The Farm Balance Sheet

AAE 320

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Agricultural & Applied Economics

Learning Goals

- How to create and read a balance sheet for farm operations
- The difference between a Market Basis and a Cost Basis balance sheet for asset valuation and when to use each one
- Methods used to depreciate assets
  - Straight line and declining balance
- How to depreciate farm assets for tax purposes
  - How to use depreciation tables
  - Section 179 depreciation
  - Depreciation recapture (Form 4797)

What is a Balance Sheet?

- Systematic listing of everything owned and owed by a business/individual
- Gives statement of owner equity <u>at a point in time</u>
- Typically for end of accounting period, such as end of year for taxes
- Interim balance sheets often used/needed for loan applications

Balance Sheet

- Balance sheet: Everything must balance
- Asset: anything owned
- Liability: debt or financial obligation owed
- The Basic Accounting Identity must hold

  Assets = Liabilities + Owner Equity

  <u>Adjust Owner Equity to make it balance</u>
- Equity is what's left, the residual

Uses of a Balance Sheet

- Measures financial position of firm, focusing on long and short run measures
- Solvency: measures relative relationships among assets, liabilities and equity to assess “health” of firm (financial ratios)
- Liquidity: measures ability to meet current financial obligations as they come due without disrupting normal business—ability to generate cash on short-term

Balance Sheet Format

Assets		Liabilities	
Current Assets	$100	Current Liabilities	$50
Non-Current Assets	$150	Non-Current Liabilities	$100
		Owner Equity	$100
Total Assets	$250	Total Liability and Equity	$250

Assets

- Anything the firm owns that has value because can sell it and/or use it to produce sellable goods
- Liquid assets: easy to sell, ready market for them (grain, feeder livestock)
- Illiquid assets: hard to sell quickly at full value (machinery, land, breeding livestock)

Two Types of Assets on a Balance Sheet

- <u>Current Assets</u>
  - Cash, bank accounts, marketable funds, accounts receivable (money owed to you), inventories of liquid assets: grain, feed, supplies, feeder livestock
- <u>Non-Current Assets</u>
  - Everything else: machinery, equipment, breeding livestock, buildings, land

Two Types of Liabilities on a Balance Sheet

- Obligations/debts owed, any outside claims against your assets
- <u>Current Liabilities</u>
  - Financial obligations due within 1 year
  - Accounts at suppliers, farm store, etc.
  - Interest & principle on operating and long-term loans
  - Accrued expenses: property and income taxes
- <u>Non-Current Liabilities</u>
  - Everything else not due in the next year
  - Remaining balance on long-term debts <u>after</u> deducting the current year's payments

Name: James and Dolly Madison

BALANCE SHEET

Date: 8/21/20120

Business
Consolidated
Personal

☐ Cost Basis
☐ Market Based

		A	B	C	D	E	F
		March 1, 2019 Beginning Balance	Feb. 29, 2020 Ending Balance	Net Change	March 1, 2019 Beginning Balance	Feb. 29, 2020 Ending Balance	Net Change
CURRENT ASSETS							
1.	Cash & Checking	3,421	37,815	34,394			
2.	Accounts Receivable	900	-	(900)			
3.	Prepaid Expenses	-	-	-			
4.	Cash Investment Growing Crops	54,669	54,669	-			
	Inventories:						
5.	Marketable Livestock	241,992	241,992	-			
6.	Stored Crops and Feed	4,860	5,060	200			
7.	Purchased Feed	-	-	-			
8.	Supplies	2,000	2,000	-			
9.	Other Current Assets	-	-	-			
10.	TOTAL CURRENT FARM ASSETS	307,842	341,536	33,694			
	Non-Farm Assets:						
11.	Savings	28,394	32,590	4,196			
12.	Marketable Securities	-	-	-			
13.	Other Non-Farm Assets	-	-	-			
14.	TOTAL CURRENT ASSETS	336,236	374,126	37,890			
NON-CURRENT ASSETS							
15.	Breeding Livestock	116,850	116,850	-			
16.	Vehicles	133,908	120,518	(13,390)			
17.	Machinery, Equipment	646,682	704,680	57,998			
18.	Investment in Capital Leases	-	-	-			
19.	Contracts & Notes Receivable	-	-	-			
20.	Investment in Cooperatives	18,000	18,350	350			
21.	Real Estate, Land	1,776,000	1,776,000	-			
22.	Buildings & Improvements	47,000	46,161	(839)			
23.	Other Non-Current Assets	-	-	-			
24.	TOTAL NON-CURRENT FARM ASSETS	2,738,440	2,782,559	44,119			
	Non-Farm Assets:						
25.	Cash Value, Life Insurance	14,056	14,914	858			
26.	Investment in Other Entities	15,000	16,000	1,000			
27.	Other Non-Farm Assets: House	125,000	123,839	(1,161)			
28.	TOTAL NON-CURRENT ASSETS	2,892,496	2,937,312	44,816			
29.	TOTAL ASSETS	3,228,732	3,311,438	82,706			
CURRENT LIABILITIES							
30.	Accounts Payable				-	-	-
31.	Line of Credit and Operating Notes				153,552	85,000	(68,552)
32.	Current Portion of Term Debt				33,630	60,776	27,146
33.	Accrued Interest				10,035	15,660	5,625
	Taxes Payable:						
34.	Ad Valorem				1,647	1,647	-
35.	Employee Payroll Withholding				-	-	-
36.	Income Taxes				10,350	10,350	0
37.	Deferred Taxes				63,696	63,817	121
38.	Other Accrued Expenses				-	-	-
39.	Other Current Liabilities				-	-	-
40.	TOTAL CURRENT FARM LIABILITIES				272,910	237,250	(35,660)
	Non-farm Liabilities:						
41.	Non-Farm Notes & Interest				15,279	15,167	(112)
42.	Other Non-Farm Liabilities				-	-	-
43.	TOTAL CURRENT LIABILITIES				288,189	252,417	(35,772)
NON-CURRENT LIABILITIES							
44.	Notes Payable, non-Real Estate				31,862	116,407	84,545
45.	Notes Payable Real Estate				45,344	32,142	(13,202)
46.	Deferred Taxes				442,042	449,757	7,715
47.	Other Non-Current Liabilities				-	-	-
48.	TOTAL NON-CURRENT FARM LIABILITIES				519,248	598,306	79,058
	Non-Farm Liabilities:						
49.	Non-Farm Notes				93,860	85,533	(8,327)
50.	Other Non-Farm Liabilities				-	-	-
51.	TOTAL NON-CURRENT LIABILITIES				613,108	683,839	70,731
52.	TOTAL LIABILITIES				901,297	936,256	34,959
OWNER EQUITY							
53.	Contributed Capital				93,500	93,500	-
54.	Retained Earnings				958,633	1,006,380	47,747
55.	Total Valuation Equity				1,275,302	1,275,302	-
56.	TOTAL EQUITY				2,327,435	2,375,182	47,747
57.	TOTAL LIABILITIES & EQUITY				3,228,732	3,311,438	82,706

Oklahoma State University Example Farm Balance Sheet
http://factsheets.okstate.edu/documents/agec-752-developing-a-balance-sheet/

Alternative Balance Sheet Formats Use in Agriculture

- Traditional farm balance sheets have used other categories, but their use is decreasing
- Split non-current assets into intermediate and fixed or long-term assets
- Intermediate Asset: less liquid with life 1 to 10 years (machinery, equipment, perennial crops, breeding livestock)
- Fixed Asset: > 10 year life: land, buildings
- Intermediate Liability: 1 – 10 year loans
- Long-term Liability: > 10 year loans

FINPACK

Slim Jim Sample
1/1/2017 - Cost & Market Balance Sheet

Current Assets			Value
Cash and checking (Schd A)			76,500
Prepaid exp. & suppl. (Schd B)			114,438
Growing crops			-
Accounts receivable			-
Hedging accounts (Schd E)			5,650
Other current assets			-
Crops (Schd G)	Quantity	Value/Unit	
Corn	100,841	3.26/bu.	329,040
Corn Silage	959	25.00/ton	23,975
Alfalfa Hay	40	90.00/ton	3,600
Soybeans	18,947	9.50/bu.	179,997
Mkt lvst (Schd H)	No.	Value/Unit	
Finish Beef	550	183.00/cwt.	780,038
Total Current Assets			**1,513,237**

Current Liabilities				Balance
Accrued interest				32,658
Accounts payable and other accrued expenses				-
Current loans (Schd U)	Int Rate	P & I Due		Principal Balance
5thNB-Operating	6.00	-		87,863
5thNB-Cattle	6.375	-		364,951
Principal due within 12 months on term liabilities				69,288
Total Current Liabilities				**554,760**

Intermediate Assets	Cost Value	Market Value
Breeding livestock	-	-
Machinery (Schd J)	725,975	1,099,984
Titled vehicles (Schd K)	81,945	112,159
Other intermediate assets	-	-
Total Intermediate Assets	**807,919**	**1,212,143**

Intermediate Liabilities (Schd V)	Int Rate	Principal Balance	P & I Due	Principal Due	Intermed Balance
John Deere Credit-332E	3.25	7,199	7,260	7,004	195
5thNB-Mach.	4.50	102,320	23,348	18,499	83,821
Total Intermediate Liabilities					**84,016**

Long Term Assets	Acres	Cost Value	Market Value
Land (Schd M)			
Homesite	15	5,000	37,500
SW 80 Ac	80	560,000	560,000
New 80 Ac	80	660,800	660,800
Bldgs & improve. (Schd N)		361,726	514,278
Other long term (Schd O)		2,401	2,401
Total Long Term Assets		**1,589,927**	**1,774,979**

Long Term Liabilities (Schd W)	Int Rate	Principal Balance	P & I Due	Principal Due	Lg Term Balance
5thNB-Barn	7.50	215,576	32,778	15,692	199,884
5thNB-SW 80 Ac	5.50	278,450	28,116	11,925	266,525
5thNB-New 80 Ac	4.95	451,767	39,831	16,168	435,599
Total Long Term Liabilities					**902,008**

Total Farm Assets	**3,911,083**	**4,500,359**
Personal Assets (Schd P)	172,584	173,812
Total Assets (a)(b)	**4,083,667**	**4,674,172**

			Total Farm Liabilities	**1,540,784**
			Personal Liabilities (Schd X)	26,534

		Cost	Market
Deferred Liabilities (c)			462,450
Total Liabilities (d)(e)		1,567,318	2,029,768
Retained Earnings/Contributed Capital	[a-d]	2,516,349	
Market valuation equity	[b-a-c]		128,055
Net Worth	[b-e]		**2,644,404**

University of Minnesota FinPack example

https://extension.umn.edu/farm-finance/balance-sheet

Owner Equity = Net Worth

- Value left after assets are used to cover all liabilities, what you "own" in the farm
- Your current investment in the farm
- Equity changes for many reasons
  - Profits/losses from production activities
  - Sell assets for different values than on sheet
  - Add/withdraw capital from the farm
  - Asset value changes if use market prices for asset valuation, e.g., land value increases

Owner Equity Changes

- Business transactions only change the mix of assets/liabilities, not owner equity
- Buying a $10,000 piece of machinery does not change your equity
  - If cash purchase, current assets drop $10,000 and non-current assets increase $10,000
  - If borrow $10,000, liability increases $10,000 and non-current assets increase $10,000
- Equity only changes due to business profit/loss, if you put money in/pull it out, and/or (in some cases) if asset values change

Think Break #9

Assets		Liabilities	
Current Assets	$400,000	Current Liabilities	$150,000
Non-Current Assets	?	Non-Current Liabilities	$350,000
		Owner Equity	?
Total Assets	$1,000,000	Total Liability & Equity	$1,000,000

- Fill in the empty entries in the balance sheet
- How would the balance sheet change if you bought $100,000 of land by taking $40,000 from your savings and borrowing $60,000 from a bank

Asset Valuation Problem

- How do you value assets when developing a balance sheet?
  - Typically use two methods: Cost or Market Basis
- Basic accounting says use Cost basis, but not always right in agriculture
- <u>Cost Basis</u>:
  - Asset Value = purchase cost minus depreciation, or = farm production cost
- <u>Market Basis</u>:
  - Asset Value = current market value minus any selling costs

Market Basis

- Assets valued at current market value minus selling costs
- Asset value (and so your equity) responds to inflation and price changes, so often gives higher values (and so higher equity)
- Asset price changes can hide management problems because equity increasing
- Main Advantage: more accurate measure of current financial status and collateral available for loans, so used by lenders

Cost Basis

- Asset value = purchase cost minus depreciation, or cost to produce the asset
- More conservative, following accepted accounting practices in other businesses
- Equity changes only from retained earnings (profits), not from asset price changes, so used to evaluate ability as a farm manager
- Can misrepresent true value of business

Farm Financial Standard Committee

Recommends using both methods

1) Market basis balance sheet with cost basis asset values in attached schedules or in footnotes

2) Double Column balance sheet for assets, with market basis and cost basis

Measure true value market of your business and identify possible management problems

Net Worth Statement Example

Name *Cyclone Farm* Date *December 31, 2017*

Farm Assets	Cost Value	Market Value	Farm Liabilities	Market Value
Current Assets (cost and market values are the same)			**Current Liabilities**	
Checking, savings accts.	$16,665	$16,665	Accounts payable	$1,859
Hedging accounts	47,909	47,909	Farm taxes due	4,750
Crops held for sale/feed	489,105	489,105	Current notes and credit lines	340,200
Investment in annual crops	8,680	8,680	Accrued interest - current	3,049
Commercial feed on hand	10,940	10,940	- fixed	19,435
Prepaid expenses			Principal due on notes and contracts	
Market livestock	329,403	329,403	Due in 12 months - fixed	28,670
Supplies on hand	2,000	2,000		
Accounts receivable			Other current liabilities	
Other current assets			Other current liabilities	
a. Total Current Assets	**$904,702**	**$904,702**	**d. Total Current Liabilities**	**$397,963**
Fixed Assets (cost and market values may differ)			**Fixed Liabilities**	
Unpaid co-op. distributions	$28,861	$28,861	Notes and contracts, principal due beyond 12 months	
Invest. in perennial crops	157,500	157,500	- Machinery	$168,673
Breeding livestock	222,600	222,600	- Land	269,100
Machinery & equipment	255,240	275,000	- Other fixed assets	
Buildings/improvements	138,510	171,000		
Farmland	800,000	1,050,000	Other fixed liabilities	
Farm securities, certificates	13,000	13,000	Other fixed liabilities	
Other fixed assets				
b. Total Fixed Assets	**$1,615,711**	**$1,917,961**	**e. Total Fixed Liabilities**	**$437,773**
c. Total Farm Assets (a + b)	**$2,520,413**	**$2,822,663**	**f. Total Farm Liabilities (d + e)**	**$835,736**
g. Farm Net Worth (c - f)	**$1,684,677**	**$1,986,927**		
h. Farm Net Worth Last Year	$1,665,962	$1,820,062	Working Capital (a - d)	$506,739
i. Change in Farm Net Worth (g - h)	$18,715	$166,865	Current Asset-to-Debt Ratio (a / d)	2.27
Percent Change in Net Worth (i / h)	1%	9%	Total Debt-to-Asset Ratio (f / c)	30%

Personal Assets (optional)		Personal Liabilities (optional)	
Bank accounts, cash, savings		Credit card, charge accts., etc.	$4,562
Automobiles, boats, etc.	$40,000	Automobile loans	15,000
Household goods, clothing	25,000	Accounts payable, taxes due	
Stocks, bonds, etc.	8,500	Other loans	
Real estate		Real estate, other long-term loans	
Other personal assets		Other personal liabilities	
j. Total Personal Assets	**$73,500**	**k. Total Personal Liabilities**	**$19,562**
l. Total Personal Net Worth (j - k)	**$53,938**	**Personal Debt-to-Asset Ratio (k / j)**	**27%**

m. Total Assets, Farm & Personal (c + j)	**$2,896,163**	**n. Total Liabilities, Farm & Personal (f + k)**	**$855,298**
Total Net Worth, Market Value (g + l)	**$2,040,865**	**Overall Debt-to-Asset Ratio (n / m)**	**30%**

Iowa State University example

https://www.extension.iastate.edu/agdm/wholefarm/html/c3-20.html

Both Methods use Both Methods

Farm Asset	Value used for Cost Basis	Value used for Market Basis
Raised grain and feeder livestock	Market	Market
Purchased grain and feeder livestock	Minimum of Cost and Market	Market
Accounts Receivable	Cost	Cost
Prepaid Expenses	Cost	Cost
Investment in crops growing in the field	Cost	Cost
Purchased breeding livestock	Cost	Market
Raised breeding livestock	Cost or a Base Value	Market
Machinery, equipment, buildings, land	Cost	Market

Grain/Livestock Inventories and Crops in the Fields

- Grain in the bin and animals on the lot ready to sell use Market Basis: very liquid assets
  - Exception: Purchased grain/livestock that has gone up in value, then use cost if a cost basis balance sheet
- Crops still growing in the field use a Cost Basis since they are still subject to production risks
  - “Don’t count your chickens before the eggs hatch”

Raised Breeding Livestock

- Cost Basis
  - You are supposed to accumulate all costs to get each animal from birth to productive age (and not include these in the income statement), and then depreciate this total cost over its useful lifetime just as though purchased it at this price
  - Unrealistic and overly detailed for farms
- Alternative
  - Develop a fixed <u>base value</u> for each age/type of animal to approximate this cost and its depreciation
  - Base value won’t change with asset market prices
  - Think of it as your average cost of production to raise the “asset”

Depreciation

- Annual loss in value of a working asset due to use, wear, aging, and technical obsolescence
- What assets due you depreciate?
  - Useful life > 1 year
  - Useful life can be determined (not unlimited)
- Machinery, equipment, buildings, fences, breeding livestock, perennial crops, irrigation wells, land improvements (wells, drainage)
- Land not depreciated, as has unlimited life

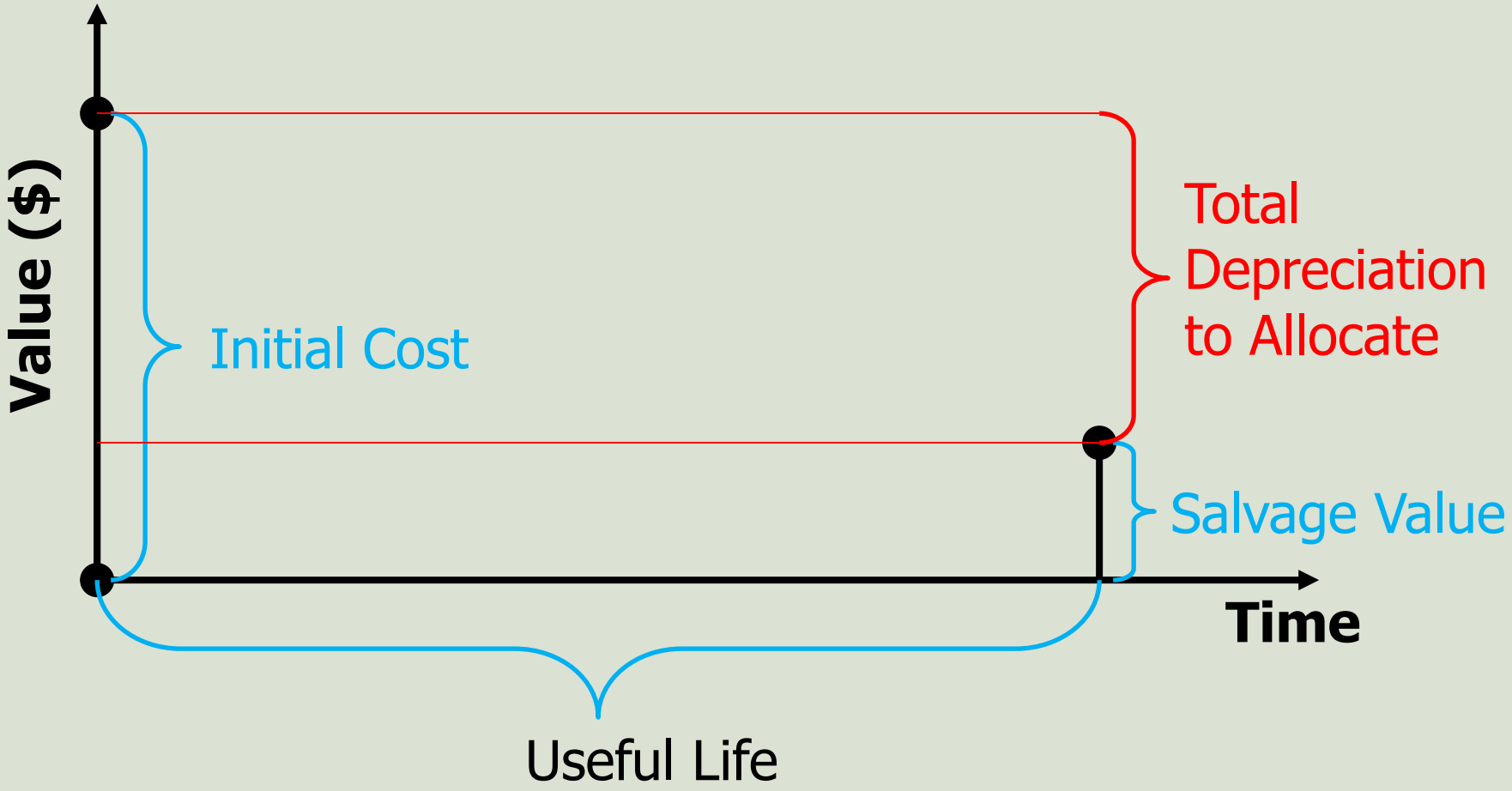
Depreciation: Why it Matters

- Farmers track depreciation in asset value for three main reasons
- 1) Taxes: deduct depreciation as a cost of business, subtract from annual income
- 2) Asset “true” value or farm book value: tax depreciation not equal true losses, so track assets for accurate market basis balance sheet
- 3) Insurance: do you want to insure value or replacement cost? Also, some companies depreciate assets for insurance values

Depreciation Definitions and Intuition

- Cost: All costs paid for the asset, including price, taxes, delivery and installation fees, expenses to get the asset into use
- Useful Life: Number of years you expect to use the asset in your business
- Salvage Value: Expected market value at end of useful you assigned; zero if you will use it until worn out and has no scrap or junk value at end
- Intuition: Want to allocate the initial cost of a long-term asset across the useful life you give it
- Cost minus Salvage Value is asset's total depreciation over its Useful Life: How much depreciation do you assign to each year?
- Several formulas make assumptions and estimate annual depreciation, none is correct for all assets in all situations

Graphics of Depreciation

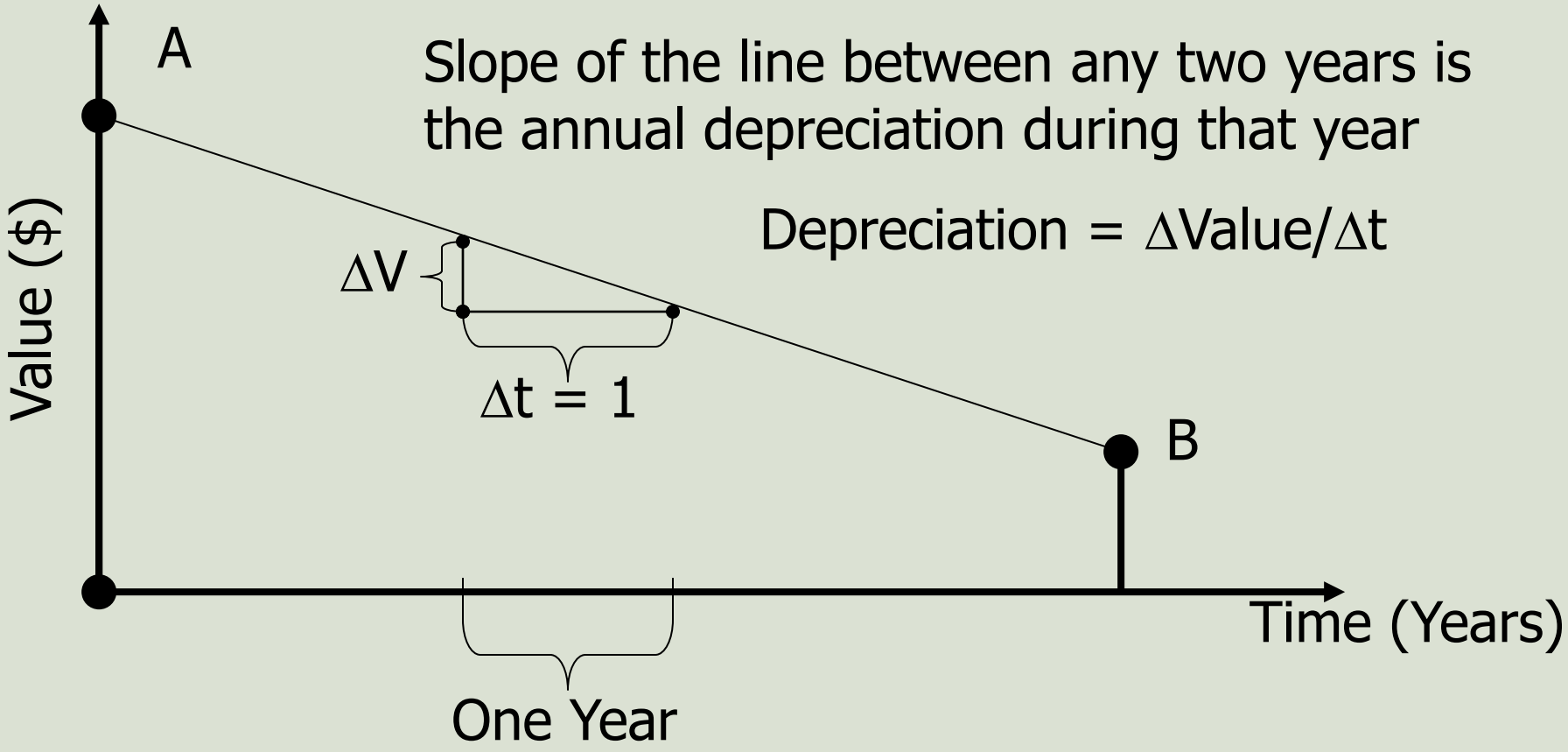


Graphics of Depreciation

Use a mathematical formula to describe how to get from Point A to Point B

Slope of the line between any two years is the annual depreciation during that year

Depreciation = ΔValue/Δt



Straight Line Depreciation

- Draw a straight line between beginning and ending values, which gives a constant depreciation each year
- Annual Depreciation

  = (Cost – Salvage Value)/Useful Life
- Alternative: Express as a depreciation rate
- Annual Depreciation

  = (Cost – Salvage Value) x R_{SL}

  R_{SL} = 1/Useful Life = Depreciation Rate

  Example: R_{SL} = 1/10 = 0.10 = 10%

  10% annual depreciation rate, means that the asset loses 10% of the total depreciation each year

Straight Line Depreciation Example 1

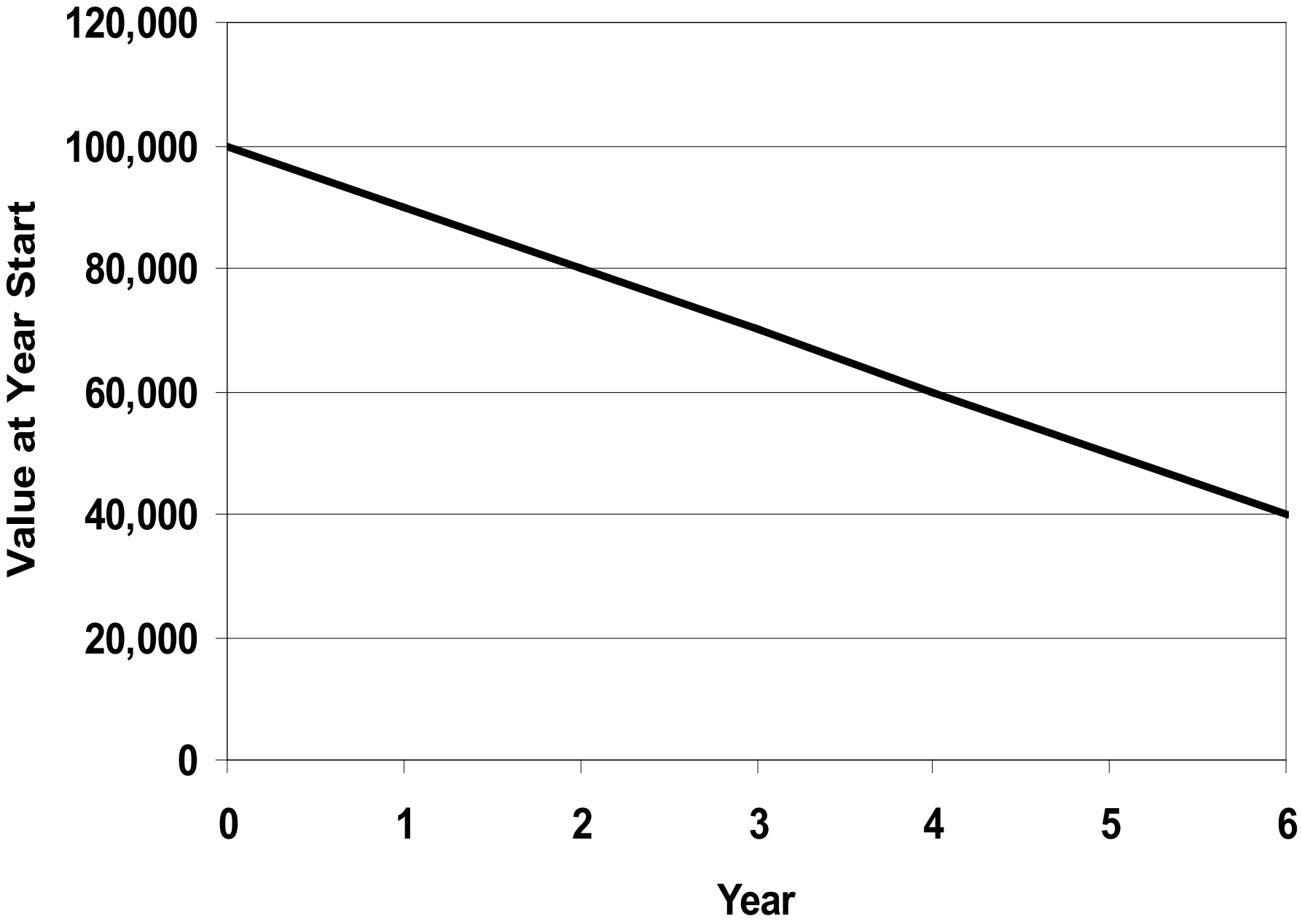
- \$100,000 machine, use for 6 years and expected salvage value of \$40,000
- Annual Depreciation =

  (\$100,000 – \$40,000)/6 = \$10,000
- R_{SL} = 1/6 = 0.167 = 16.7%
- Annual Depreciation =

  (\$100,000 – \$40,000) x 16.7% = \$10,020

Straight Line Depreciation Example 1

Year	Value At Year Start Beginning Basis	Depreciation	Value At Year End Ending Basis
1	100,000	10,000	90,000
2	90,000	10,000	80,000
3	80,000	10,000	70,000
4	70,000	10,000	60,000
5	60,000	10,000	50,000
6	50,000	10,000	40,000


120,000
100,000
80,000
60,000
40,000
20,000
0
Value at Year Start
0
1
2
3
4
5
6
Year

Straight Line Depreciation Example 2

- \$100,000 machine, use for 5 years and completely depreciate (\$0 salvage value)
- Annual Depreciation = (\$100,000 – \$0)/5 = \$20,000
- R_{SL} = 1/5 = 0.20 = 20%
- Annual Depreciation = \$100,000 x 20% = \$20,000 or simply purchase price x 20%

Straight Line Depreciation Example 2

Year	Value At Year Start Beginning Basis	Depreciation	Value At Year End Ending Basis
1	100,000	20,000	80,000
2	80,000	20,000	60,000
3	60,000	20,000	40,000
4	40,000	20,000	20,000
5	20,000	20,000	0

Think Break #10

- You buy a piece of equipment for $70,000 with a useful life of 3 years and expected salvage value of $10,000
- What is the Straight Line depreciation for the second year?

Declining Balance

- Depreciation = constant percentage of the asset's <u>current</u> basis
  - Not (cost – salvage value)
- Depreciation = Current Basis x R_{DB}
- R_{DB} = Declining Balance Depreciation Rate
- Declining Balance: $ value of depreciation decreases each year, though constant annual % depreciation rate

Declining Balance

- Declining Balance Depreciation Rate R_{DB} usually a multiple of the Straight-Line Depreciation Rate R_{SL} = 1/Useful Life
- $R_{DB} = 2 \times R_{SL}$, is Double Declining Balance or 200% Declining Balance
- Also see 1.75/175%, 1.50/150% and 1.25/125% declining balance
- Depreciation for taxes uses declining balance

Double Declining Balance Example

- $100,000 machine, use for 6 years and expected salvage value of $40,000
- Double Declining Balance depreciation rate
  - R_{SL} = 1/6 = 16.67%
  - R_{DB} = 2 x R_{SL} = 2/6 = 2 x 16.67% = 33.3%
  - During the year, the asset loses 33% of its initial value in the year
- 1st Year DDB Depreciation is

  $100,000 x 1/3 = $33,333

Double Declining Balance Example

Year	Current (Beginning) Basis	Calculation	Depreciation	Ending Basis
1	100,000	100,000 x 33%	33,333	66,667
2	66,667	66,667 x 33%	22,222	44,444
3	44,444	44,444 x 33%	14,815	29,630
4	29,630	29,630 x 33%	9,877	19,753
5	19,753	19,753 x 33%	6,584	13,169
6	13,169	13,169 x 33%	4,390	8,779

Double Declining Balance Example

Year	Current (Beginning) Basis	Depreciation	Ending Basis
1	100,000	33,333	66,667
2	66,667	22,222	44,444
3	44,444	14,815	29,630
4	29,630	9,877	19,753
5	19,753	6,584	13,169
6	13,169	4,390	8,779

Problem: Basis can fall below salvage value

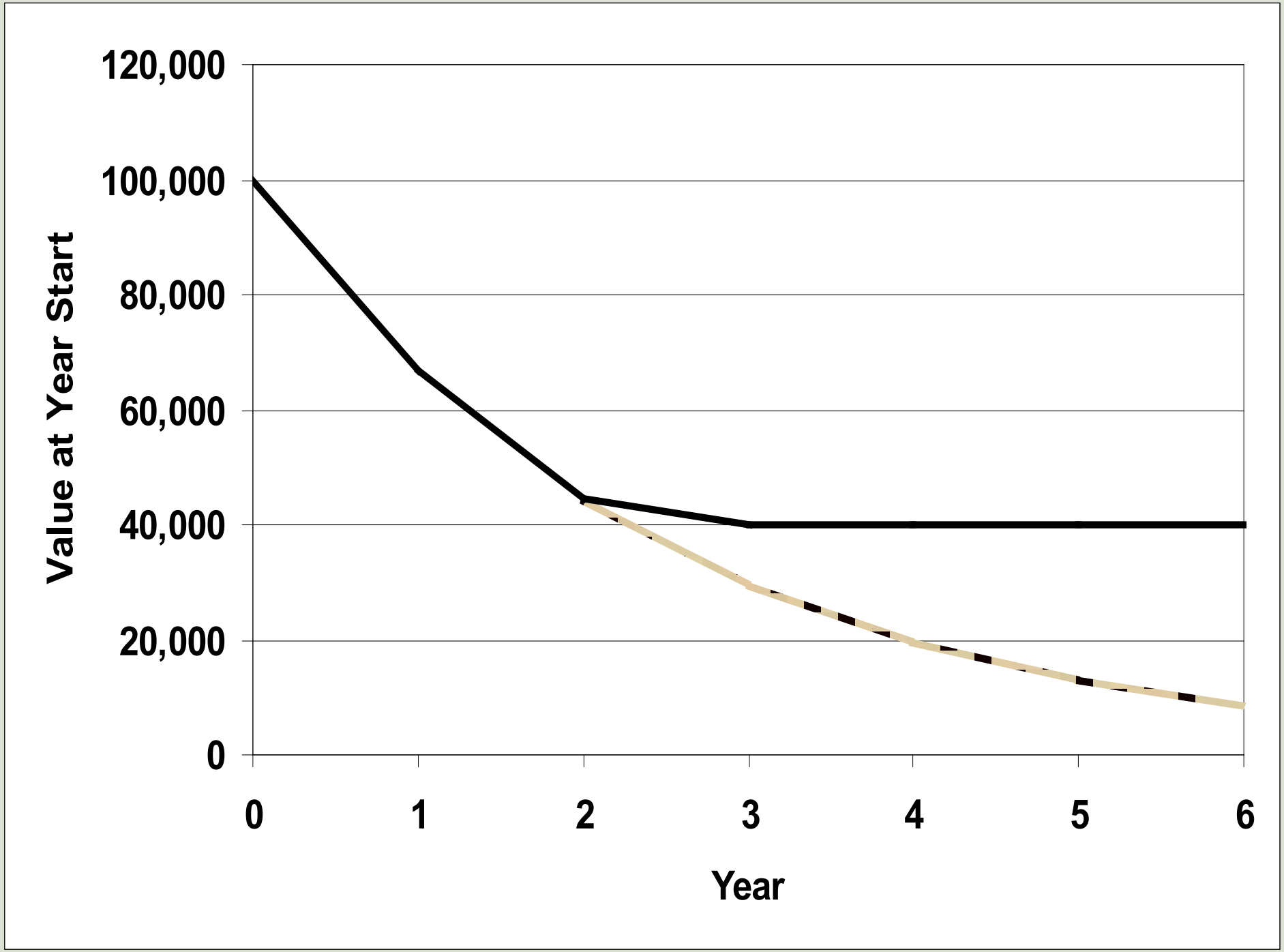
Potential Problems with Double Declining Balance

- Assets with <u>positive</u> salvage value, basis can fall below salvage value
  - Fix: Stop depreciation at salvage value
- Assets with <u>zero</u> salvage value, basis never reaches zero
  - Fix 1: Switch to straight line after a set time
  - Fix 2: Take remaining value in last year

Double Declining Balance Example

(Salvage value = $40,000)

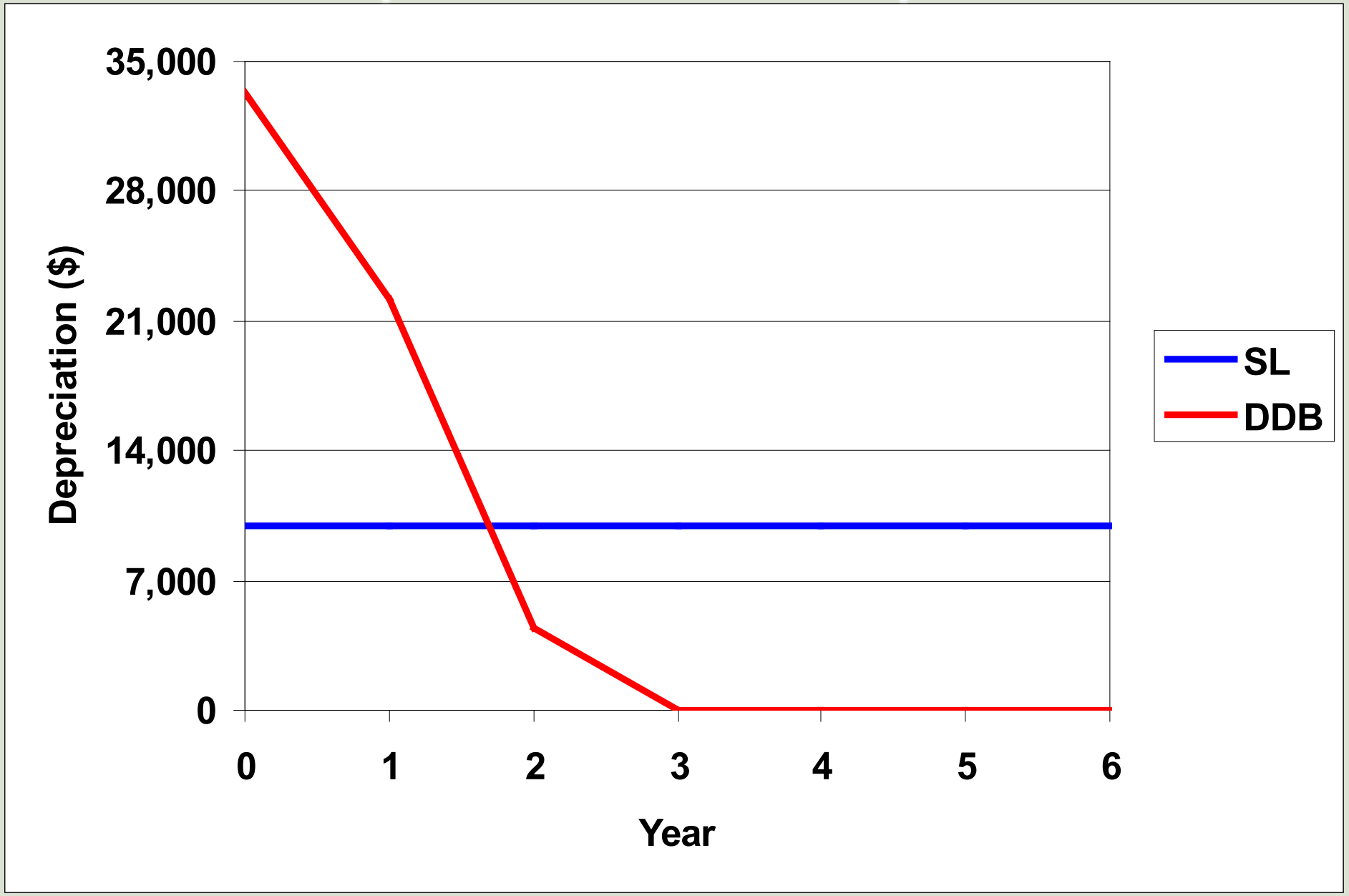
Year	Beginning Basis	Depreciation	Ending Basis
1	100,000	33,333	66,667
2	66,667	22,222	44,444
3	44,444	4,444	40,000
4	40,000	0	40,000
5	40,000	0	40,000
6	40,000	0	40,000


120,000
100,000
80,000
60,000
40,000
20,000
0
Value at Year Start
0
1
2
3
4
5
6
Year

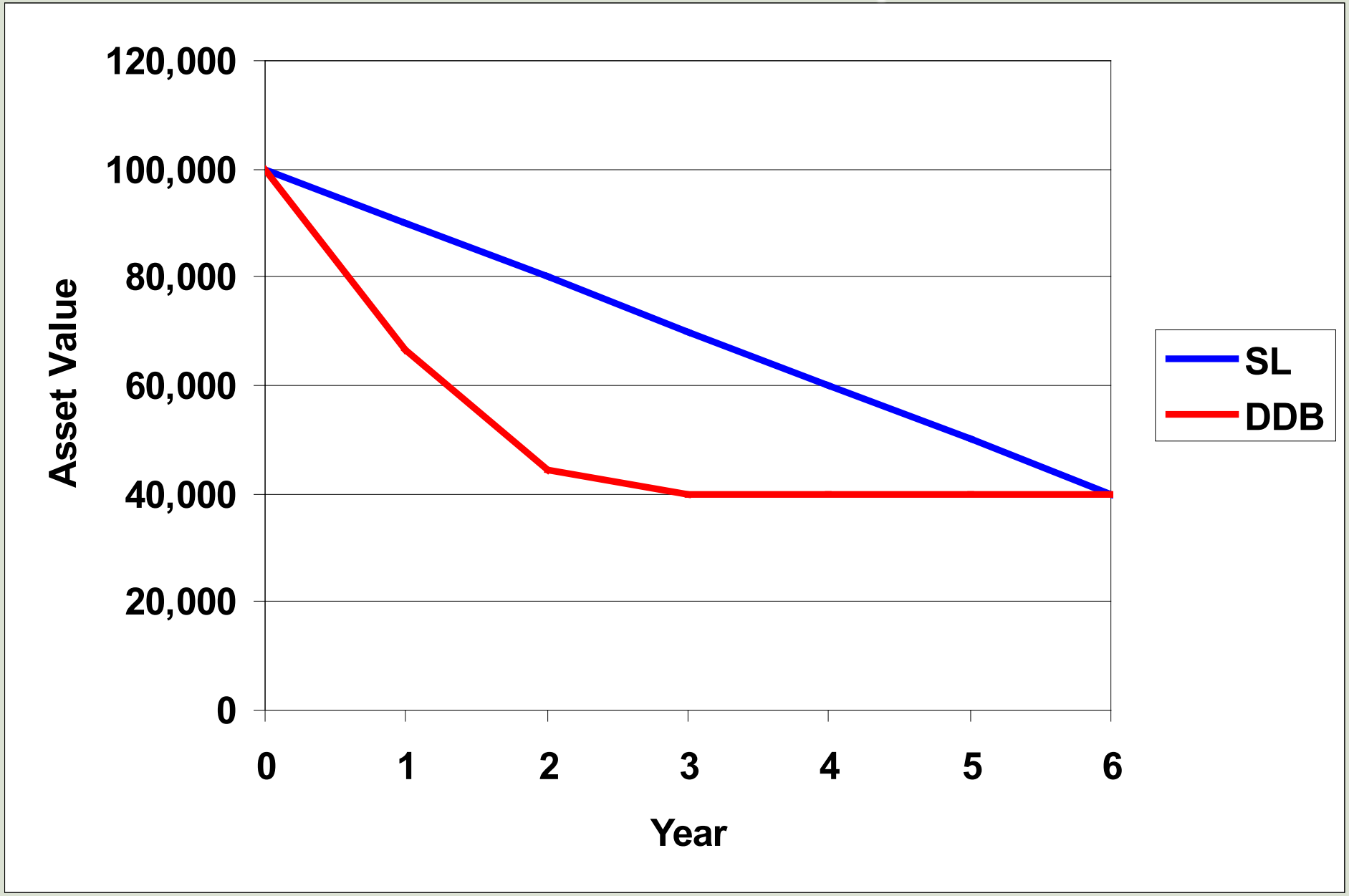
Compare the Two Depreciation Methods

- Straight Line Depreciation
  - Slowest depreciation and easy to use
  - Finishes at the salvage value without any adjustments
- Declining Balance
  - Faster depreciation than straight line, which better matches some assets' actual depreciation
  - Requires adjustment to finish at the salvage value

Depreciation Graphics



Asset Value Graphics



Think Break #11

Machine costs $7000 with a useful life of 3 years and salvage value of $1000

1) What is the double declining balance depreciation during the 1st year?

2) What is machine's basis at the end of the 1st year?

3) What is the double declining balance depreciation during the 2nd year?

4) What is machine's basis at the end of 2nd year?

Depreciation and Taxes

- US tax code has rules and options for depreciating business assets, including those used by farmers
- MACRS: Modified Accelerated Cost Recovery System
- Three methods used: 200% DB, 150% DB, and Straight Line
  - Depends on asset type
  - Sometimes you get to choose
  - DB: Switches to SL to fully depreciate asset

Depreciation and Taxes

- Determine asset's basis (called tax basis)
  - Basis adjusted for several reasons, such as improvements made, damage, etc.
- Calculate depreciation as a % of <u>initial</u> tax basis, which usually equals initial purchase price
  - % taken from a table
  - Tax tables assume zero salvage value
- Deduct depreciation from your taxable income (so you pay lower taxes!)
- Tax basis ≠ true value or your book value

Tax Depreciation Example

- IRS Publication 946: “How to Depreciate Property”
  - Rules apply as to how many years you can depreciate certain types of property
    - Breeding livestock, machinery/equipment: 5 years
    - Grain bins, fences, land improvements: 7 years
    - Buildings and tree/vine: 10 years
    - Land improvements: 15 years

Tax Depreciation Example

- Half-year or mid-quarter convention
  - Depending on when purchased during year, can only take part of annual depreciation in first year and again in last year
  - Example of Half-Year Convention
    - Say you have a 5 year asset, you can take half of year's depreciation in year 1, full year depreciation in years 2, 3, 4 and 5 and another half year depreciation in year 6

Three-Year Example for a $10,000 Asset, Using Tax Table A-1

Year	Depreciation Rate from Tax Table	Depreciation	Remaining Tax Basis
1	33.33%	$3,333	$6,667
2	44.45%	$4,445	$2,222
3	14.81%	$1,481	$741
4	7.41%	$741	$0

Depreciation each year is the **Purchase Price** times the Rate from the tax table. Notice rates add to 100%, which implies take full value over "tax life" of the asset.

Depreciation and Taxes

- Section 179: Allows taking a large amount of depreciation in year purchase asset
  - Way to really reduce income (and so taxes)
  - Buy equipment/building and write <u>full</u> cost off as a cost of business in that year
  - The ending basis of asset can be zero in first year
- Many farmers do this in years they make more money than usual in order to reduce taxes paid

Depreciation and Taxes
Depreciation Recapture: Form 4797

- Depreciation Recapture: When sell an asset, if the sales price differs from the tax basis, file Form 4797
- If sale price > remaining tax basis: claim extra as ordinary income and pay income taxes
- If sale price < remaining tax basis: claim extra depreciation and reduce ordinary income and income taxes
- Eventually the government gets its taxes if you “over depreciate” an asset via tax laws (e.g., Section 179)

Depreciation and Taxes

- Main Point: Tax depreciation not the same as “real” depreciation
  - Section 179 depreciation really throws it off
- Businesses & farms: some keep separate records
  - Tax depreciation and tax basis records
    - Can differ between federal and state
  - Book value for farm balance sheet for farm’s “real” value for loan applications
  - Records of asset values for insurance purposes
  - Can create complicated farm records

Summary

- Explained concept of a balance sheet
  - Current and Non-current Assets
  - Current and Non-current Liabilities
  - Equity: what balances the sheet
- How and why to value assets using a Cost or Market Basis
- How to depreciate assets
  - Straight Line or Declining Balance methods
- How to depreciate farm assets for taxes
  - Depreciation tables, section 179, form 4797 depreciation recapture
- Next Section: **What do you do with a balance sheet?**