

Cash Flow Construction:
Modified UCA Cash Flow Format

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Partitioning Cash Flows

Cash flow activity can be partitioned in many ways. Consider, the following example.

Star Therapeutics, Inc.

The income statement. . .

Year-ended March 31, Amounts in (000's)	2018	2017
Net Sales	\$ 20,359	\$ 14,518
Cost of sales	<u>8,480</u>	<u>6,916</u>
Gross profit	11,879	7,602
Costs and expenses:		
Selling, general and administrative expense	4,791	3,777
Research and development	<u>113</u>	<u>70</u>
Total costs and expenses	<u>4,904</u>	<u>3,847</u>
Operating income	6,975	3,755
Interest income	<u>97</u>	<u>50</u>
Earnings before income taxes	7,072	3,805
Income taxes	<u>2,762</u>	<u>1,199</u>
Net earnings	\$ <u><u>4,310</u></u>	\$ <u><u>2,606</u></u>

Star Therapeutics, Inc. (cont'd)

The balance sheet. . .

	2018	2017
Assets		
Current Assets:		
Cash	\$ 1,809	\$ 1,219
Marketable securities	1,029	416
Accounts receivable, net	2,872	2,126
Inventories	4,011	1,845
Income taxes refundable	-	84
Prepaid expenses	145	125
Deferred income taxes	<u>356</u>	<u>154</u>
Total current assets	10,222	5,969
Property and equipment, net	500	346
Other assets, net	<u>56</u>	<u>56</u>
	\$ <u>10,778</u>	\$ <u>6,371</u>
Liabilities and Shareholders' Equity		
Current liabilities:		
Accounts payable	\$ 399	\$ 514
Accrued expenses	424	283
Income taxes payable	<u>180</u>	<u>-</u>
Total current liabilities	1,003	797
Shareholders' equity:		
Common stock	6,791	6,832
Retained earnings (deficit)	3,052	(1,258)
Treasury stock	<u>(68)</u>	<u>-</u>
Total shareholders' equity	<u>9,775</u>	<u>5,574</u>
	\$ <u>10,778</u>	\$ <u>6,371</u>

The One-Minute Cash Flow Statement. . .

Star Therapeutics, Inc.
Cash Flow Statement
Year Ended March 31, 2018

Beginning Cash	\$ 1,219
Net Cash Flow	<u>590</u>
Ending Cash	\$ 1,809

The one-minute cash flow is nothing more than a reporting of the net change in cash.

- Lacks detail
- Why the change in cash?

The Ten-Minute Cash Flow (balance sheet changes):

Star Therapeutics, Inc.
Cash Flow Statement
Year Ended March 31, 2018

Sources of cash:

Decreases in assets:

Dec. in income taxes refundable	\$	84
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Increases in liabilities and shareholders' equity:

Inc. in accrued expenses		141
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Inc. in income taxes payable		180
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Inc. in retained earnings		<u>4,310</u>
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Total sources of cash		\$ 4,715
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Uses of cash:

Increases in assets:

Inc. in marketable securities	\$	(613)
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Inc. in accounts receivable, net		(746)
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Inc. in inventories		(2,166)
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Inc. in prepaid expenses		(20)
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Inc. in deferred income taxes		(202)
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Inc. in property and equipment, net		(154)
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Decreases in liabilities and shareholders' equity:

Dec. in accounts payable		(115)
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Dec. in paid in capital, net		<u>(109)</u>
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Total uses of cash		<u>(4,125)</u>
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Change in cash		\$ 590
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Balance sheet changes

- Provides detail
- Still, questions arise.
 - Are cash flows sustainable?
 - What portion of cash flow is from operations versus other sources?

The "???"-Minute Cash Flow (indirect method):

Star Therapeutics, Inc.
Cash Flow Statement
Year Ended March 31, 2018

Cash Provided by Operations:

Net income		\$ 4,310
Depreciation expense	\$ 114	
Inc. in accounts receivable, net	(746)	
Inc. in inventories	(2,166)	
Dec. in income taxes refundable	84	
Inc. in prepaid expenses	(20)	
Inc. in deferred income taxes	(202)	
Dec. in accounts payable	(115)	
Inc. in accrued expenses	141	
Inc. in income taxes payable	<u>180</u>	<u>(2,730)</u>
Cash Provided by Operations		1,580

Investing Expenditures:

Inc. in marketable securities	(613)	
Inc. in property and equipment, net (adjusted for depreciation expense)	<u>(268)</u>	
Cash (Used) by Investments		(881)

Financing Expenditures:

Dec. in paid-in-capital, net		<u>(109)</u>
Change in cash		\$ 590

The "???" + "?"-Minute Cash Flow (direct method):

Star Therapeutics, Inc.
Cash Flow Statement
Year Ended March 31, 2018

Cash Provided by Operations:

Cash from sales	\$ 19,613
Cash production costs	(10,647)
Cash operating expenses	(4,783)
Other cash income	97
Income taxes paid	<u>(2,700)</u>
 Cash Provided by Operations	 1,580

Investing Expenditures:

Inc. in marketable securities	(613)
Inc. in property and equipment, net (adjusted for depreciation expense)	<u>(268)</u>
 Cash (Used) by Investments	 (881)

Financing Expenditures:

Dec. in paid-in-capital, net	<u>(109)</u>
 Change in cash	 \$ 590

Indirect and Direct Methods:

- Detailed partitioning
- Helps answer the question, why the change in cash?
- Helps answer the question, are cash flows sustainable?
- Operating cash flows separated
- Other cash flows: investing and financing are separated

Cash Flow Statement Storefront Furniture, Inc.

Year-ended Amounts in (000's)	2017	2016
Cash flows from operating activities:		
Cash received from customers	\$ 122,918	\$ 109,369
Cash paid to suppliers and employees	(113,063)	(104,533)
Income taxes paid, net of refunds	(1,911)	(3,876)
Interest paid	(388)	(208)
Interest received	232	188
Other receipts, net	<u>800</u>	<u>1,239</u>
Net cash provided by operating activities	<u>8,588</u>	<u>2,179</u>
Cash flows from investing activities:		
Proceeds from sale of property and equipment	6,594	2
Capital expenditures	(10,686)	(4,961)
Sale (acquisitions) of marketable securities	<u>137</u>	<u>191</u>
Net cash used in investing activities	<u>(3,955)</u>	<u>(4,768)</u>
Cash flows from financing activities:		
Net borrowings (payments) under line of credit	(601)	2,736
Proceeds from issuance of long-term debt	200	200
Payments to reduce long-term debt	(455)	(2,363)
Proceeds from issuance of common stock	122	3,578
Dividends paid	(1,090)	(798)
Purchase of treasury stock	<u>(2,957)</u>	<u>(2,096)</u>
Net cash provided by (used in) financing activities	<u>(4,781)</u>	<u>1,257</u>
Net increase (decrease) in cash and cash equivalents	(148)	(1,332)
Cash at beginning of year	<u>471</u>	<u>1,803</u>
Cash at end of year	\$ <u><u>323</u></u>	\$ <u><u>471</u></u>

Storefront Furniture, Inc. (cont'd)

From the cash flow statement . . .

Year-ended Amounts in (000's)	2017	2016
Net earnings	\$ <u>7,207</u>	\$ <u>6,782</u>
Adjustments to reconcile net earnings to net cash provided by operating activities:		
Depreciation and amortization	2,175	1,888
Provision for deferred compensation	634	554
Payments made for deferred compensation	(449)	(1,730)
Deferred income taxes	2,150	404
Provision for losses on accounts receivable	179	68
Loss (gain) on disposition of assets	(5,253)	(2)
Loss (gain) on sale of marketable securities	-	(18)
Change in operating assets and liabilities:		
Decrease (increase) in accounts receivable	(2,021)	(1,832)
Decrease (increase) in inventories	(1,127)	(2,008)
Decrease (increase) in prepaid expenses	(293)	(78)
Decrease (increase) in cash value of life insurance	(140)	(120)
Decrease (increase) in other assets	320	135
Increase (decrease) in accounts payable	4,080	(1,633)
Increase (decrease) in accrued expenses	<u>1,126</u>	<u>(231)</u>
Total adjustments	<u>1,381</u>	<u>(4,603)</u>
Net cash provided by operating activities	\$ <u>8,588</u>	\$ <u>2,179</u>

Indirect and direct methods:

The two methods differ only in the manner in which cash flows from operations are presented

- Net cash flows from operating activities are equal under both methods
- The manner of presentation and the total of net cash flows from investing and financing activities are the same under both methods

The FASB recommends use of the direct method

- Gross operating cash activity is presented
- The operating section is effectively, a cash-basis income statement
- Provides more information to investors and creditors than the indirect method
 - Actual cash inflows and outflows, not "net" amounts

FASB recommendations notwithstanding, most companies use the indirect method

- Direct method statement requires providing also an indirect method statement - the reconciliation of net income to cash from operations
- Some companies indicate that their accounting systems are not set up to capture gross cash flow activity

Modified Uniform Credit Analysis (UCA) Format Cash Flow Statement
Star Therapeutics, Inc., Year Ended March 31, 2018

Revenue	\$ 20,359
Change in receivables	(746)
<u>Change in deferred revenue</u>	<u>0</u>
Cash from revenue	19,613
Cost of revenue (excl. depn. of 114)	(8,366)
Change in inventory	(2,166)
<u>Change in payables</u>	<u>(115)</u>
Cash cost of revenue	(10,647)
<u>Cash gross margin</u>	<u>8,966</u>
SG&A and R&D expense (excl. depn of 0)	(4,904)
Change in prepaids	0
<u>Change in accruals</u>	<u>121</u>
Cash operating expense	(4,783)
<u>Core operating cash flow</u>	<u>4,183</u>
Other recurring cash receipts (disbursements)	97
<u>Income taxes (paid) recovered</u>	<u>(2,700)</u>
Cash flow available for debt service	1,580
<u>Total interest paid</u>	<u>(0)</u>
Operating cash flow	1,580
<u>Dividends – preferred</u>	<u>(0)</u>
Cash flow available for investment	1,580
Capital expenditures	(268)
<u>Investment in other operations-related assets</u>	<u>0</u>
<u>Investment to support operations</u>	<u>(268)</u>
Free cash flow	1,312
Short-term investments and trading securities	(613)
Long-term investments	0
Investments in goodwill and acquisition-related intangibles	0
Investments in other assets	0
<u>Other nonrecurring cash receipts (disbursements)</u>	<u>0</u>
<u>Investment of free cash flow</u>	<u>(613)</u>
<u>Change in cash and equivalents before financing</u>	<u>699</u>
Required principal payments on long-term debt & capital leases	(0)
Dividends on common stock	(0)
Short-term debt financing	0
Long-term debt financing	0
<u>Common and preferred equity financing</u>	<u>(109)</u>
<u>Financing transactions</u>	<u>(109)</u>
<u>Change in cash and equivalents after financing</u>	<u>\$ 590</u>

Modified UCA Format Cash Flow Statement

Primarily a direct method cash flow statement

- Also contains elements of the indirect method format
- Designed for a credit officer's use
- Key subtotals are added to facilitate analysis

Indirect and direct method cash flow statements

- Focus is on the shareholder
- Cash provided by operating activities is reported after interest and before dividends
 - Interest paid is an operating activity
 - Dividends paid are a financing activity

Calculating Core Operating Cash Flow and
Sustainable Operating Cash Flow
Barton Industries, Inc.

The income statement . . .

Year-ended April 30, Amounts in (000's)	2018	2017
Net Sales	\$ 220,014	\$ 213,216
Cost of sales	<u>154,294</u>	<u>150,334</u>
Gross profit	65,720	62,882
Selling, general and administrative	<u>47,054</u>	<u>41,135</u>
Operating income	18,666	21,747
Other income (expense):		
Interest	(1,922)	(1,905)
Gain on sale of equipment	<u>4,000</u>	<u>--</u>
Earnings before income taxes	20,744	19,842
Income taxes	<u>8,194</u>	<u>7,838</u>
Net earnings	\$ <u><u>12,550</u></u>	\$ <u><u>12,004</u></u>

Depreciation expense in the amount of \$6,010 is included in cost of sales.

Barton Industries, Inc. (cont'd)

The balance sheet. . .

	2018	2017	Inc (Dec)
Assets			
Current Assets:			
Cash	\$ 2,929	\$ 4,151	(1,222)
Accounts receivable, net	22,321	27,967	(5,646)
Inventories	21,582	28,865	(7,283)
Prepaid expenses	<u>3,697</u>	<u>3,729</u>	(32)
Total current assets	50,529	64,712	
Property and equipment, net	49,616	34,417	15,199
Long-term prepaid expenses	<u>2,461</u>	<u>1,829</u>	<u>632</u>
	\$ <u>102,606</u>	\$ <u>100,958</u>	<u>1,648</u>
Liabilities and Shareholders' Equity			
Current liabilities:			
Notes payable	\$ -	\$ 2,595	(2,595)
Accounts payable	7,567	9,431	(1,864)
Income taxes	2,124	186	1,938
Accrued liabilities	16,419	14,436	1,983
Current portion of long-term debt	<u>401</u>	<u>3,643</u>	(3,242)
Total current liabilities	26,511	30,291	
Deferred income taxes	1,951	1,628	323
Long-term debt	15,031	16,774	(1,743)
Shareholders' equity:			
Common stock	886	883	3
Additional paid-in capital	7,146	6,714	432
Retained earnings	56,341	44,668	11,673
Less treasury stock	<u>(5,260)</u>	<u>-</u>	<u>(5,260)</u>
	<u>59,113</u>	<u>52,265</u>	
Total liabilities and shareholders' equity	\$ <u>102,606</u>	\$ <u>100,958</u>	<u>1,648</u>

Barton Industries, Inc. (cont'd)
Cash Flow Calculations
(2018, amounts in 000's)

Cash from revenue:		
Revenue	\$ 220,014	
Dec. in A/R	5,646	
(Dec.) in deferred revenue	<u>0</u>	\$ 225,660
Cash cost of revenue:		
Cost of revenue, net of depn of 6,010	(148,284)	
Dec. in inventory	7,283	
(Dec) in A/P	<u>(1,864)</u>	(142,865)
Cash operating expense:		
SG & A and R&D, net of depn of 0	(47,054)	
Inc. in prepaids (ST 32, LT (632))	(600)	
Inc in accruals	<u>1,983</u>	<u>(45,671)</u>
Core operating cash flow		37,124
Other recurring cash receipts:		
Interest and dividend income	0	
Rental and royalty income	0	
Other recurring income (expense)	<u>0</u>	0
Income taxes (paid) recovered:		
Income tax expense	(8,194)	
(Inc) dec in deferred tax asset	0	
Inc (dec) in deferred tax liability	323	
(Inc) dec in tax refund receivable	0	
Inc (dec) in income taxes payable	<u>1,938</u>	(5,933)
Total interest paid:		
Interest expense	(1,922)	
Inc (dec) in interest payable	<u>0</u>	<u>(1,922)</u>
Operating cash flow		\$ 29,269

Calculating Core Operating Cash Flow and Operating Cash Flow Forders, Inc.

The income statement . . .

Year-ended March 31, Amounts in (000's)	2018	2017
Net Sales	\$ 316,494	\$ 231,572
Costs and expenses:		
Cost of sales	249,369	182,309
Selling, general and administrative	<u>29,472</u>	<u>25,358</u>
	<u>278,841</u>	<u>207,667</u>
Operating income	37,653	23,905
Loss on disposal of investment	(1,000)	
Interest expense	<u>(962)</u>	<u>(4,102)</u>
Income before income taxes	35,691	19,803
Income taxes	<u>6,187</u>	<u>594</u>
Income before cumulative effect of an accounting change	29,504	19,209
Cumulative effect of an accounting change	<u>-</u>	<u>1,780</u>
Net income	\$ <u>29,504</u>	\$ <u>20,989</u>

Depreciation expense in the amount of \$7,519 is included in cost of sales.

Forders, Inc. (cont'd)

The Balance Sheet . . .	2018	2017	Inc (Dec)
Assets			
Current Assets:			
Cash and cash equivalents	\$ 57,707	\$ 34,869	22,838
Accounts receivable, net	8,847	12,840	(3,993)
Inventories	29,020	18,048	10,972
Deferred income taxes	2,954	-	2,954
Prepaid expenses	<u>893</u>	<u>674</u>	219
Total current assets	99,421	66,431	
Net property and equipment	30,803	27,372	3,431
Deferred income taxes	1,277	-	1,277
Investments	<u>5,274</u>	<u>6,850</u>	(1,576)
	\$ <u>136,775</u>	\$ <u>100,653</u>	<u>36,122</u>
Liabilities and Shareholders' Equity			
Current liabilities:			
Current portion of long-term debt	\$ 590	\$ 616	(26)
Accounts payable	5,591	5,315	276
Income taxes payable	9,131	758	8,373
Accrued expenses	<u>27,986</u>	<u>21,369</u>	6,617
Total current liabilities	43,298	28,058	
Long-term debt	4,516	17,327	(12,811)
Deferred income taxes	-	1,175	(1,175)
Accrued warranty liability	3,962	2,852	1,110
Other long-term liabilities	2,457	1,924	533
Shareholders' equity:			
Common stock	34,100	32,535	1,565
Additional paid-in capital	43,687	41,715	1,972
Retained earnings (accumulated deficit)	4,740	(24,764)	29,504
Cumulative translation adjustment	<u>15</u>	<u>(169)</u>	184
Total shareholders' equity	<u>82,542</u>	<u>49,317</u>	
	\$ <u>136,775</u>	\$ <u>100,653</u>	<u>36,122</u>

Forders, Inc. (cont'd)
Cash Flow Calculations
(2018, amounts in 000's)

Calculate Core operating cash flow and Sustainable operating cash flow using the following captions:

Cash from revenue:

Cash cost of revenue:

Cash operating expense:

Core operating cash flow

Other recurring cash receipts:

Income taxes (paid) recovered:

Cash available for debt service

Total interest paid:

Operating cash flow

The Modified UCA Format Cash Flow Statement

Analyzing a customer's ability to repay entails:

- An identification of the sources of cash surpluses and/or shortages
- An assessment of the likelihood that such surpluses and/or shortages will continue

A revised statement format to facilitate cash flow analysis:

- The direct method statement of cash flows provides a starting point
- Important subtotals are added
- For the operating section of the statement, these subtotals are designed to trace the extent to which Cash collected from revenue are sufficient to cover key groups of cash operating expenses, pay financing costs and amortize debt.
- Are operating cash flows sufficient to pay interest and dividends and amortize debt without new borrowing?
- If not, where do operating cash flows fall short and what are the implications?

- For capital expenditures, these subtotals focus attention on how monies are being invested for future profits and debt service capacity.
- Change in cash and equivalents before financing:
 - Cash flows remaining after operations, financing costs, debt amortization and capital expenditures
- For financing transactions, these subtotals identify what financing sources were employed to meet the firm's financing requirements.
 - External sources
 - New debt financing: long- and short-term
 - New equity financing
 - Internal sources
 - Change in cash and equivalents after financing

Another example of the Modified UCA format cash flow is provided below.

Modified Uniform Credit Analysis (UCA) Format Cash Flow Statement
Column Casts, Inc., Year Ended March 31, 2018

Revenue	\$ 890,000
Change in receivables	(42,000)
Change in deferred revenue	0
Cash from revenue	848,000
Cost of revenue (excl. depn. of 0)	(465,000)
Change in inventory	(54,000)
Change in payables	(7,000)
Cash cost of revenue	(526,000)
Cash gross margin	322,000
SG&A and R&D expense (excl. depn of 33,000)	(288,000)
Change in prepaids	2,000
Change in accruals	4,000
Cash operating expense	(282,000)
Core operating cash flow	40,000
Other recurring cash receipts (disbursements)	0
Income taxes (paid) recovered	(31,000)
Cash flow available for debt service	9,000
Total interest paid	(16,000)
Operating cash flow	(7,000)
Dividends – preferred	(0)
Cash flow available for investment	(7,000)
Capital expenditures	(107,000)
Investment in other operations-related assets	0
Investment to support operations	(107,000)
Free cash flow	(114,000)
Short-term investments and trading securities	0
Long-term investments	0
Investments in goodwill and acquisition-related intangibles	0
Investments in other assets	0
Other nonrecurring cash receipts (disbursements)	0
Investment of free cash flow	0
Change in cash and equivalents before financing	(114,000)
Required principal payments on long-term debt & capital leases	(50,000)
Dividends on common stock	(55,000)
Short-term debt financing	0
Long-term debt financing	76,000
Common and preferred equity financing	160,000
Financing transactions	131,000
Change in cash and equivalents after financing	\$ 17,000

A Closer Look at Column Casts' Modified UCA Cash Flow Statement

Descriptive explanations for each component of the Column Casts Modified UCA cash flow statement are provided below.

Cash from revenue	\$848,000
Cash cost of revenue	<u>(526,000)</u>
Gross gross margin	322,000

Cash gross margin measures the extent to which cash from revenue is sufficient to cover cash payments made to acquire inventories and for materials, labor and overheads to produce them.

Cash operating expense	<u>(282,000)</u>
Core operating cash flow	40,000

Core operating cash flow measures the extent to which Cash gross margin is sufficient to cover cash payments made to pay operating expenses.

Cash gross margin and Core operating cash flow provide information on the cash generating capacity of the firm's basic operations. A net cash outflow noted at either point would indicate that the firm had to either draw down existing cash balances, borrow or obtain new equity just to meet basic costs necessary to stay in business. Other sources of cash would be needed for taxes, interest, debt amortization and capital spending.

While a cause for concern, a negative amount for Core operating cash flow is not necessarily indicative of a major problem.

- Is the company profitable and growing?
 - Growth firms require increasing investments in inventories and receivables
 - To the extent that these investments are not financed and offset by increases in accounts payable and accrued expenses, the result is a declining and possibly negative amount for Core operating cash flow.
 - In the future, when growth stabilizes, Core operating cash flow will recover as long as profitability remains intact.
- Is the cash flow need seasonal?
 - A seasonal need will self-correct as seasonal cash demands wane

Column Casts, Inc. is generating positive Core operating cash flow. The amount of cash being generated, however, does not appear sufficient to pay other remaining expenditures.

On an accrual basis, Operating profit, as determined below, does show that Column Casts is operating profitably:

Sales Revenue		\$890,000
Cost of goods sold		(465,000)
S G & A		<u>(321,000)</u>
Operating profit		\$104,000

Core operating cash flow is considerably less than this amount due to changes in the following asset and liability accounts:

Operating profit		\$104,000
Inc. in A/R	\$(42,000)	
Inc. in inventory	(54,000)	
Depreciation expense	33,000	
Dec. in A/P	(7,000)	
Dec. in prepaid expenses	2,000	
Inc. in accrued expenses	<u>4,000</u>	<u>(64,000)</u>
Cash after operations		40,000

As noted here, the company has increased considerably its investments in A/R and inventory, while actually reducing the amounts financed with A/P.

- Increases in A/R and inventory
 - The result of increasing sales and purchases of inventory to support those sales?
 - A seasonal need?
 - The result of slowing in the collection of accounts receivable and in the sale of the company's product?
- Answers to these questions will prove useful in assessing the company's ability to continue servicing debt

Continuing the descriptive explanations for each component of the Column Casts cash flow statement captions:

Core operating cash flow		\$ 40,000
Other recurring cash receipts	\$ 0	
Income taxes paid	<u>(31,000)</u>	<u>(31,000)</u>
Cash flow available for debt service		9,000
Total interest paid		<u>(16,000)</u>
Operating cash flow		(7,000)

Cash flow available for debt service measures the extent to which cash flow is available to meet financing needs such as interest and current portion of long-term debt. Not enough in this case.

Other recurring cash receipts consists of recurring amounts of income and expense that are not part of core operations, such as, interest and dividend income, rental and royalty income, and other income (expense). The nature and sustainability of other income (expense) should be ascertained.

If not sustainable, such amounts should be reported with other nonrecurring receipts and disbursements.

Note that operating cash flow is defined and calculated the same as the FASB's direct and indirect cash flow statement formats.

- Income taxes paid
 - Has the company benefitted from a non-persistently low effective tax rate?
 - Tax credits and tax holidays may be fleeting
 - Loss carryforwards may be expiring
 - Non-taxable interest
 - Can be reinvested at higher taxable rates if tax-free provisions of the tax laws are changed.
 - Have deferred tax liability accounts increased significantly?
 - Temporary differences between book income and taxable income may have enabled the firm to defer tax payments indefinitely.
 - Did unusual changes in taxes payable or tax refunds receivable have unexpected effects on income taxes paid that will not recur?

Operating cash flow provides a focal point in the analysis of cash flows.

- The caption indicates whether or not the normal operations of the company were sufficient to cover the cash requirements of operations, plus the costs of carrying interest finance charges.

At this point, the Column Casts cash flow turns negative – (\$7,000). The company must use existing cash balances or seek external financing just to pay interest. Cash to fund required debt amortization and capital expenditures will require additional monies.

Operating cash flow	\$ (7,000)
Capital expenditures and investm't to support operations	<u>(107,000)</u>
Free cash flow	(114,000)

Free cash flow measures the extent to which a company is able to cover the cost of operations, finance costs and capital expenditure needs with operating cash flow. Free cash flow is discretionary and available for use in debt repayment, dividends, investments and acquisitions.

Free cash flow	\$ (114,000)
Investment of free cash flow	<u>0</u>
Change in cash before financing	\$(114,000)

Financing transactions:

Required principal payments on long-term debt	(50,000)
Dividends on common stock	(55,000)
Long-term debt financing	76,000
Common and preferred equity financing	<u>160,000</u>

Change in cash after financing	\$ 17,000
--------------------------------	-----------

For Column Casts, external financing came from two sources:

- (1) An increase in long-term notes payable (incl. current portion).
Current portion at the beginning of the year was \$50,000 and reflects required principal payments due during the year. New long-term debt financing was \$76,000. Net new financing was \$26,000.
- (2) An increase in common stock of \$160,000 arising from a new stock issue.

The two sources of external financing was more than enough to offset the financing requirements for the firm and allowed the company to actually increase its cash balances by \$17,000 during the year.

Advantages of the modified UCA cash flow analysis statement

- The organization of the statement focuses attention on several important factors.
 - The actual change in cash during the period.
 - At what point in the operations of the company do cash flows turn negative, if at all?
 - A step-by-step review of the cash flow analysis statement. Depending on the cash flow "turning point", the implications can vary greatly.
 - Cash gross margin
 - Core operating cash flow
 - Operating cash flow
 - Free cash flow
- The organization provides the detail necessary for uncovering reasons for cash surpluses and shortages.
 - Specific cash flow captions can be examined closely using relevant ratios.
 - Consistent use of the statement can provide a basis for making comparisons of cash flow captions with prior years and thus examining trends.
 - Consistent use of the statement can provide a basis for looking at future year cash flows through forecasts of cash flows.

Cash Flow Construction: A Closer Look at deriving the Modified UCA Format Cash Flow Statement

Preparation of the Modified UCA format cash flow statement typically employs a computer spreadsheet program and the following financial statement data.

- Income statement data
- Balance sheet data
- Footnotes

The purpose of this section is to provide a deeper understanding of the computational steps employed by the computer in deriving a bank format cash flow statement.

A partially completed worksheet form is provided

- Spaces and pre-specified account titles are provided for recording income statement data and balance sheet account changes.
- The account titles provided are representative of those found in the bank format cash flow statement.

Modified Uniform Credit Analysis (UCA) Format Cash Flow Statement

Company: _____	Year: _____
Revenue	_____
Change in receivables	_____
Change in deferred revenue	_____
Cash from revenue	_____
Cost of revenue (excl. depn. of _____)	(_____)
Change in inventory	_____
Change in payables	_____
Cash cost of revenue	(_____)
Cash gross margin	_____
SG&A and R&D expense (excl. depn of _____)	(_____)
Change in prepaids	_____
Change in accruals	_____
Cash operating expense	(_____)
Core operating cash flow	_____
Other recurring cash receipts (disbursements)	_____
Inc Tax (paid) (Tax exp) _____ DTL&Payable↑ _____ (DTA&Rec↑) _____	_____
Cash flow available for debt service	_____
Total interest paid (Interest expense) _____ Int. payable↑ _____	(_____)
Operating cash flow	_____
Dividends – preferred	(_____)
Cash flow available for investment	_____
Capital expenditures (PPE↑) _____ (Depn) _____ Gain (Loss) _____	_____
Investment in other operations-related assets	_____
Investment to support operations	_____
Free cash flow	_____
Short-term investments and trading securities	_____
Long-term investments (Invstmt↑) _____ Gain (Loss) _____	_____
Investments in goodwill and acquisition-related intangibles	_____
Investments in other assets	_____
Other nonrecurring cash receipts Incl. Other nonoperating assets & liab.	_____
Investment of free cash flow	_____
Change in cash and equivalents before financing	_____
Required principal payments on LT Debt (Curr Portion LTD Beg Yr)	_____
Dividends on common stock Beg RE _____ +NI _____ - End RE _____	_____
Short-term debt financing	_____
Long-term debt financing Curr Portion LTD End Yr _____ LTD↑ _____	_____
Equity financing Com & Pfd Stk↑ _____ APIC↑ _____ Other↑ _____	_____
Financing transactions	_____
Change in cash and equivalents after financing	_____

Cash Flow Construction: A Three Step Process

1. Reformat the income statement into a cash-flow format by recording each income statement account on the cash flow worksheet. Place a "tick" mark by each income statement account indicating that the account balance has been employed on the worksheet.

2. Adjust from accrual to cash by incorporating balance sheet account changes into the worksheet. Place a "tick" mark by each balance sheet account indicating that the account balance change has been employed on the worksheet.
 - Term Debt. Last year end CPLTD is this year's cash outflow for CPLTD. Other cash change in term debt equals this year's term debt plus this year's CPLTD minus last year's term debt.
 - Use net figures for receivables, PP&E and intangibles.
 - Do not use the change in retained earnings as it is already accounted for in the income statement. If the change in retained earnings does not reconcile to the income statement, make the needed adjustment (usually dividends).

3. Make adjustments from footnotes. Always make double-entry adjustments (two places on the worksheet, one as inflow and one as outflow), so that the cash flow totals do not change.
 - Footnotes may shed additional light on where to categorize a balance sheet or income statement entry.
 - Footnotes may highlight non-cash entries not apparent from the balance sheet or income statement.

Preparing a UCA Format Cash Flow Statement
Hamilton Farms, Inc.

Income statement and balance sheet data for Hamilton Farms, Inc. (a start-up operation raising ostriches primarily for breeding purposes) are provided below. Use the blank worksheet provided to prepare a UCA format cash flow statement for 2018.

Note: depreciation expense in the amount of \$14,883 is included in general and administrative expense. Other income is recurring.

	2018	2017
Sales	\$ 2,172,307	\$ 1,202,394
Cost of sales	<u>1,863,583</u>	<u>814,450</u>
Gross profit	308,724	387,944
Selling, general and administrative expense	<u>566,908</u>	<u>331,189</u>
Operating income (loss)	(258,184)	56,755
Other income (expense):		
Interest expense	(95,550)	-
Gain on sale of PP&E	40,000	-
Other income	<u>20,053</u>	<u>-</u>
Income (loss) before income taxes	(293,681)	56,755
Income tax (expense) benefit	<u>25,553</u>	<u>(17,508)</u>
Net income (loss)	\$ <u>(268,128)</u>	\$ <u>39,247</u>

Hamilton Farms, Inc. (cont'd)

	2018	2017	
Assets			
Current Assets:			
Cash and equivalents	\$ 2,599,008	\$ 84,781	\$ 2,514,227
Accounts receivable, net	55,731	54,250	1,481
Income tax refund receivable	24,061	-	24,061
Livestock inventory	<u>794,011</u>	<u>125,521</u>	668,490
Total current assets	3,472,811	264,552	
Property, plant and equipment, net	798,898	216,787	582,111
Investments	<u>44,105</u>	<u>58,500</u>	<u>(14,395)</u>
	<u>\$ 4,315,814</u>	<u>\$ 539,839</u>	<u>3,775,975</u>
Liabilities and Shareholders' Equity			
Current liabilities:			
Accounts payable	\$ 449,492	\$ 77,076	372,416
Current portion of long-term debt	123,761	49,400	74,361
Interest payable	22,269	-	22,269
Notes payable	15,897	18,019	(2,122)
Income taxes payable	<u>-</u>	<u>12,497</u>	(12,497)
Total current liabilities	611,419	156,992	
Long-term debt	628,534	166,017	462,517
Deferred revenue	75,000	-	75,000
Deferred income taxes	-	10,005	(10,005)
Shareholders' equity:			
Common stock	3,392	2,150	1,242
Additional paid-in capital	3,205,911	144,989	3,060,922
Retained earnings (deficit)	<u>(208,442)</u>	<u>59,686</u>	(268,128)
	<u>3,000,861</u>	<u>206,825</u>	
	<u>\$ 4,315,814</u>	<u>\$ 539,839</u>	<u>3,775,975</u>

Modified Uniform Credit Analysis (UCA) Format Cash Flow Statement

Company: _____	Year: _____
Revenue	_____
Change in receivables	_____
Change in deferred revenue	_____
Cash from revenue	_____
Cost of revenue (excl. depn. of _____)	(_____)
Change in inventory	_____
Change in payables	_____
Cash cost of revenue	(_____)
Cash gross margin	_____
SG&A and R&D expense (excl. depn of _____)	(_____)
Change in prepaids	_____
Change in accruals	_____
Cash operating expense	(_____)
Core operating cash flow	_____
Other recurring cash receipts (disbursements)	_____
Inc Tax (paid) (Tax exp) _____ DTL&Payable↑ _____ (DTA&Rec↑) _____	_____
Cash flow available for debt service	_____
Total interest paid (Interest expense) _____ Int. payable↑ _____	(_____)
Operating cash flow	_____
Dividends – preferred	(_____)
Cash flow available for investment	_____
Capital expenditures (PPE↑) _____ (Depn) _____ Gain (Loss) _____	_____
Investment in other operations-related assets	_____
Investment to support operations	_____
Free cash flow	_____
Short-term investments and trading securities	_____
Long-term investments (Invstmt↑) _____ Gain (Loss) _____	_____
Investments in goodwill and acquisition-related intangibles	_____
Investments in other assets	_____
Other nonrecurring cash receipts (Incl. Other nonoperating assets & liab.)	_____
Investment of free cash flow	_____
Change in cash and equivalents before financing	_____
Required principal payments on LT Debt (Curr Portion LTD Beg Yr)	_____
Dividends on common stock Beg RE _____ +NI _____ - End RE _____	_____
Short-term debt financing	_____
Long-term debt financing Curr Portion LTD End Yr _____ LTD↑ _____	_____
Equity financing Com & Pfd Stk↑ _____ APIC↑ _____ Other↑ _____	_____
Financing transactions	_____
Change in cash and equivalents after financing	_____

Preparing a UCA Format Cash Flow Statement
Jewel's Jewelers, Inc.

Income statement, balance sheet and footnote data for Jewel's Jewelers, Inc. are provided below. Use the blank worksheet provided to prepare a UCA format cash flow statement for the year ended January 31, 2018. Prepare the cash flow statement first WITHOUT reference to the footnotes.

In preparing the cash flow statement, assume that depreciation and amortization expense is included in selling, general and administrative expense. For the years ended January 31, 2018 and 2017, the provision for depreciation and amortization of property and equipment amounted to \$1,634 and \$1,018, respectively.

Assume that other (expense) is recurring.

Year-ended January 31, Amounts in (000's)	2018	2017
Sales	\$ 290,344	\$ 230,488
Cost of sales	<u>145,833</u>	<u>118,348</u>
Gross profit	144,511	112,140
Selling, general and administrative expense	<u>100,318</u>	<u>78,449</u>
Operating income (loss)	44,193	33,691
Other income (expense):		
Interest (expense)	(826)	(2,174)
Other (expense)	<u>(335)</u>	<u>(323)</u>
Income (loss) before income taxes	43,032	31,194
Provision for income taxes	<u>18,131</u>	<u>14,374</u>
Income before extraordinary items	24,901	16,820
Extraordinary items	<u>-</u>	<u>(644)</u>
Net income (loss)	\$ <u>24,901</u>	\$ <u>16,176</u>

Jewel's Jewelers, Inc. (cont'd)

	Jan. 31, 2018	Jan. 31, 2017	Inc. (Dec.)
Assets			
Current Assets:			
Cash and equivalents	\$ 1,599	\$ 12,861	(11,262)
Accounts receivable, net	25,525	25,710	(185)
Inventories	103,771	70,778	32,993
Prepaid expenses	<u>6,544</u>	<u>4,589</u>	1,955
Total current assets	137,439	113,938	
Property and equipment, net	22,437	12,086	10,351
Investments	<u>2,772</u>	<u>645</u>	<u>2,127</u>
	<u>\$ 162,648</u>	<u>\$ 126,669</u>	<u>35,979</u>
Liabilities and Shareholders' Equity			
Current liabilities:			
Short-term borrowings	\$ 7,253	\$ -	7,253
Accounts payable	23,645	20,895	2,750
Accrued liabilities	14,192	11,082	3,110
Deferred revenue	6,525	5,276	1,249
Income taxes payable	<u>3,995</u>	<u>9,913</u>	(5,918)
Total current liabilities	55,610	47,166	
Long-term debt	1,647	1,807	(160)
Deferred income taxes	6,198	6,075	123
Shareholders' equity:			
Common stock	102	86	16
Additional paid-in capital	54,573	50,096	4,477
Retained earnings	45,047	21,530	23,517
Other comprehensive income	(438)		(438)
Treasury stock	<u>(91)</u>	<u>(91)</u>	<u>0</u>
Total shareholders' equity	<u>99,193</u>	<u>71,621</u>	<u>27,572</u>
	<u>\$ 162,648</u>	<u>\$ 126,669</u>	<u>35,979</u>

Jewel's Jewelers, Inc. (cont'd)
Selected Footnotes

Receivables and Finance Charges

Finance charges received by the Company on retail revolving charge accounts are offset against selling, general and administrative expenses. These charges amounted to \$797 and \$766 for the years ended January 31, 2018 and 2017, respectively.

Uncollectible Accounts

An estimate of uncollectible accounts receivable in the amount of \$995 and \$1,446, respectively is included in selling, general and administrative expenses for the years ended January 31, 2018 and 2017.

Inventories

Inventories consist of:

	2018	2017
Finished goods	\$ 91,590	\$ 62,078
Raw Materials	12,058	9,393
Work in process	<u>1,179</u>	<u>1,206</u>
	104,827	72,677
Less: Lifo reserve	<u>(1,056)</u>	<u>(1,899)</u>
	<u>\$ 103,771</u>	<u>\$ 70,778</u>

Property and Equipment

Property and equipment consists of:

	2018	2017
Leasehold improvements	\$ 18,304	\$ 8,330
Office equipment	4,738	4,023
Machinery and equipment	<u>3,770</u>	<u>2,535</u>
	26,812	14,888
Less: accumulated depreciation and amortization	<u>(4,375)</u>	<u>(2,802)</u>
	<u>\$ 22,437</u>	<u>\$ 12,086</u>

Modified Uniform Credit Analysis (UCA) Format Cash Flow Statement

Company: _____	Year: _____
Revenue	_____
Change in receivables	_____
Change in deferred revenue	_____
Cash from revenue	_____
Cost of revenue (excl. depn. of _____)	(_____)
Change in inventory	_____
Change in payables	_____
Cash cost of revenue	(_____)
Cash gross margin	_____
SG&A and R&D expense (excl. depn of _____)	(_____)
Change in prepaids	_____
Change in accruals	_____
Cash operating expense	(_____)
Core operating cash flow	_____
Other recurring cash receipts (disbursements)	_____
Inc Tax (paid) (Tax exp) _____ DTL&Payable↑ _____ (DTA&Rec↑) _____	_____
Cash flow available for debt service	_____
Total interest paid (Interest expense) _____ Int. payable↑ _____	(_____)
Operating cash flow	_____
Dividends – preferred	(_____)
Cash flow available for investment	_____
Capital expenditures (PPE↑) _____ (Depn) _____ Gain (Loss) _____	_____
Investment in other operations-related assets	_____
Investment to support operations	_____
Free cash flow	_____
Short-term investments and trading securities	_____
Long-term investments (Invstmt↑) _____ Gain (Loss) _____	_____
Investments in goodwill and acquisition-related intangibles	_____
Investments in other assets	_____
Other nonrecurring cash receipts (Incl. Other nonoperating assets & liab.)	_____
Investment of free cash flow	_____
Change in cash and equivalents before financing	_____
Required principal payments on LT Debt (Curr Portion LTD Beg Yr)	_____
Dividends on common stock Beg RE _____ +NI _____ - End RE _____	_____
Short-term debt financing	_____
Long-term debt financing Curr Portion LTD End Yr _____ LTD↑ _____	_____
Equity financing Com & Pfd Stk↑ _____ APIC↑ _____ Other↑ _____	_____
Financing transactions	_____
Change in cash and equivalents after financing	_____

Modified Uniform Credit Analysis (UCA) Format Cash Flow Statement

Company: _____	Year: _____
Revenue	_____
Change in receivables	_____
Change in deferred revenue	_____
Cash from revenue	_____
Cost of revenue (excl. depn. of _____)	(_____)
Change in inventory	_____
Change in payables	_____
Cash cost of revenue	(_____)
Cash gross margin	_____
SG&A and R&D expense (excl. depn of _____)	(_____)
Change in prepaids	_____
Change in accruals	_____
Cash operating expense	(_____)
Core operating cash flow	_____
Other recurring cash receipts (disbursements)	_____
Inc Tax (paid) (Tax exp) _____ DTL&Payable↑ _____ (DTA&Rec↑) _____	_____
Cash flow available for debt service	_____
Total interest paid (Interest expense) _____ Int. payable↑ _____	(_____)
Operating cash flow	_____
Dividends – preferred	(_____)
Cash flow available for investment	_____
Capital expenditures (PPE↑) _____ (Depn) _____ Gain (Loss) _____	_____
Investment in other operations-related assets	_____
Investment to support operations	_____
Free cash flow	_____
Short-term investments and trading securities	_____
Long-term investments (Invstmt↑) _____ Gain (Loss) _____	_____
Investments in goodwill and acquisition-related intangibles	_____
Investments in other assets	_____
Other nonrecurring cash receipts (Incl. Other nonoperating assets & liab.)	_____
Investment of free cash flow	_____
Change in cash and equivalents before financing	_____
Required principal payments on LT Debt (Curr Portion LTD Beg Yr)	_____
Dividends on common stock Beg RE _____ +NI _____ - End RE _____	_____
Short-term debt financing	_____
Long-term debt financing Curr Portion LTD End Yr _____ LTD↑ _____	_____
Equity financing Com & Pfd Stk↑ _____ APIC↑ _____ Other↑ _____	_____
Financing transactions	_____
Change in cash and equivalents after financing	_____

Forders, Inc. Solution

Cash Flow Calculations

Cash from revenue:		
Revenue	316,494	
A/R↓	<u>3,993</u>	
Cash from revenue		320,487
Cash cost of revenue:		
Cost of sales 249,369 – Depn 7,519	(241,850)	
Inventory↑	(10,972)	
A/P↑	<u>276</u>	
Cash cost of revenue		(252,546)
Cash operating expense:		
SG&A	(29,472)	
Prepaid expenses↑	(219)	
Accrued expenses↑	6,617	
Accrued warranty liability↑	<u>1,110</u>	
Cash operating expense		(21,964)
Core operating cash flow		45,977
Other recurring cash receipts:		0
Income taxes (paid) recovered:		
Income tax expense	(6,187)	
Current deferred income tax asset↑	(2,954)	
Noncurrent deferred income tax asset↑	(1,277)	
Noncurrent deferred income tax liability↓	(1,175)	
Income taxes payable↑	<u>8,373</u>	
Income taxes (paid)		(3,220)
Total interest paid:		
Interest expense		<u>(962)</u>
Operating cash flow		41,795

SOLUTION NOTE

Company: Hamilton Farms

Revenue	2,172,307
Change in receivables	(1,481)
Change in deferred revenue	75,000
Cash from revenue	2,245,826
Cost of revenue (excl. depn. of _____)	(1,863,583)
Change in inventory	(668,490)
Change in payables	372,416
Cash cost of revenue	(2,159,657)
Cash gross margin	86,169
SG&A and R&D expense (excl. depn of 14,883)	(552,025)
Change in prepaids	_____
Change in accruals	_____
Cash operating expense	(552,025)
Core operating cash flow	(465,856)
Other recurring cash receipts (disbursements)	20,053
Inc Tax (paid) (Tax exp) ^{25,553} DTL&Payable [↑] (10,005) (12,497) (DTA&Rec [↑]) (24,061)	(21,010)
Cash flow available for debt service	(466,813)
Total interest paid (Interest expense) (95,550) Int. payable [↑] 22,269	(73,281)
Operating cash flow	(540,094)
Dividends – preferred	(_____)
Cash flow available for investment	(540,094)
Capital expenditures (PPE [↑]) (582,111) (Depn) (14,883) Gain (Loss) 40,000	(556,994)
Investment in other operations-related assets	_____
Investment to support operations	(556,994)
Free cash flow	(1,097,088)
Short-term investments and trading securities	_____
Long-term investments (Invstmt [↑]) _____ Gain (Loss) _____	14,395
Investments in goodwill and acquisition-related intangibles	_____
Investments in other assets	_____
Other nonrecurring cash receipts Incl. Other nonoperating assets & liab.	_____
Investment of free cash flow	14,395
Change in cash and equivalents before financing	(1,082,693)
Required principal payments on LT Debt (Curr Portion LTD Beg Yr)	(49,400)
Dividends on common stock Beg RE 59,686 +NI -268,128 - End RE- -208,442	0
Short-term debt financing	(2,122)
Long-term debt financing Curr Portion LTD End Yr 123,761 LTD [↑] 462,517	586,278
Equity financing Com & Pfd Stk [↑] 1,242 APIC [↑] 3,060,922 Other [↑] _____	3,062,164
Financing transactions	3,596,920
Change in cash and equivalents after financing	2,514,227

SOLUTION NOTE

Company: Jewels Jewelers

Revenue	290,344
Change in receivables	185
Change in deferred revenue	1,249
Cash from revenue	<u>291,778</u>
Cost of revenue (excl. depn. of _____)	(145,833)
Change in inventory	(32,993)
Change in payables	2,750
Cash cost of revenue	<u>(176,076)</u>
Cash gross margin	115,702
SG&A and R&D expense (excl. depn of 1,634)	(98,684)
Change in prepaids	(1,955)
Change in accruals	3,110
Cash operating expense	<u>(97,529)</u>
Core operating cash flow	18,173
Other recurring cash receipts (disbursements)	(335)
Inc Tax (paid) (Tax exp) (18,131) DTL&Payable↑123 ((5,918) (DTA&Rec↑) _____	(23,926)
Cash flow available for debt service	<u>(6,088)</u>
Total interest paid (Interest expense) _____ Int. payable↑ _____	(826)
Operating cash flow	<u>(6,914)</u>
Dividends – preferred	(_____)
Cash flow available for investment	(6,914)
Capital expenditures (PPE↑) (10,351) (Depn) (1,634) Gain (Loss) _____	(11,985)
Investment in other operations-related assets	_____
Investment to support operations	<u>(11,985)</u>
Free cash flow	<u>(18,899)</u>
Short-term investments and trading securities	_____
Long-term investments (Invstmt↑) _____ Gain (Loss) _____	(2,127)
Investments in goodwill and acquisition-related intangibles	_____
Investments in other assets	_____
Other nonrecurring cash receipts Incl. Other nonoperating assets & liab.	_____
Investment of free cash flow	<u>(2,127)</u>
Change in cash and equivalents before financing	<u>(21,026)</u>
Required principal payments on LT Debt (Curr Portion LTD Beg Yr)	_____
Dividends on common stock Beg RE 21,530 +NI +24,901 - End RE -45,047	(1,384)
Short-term debt financing	7,253
Long-term debt financing Curr Portion LTD End Yr _____ LTD↑ _____	(160)
Equity financing Com & Pfd Stk↑16 APIC↑4,477 Other↑(438)	4,055
Financing transactions	<u>9,764</u>
Change in cash and equivalents after financing	<u>(11,262)</u>

