Exercise

Abcor2000 • Value-in-Use Pricing



The *Value-in-Use Pricing* exercise is a standalone spreadsheet with preset formulas and result displays. To use it, simply open the file "*Abcor2000 Data (Value-in-Use Pricing).xls*". By default, the file installs in "*My Documents/My Marketing Engineering/*".

Overview

The Value spreadsheet is useful for determining the price of a product based on customer value (value-in-use). It uses the idea that organizations should base their pricing on a careful understanding of what a product is worth economically to a specific customer, as well as what it costs the organization to produce the product.

Background

Abcor Industries, a wholly owned subsidiary of Conglomerate Inc., is one of the largest sellers of engraving-plate material and plate-making equipment in the United States. Although engraving equipment is used to make brass plates for gifts and ceremonial items (e.g., plates on pictures or statuettes), its oldest and most traditional use is engraving plates to print business cards, high-quality stationery, invitations, and informal announcements.

Major customers include specialty printers nationwide, most of which own their own plate-making equipment and buy their plate stock from the manufacturer of their plate-making equipment.

In 2004, Abcor introduced new equipment using a proprietary process developed in Conglomerate's engineering polymers division: a polymer plate and associated plate-making equipment. It has named the first generation of this equipment the ABCOR2000; the plate-making equipment is more costly than the metal-alloy equipment (the ABCOR1000 line), but it produces plates that are considerably less expensive than metal plates, though of comparable quality. (When purchased in lots of 500 or more, metal plates range from $4.78 to $4.92 each, with prices about 10 percent higher for smaller volumes.)

With the introduction of the ABCOR2000, Abcor's support staff in sales has developed a software tool called VALUE. Initial discussions with some of Abcor's prospective customers suggest that these unsophisticated small manufacturers do not understand how the lower cost of materials (plates) will compensate over time for the higher cost of the plate-making equipment. The software is designed to help the sales force (which has price discretion) bid on contracts and negotiate pricing arrangements with customers.

In introducing VALUE to the sales force, Abcor has identified three typical prospect-accounts for a training exercise: Longform Printing of Medford,

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Massachusetts; Smithfield's Quality Printers of Wilmington, Delaware; and Franklin Printers of Ft. Lauderdale, Florida. The training exercise requires salespeople to make an initial bid (and justify it) to each of these accounts.

Exercise

As an Abcor salesperson, you are to prepare a bid for each of these customers, as well as a justification for it. (You also may decide that it is not in Abcor's best interest to bid on some or all of these contracts.) Salespeople at Abcor are salaried, and they receive small bonuses based on customer satisfaction measurements.

In each case, assume the following:

- The machine costs $3,980 to produce and ship.
- The list price for the machine is $12,000. (Salespeople can generally discount up to 20 percent below list without sales management approval; larger discounts are subject to written review.)
- Metal plate prices will continue to rise 3 percent per year.
- The (marginal) production cost per new plate (including delivery) is $0.60.
- The machines depreciate 25 percent per year (for salvage value calculation).
- Abcor expects to increase prices at approximately the same rate as metal prices increase.

Questions

Prepare and justify bids for the following three accounts:



Longform Printing of Medford, Massachusetts

- Formed in 1947, a client since the mid-1950s.
- 15 employees.
- 2004 usage: 990 plates; 2003 usage: 940 plates.
- Three-year-old ABCOR1000 (Initial price: $4,000).
- Highly conservative firm; looking at a 10-year time horizon and a 15 percent cost of capital.

(Notice: The spreadsheet already contains the appropriate data to answer this question.)



Smithfield's Quality Printers of Wilmington, Delaware

- Relatively new prospect, using competitor's equipment and material.
- Demand is uncertain (between 250 and 500 plates per year) but appears to be growing at approximately 11 percent per year.
- Old equipment worth about $3,000 on market.
- Conservative investor; looking at a 20 percent cost of capital.
- Appears to like to evaluate investments over a five-year lifetime.

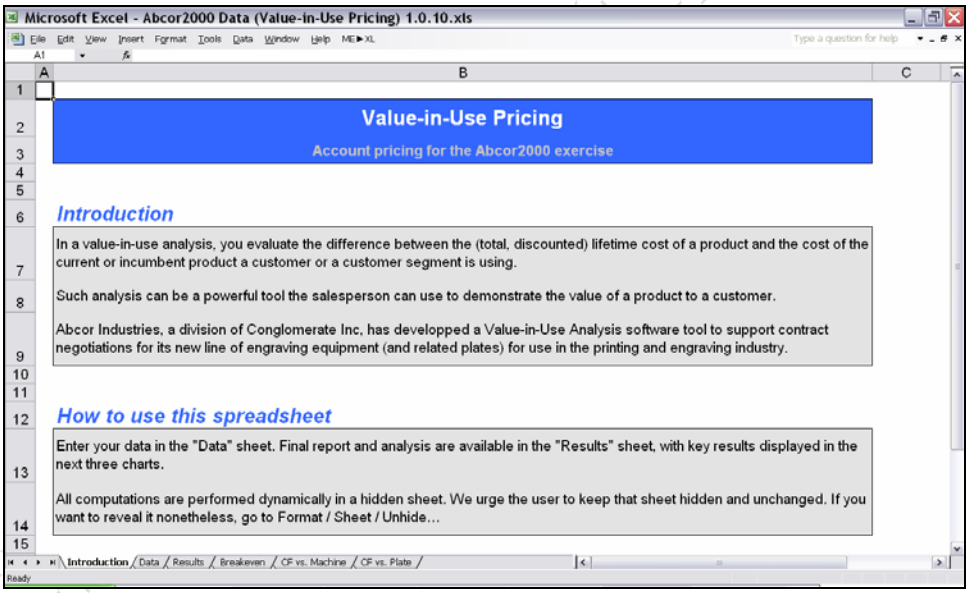
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Franklin Printers of Fort Lauderdale, Florida

- Small, general commercial printer that does a small amount of engraving on the side. Business is stable.
- Bought 200 to 250 plates per year over the last four years.
- Owns an old machine (an ABCOR 11), bought about 15 years ago, which is fully depreciated.
- Evaluates investments on the basis of a five-year payback period—that is, it expects (with no discounting) that the sum of the simple cash flow from the investment will become positive after a maximum of five years before it will consider the investment.

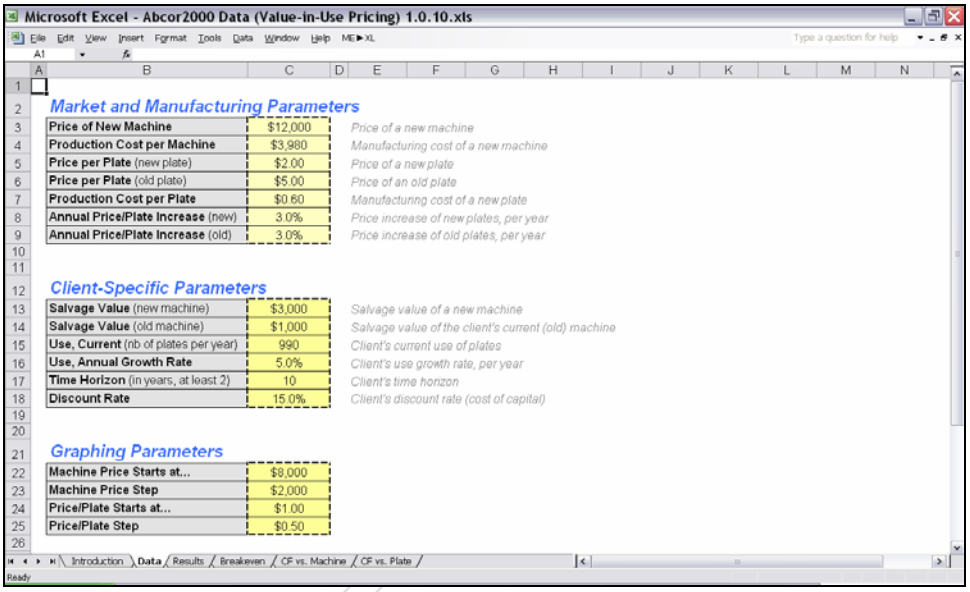
Getting Started

Open the file "*Abcor2000 Data (Value-in-Use Pricing).xls*" in "*My Documents/My Marketing Engineering/*".



Step 1 Entering your parameters

In Excel, click on the *Data* sheet. This sheet contains the parameters used to run the value-in-use pricing analysis.



The *Data* sheet contains three distinct areas:

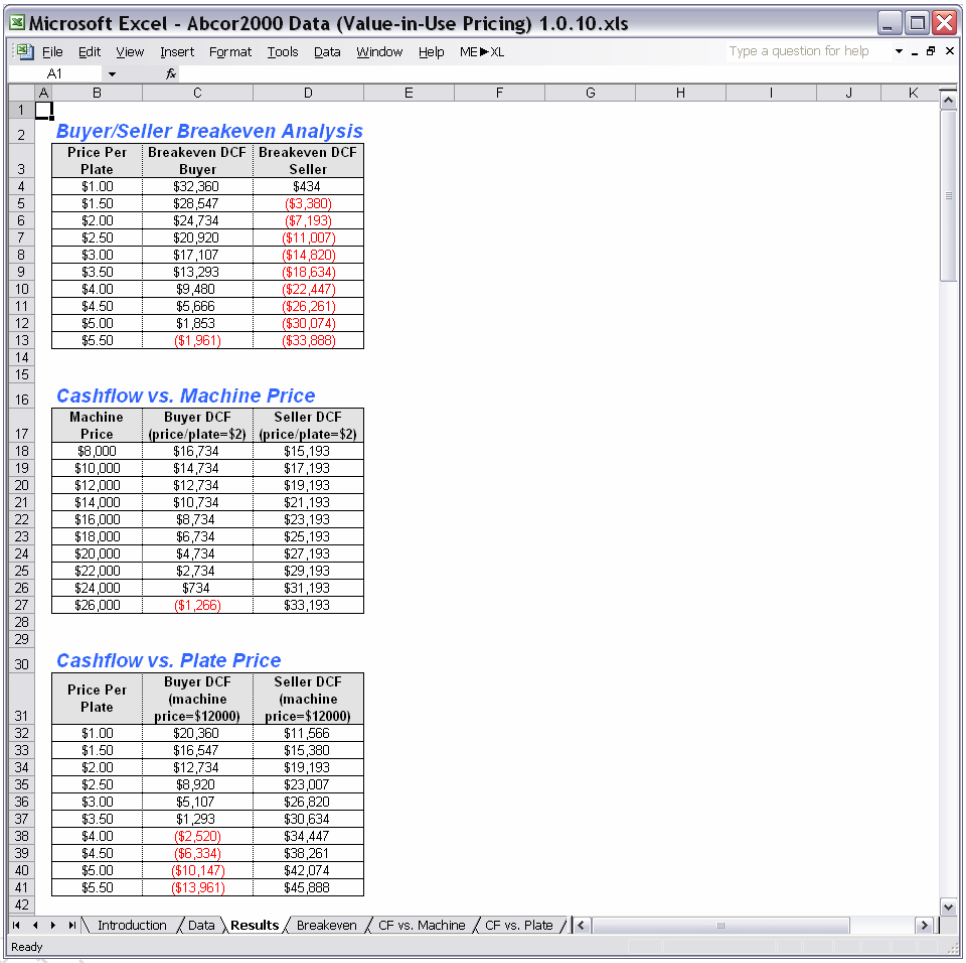
- **Market and manufacturing parameters** describe the manufacturing process or the state of the market are less likely to change from client to client.
- **Client-specific parameters** can be varied for each client (e.g., production volume, time horizon of the investment) to identify the best customized pricing for that client.
- **Graphing parameters** customize analysis outputs subsequently. The graphing parameters set the origin (start) and the increment size (step) for graphs; the x-axis on the graph begins with the starting value and includes 10 increments of the step size.

If you change any of these parameters, the formulas in the following sheets will automatically update, as will the results.

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Step 2 Interpreting the results

The *Results* sheet contains the results of the analysis, and the following three charts display these results in graphical format.



Microsoft Excel - Abcor2000 Data (Value-in-Use Pricing) 1.0.10.xls

File Edit View Insert Format Tools Data Window Help ME►XL

Type a question for help

A1

Buyer/Seller Breakeven Analysis

Price Per Plate	Breakeven DCF Buyer	Breakeven DCF Seller
$1.00	$32,360	$434
$1.50	$28,547	($3,380)
$2.00	$24,734	($7,193)
$2.50	$20,920	($11,007)
$3.00	$17,107	($14,820)
$3.50	$13,293	($18,634)
$4.00	$9,480	($22,447)
$4.50	$5,666	($26,261)
$5.00	$1,853	($30,074)
$5.50	($1,961)	($33,888)

Cashflow vs. Machine Price

Machine Price	Buyer DCF (price/plate=$2)	Seller DCF (price/plate=$2)
$8,000	$16,734	$15,193
$10,000	$14,734	$17,193
$12,000	$12,734	$19,193
$14,000	$10,734	$21,193
$16,000	$8,734	$23,193
$18,000	$6,734	$25,193
$20,000	$4,734	$27,193
$22,000	$2,734	$29,193
$24,000	$734	$31,193
$26,000	($1,266)	$33,193

Cashflow vs. Plate Price

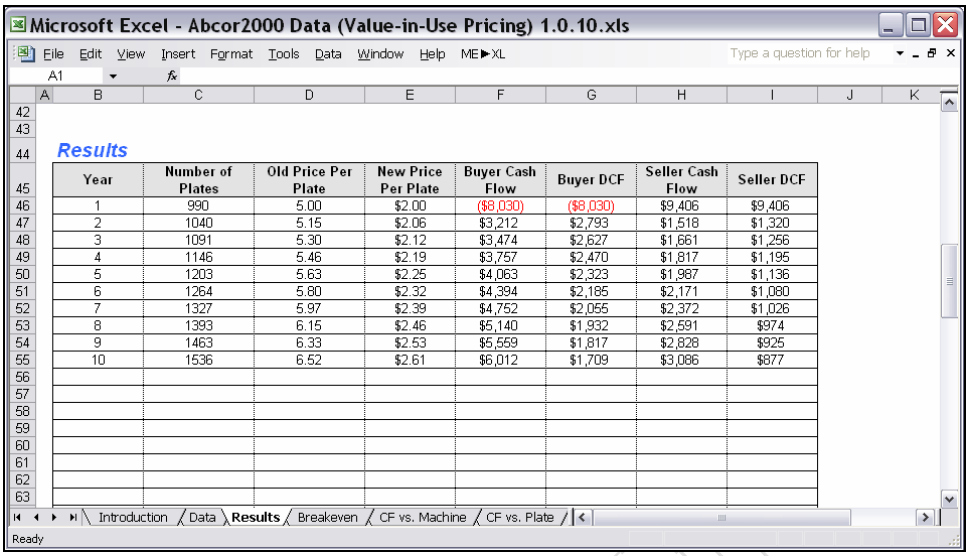
Price Per Plate	Buyer DCF (machine price=$12000)	Seller DCF (machine price=$12000)
$1.00	$20,360	$11,566
$1.50	$16,547	$15,380
$2.00	$12,734	$19,193
$2.50	$8,920	$23,007
$3.00	$5,107	$26,820
$3.50	$1,293	$30,634
$4.00	($2,520)	$34,447
$4.50	($6,334)	$38,261
$5.00	($10,147)	$42,074
$5.50	($13,961)	$45,888

Introduction | Data | Results | Breakeven | CF vs. Machine | CF vs. Plate

Ready

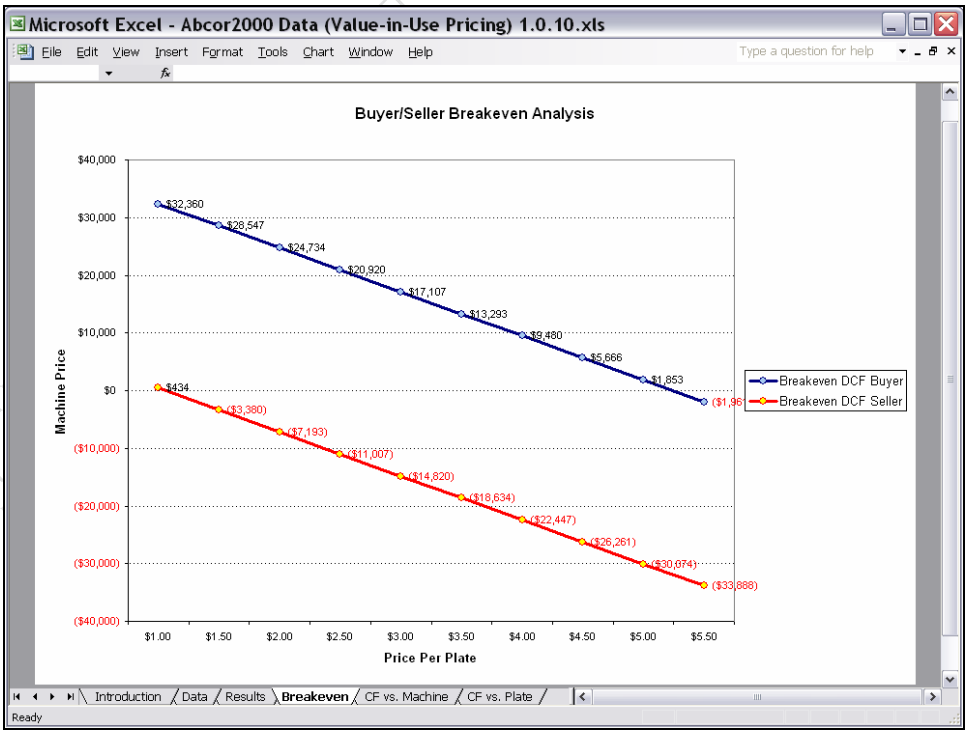
These three tables are plotted in the next three charts:

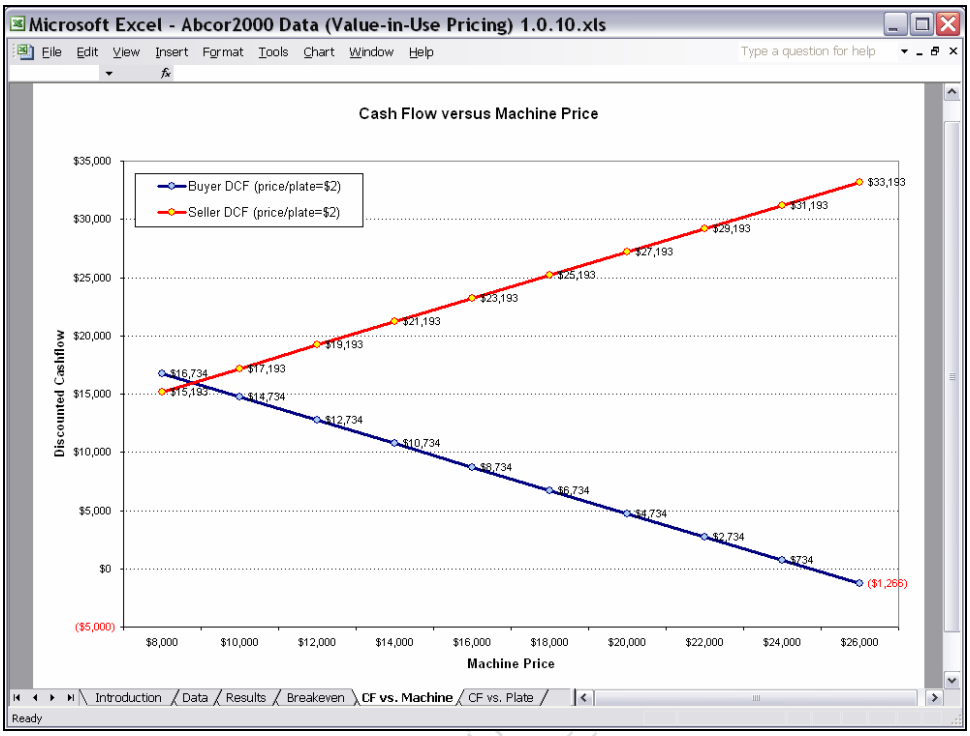
- **Breakeven Analysis** shows the different combinations of plate price and machine price that would achieve an economical breakeven for the buyer or seller. Any price combination in between is an economically feasible solution.
- **Cashflow analyses** show the different discounted cashflows for varying plate/machine prices.

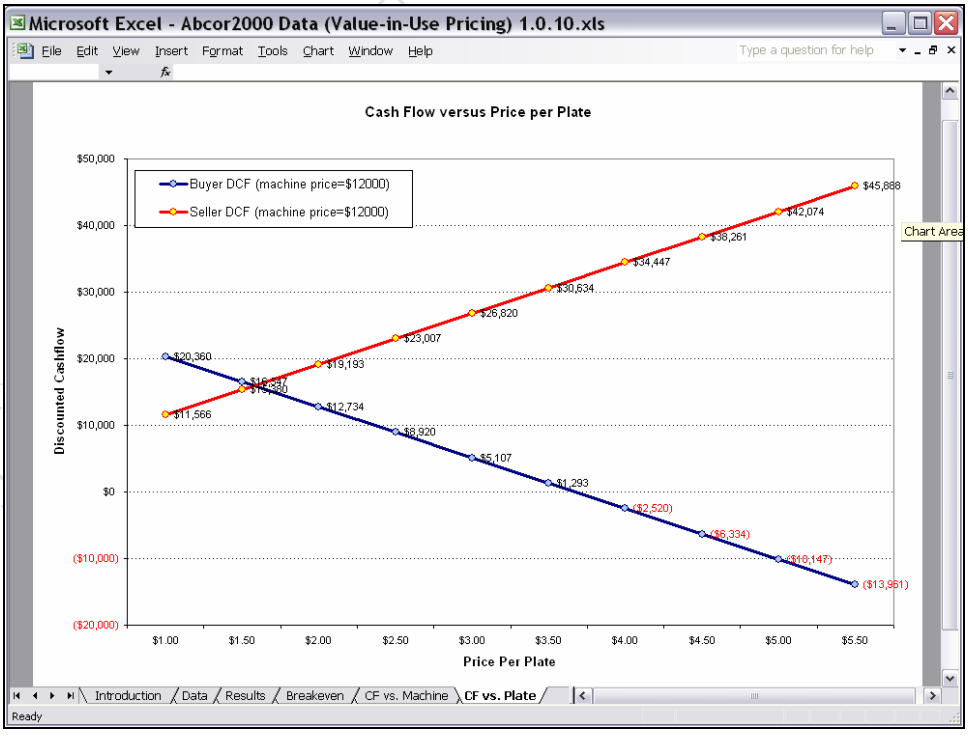


Year	Number of Plates	Old Price Per Plate	New Price Per Plate	Buyer Cash Flow	Buyer DCF	Seller Cash Flow	Seller DCF
1	990	5.00	$2.00	($8,030)	($8,030)	$9,406	$9,406
2	1040	5.15	$2.06	$3,212	$2,793	$1,518	$1,320
3	1091	5.30	$2.12	$3,474	$2,627	$1,661	$1,256
4	1146	5.46	$2.19	$3,757	$2,470	$1,817	$1,195
5	1203	5.63	$2.25	$4,063	$2,323	$1,987	$1,136
6	1264	5.80	$2.32	$4,394	$2,185	$2,171	$1,080
7	1327	5.97	$2.39	$4,752	$2,055	$2,372	$1,026
8	1393	6.15	$2.46	$5,140	$1,932	$2,591	$974
9	1463	6.33	$2.53	$5,559	$1,817	$2,828	$925
10	1536	6.52	$2.61	$6,012	$1,709	$3,086	$877

If you select the **breakeven** chart, you will see the range of machine and plate prices that are economically attractive to the buyer and the seller. Any point at which discounted cash flow (DCF) is positive for both buyer and seller could be an acceptable contract arrangement.




Microsoft Excel - Abcor2000 Data (Value-in-Use Pricing) 1.0.10.xls
File Edit View Insert Format Tools Chart Window Help
Type a question for help
Cash Flow versus Machine Price
Buyer DCF (price/plate=$2)
Seller DCF (price/plate=$2)
Discounted Cashflow
$35,000
$30,000
$25,000
$20,000
$15,000
$10,000
$5,000
$0
($5,000)
$16,734
$17,193
$19,193
$21,193
$23,193
$25,193
$27,193
$29,193
$31,193
$33,193
$15,193
$14,734
$12,734
$10,734
$8,734
$6,734
$4,734
$2,734
$734
($1,266)
$8,000
$10,000
$12,000
$14,000
$16,000
$18,000
$20,000
$22,000
$24,000
$26,000
Machine Price
Introduction Data Results Breakeven CF vs. Machine CF vs. Plate
Ready


Microsoft Excel - Abcor2000 Data (Value-in-Use Pricing) 1.0.10.xls
File Edit View Insert Format Tools Chart Window Help
Type a question for help
Cash Flow versus Price per Plate
Buyer DCF (machine price=$12000)
Seller DCF (machine price=$12000)
Chart Area
Discounted Cashflow
$50,000
$40,000
$30,000
$20,000
$10,000
$0
($10,000)
($20,000)
$20,360
$19,193
$12,734
$8,920
$5,107
$1,293
($2,520)
($6,334)
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$34,447
$38,261
$42,074
$45,888
$1.00
$1.50
$2.00
$2.50
$3.00
$3.50
$4.00
$4.50
$5.00
$5.50
Price Per Plate
Introduction Data Results Breakeven CF vs. Machine CF vs. Plate
Ready

Appendix

The spreadsheet contains the following relationships:

Buyer Cash Flow

In Year 1	= Col C x (Col D – Col E) + Old Machine Salvage – Machine Price
In Interim Years	= Col C x (Col D – Col E)
In Final Year	= Col C x (Col D – Col E) + New Machine Salvage

- **Seller Cash Flow**

In Year 1	= Col C x (Col E – Plate Cost) + Machine Price – Machine Cost
In Other Years	= Col C (Col E – Plate Cost)

where:

Col C = Volume

Col D = Old Price per Plate

Col E = New Price per Plate

The discounted cash flow (DCF) columns simply discount the simple cash flow columns.

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