

## Acquiring Machinery Services Session 2: Owning, Leasing, Renting, and Custom Hire

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### Purpose of module

- Develop an understanding of the costs associated with owning and operating machinery
- Trying to reduce decisions to numbers
  - Custom hire
  - Own vs. rent
  - Lease vs. purchase
  - Trading strategies
- See also... *Leasing vs. Buying Farm Machinery* available on [agmanager.info](http://agmanager.info)

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### Session: Lease, purchase, rent, custom hire example

See also... *Leasing vs. Buying Farm Machinery* available on [agmanager.info](http://agmanager.info)

Recorded fall of 2010

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## Lease vs. Purchase Example

Purchase Data	
Purchase Price	\$317,500
Down Payment	20%
Interest Rate	6.9%
Loan Length	5 years
Annual Payment	\$61,782
Salvage Value (in 5 years)	\$162,000
Section 179 Deduction	\$125,000
Book Value (in 5 years)	\$58,963
Fixed and Variable Costs	\$17,705
Marginal Tax Rate	46.8%
After-tax Discount Rate	3.67%

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## Combine Purchase NPV

Year	Payment	Tax Depr.	Fixed & Variable Costs	Salvage Value	Balancing Charge	Tax Reduction	After-tax Cash Flow	PV Factor	PV of After-tax Cash Flow
0	\$63,500						\$63,500	1.0000	\$63,500
1	61,782	\$145,617	\$17,705			\$84,637	(5,149)	0.9646	(4,967)
2	61,782	36,825	17,705			32,293	47,194	0.9304	43,912
3	61,782	28,933	17,705			27,072	52,416	0.8975	47,044
4	61,782	23,581	17,705			22,934	56,553	0.8657	48,960
5	61,782	23,581	17,705	(\$162,000)	\$32,457	(11,269)	(71,244)	0.8351	(59,495)
<b>Total</b>	<b>\$372,410</b>	<b>\$258,537</b>	<b>\$88,525</b>	<b>(\$162,000)</b>	<b>\$32,457</b>	<b>\$155,667</b>	<b>\$143,270</b>		<b>\$138,954</b>

- Salvage value is the market value of the machine when sold.
- Balancing charge = (salvage value – book value) \* (tax rate – self employment tax).
- Tax reduction = (interest + tax depreciation + fixed/variable costs) \* marginal tax rate – balancing charge
- After-tax cash flow = payment + fixed/variable costs – salvage value – tax reduction
- PV Factor =  $1/(1 + 0.0367)^{year}$
- PV of after-tax cash flow = after-tax cash flow \* PV factor

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## Lease vs. Purchase Example

Lease Data	
Lease Length	5 years
Annual Payment	\$42,000
Fixed and Variable Costs	\$17,705
Discount Rate	6.9%
Marginal Tax Rate	46.8%
After-tax Discount Rate	3.67%
Purchase Option	No

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### Summary of NPV Analysis

- Purchase advantage of other options was relatively small, especially on an annualized basis
- Terms of options can significantly change results of analysis
  - Section 179 Deduction
  - Marginal Tax Rate

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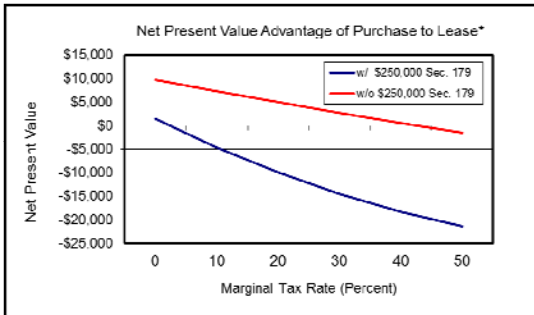
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### Impact of Section 179 and Tax Rate



\* Negative values indicate advantage of purchase to lease.

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### Summary of NPV Analysis

- Analysis assumes the same quality of work in all four cases
- Custom hire option may be preferred option if labor availability is a concern or additional equipment is needed (e.g., heads, grain carts, or trucks)
- Rent option may be less appealing if machine is not available when needed or the producer does not meet minimum hour requirements common in some rental agreements

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**Machinery Options ...**

- Because of the many factors affecting the economics of leases vs. purchases, it is important for producers to compare the financing alternatives that exist for their unique situation.
- In other words, there is no one method of financing that will necessarily be best for all producers every time.

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**Machinery Options ...**

*To buy, lease, rent or custom hire will depend on ...*

- Credit availability
- Terms of lease vs. credit terms
- Cash-flow situation
- TAX SITUATION
- Other ???
- Your own unique situation – difference between machinery options will likely be small, NPV analysis will allow you to “capture” that benefit.

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**End of Session:**

**Lease, purchase, rent, custom hire example**



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