

# Case Study: Managing Cash Flow

## **OBJECTIVE:**

Given a cash flow forecast, appropriate historical financial information, and assumptions regarding the future, be able to evaluate an organization's cash position and make recommendations about how it can manage its business more effectively to conserve cash.

## **JACK B. NIMBLE COMPANY (formerly ABC Machining, Inc.)**

Jack Nimble had been employed by ABC Machining for nearly 20 years, serving in a variety of engineering and manufacturing positions for the company. The company owner decided to put the company up for sale, and Jack was eager to buy it, since he knew he could do a better job of managing and running it than was presently being done. There was potential for additional sales; and cost savings through production efficiencies, superior customer service, and reduced administrative expenses (the owner was quite generous to himself) would be easy to accomplish. Jack had no doubt that he could improve things dramatically within a year, and growth possibilities after the first year were extremely attractive.

Jack did not have strong financial skills, but he knew that he had to put together some kind of projected figures to set goals for the company and to satisfy his financial backers, who were members of his family and also not financially sophisticated. Exhibit A.1 shows the income statement projections that Jack prepared.

Based on this projection, which he felt was realistic, Jack did not do any further financial studies, nor did his financial supporters request any more data. Their feeling was that the combination of the sales growth and the attractive improvement in profitability would be enough to avoid any financial difficulties.

Unfortunately, these projections proved insufficient. Jack did not take into consideration three significant factors: (1) He would have to invest in excess of \$2

	ABC Machining 12/31/x1 – actual		Jack B. Nimble Co. 12/31/x2 – projected	
	\$	%	\$	%
Sales	\$12,002.7	100.0%	\$18,000	100.0%
Cost of goods sold	8,436.1	70.3	11,900	66.1
Manufacturing Profit	3,566.6	29.7	6,100	33.9
Selling, gen. & admin. expenses	2,474.4	20.6	2,500	13.9
Operating Profit	1,092.2	9.1	3,600	20.0
Taxes	395.1	3.3	1,300	7.2
Net Income	<u>\$ 697.1</u>	<u>5.8%</u>	<u>\$ 2,300</u>	<u>12.8%</u>

**Exhibit A.1** Jack B. Nimble Company: Income Statements for Years Ending December 31, 20x1 and 20x2 (\$\$ in 000s)

million in plant and equipment to gain all the efficiencies and throughput expansion he required; (2) to gain the new customers required to achieve the sales target, he would have to extend 30-day credit terms to all customers; and (3) it would take time to ramp up to \$1.5 million monthly sales necessary to attain the \$18 million target figure.

As ABC Machining, the company enjoyed a unique position—demand for its products exceeded ability to supply. The company was able to sell all of its monthly production of about \$1 million on a continuing basis. ABC required cash payment at time of delivery to virtually all customers, and was still able to sell 100 percent of its output. Jack, however, wanted to increase sales and net profits and recognized the existence of increased competition and other changes in the marketplace. He not only saw the need to retain present customers but also to acquire new customers. To accomplish his goals, he knew he would have to offer credit terms for payment and would have to absorb the cost of carrying the significant increase in accounts receivable investment.

Jack was fully aware of the plant and equipment investment and the accounts receivable factors, but he did not understand the cash flow ramifications they would have on his fledgling business. He simply assumed the profit generated from the new sales would produce enough cash to cover any requirements he would face. He had not taken the ramping factor into consideration at all. If he had done a balance sheet projection, even without taking the ramping into account, the pro forma balance sheet figures in Exhibit A.2 would have appeared, allowing him to plan for the cash shortage contingency.

From the pro forma balance sheet, it is clear that Jack could have anticipated a significant problem with cash. Without that projection, however, Jack only discovered the problem once in the middle of it. Fortunately, because some of his relatives were willing to guarantee Jack's loan, he was able to get a \$1.5 million line

(\$\$ in 000s)	12/31/x2 – pro forma	
<b>ASSETS</b>	<b>\$</b>	<b>%</b>
Cash	\$ (925)	(12.2)
Accounts receivable	1,875	24.8
Inventory	2,400	31.8
Current Assets	<u>3,350</u>	<u>44.4</u>
Other assets	4,200	55.6
<b>TOTAL ASSETS</b>	<u><u>\$7,550</u></u>	<u><u>100.0</u></u>
<b>LIABILITIES</b>		
Accts payable & accrued expenses	\$1,250	16.6
Other current liabilities	400	5.3
Current Liabilities	<u>1,650</u>	<u>21.9</u>
Other liabilities	900	11.9
Total Liabilities	<u>2,550</u>	<u>33.8</u>
<b>STOCKHOLDERS' EQUITY</b>		
Total Stockholders' Equity	5,000	66.2
<b>TOTAL LIABILITIES &amp; EQUITY</b>	<u><u>\$7,550</u></u>	<u><u>100.0</u></u>

**Exhibit A.2** Jack B. Nimble Company: Pro Forma Balance Sheet Figures for December 31, 20x2

of credit from his bank and to increase his long-term loan by \$500,000. To complete the picture of his first year of operation, in Exhibit A.3 Nimble's actual financial results are shown compared to the projected figures and to the prior year numbers. Part of Jack's problem (and the solution to his critical needs) was borrowing. At January 1, 20x2, Jack assumed a loan of just over \$1 million with a monthly payment of \$16,000 including interest at 8½ percent. He added \$500,000 to the loan on April 1, 20x2, which increased the monthly payment to \$25,000 but did not change the interest rate. He also negotiated a \$1.5 million line of credit at a rate of 9 percent. The actual cash flow, by month, for the year is shown in Exhibit A.4.

From these figures, it is clear that Jack made good progress towards achieving his goals. During the year, however, his cash flow difficulties forced him to defer the purchase of certain equipment that he needed, and the impact on future years may be severe. He did a good job controlling expenses and inventory, but his accounts receivable went through the roof. As a result, he is now dealing with a significant line of credit (and related interest charges). He has financed the rest of his requirements partly from the profits he was able to attain and from the addition to his bank loan, but also by not paying his vendors on time. His accounts payable balance has increased dramatically, and is now about 85 percent higher than it should be. Jack's phone is surely ringing off the hook with angry and frustrated vendors who are looking for payment. Additionally the bank is pressuring him, insisting that he zero out the line of credit for at least one month before they will consider another year's extension.

Because of his cash flow problems, Jack got smart quickly. He decided he needs a reliable cash flow projection for next year, particularly since he wants to catch up on his fixed asset expenditures as well as make additional investments.

(\$\$ in 000s)	12/31/x2l actual		12/31/x2 projected		ABC Machining, Inc. 12/31/x1 actual	
	\$	%	\$	%	\$	%
Sales	\$15,073.4	100.0	\$18,000	100.0	\$12,002.7	100.0
Cost of goods sold	<u>10,290.4</u>	<u>68.3</u>	<u>11,900</u>	<u>66.1</u>	<u>8,436.1</u>	<u>70.3</u>
Manufacturing Profit	4,783.0	31.7	6,100	33.9	3,566.6	29.7
Selling, g & a expenses	2,317.2	15.4	2,388	13.3	2,369.4	19.7
Interest expense	<u>162.9</u>	<u>1.1</u>	<u>112</u>	<u>0.6</u>	<u>105.0</u>	<u>0.9</u>
Operating Profit	2,302.9	15.2	3,600	20.0	1,092.2	9.1
Taxes	<u>912.0</u>	<u>6.0</u>	<u>1,300</u>	<u>7.2</u>	<u>395.1</u>	<u>3.3</u>
NET INCOME	<u>\$ 1,390.9</u>	<u>9.2</u>	<u>\$ 2,300</u>	<u>12.8</u>	<u>\$ 697.1</u>	<u>5.8</u>

**Exhibit A.3** Jack B. Nimble Company (and ABC Machining, Inc.)  
Income Statements for Years Ending December 31, 20x2 and 20x1

(\$\$ in 000s)	12/31/x2		12/31/x2		ABC Machining, Inc.	
	actual		pro forma		12/31/x1	actual
	\$	%	\$	%	\$	%
<b>ASSETS</b>						
Cash	\$ 10.0	0.1	\$(925)	(12.2)	\$ 207.6	4.3
Accounts receivable	2,029.6	26.0	1,875	24.8	142.1	3.0
Inventory	2,512.7	32.2	2,400	31.8	2,457.6	51.1
Current Assets	4,552.3	58.3	3,350	44.4	2,807.3	58.4
Other assets	3,251.6	41.7	4,200	55.6	2,003.1	41.6
<b>TOTAL ASSETS</b>	<u>\$7,803.9</u>	<u>100.0</u>	<u>\$7,550</u>	<u>100.0</u>	<u>\$4,810.4</u>	<u>100.0</u>
<b>LIABILITIES</b>						
Line of credit	\$ 101.7	1.3	\$ 0		\$ 0.0	0.0
Accts pay & accd expenses	1,844.0	23.6	1,250	16.6	793.3	16.5
Other current liabilities	425.6	5.5	400	5.3	314.2	6.5
Current Liabilities	2,371.3	30.4	1,650	21.9	1,107.5	23.0
Long-term borrowing	1,346.1	17.2	900	11.9	1,007.3	21.0
Total Liabilities	3,717.4	47.6	2,550	33.8	2,114.8	44.0
<b>STOCKHOLDERS' EQUITY</b>						
Total Stockholders' Equity	4,086.5	52.4	5,000	66.2	2,695.6	56.0
<b>TOTAL LIABILITIES &amp; EQUITY</b>	<u>\$7,803.9</u>	<u>100.0</u>	<u>\$7,550</u>	<u>100.0</u>	<u>\$4,810.4</u>	<u>100.0</u>

**Exhibit A.3** Jack B. Nimble Company (and ABC Machining, Inc.)  
Balance Sheets at December 31, 20x2 and 20x1 (continued)



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
<b>Projected Income Statement</b>													
Sales	1,001.2	1,045.9	1,095.6	1,142.0	1,177.8	1,235.6	1,288.8	1,304.9	1,355.5	1,425.2	1,490.2	1,510.7	15,073.4
Cost of goods sold - var	447.5	452.2	484.1	487.4	509.1	516.9	534.4	555.5	569.4	577.0	600.2	604.8	6,338.5
Cost of goods sold - fixed	291.1	292.5	293.6	295.7	298.8	299.4	331.2	341.1	347.7	366.1	395.9	398.8	3,951.9
Selling, g & a - var.	119.1	122.8	128.9	132.2	141.8	144.3	152.7	157.2	161.9	166.5	172.5	174.9	1,774.8
Selling, g & a - fixed	39.9	41.1	41.9	42.2	42.5	44.0	45.2	47.7	48.2	49.0	49.9	50.8	542.4
Interest	7.1	12.5	15.3	18.4	14.3	12.7	16.3	14.5	14.2	14.1	12.0	11.4	162.9
Profit before taxes	96.5	124.8	131.8	166.1	171.3	218.3	209.0	188.9	214.1	252.5	259.7	270.0	2,302.9
Income taxes	38.2	49.2	52.1	63.8	68.0	86.8	83.0	74.9	85.1	100.2	103.2	107.5	912.0
Net Income	<u>58.3</u>	<u>75.6</u>	<u>79.7</u>	<u>102.3</u>	<u>103.3</u>	<u>131.5</u>	<u>126.0</u>	<u>114.0</u>	<u>129.0</u>	<u>152.3</u>	<u>156.5</u>	<u>162.5</u>	<u>1,390.9</u>
Net Income - % of sales	<u>5.8%</u>	<u>7.2%</u>	<u>7.3%</u>	<u>9.0%</u>	<u>8.8%</u>	<u>10.6%</u>	<u>9.8%</u>	<u>8.7%</u>	<u>9.5%</u>	<u>10.7%</u>	<u>10.5%</u>	<u>10.8%</u>	<u>9.2%</u>
<b>Loan Amortization</b>													
Principal - beg. bal.	1,007.3	998.4	989.5	1,480.5	1,466.0	1,451.4	1,436.7	1,421.8	1,406.9	1,391.9	1,376.7	1,361.5	
Interest	7.1	7.1	7.0	10.5	10.4	10.3	10.2	10.1	10.0	9.9	9.8	9.6	111.8
Principal payment	<u>8.9</u>	<u>8.9</u>	<u>9.0</u>	<u>14.5</u>	<u>14.6</u>	<u>14.7</u>	<u>14.8</u>	<u>14.9</u>	<u>15.0</u>	<u>15.1</u>	<u>15.2</u>	<u>15.4</u>	<u>161.2</u>
Principal - ending bal.	<u>998.4</u>	<u>989.5</u>	<u>980.5</u>	<u>1,466.0</u>	<u>1,451.4</u>	<u>1,436.7</u>	<u>1,421.8</u>	<u>1,406.9</u>	<u>1,391.9</u>	<u>1,376.7</u>	<u>1,361.5</u>	<u>1,346.1</u>	
Interest on line of credit	<u>0.0</u>	<u>5.4</u>	<u>8.3</u>	<u>7.9</u>	<u>3.9</u>	<u>2.4</u>	<u>6.1</u>	<u>4.5</u>	<u>4.2</u>	<u>4.2</u>	<u>2.2</u>	<u>1.8</u>	<u>51.0</u>

**Exhibit A.4** Jack B. Nimble Company  
Actual Cash Flow For 20x2