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DEPRECIATION: BALANCING THE SHORT GAME AGAINST THE LONG GAME - A UNITED STATES PERSPECTIVE

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Abstract

This paper discusses and illustrates potential financial risk exposure farmers and ranchers may have as a result of accelerated depreciation options in the United States. The recent passage of tax reform legislation in the United States provides mechanisms to significantly reduce business generated taxable income. However, farmers and ranchers should consider mid- to long-term implications of making current year depreciation decisions relative to financial risk exposure of their agricultural businesses.

Keywords: depreciation, financial risk, management

Introduction

Cost recovery of capital asset acquisitions is generally allowed as a normal and necessary cost of doing business. In the United States, cost recovery of depreciable assets; e.g., equipment, machinery, buildings, breeding and dairy livestock is allowed under Internal Revenue Code (IRC) sections 167 and 168. The IRC requires use of different recovery periods dependent upon the type of productive asset, for example, a planter versus a storage building. However, Congress may pass legislation which provides incentives to business owners to invest in durable goods by allowing current year deductions greater than normal recovery periods. These incentives are often utilized with an expectation to stimulate national economic growth as part of public policy by an administration.

This paper discusses the recent tax law change in the United States. On December 22, 2017, Congress passed and the President signed into law, *Individual Tax Reform and Alternative Minimum Tax*, more commonly known as *The Tax Cut and Jobs Act* (TCJA) (P.L. 115-97). The authors investigate, with respect to depreciation, the new tax law changes which affect farmers, ranchers and other rural sector businesses. The emphasis will be with a view to farmers and ranchers and the potential financial risk exposure should the farmer or rancher use one of two depreciation options to reap a short term income tax benefit by deducting all or nearly all of the cost of the acquired capital production asset. The authors contrast the near-term decision with a longer-term view to illustrate potential pitfalls relative to financing arrangements and long-run profitability which leads to sustainable management of the farm or ranch business.

Farm and ranch operators have long been experts at deferring taxes by "kicking the can" down the road. The assumption has been that upon retirement the farmer will pay taxes at a lower rate due to decreased income. However, that has not played out as farmers sell the last year's crop inventory in the subsequent year following retirement and have no costs to deduct against the crop income. Likewise, the sale of a machinery line at a retirement auction generates a large tax liability as the equipment sale proceeds are often fully taxable since the adjusted tax basis (cost less accumulated depreciation) is zero due to depreciation having been taken and used as a deduction in years past.

Depreciation Methods allowed under U.S. Tax Law

U.S. tax law allows the recovery of the capital investment cost of depreciable assets. Since 1986 the U.S. has used the Modified Accelerated Cost Recovery System (MACRS) which provides guidance and regulations to properly calculate allowable depreciation. MACRS class recovery periods are defined under two systems: General Depreciation System (GDS) or the Alternate Depreciation System (ADS). ADS provides longer recovery periods so that in less profitable tax periods lesser depreciation deductions are applied early in order for larger depreciation deductions to be used against higher future income. Within the IRC there are two additional methods of cost recovery which accelerate the "normal" deduction into the current year. These two methods are known as "the expense election" under IRC section 179 and "bonus depreciation" under IRC section 168(k). With the passage of the TCJA both the expense election and bonus depreciation were enhanced resulting in opportunities for farmers and ranchers to zero out or greatly reduce both income and self-employment taxes (social security). A large reduction of the tax obligations in the near-term may create a mid- to long-term financial risk outcome which the farmer and rancher may have overlooked while making the current-year tax management decision.

Modified Accelerated Cost Recovery System (MACRS)

MACRS GDS uses the following class recovery periods: 3, 5, 7, 10, 15, 20, 27.5 and 39 years. Common examples of depreciable farm or ranch assets are: breeding swine, three years; breeding beef and dairy cattle, five years; new farm machinery and equipment, five years; used farm machinery and equipment, seven years; single purposes structures such as a greenhouse or milking parlor, 10 years; land improvements such as a terrace, 15 years; multi-purpose agricultural building, 20 years; residential real estate, 27.5 years; and commercial real estate, 39 years. (IRS, Pub. 225, 2018 forthcoming)

MACRS ADS allows farmers and ranchers to increase the recovery period used for their business assets. This can be a planning tool used in years of low income, for example, when beginning a farming or ranching business. Farm machinery is depreciated using a 10-year recovery period using ADS; while single-purpose structures use 15-year recovery periods. (ibid), (J.A. Bennett & R. Ward, 2010)

Choosing between MACRS GDS and ADS provides one level of tax management.

IRC section 179

With the enactment of TCJA a powerful tax management tool was enhanced. Farmers and ranchers as of January 1, 2018 are allowed to “expense” certain depreciable capital durable goods in the year purchased. Commonly known as the “expense election” (IRC section 179) is limited in three ways: 1) the expense deduction limit of $1,000,000; 2) the investment limit of $2,500,000; and 3) profit limit of the business.

The farmer or rancher elects to use IRC section 179 expense by taking the deduction. The expense election deduction is not an all or nothing election, but can be used to manage tax liabilities to a desired dollar amount by only expensing the selected allowable item(s) at the desired amount.

With the $1,000,000 deduction limit, many farmers and ranchers can expense the current year’s capital asset purchases, both used and new, and recover the expense in one tax year. However, this may pose financial risk issues relative to required income to service debt if these purchases were financed.

Bonus Depreciation [IRC section 168(k)]

Bonus depreciation, which became part of the income tax planning toolbox in 2002 with the passage of the Job Creation and Workers Assistance Act of 2002 (P.L. 107-147). In 2002 bonus depreciation was 30% of the cost of new capital durable goods purchased for trade or business. Since 2002, the percentage of bonus depreciation has risen. Under TCJA bonus depreciation allowable for new and used depreciable assets has risen to 100% for tax years after September 27, 2017, and before January 1, 2023. For subsequent years after 2022 the percentage of bonus depreciation decreases by 20 percent per year until sun setting on January 1, 2027. Using bonus depreciation does not have similar limits as imposed by IRC section 179 in that losses can be created and there is no limitation on investment dollars.

The tax law presumes that a taxpayer will use bonus depreciation, therefore for tax management purposes, an election out of bonus depreciation must be made. The taxpayer elects out by recovery class; e.g., all 5-year assets, and includes an election statement with the tax return.

Similar to IRC section 179, use of bonus depreciation can result in the deduction of the entire depreciable cost in the year of acquisition. Thus, farm management planning and subsequent financing of these assets should be conducted with a thought to potential tax implications. Financial risk and debt structure are issues which are discussed below.

Farm Management and Income Tax Implications

As previously stated, a large number of depreciation alternatives exist for assets used in agriculture production. These alternatives also have implications for enhancing both of farm and income tax management. A farm taxpayer has the ability to be extremely aggressive in using the depreciation rules to immediately write off the cost of an asset or more slowly deduct the cost to offset future income. The following example is used to better explain the depreciation alternatives available and illustrate the annual depreciation deductions for the various options.

Example 1. In May of 2018 Ima Farmer purchased and placed into service a new tractor for $150,000 used solely in her farming business. The tractor (under the Tax Cuts and Jobs Act of 2017) is 5-year property. The law currently allows Ima to select from eight different alternatives, greatly enhancing her tax management toolbox. Table 1 lists the depreciation alternatives and the annual rates available to depreciate Ima's new tractor. Table 2 provides the actual annual deprecation deduction allowed for the new tractor by tax year using each of the various depreciation alternatives.

Table 1 and 2 column explanations.

Columns (1) and (2) lists the annual depreciation percentages applying the 200 percent Declining Balance (DB) method using a 5- and 7-year recovery period under the General Depreciation System (GDS).

Columns (3) and (4) lists the annual depreciation percentages applying the 150 percent Declining Balance (DB) method using a 5- and 7-year recovery period under the General Depreciation System (GDS).

Column (5) lists the annual depreciation percentages applying the Straight Line (Str Line) method using a 7-year recovery period under the General Depreciation System (GDS).

Column (6) lists the annual depreciation percentages applying the Straight Line (Str Line) method using a 10-year recovery period under the Alternative Depreciation System (ADS).

Column (7) lists the annual depreciation percentage applying bonus depreciation (100 Percent allowed for 2018).

Column (8) lists the IRC Section 179 percentage allowed for the tractor in 2018.

Table 1. Depreciation Alternatives and Annual Deprecation Percentages by Tax Year

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	GDS	GDS	GDS	GDS	GDS	ADS		
	5 Year	7 Year	5 Year	7 Year	7 Year	10 Year		
Year	200 % DB	200 % DB	150 % DB	150 % DB	Str Line	Str Line	Bonus	Sec 179
2018	20.00%	14.29%	15.00%	10.71%	7.14%	5.00%	100.00%	100.00%
2019	32.00%	24.49%	25.50%	19.13%	14.29%	10.00%		
2020	19.20%	17.49%	17.85%	15.03%	14.29%	10.00%		
2021	11.52%	12.49%	16.66%	12.25%	14.28%	10.00%		
2022	11.52%	8.93%	16.66%	12.25%	14.29%	10.00%		
2023	5.76%	8.92%	8.33%	12.25%	14.28%	10.00%		
2024		8.93%		12.25%	14.29%	10.00%		
2025		4.46%		6.13%	7.14%	10.00%		
2026						10.00%		
2027						10.00%		
2028						5.00%		

Table 2. Annual Depreciation Deduction for the New Tractor within Each Alternative

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	GDS	GDS	GDS	GDS	GDS	ADS		
	5 Year	7 Year	5 Year	7 Year	7 Year	10 Year		
Year	200 % DB	200 % DB	150 % DB	150 % DB	Str Line	Str Line	Bonus	Sec 179
2018	$ 30,000	$ 21,435	$ 22,500	$ 16,065	$ 10,710	$ 7,500	$ 150,000	$ 150,000
2019	$ 48,000	$ 36,735	$ 38,250	$ 28,695	$ 21,435	$ 15,000	$ -	$ -
2020	$ 28,800	$ 26,235	$ 26,775	$ 22,545	$ 21,435	$ 15,000	$ -	$ -
2021	$ 17,280	$ 18,735	$ 24,990	$ 18,375	$ 21,420	$ 15,000	$ -	$ -
2022	$ 17,280	$ 13,395	$ 24,990	$ 18,375	$ 21,435	$ 15,000	$ -	$ -
2023	$ 8,640	$ 13,380	$ 12,495	$ 18,375	$ 21,420	$ 15,000	$ -	$ -
2024	$ -	$ 13,395	$ -	$ 18,375	$ 21,435	$ 15,000	$ -	$ -
2025	$ -	$ 6,690	$ -	$ 9,195	$ 10,710	$ 15,000	$ -	$ -
2026	$ -	$ -	$ -	$ -	$ -	$ 15,000	$ -	$ -
2027	$ -	$ -	$ -	$ -	$ -	$ 15,000	$ -	$ -
2028	$ -	$ -	$ -	$ -	$ -	$ 7,500	$ -	$ -

Note: If Ima had purchased a used tractor, columns (1) and (3) cannot be used.

For the 2018 tax year, Ima can deduct as much as $150,000 (100% of the new tractor's cost) using either IRC section 179 or bonus depreciation to as little as $7,500 using the 10-year ADS straight line method. The decision of which to use will depend upon her income tax situation in the current and future tax years. The following income and business cycle scenarios illustrate some of the various farm and income tax management strategies. It is important to remember that depreciation is a tax deferral tool and the tax benefits (lower taxable income) that occur as the asset is depreciated, must be recaptured as ordinary income in the year that the asset is sold or traded.

Scenario 1. Business start-up years

When the business is beginning, the income generated is usually small due to the large amount of investment in buildings, machinery and equipment, seeds or plants, and operating inputs being needed to get the business started. In these years, taxable income is often low and the use of a large depreciation deduction to reduce taxable income is not of a great benefit. Taxable income is low and the farmer is usually in a very low tax bracket. In these years, the slower depreciation methods (the straight line options under GDS or ADS will help preserve the deduction for future years when farm income and hence taxable income is growing.

Scenario 2. Growth years

When a business is in the growth stage, farm income as well as taxable income should be increasing. Adjustments in the size or amount of machinery and equipment is often found to be needed as the business gets larger. Larger annual depreciation deductions will help to reduce or maintain taxable income in this period of time. The declining balance method will often provide the greatest tax management benefit.

Scenario 3. Maintenance years

The maintenance years occur when the business is no longer growing and is not yet declining in size usually brought on by the operator's desire to retire. In these years, taxable income has stabilized and the need for large amounts of depreciation in any one year has declined. The straight line methods often are the most beneficial for maintaining stable taxable income over these maintenance years.

Scenario 4. Business phase-out years

In the business phase-out or retirement years, depreciable assets are often sold as the size of the business declines. During this time period, a sale of an asset has the tax consequences of recapturing depreciation that was taking earlier in an asset's useful life and the gain (sale price less accumulated depreciation), is reported on the tax return and taxed as ordinary income.

Scenario 5. High income years

Bonus depreciation and the IRC section 179 deduction are extremely useful tools when a large amount of farm income is reportable in a year. In 2018 both of these will allow the taxpayer to deduct 100 percent of the cost in the year it is purchased and placed in service. These are the most aggressive depreciation strategies.

As explained in these scenarios, the farm and tax management options that the depreciation alternatives allow vary greatly. It is important to note that the alternatives can also result in over investment in machinery, equipment and other depreciable assets. When this occurs taxable income is minimized as well as the amount of self-employment tax paid. It is important to note that payment of the self-employment tax results in the accumulation of retirement, disability, and spousal survivor benefits. Therefore it may not be in the best interest of the farmer of the farmer's family to be extremely aggressive when selecting among the depreciation options.

Financial Risk Considerations

Farmers and ranchers may be exposed to a measure of financial risk in the future if IRC section 179 expensing or bonus depreciation is used in the year of asset acquisition.

The potential risk occurs when significant financing is used to purchase the asset. The subsequent debt structure, relative to the equipment or machinery purchased does not match with the depreciable life of the asset. (R. Ward, 2018)

Because loan proceeds received are not taxable revenue and depreciation of the purchased asset is a tax benefit (reducing taxable income), therefore, principal payments are not deductible and as such are made with taxable dollars. Here in lies the potential financial risk.

Since taxable income is typically gross income less allowable deductions, farmers and ranchers should consider the required taxable income to service principal of financed equipment and machinery. And by connection, the gross farm income required.

Example 2. Heeza Farmer purchases a piece of equipment at a cost of $200,000. Heeza finances 100% of the cost over a term of 5 subsequent years assuming equal principal payments; therefore, he has $40,000 of principal to pay each year of the term. If Heeza's expense ratio is 0.85, meaning he spends $85 dollars to create $100 of gross farm income, his "profit" margin is 15 percent. Using this information, Heeza must generate, ceteris paribus, $266,667 of annual gross farm revenue to have $40,000 of farm profits to service principal. [$40,000 / 0.15 = $266,667]

If Heeza elected to expense the equipment or use bonus depreciation in the year of purchase, Heeza would not have any depreciation deduction to use in years 2 through 6 of the asset ownership (assuming 100% financing with principal payments due each of the 5 subsequent years after initial purchase) to offset taxable income (represented by principal payments) in the subsequent years.

Thus there is an element of financial risk that may exist, one which in a years of reduced income due to weather, markets or external factors (tariffs) may be difficult for farmers to manage.

Discussion

While the above example may be overly simple to illustrate how income tax policy, depreciation, may be an efficient tool to manage income and self-employment tax liabilities for farmers and ranchers; it does not come free of long-term implications. Farmers and ranchers and their professional advisers: accountants, attorneys, bankers, and insurance agents need to be on the same general page in providing advice. Especially, when making financing decisions in the context of long-term profitability and tax management.

The example of Ima Farmer, provides insight to the numerous options to make a tax management decision which ranges from: expense 100% or take 5% in the year of acquisition. The temptation is to “kick the can” one more time…and let it be tomorrow’s worry. However, after 40 years of kicking the can…the tax bite at retirement can be quite significant.

Conclusion

This paper raises awareness to an issue of potential financial risk.

Income tax data available from IRS relative to the amount of depreciation taken and which elections chosen by farmers and ranchers may be forthcoming and useful to quantify financial risk exposure. Future access to such data may provide for empirical analysis with a focus to improve long-run sustainability of farm businesses by providing insight to financial risk discussed in this paper.

In the meantime, farmers and ranchers, and their advisers should take a mid-term to a longer-term view when making depreciation decisions in the context of potential financial risk and income uncertainty.

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