 100% of purchased inputs and cash invested in growing crops continued to be deducted, the taxes from deferred income decreased from the levels above by 10%. For example @ 39.6% taxes from deferred income decreased from $998,111 to $897,762 per farm.

Indirect Working Capital Implications

- Although deferred taxes are technically a liability on the balance sheet, the ARMS data does not account for it, but rather deferred taxes effectively act as equity in the business.
  - From a practical standpoint, the deferred taxes are treated as additional equity, because the farmer controls the cash associated with deferred taxes as long as he/she stays in business and is allowed to use a cash tax basis.
  - It is important to note that if the farmer has losses in the future, the deferred tax liability may be reduced or even eliminated.
- As a result, the farmer is able to show higher equity on their balance sheet, which enables additional borrowing. Thus, removing the equity over a four-year transition period will subsequently reduce the farmer's ability to borrow.
- The reduction in the ability to borrow is further complicated by the potential need to borrow cash to pay the taxes that are due, or to sell crops at a less-than-opportune time, thus lowering annual revenues. If a number of farmers and ranchers need to sell land, livestock or other assets at the same time to raise cash, this could also temporarily drive down market prices.
- Loan covenants vary by lender, borrower, and industry sector, but assuming a minimum of a 40% equity-to-asset ratio, a loss of $4.84 billion in equity will equate to:

$$\text{Total Capital Reduction} = \$4.84\ billion \div 0.40 = \$12.1\ billion$$

- At the top tax bracket, aggregate working capital is potentially reduced by $12.1 billion with $4.84 billion removed in equity and $7.26 billion removed in borrowing power.

Recurring Cost from Loss of Working Capital

- The aggregated reduction in working capital for farms analyzed using the ARMS data is as high as $12.1 billion as a result of payment of deferred taxes. However, there also is an annually recurring cost associated with using accrual accounting, assuming producers are sufficiently profitable.
- The estimated recurring impact should be differentiated from the estimated impact by the Joint Committee on Taxation's (JCT) report, "Estimate of Federal Tax Expenditures for Fiscal Year 2012-2017." In their report, the impact from all of agriculture's use of cash accounting is considered below the *de minimis* amount ($50 million). Discussions with JCT suggests their findings differ from our analysis by the following:
  - The JCT report considers the current ongoing impacts to tax revenue and not the potential impact during the transition period associated with the proposed tax reform.
  - The JCT report considers all of agriculture, which has sizeable taxable losses to offset taxable profits, whereas our analysis only focused only on farms that could be impacted by the proposed tax reform.
  - JCT also considers each policy's impact in isolation with regard to other potential policy changes.
  - The JCT report is a static analysis and does not take into account a behavioral response. Therefore, if farmers choose not to grow the business in order to stay under the $10 million threshold that would require a switch to accrual accounting, it will not show up in either the analysis in this report or by JCT.

Recurring Cost from Loss of Working Capital (Continued)

- The recurring cost from a loss of working capital on an annual basis is assumed to be driven by the increased borrowing needed to overcome the lost capital.
- Interviews with agricultural lenders suggests interest rates on revolving credit paid by livestock producers and farmers generally are between 2% and 4% over LIBOR.
- The average 12-month LIBOR rate (5 year average 2009-2013) has been 1%. Therefore, a rate of 4% is used for producers in the analysis.
- It should be noted that interest rates are increasing as a result of the ending of quantitative easing by the Federal Reserve and improving economic growth, and the recurring costs to producers in the future could be correspondingly higher.
- It is unclear if lenders will offer term financing for a tax liability. Accordingly, short-term rates are used in the following model, which was derived from ARMS data and shows the first five years (4 years repayment + 1 year to show ongoing impact) after a change in the tax accounting method.
- Interest expense is expected to increase by $279 million over the first five years, but could be higher if farmers need more time to repay the lines of credit that were used to pay the taxes.

One-time Impact and Recurring Cost from Loss of Working Capital

Additional Interest Expense from Increased Short-term Borrowing Needed for Tax Payments

(All Values in Millions)

Transition Years (1-4)		1	2	3	4	
Tax Year		2014	2015	2016	2017	2018
Lost Equity via Taxes						
Prior Deferred Taxes	+	$1,211	$1,211	$1,211	$1,211	N/A
Taxes from Lost Ability to Defer Income[1]	+	424	424	424	424	424
Tax Implications @39.6%	=	1,635	1,635	1,635	1,635	424
Interest Rate	x	4%	4%	4%	4%	4%
New Interest Cost[2]	=	65	65	65	65	17
Cumulative Interest Cost[3] (First Five Years)						$279

[1]This model uses the same assumptions presented elsewhere in the report that assume a portion of expenses will continue to be deducted under accrual accounting and that inventories will be valued at cost.

[2]This model assumes that operating lines of credit will be expanded to cover the taxes associated with the transition to accrual accounting. However, this analysis likely understates the interest expense as farmers will require more than 4 years to repay the lines of credit that are needed to pay the taxes due in the four year transition period.

[3]The same measure of cumulative interest cost was $211 million and $176 million respectively for a 30% and 25% assumed tax rate.

Impact on Annual Farm Investments

- The change of tax basis will reduce the amount of cash farmers have due to the payment of deferred taxes.
- The table below provides an example of what a farmer facing the policy change would experience versus if the policy was unchanged.
- The table assumes a cash basis profit margin of 10% on revenues of $10 million. It also assumes that transition to an accrual tax basis causes the farm to pay taxes on previously deferred income in an amount consistent with the prior analysis in this report.
- The example farm, under the policy change, has less cash available for investment and will either borrow or choose not to make capital purchases as it re-builds its balance sheet.

Demonstration of the Impact to Cash Generated for Investment by an Example Farm or Livestock Producer

Without Policy Change		With Policy Change	
Cash Basis Farm Income	$ 1,000,000	Cash Basis Farm Income	$ 1,000,000
		Reduced Taxes from Increased Interest Expense	5,337
		Additional Taxes from Income Recognized During the Transition from Cash to Accrual	249,528
Taxes from Current Year	342,752	Taxes from Current Year Income after Accrual	441,087
Total Federal IncomeTaxes	342,752	Total Federal IncomeTaxes	685,278
Net Cash Income After Taxes	657,248	Net Cash Income After Taxes	314,722
Depreciation	446,065	Depreciation	446,065
Debt Payments	401,220	Debt Payments	401,220
Cash Available for Investment	$ 702,092	Cash Available for Investment	$ 359,566

[1]The 441,087 is equal to the 342,752 taxes due under the cash method plus $98,335 that will also be recorded as income from using an accrual method. This estimate is meant as an example, but has been based on the inventory valuation change for a similar sized farm using 2011 and 2012 ARMS data, which was discounted to reflect inventory at cost.