

Chapter 13 Appendix C

Income Taxes in Capital Budgeting Decisions

Exercise 13C-1 (20 minutes)

<i>Items and Computations</i>	<i>Year(s)</i>	<i>(1) Amount</i>	<i>(2) Tax Effect</i>	<i>(1) × (2) After-Tax Cash Flows</i>	<i>10% Factor</i>	<i>Present Value of Cash Flows</i>
Project A:						
Investment in photocopier.....	Now	\$(50,000)	—	\$(50,000)	1.000	\$(50,000)
Annual net cash inflows	1-8	\$9,000	1 – 0.30	\$6,300	5.335	33,611
Depreciation deductions*	1-8	\$6,250	0.30	\$1,875	5.335	10,003
Salvage value of the photocopier.....	8	\$5,000	1 – 0.30	\$3,500	0.467	<u>1,635</u>
Net present value						<u>\$(4,751)</u>
Project B:						
Investment in working capital	Now	\$(50,000)	—	\$(50,000)	1.000	\$(50,000)
Annual net cash inflows	1-8	\$9,000	1 – 0.30	\$6,300	5.335	33,611
Release of working capital	8	\$50,000	—	\$50,000	0.467	<u>23,350</u>
Net present value						<u>\$ 6,961</u>

* $\$50,000 \div 8 \text{ years} = \$6,250 \text{ per year}$

Exercise 13C-2 (20 minutes)

1. Annual cost of student help in collating			\$60,000
Annual cost of the new collating machine:			
Operator	\$18,000		
Maintenance	<u>7,000</u>	<u>25,000</u>	
Annual net cost savings (cash inflow)			<u>\$35,000</u>

2. The net present value analysis follows:

<i>Items and Computations</i>	<i>Year(s)</i>	<i>(1)</i> <i>Amount</i>	<i>(2)</i> <i>Tax</i> <i>Effect</i>	<i>(1) × (2)</i> <i>After-Tax</i> <i>Cash Flows</i>	<i>14%</i> <i>Factor</i>	<i>Present</i> <i>Value of</i> <i>Cash Flows</i>
Cost of the new collating machine	Now	\$(140,000)		\$(140,000)	1.000	\$(140,000)
Annual net cost savings (above)	1-10	\$35,000	1 – 0.30	\$24,500	5.216	127,792
Depreciation deductions*	1-10	\$14,000	0.30	\$4,200	5.216	21,907
Cost of the new roller pads	5	\$(20,000)	1 – 0.30	\$(14,000)	0.519	(7,266)
Salvage value of the new machine	10	\$40,000	1 – 0.30	\$28,000	0.270	<u>7,560</u>
Net present value						<u>\$ 9,993</u>

* $\$140,000 \div 10 \text{ years} = \$14,000 \text{ per year}$

Yes, the new collating machine should be purchased.