# A Note on Using UCA Cash Flow Analysis to Discern the Purpose(s) of a Firm's Short-Term Debt

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*This note uses the Uniform Credit Analysis (UCA) Cash Flow Statement to explore the purpose(s) of a firm's short-term debt. Employing a fictional firm, we examine whether the firm's short-term borrowing is entirely intended to fund the firm's net current assets. The results suggest a financing mismatch in the firm's use of short-term debt in all three years of the study period, either to help fund the firm's investment in capital (long-term) assets or to cover the firm's current portion of long-term debt. This analysis provides a useful technique for lending institutions to discern whether potential or existing commercial customers are using short-term debt for a purpose(s) other than supporting net current assets.*

## INTRODUCTION

Recent research by Beach et al. (2017) compares the FASB 95 and Uniform Credit Analysis (UCA) cash flow statements and discusses the benefits of the UCA format. Noting that the FASB 95 statement is *static* in nature whereas the UCA statement is more *dynamic* in focus, the authors argue that the UCA format is a superior tool for commercial credit analysis.

One issue on which the UCA statement of cash flows can offer additional insight relates to the purpose(s) of a firm's short-term debt. Specifically, is the firm's short-term debt solely intended to fund the firm's net current assets? Or is the firm increasing its risk profile by using short-term borrowing to pay the current portion of long-term debt and/or to fund, at least in part, capital (long term) assets? These questions are important to creditors for determining the purpose of any loan request or advances on an existing Revolving Line of Credit (RLOC), as well as to investors when assessing a firm's risk exposure.

In this regard, it is worth noting that a basic commercial loan underwriting principle is to match the term of a loan with the life and cash flow of the pledged asset. This lending technique (sometimes known as short-to-short and long-to-long) is crucial for the sustained health of a growing company. Short-Term Notes Payable on a firm's balance sheet are typically advances against a RLOC to support net current assets. Such advances are commonly secured by eligible accounts receivable and inventory and based on a firm's unused borrowing capacity. A company can potentially experience liquidity problems and increase the probability of financial distress if it uses the borrowing capacity under its short-term RLOC to make a payment on the current portion of a long-term debt obligation and/or to purchase a long-term asset(s).

To analyze the intent of a firm's short-term borrowing using information in the UCA Cash Flow Statement we draw in the next section on the financial statements of a fictional firm, Pittman Plumbing Fixtures & Supplies, Inc. (Pittman), for the years 2015-18. Pittman is a regional, closely-held C Corporation that wholesales plumbing fixtures and supplies. The attached financial statements of Pittman include Table 1, year-end balance sheets; Table 2, annual income statements; and Table 3, annual UCA cash flow statements. To add further clarity to the question of Pittman's use of short-term debt during the study period, we present in the third section an alternative method for examining the intent of Pittman's short-term borrowing by rearranging the presentation of the firm's UCA cash disbursements following Cash After Financing Costs, as shown in Table 4. The last section is a summary and conclusion.

## DISCERNING THE PURPOSE(S) OF PITTMAN'S SHORT-TERM DEBT

Presented with Pittman's UCA cash flow statements for the years 2016-18, we can discern the purpose(s) of any increase in short-term debt by focusing on the cash flows following Cash After Financing Costs on the UCA cash flow statements. As shown in Table 3, Cash After Financing Costs is followed by disbursements for the Current Portion of Long-Term Debt (CPLTD) and Plant & Investments, plus any inflows/outflows owing to Related Parties—Change in Loans from Owners. The result is a Financing Surplus (Requirement), followed by External Financing in the form of changes in Short-Term Debt, Long-Term Debt, Contributed Capital, Other Changes in Retained Earnings, and finally any Change in Cash & Equivalents.

Looking first at 2016, Cash After Financing Costs was $18,874, which was enough to cover the CPLTD of -$17,889, leaving Cash After Debt Amortization of $985. This amount helped to cover Plant & Investments of -$6,527 but was short by -$5,542. To meet this deficit Pittman raised external funding in the amounts of $3,200 in Short-Term Debt and $1,149 in Long-Term Debt. However, these funds were still insufficient to meet the Financing Requirement of -$5,542, so the firm reduced its Cash & Equivalents by -$1,193. Most significantly though, the firm used $3,200 of Short-Term Debt drawn against its RLOC to help cover its investment in capital (long-term) assets, thereby evidencing a financing mismatch in the use of its short-term borrowing.

Turning to 2017, Cash After Financing Costs was only $4,468, reflecting a sharp decrease from 2016 in Cash From Trading down through Cash After Financing Costs. Moreover, this amount was insufficient to cover the CPLTD of -$18,894, leaving a shortfall in Cash After Debt Amortization in th e amount of -$14,426. Thus, with expenditures on Plant & Investments of -$11,547 Pittman faced a deficit of -$25,973. To cover this deficit, the firm raised external funding in the amounts of $13,800 in Short-Term Debt and $12,993 in Long-Term Debt. The $13,800 of short-term borrowing can be viewed as covering most of the -$14,426 shortfall in operating cash flow that was needed to cover the CPLTD, and the $12,993 of long-term borrowing more than covered the investment in capital assets, resulting in an increase in Cash & Equivalents of $820. Thus, in contrast with 2016, data for 2017 suggests a near matching of long-term borrowing of $12,993 to more than cover the firm's -$11,547 investment in capital assets. However, like 2016, the data also points to a financing mismatch in the use of short-term borrowing of $13,800 to help cover the cash flow shortfall of -$14,426 needed to pay the CPLTD since RLOCs are typically not intended to fund the CPLTD.

Finally, looking at 2018, Cash After Financing Costs increased sharply from 2017, registering $33,971 which was more than enough to cover the CPLTD of -$19,766, leaving Cash After Debt Amortization of $14,205. As in 2016, this amount helped to cover Plant & Investments of -$37,398 but was still short by -$23,193. To meet this deficit, Pittman raised external funding in the amounts of $20,375 in Short-Term Debt and $863 in Long-Term Debt. But again, these funds were insufficient to meet the Financing Requirement of -$23,193, so the firm reduced its Cash & Equivalents by -$1,955. Significantly though, as in 2016 the firm used $20,375 of short-term borrowing drawn against its RLOC to help cover its expenditure for Plant & Investments, thereby again evidencing a financing mismatch in the use of its short-term borrowing.

## AN ALTERNATIVE LOOK AT THE INTENT OF PITTMAN'S SHORT-TERM DEBT

To add further clarity to Pittman's use of short-term borrowing during the study period, Table 4 gives an alternative presentation of Pittman's UCA cash disbursements following Cash After Financing Costs. Specifically, the Change in Short-Term Debt is moved up to follow Cash After Debt Amortization. The reason for this move is that if Cash After Debt Amortization is positive, thereby reflecting sufficient cash flow to cover all the operating needs of the firm plus the CPLTD, then any short-term borrowing that year must have been intended to help finance capital investments (unless the short-term borrowing was matched by an increase in Cash & Equivalents). Hence, the Change in Short-Term Debt is followed by a new summary account, Cash Available for Plant & Investments, which in turn is followed by Cash Used for Plant & Investments and the remaining accounts from the UCA Cash Flow Statement. Thus, for 2016 and 2018, both of which show a positive amount of Cash After Debt Amortization, the short-term borrowing of $3,200 in 2016 and $20,375 in 2018 must have been intended to help fund capital investments of -$6,527 in 2016 and -$37,398 in 2018, thereby evidencing a financing mismatch in the use of short-term borrowing in both years.

By contrast, if Cash After Debt Amortization is negative, then any short-term borrowing that year must have been intended, at least in part, to cover the shortfall in operating cash flow that was needed to pay the CPLTD. Thus, for 2017, which shows a negative amount of Cash After Debt Amortization, the short-term borrowing of $13,800 must have been intended to help cover the -$14,426 deficit in Cash After Debt Amortization, thereby evidencing another, albeit different, financing mismatch in the use of short-term borrowing to help fund the firm's CPLTD. At the same time, the long-term borrowing of $12,993 that year nearly matched the firm's -$11,547 expenditure for Plant & Investments.

## SUMMARY AND CONCLUSION

Recent research dealing with the Uniform Credit Analysis (UCA) Cash Flow Statement has opened the door to enhanced cash flow analysis. One issue on which the UCA Cash Flow Statement can offer additional insight relates to the purpose(s) of a firm's short-term debt. Specifically, is the firm's short-term debt entirely intended to fund the firm's net current assets? Or is the firm increasing its risk profile by using short-term borrowing to pay the current portion of long-term debt (CPLTD) and/or to fund, at least in part, long term (investment) assets?

This note analyzes the intent of a firm's short-term borrowing, drawing on the financial statements of a fictional firm, Pittman Plumbing Fixtures and Supplies, Inc. (Pittman) for 2015-18. Specifically, we explore the purpose(s) of the firm's short-term debt by focusing on the UCA cash flow data following Cash After Financing Costs in the UCA Cash Flow Statement for each of the years, 2016-18.

The results suggest a financing mismatch in the firm's use of short-term debt in all three years. Specifically, the data indicate Pittman used short-term borrowing in both 2016 and 2018 to help cover its investment in capital (long-term) assets. By contrast, in 2017 the firm used long-term borrowing to help finance its investment in capital assets but short-term borrowing to help cover the firm's CPLTD, another illustration of a financing mismatch in the use of its short-term borrowing.

The analysis presented here provides a useful technique for lending institutions to discern whether potential or existing commercial customers are using short-term borrowing for anything other than supporting net current assets. It also provides a springboard for expanded studies of commercial borrowing using information from the UCA Cash Flow Statement.

## REFERENCES

Beach, R., Fletcher, E. S., Jr., & Rose, J. T. (2017). Cash Flow Statements for Commercial Credit Analysis: UCA vs. FASB 95. *Advances in Financial Education*, Winter, 89-107.

**TABLE 1**
**PITTMAN PLUMBING FIXTURES & SUPPLIES, INC.**
**YEAR-END BALANCE SHEETS**

**($ in thousands)**

| | 2015 | 2016 | 2017 | 2018 |
|---|---|---|---|---|
| Assets | | | | |
| Cash & Marketable Securities | 10,982 | 9,789 | 10,609 | 8,654 |
| Accounts Receivable | 36,372 | 41,865 | 44,103 | 50,165 |
| Reserve for Bad Debts | (1,273) | (1,336) | (1,546) | (1,758) |
| Inventory | 62,055 | 81,727 | 103,037 | 108,094 |
| Prepaid Expenses | 1,039 | 953 | 1,732 | 1,299 |
| Total Current Assets | 109,175 | 132,998 | 157,935 | 166,454 |
| Gross Fixed Assets | 562,900 | 569,425 | 580,941 | 618,373 |
| Less: Accumulated Depreciation | (315,224) | (341,204) | (375,844) | (413,731) |
| Net Plant and Equipment | 247,676 | 228,221 | 205,097 | 204,642 |
| Other Assets | 14 | 16 | 47 | 13 |
| Total Assets | 356,865 | 361,235 | 363,079 | 371,109 |
| Liabilities | | | | |
| Accounts Payable | 33,712 | 45,607 | 37,459 | 42,557 |
| Accrued Wages/Salaries | 2,474 | 2,165 | 2,706 | 3,222 |
| Notes Payable - Bank | 2,000 | 5,200 | 19,000 | 39,375 |
| Current Maturities of Long-Term Debt | 17,889 | 18,894 | 19,766 | 20,028 |
| Income Taxes Payable | 3,315 | 3,660 | 1,912 | 1,115 |
| Total Current Liabilities | 59,390 | 75,526 | 80,843 | 106,297 |
| Long-Term Debt | 148,375 | 130,630 | 123,857 | 104,692 |
| Total Liabilities | 207,765 | 206,156 | 204,700 | 210,989 |
| Stockholders' Equity | | | | |
| Common Stock | 3,200 | 3,200 | 3,200 | 3,200 |
| Paid-In Capital | 16,000 | 16,000 | 16,000 | 16,000 |
| Retained Earnings | 129,900 | 135,879 | 139,179 | 140,920 |
| Total Stockholders' Equity | 149,100 | 155,079 | 158,379 | 160,120 |
| Total Liabilities and Stockholders' Equity | 356,865 | 361,235 | 363,079 | 371,109 |

**TABLE 2**
**PITTMAN PLUMBING FIXTURES & SUPPLIES, INC.**
**INCOME STATEMENTS**

**($ in thousands)**

| | 2015 | 2016 | 2017 | 2018 |
|---|---|---|---|---|
| Sales | 497,950 | 519,558 | 562,900 | 582,860 |
| Cost of Goods Sold | (390,094) | (411,594) | (453,472) | (473,457) |
| Gross Income | 107,856 | 107,964 | 109,428 | 109,403 |
| Operating Expenses | | | | |
| Selling, General and Administrative | (34,956) | (35,933) | (39,797) | (41,325) |
| Officer Salaries | (7,220) | (7,794) | (8,725) | (9,151) |
| Lease Expense | (4,980) | (5,196) | (5,629) | (5,846) |
| Bad Debts Expense | (195) | (63) | (364) | (212) |
| Depreciation | (23,815) | (25,980) | (34,640) | (37,887) |
| Operating Profit | 36,690 | 32,998 | 20,273 | 14,982 |
| Interest Income (Expense) | 220 | 193 | 206 | 160 |
| Earnings Before Interest and Taxes (EBIT) | 36,910 | 33,191 | 20,479 | 15,142 |
| Interest Expense | (8,421) | (7,737) | (7,601) | (7,656) |
| Earnings Before Taxes (EBT) | 28,489 | 25,454 | 12,878 | 7,486 |
| Income Taxes | (9,685) | (8,675) | (4,378) | (2,545) |
| Net Income | 18,804 | 16,779 | 8,500 | 4,941 |
| | | | | |
| Net Income | 18,804 | 16,779 | 8,500 | 4,941 |
| Dividends Paid | (12,000) | (10,800) | (5,200) | (3,200) |
| Addition to Retained Earnings | 6,804 | 5,979 | 3,300 | 1,741 |

**TABLE 3**
**PITTMAN PLUMBING FIXTURES & SUPPLIES, INC.**
**UCA CASH FLOW STATEMENTS**

| ($ in thousands) | 2016 | 2017 | 2018 |
|---|---|---|---|
| Net Sales | 519,558 | 562,900 | 582,860 |
| Change in Current Receivables | (5,493) | (2,392) | (6,062) |
| Cash from Sales | 514,065 | 560,508 | 576,798 |
| Cost of Goods Sold | (411,594) | (453,472) | (473,457) |
| Change in Inventory | (19,672) | (21,310) | (5,057) |
| Change in Accounts Payable | 11,895 | (8,148) | 5,098 |
| Cash Production Costs | (419,371) | (482,930) | (473,416) |
| **CASH FROM TRADING** | **94,694** | **77,578** | **103,382** |
| Selling, General and Administrative Expenses | (35,933) | (39,797) | (41,325) |
| Other Operating Expenses | (12,990) | (14,354) | (14,997) |
| Change in Prepaid Expenses | 86 | (779) | 433 |
| Change in Accrued Expenses | (309) | 541 | 516 |
| Change in Other Current Assets & Liabilities | 0 | 0 | 0 |
| Cash Operating Costs | (49,146) | (54,389) | (55,373) |
| **CASH AFTER OPERATIONS** | **45,548** | **23,189** | **48,009** |
| Other Income (Expense) | 193 | 206 | 160 |
| Change in Other Liabilities | 0 | 0 | 0 |
| Income Tax Expense | (8,675) | (4,378) | (2,545) |
| Change in Deferred Income Taxes | 0 | 0 | 0 |
| Change in Income Taxes Payable | 345 | (1,748) | (797) |
| Taxes Paid & Other Income (Expense) | (8,137) | (5,920) | (3,182) |
| **NET CASH AFTER OPERATIONS** | **37,411** | **17,269** | **44,827** |
| Dividends or Owners Withdrawals | (10,800) | (5,200) | (3,200) |
| Change in Dividends Payable | 0 | 0 | 0 |
| Interest Expense | (7,737) | (7,601) | (7,656) |
| Change in Interest Payable | 0 | 0 | 0 |
| Cash Financing Costs | (18,537) | (12,801) | (10,856) |
| **CASH AFTER FINANCING COSTS** | **18,874** | **4,468** | **33,971** |

## TABLE 3 (CONTINUED)

**($ in thousands)**

| | 2016 | 2017 | 2018 |
|---|---|---|---|
| Current Portion Long-Term Debt | (17,889) | (18,894) | (19,766) |
| **CASH AFTER DEBT AMORTIZATION** | **985** | **(14,426)** | **14,205** |
| Capital Expenditures | (6,525) | (11,516) | (37,432) |
| Change in Long-Term Investments | 0 | 0 | 0 |
| Change in Intangibles/Other Assets | (2) | (31) | 34 |
| Cash Used for Plant & Investment | (6,527) | (11,547) | (37,398) |
| Related Parties - Change in Loans from Owners | 0 | 0 | 0 |
| | (6,527) | (11,547) | (37,398) |
| **FINANCING SURPLUS/REQUIREMENT** | **(5,542)** | **(25,973)** | **(23,193)** |
| Change in Short-Term Debt | 3,200 | 13,800 | 20,375 |
| Change in Long-Term Debt | 1,149 | 12,993 | 863 |
| Change in Contributed Capital | 0 | 0 | 0 |
| Other Changes in Retained Earnings | 0 | 0 | 0 |
| **TOTAL EXTERNAL FINANCING** | **4,349** | **26,793** | **21,238** |
| **CHANGE IN CASH & EQUIVALENTS** | **(1,193)** | **820** | **(1,955)** |

## TABLE 4
## PITTMAN PLUMBING FIXTURES & SUPPLIES, INC.
## ALTERNATIVE PRESENTATION OF UCA CASH DISBURSEMENTS FOLLOWING CASH AFTER FINANCING COSTS

**($ in thousands)**

| | 2016 | 2017 | 2018 |
|---|---|---|---|
| Cash After Financing Costs | 18,874 | 4,468 | 33,971 |
| Current Portion of Long-Term Debt | (17,889) | (18,894) | (19,766) |
| **CASH AFTER DEBT AMORTIZATION** | **985** | **(14,426)** | **14,205** |
| Change in Short-Term Debt | 3,200 | 13,800 | 20,375 |
| **CASH AVAILABLE FOR PLANT & INVESTMENTS** | **4,185** | **(626)** | **34,580** |
| Cash Used for Plant & Investments | (6,527) | (11,547) | (37,398) |
| Change in Long-Term Debt | 1,149 | 12,993 | 863 |
| **CASH SURPLUS/(REQUIREMENT)** | **(1,193)** | **820** | **(1,955)** |
| Related Parties - Change in Loans from Owners | 0 | 0 | 0 |
| Change in Contributed Capital | 0 | 0 | 0 |
| Other Changes in Retained Earnings | 0 | 0 | 0 |
| **CHANGE IN CASH & EQUIVALENTS** | **(1,193)** | **820** | **(1,955)** |