

Taxable Income

Lecture notes for PET 472

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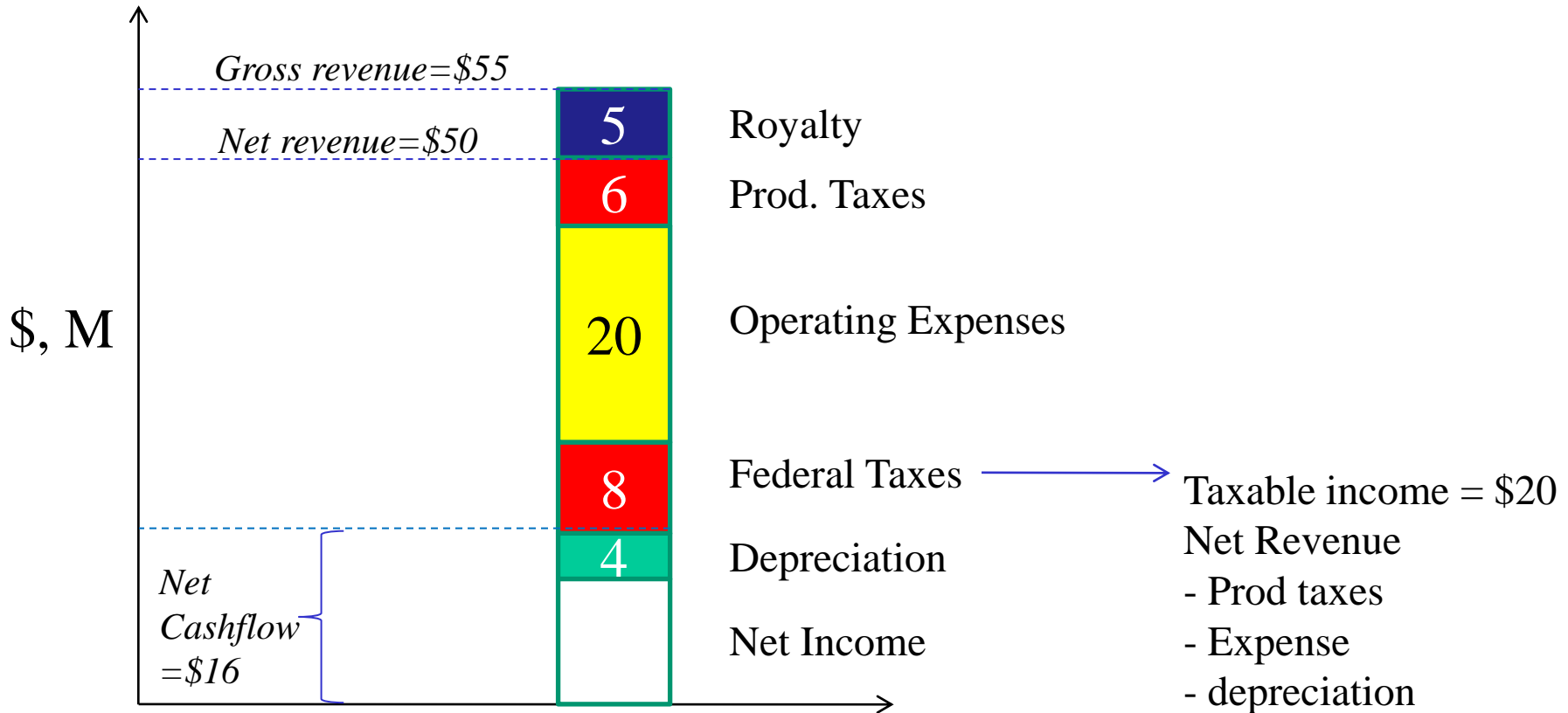
Taxable Income

Components

Taxable Income = Net Revenue

- Gross operating expenses
- state/local production taxes
- depreciation
- depletion

Federal Taxes = Taxable Income * Federal Tax Rate



Operating Expenses

Components

Field Personnel

- Time of pumper, roustabouts etc dedicated to lease
- Typically expressed as \$/month

Utilities

- Expendables such as electric or gas costs
- Typically accounted as \$/KW or \$/mmbtu, however usually expressed as \$/month

Workovers

- Costs for remedial expense type work; e.g., rod parts, pump changes
- Typically incur cost as \$/event where one workover per year.

Water disposal

- Costs incurred for water hauling and disposal.
- Expressed as \$/bbl. Sensitive to method: truck hauling and disposal is \$0.50-1.00/bbl; but disposal directly into a SWD well or injection well is \$0.05 – 0.15/bbl.

Operating Expenses

General estimates

- On a per barrel basis:

\$2(excellent)

\$3 (good)

\$6 (poor)

- On a monthly basis:

\$/month/well

Flowing well

\$500-\$1000

Pumping well

\$1000

High volume wells

\$1500-\$2000 (subs, GL)

Gas wells

<\$500

Operating Expenses

Economic Limit

Net operating Revenue = Gross Operating Expenses + Sales Taxes

$$[(\text{bopd}) * (\text{oilprice}) * (\text{NRI}) + (\text{mcf}) * (\text{gasprice}) * (\text{NRI})] * (1 - \text{Advol}) * (1 - \text{Sev}) = (\text{GOE}) * (\text{WI})$$

where,

NRI = net revenue interest in lease (less royalty)

WI = working interest in lease

GOE = gross operating expenses, \$/day

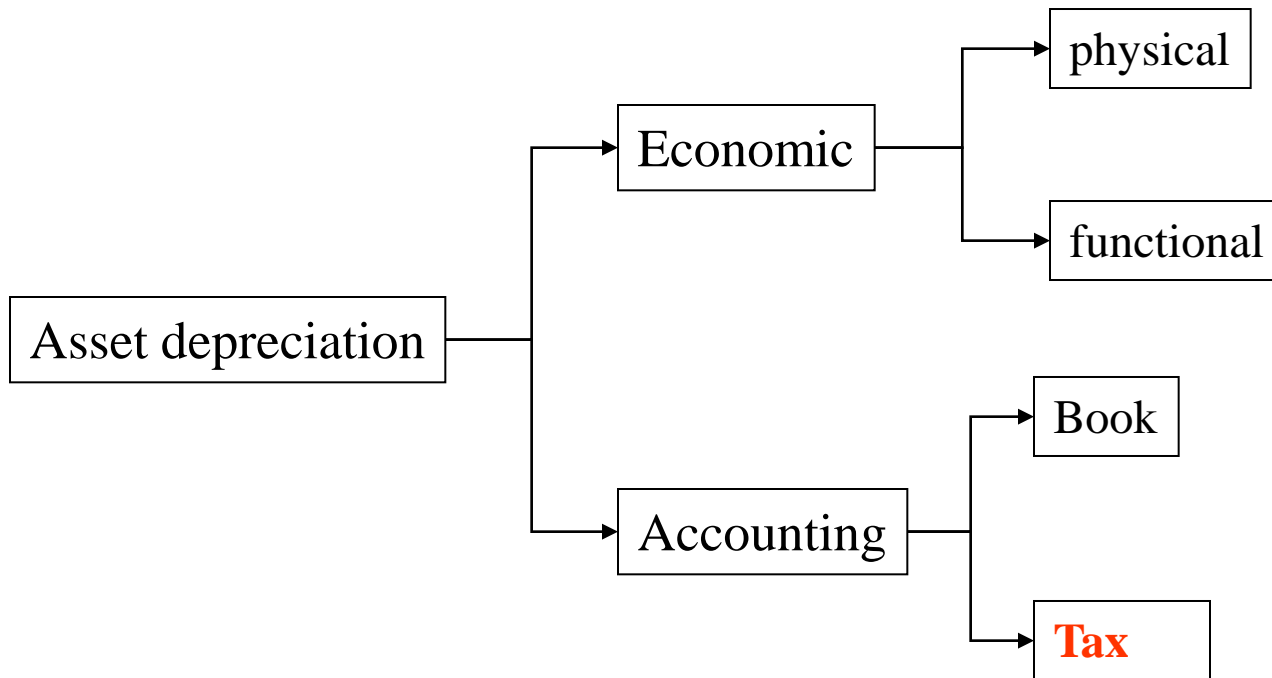
Oilprice = sales price, \$/bbl

Gas price = gas price, \$,mscfd

Advol = local tax rate on revenue, tax \$/revenue\$, decimal

Sev = state tax rate on revenue, tax\$/revenue\$, decimal

Depreciation



For calculating taxes to IRS

Depreciation

Factors

- Depreciable property must be:
 - Used in business or held for production of income
 - Have a definite service life
 - Something that loses value over time
- Cost basis
 - Represents the total cost that is claimed as an expense over the asset's life; i.e., the sum of the annual depreciation expenses.

Depreciation

MACRS

- **M**odified **A**ccelerated **C**ost **R**ecovery **S**ystem developed by IRS and approved by Congress to provide a simple and rapid depreciation method.
 - Guidelines were set which created several classes of assets, each with an arbitrary life called a recovery period – not related to useful life.
 - Prescribed depreciation rates for each class
 - Under MACRS the salvage value of a property is always treated as zero.

Depreciation

MACRS

Recovery Period	ADR* midpoint class	Asset
3-year	ADR < 4	Special tools for manufacture of plastic products, fabricated metal products and motor vehicles
5-year	4 < ADR < 10	Autos, light trucks, high-tech equipment, equipment used for R&D, computerized telephone switching systems
7-year	10 < ADR < 16	Manufacturing equipment, office furniture, fixtures
10-year	16 < ADR < 20	Vessels, barges, tugs, railroad cars
15-year	20 < ADR < 25	Waste-water plants, telephone distribution plants or similar utility property
20-year	25 < ADR	Municipal sewers, electrical power plant
27.5-year		Residential rental property
39-year		Nonresidential real property including elevators and escalators

* ADR: Asset Depreciation Range, published by IRS

Depreciation

MACRS

- Half year convention
 - Assumes assets in place by midyear, thus only half year depreciation in first year
 - Full year depreciation in subsequent years
 - Remaining half year's depreciation taken in the final year
- Depreciation methods
 - Declining balance to straight line

Depreciation

MACRS

Year	Class			
	3	5	7	10
	Depreciation rate in percent			
1	33.33	20.00	14.29	10.00
2	44.45	32.00	24.49	18.00
3	14.81	19.20	17.49	14.40
4	7.41	11.52	12.49	11.52
5		11.52	8.93	9.22
6		5.76	8.92	7.37
7			8.93	6.55
8			4.46	6.55
9				6.56
10				6.55
11				3.28

Bold represents year switch from declining balance to straight line

Intangible Drilling Costs

- IDC – wages, fuel, leases, repairs, hauling and supplies related to drilling wells and preparing them for production
- deduction as a business expense
- Expensing IDC reduces the risk for drilling wells, especially dry holes.

Depletion

Description

If you own mineral property such as oil, gas geothermal or standing timber, you may be able to claim a deduction as you deplete the resource. A capital investment in natural resources needs to be recovered as the natural resources are being removed and sold. The process of amortizing the cost of natural resources in accounting periods is called **depletion**. The objective of depletion is the same as that for depreciation; i.e., to amortize the cost in a systematic manner over the asset's useful life.

There are two methods to determine depletion: **cost depletion** and **percentage depletion**. These methods are used for book as well as tax purposes. In most instances, depletion is calculated by both methods and the larger value is taken as the depletion allowance for the year. For most oil and gas wells, only cost depletion is allowable.

- Same concept as units-of-production method
- Generally more favorable for taxpayer

$$D = B \left(\frac{P}{P + R} \right)$$

- D – annual cost depletion allowance, \$
- P – oil or gas production sold or for which payment was received during the tax year.
- R – remaining reserves at the end of the tax year
- B – “adjusted basis” of property

Depletion

Cost depletion example

Sona Oil oil purchases a waterflood at \$3 per recoverable barrel. If reserves are 146,000 BO, then the initial investment is \$438,000. Calculate the annual cost depletion allowance for the production schedule below.

$$R = 146,000$$

$$B = \$438,000$$

Year	P, Mstb	Depletion allowance, D, \$
1	46	138
2	35	105
3	25	75
4	15	45
5	10	30
6	8	24
7	7	21
		Sum = \$438,000

Depletion

Percent Depletion

- Requires no starting basis
- Simply percentage deduction based upon net income from the sale of production from the property
- Allowed to small independents only....1000 bopd or 6000 mcfd, net
- Depletion rate for oil and gas wells, 15%
- Sum limited to 50% of a company's taxable income from the property excluding the depletion deduction.

Depletion

Percent Depletion Example

	A, \$M	B, \$M
Net revenue (less royalty)	973	973
Operating Expenses	438	876
Income (BFIT)	535	97
depletion allowance, 15% of net revenue	146	146
Allowable limit, 50% of taxable income	267	48
Depletion allowance	146	48
Taxable Income (BFIT)	389	49