

“How Managers Communicate about Capital Budgeting to Investors”

Robert Battalio

Tim Loughran

Bill McDonald

University of Notre Dame

2025 AFA Meeting

From Ross, Westerfield, and Jordan's Corporate Finance textbook:

Part 4 Capital Budgeting








9

Net Present Value and Other Investment Criteria

Page 278

Learning Objectives

After studying this chapter, you should be able to:

-  **LO1** Show the reasons why the net present value criterion is the best way to evaluate proposed investments.
-  **LO2** Discuss the payback rule and some of its shortcomings.
-  **LO3** Discuss the discounted payback rule and some of its shortcomings.
-  **LO4** Explain accounting rates of return and some of the problems with them.
-  **LO5** Present the internal rate of return criterion and its strengths and weaknesses.
-  **LO6** Calculate the modified internal rate of return.
-  **LO7** Illustrate the profitability index and its relation to net present value.

Overview

- The seminal results from the surveys initiated by Graham and Harvey (2001, JFE) motivate our focus on capital budgeting terminology.
- In their initial study, they asked a random sample of 392 CFOs over 100 questions pertaining to capital budgeting, cost of capital, and capital structure.
- As Graham and Harvey (2001) note, “Surveys measure beliefs and not necessarily actions.”

Overview

- Do managers participating in earnings conference calls signal the actual relevance of the capital budgeting and reveal preferences for specific capital budgeting technologies?
- By examining language usage during earnings conference calls, we can identify capital budgeting terms that managers believe are relevant to their firm's operations and important for investors to be aware of.
- We create a lexicon of 45 capital budgeting terms that managers could potentially use during quarterly earnings conference calls in their prepared statement or in the question and answer (Q&A) segment of the call.

Overview

- Figure 2 of Graham and Harvey (2001) contains a list of various capital budgeting methods (i.e., internal rate of return (IRR), net present value (NPV), payback, and hurdle rate) that provide an initial basis for our list.
- Our paper supplements their list, following the technique advocated by Loughran and McDonald (2011), by examining capital budgeting-related terms frequently used in corporate finance and valuation textbooks.
- The terms we select could be one word or a common phrase. We find that the most frequently occurring capital budgeting terms in conference calls are *cash flow*, *EBITDA*, *free cash flow*, *operating income*, *operating profit*, *capital spending*, and *capital investment*.

Capital Budgeting Example

- Yum! Brands CEO David Novak in a July 2014 earnings conference call states during his prepared comments, “That’s because in China, we now generate 3-year cash *paybacks* at KFC as we’ve improved the business model and 2-year cash *paybacks* at Pizza Hut Casual Dining.”
- This is direct evidence that *payback* is one of Yum! Brands central evaluation techniques.

Another Capital Budgeting Example

- In a January 2011 Amazon conference call, CFO Thomas Szkutak began the presentation by stating, “Trailing 12-month *free cash flow* decreased 14% to \$2.52 billion. *Return on invested capital* was 34%, down from 66%.”
- The immediate use of *free cash flow* and *return on invested capital* in the prepared statement provides evidence on what Amazon believes some of their key operating performance metrics are for their capital budgeting decisions.
- The credibility of this signal is underscored by the fact that much of the conference call dialog by managers is carefully scripted.

Earnings Conference Call Data

- Capital IQ is our source for the earnings conference call transcripts available from the Wharton Research Data Services (WRDS) website.
- Although there are some transcripts available before 2010, the bulk of the transcripts on Capital IQ begin in 2010. Thus, our sample period is 2010 to 2020.

Table 1. Earnings Conference Call Sample Creation

	Dropped Earnings Calls	Number of Earnings Calls
Initial sample of earnings conference calls during 2010-2020		187,291
Drop if a delayed conference call	6,276	181,015
Drop if number of words in transcript < 400	83	180,932
Drop if firm is not on CRSP (mainly foreign firms)	54,553	126,379
Drop if not ordinary common equity according to CRSP	28,566	97,813
Drop if missing relevant accounting and CRSP data	1,245	96,568

Paper's Findings

- Our paper reports the results of analyzing language contained in 96,568 earnings conference calls generated by 4,530 unique companies during the 2010-2020 period.
- First, we substantiate the survey evidence of Graham and Harvey (2001) pertaining to capital budgeting.
 - We find, on average, that more than eight of the capital budgeting tokens are utilized during an earnings conference call.
 - More than 87% of conference calls use at least one of the capital budgeting terms one or more times. Manager's use of terms like *ROI*, *IRR*, *ROIC*, *payback period*, and *discount rate* during a conference call, when discussing their firm's operations with investors and analysts, provides direct evidence of their actions.

Table 2. List of the top 17 Capital Budgeting Words Occurring in Conference Calls

Target	Total Count	% of Calls
Cash flow(s) (CF)	272,623	68.28%
Earnings before interest, taxes, depreciation, and amortization (EBITDA)	208,386	40.17%
Free cash flow(s) (FCF)	98,602	30.55%
Operating income	97,399	29.90%
Operating profit	35,244	12.00%
Capital spend(ing)	22,232	13.53%
Capital investment	14,542	10.02%
Earnings before interest and taxes (EBIT)	12,870	3.64%
Return on investment (ROI)	10,663	7.25%
Return on invested capital (ROIC)	7,604	4.43%
Payback or Pay Back or Payback period	6,185	4.44%
Operating income before depreciation and amortization (OIBDA)	4,708	0.67%
(Net)Present value(s) (NPV)	4,307	2.40%
Discount rate	4,059	2.18%
Return on capital (ROC)	4,050	2.49%
Capital budget	3,925	2.57%
Return on assets (ROA)	3,192	1.98%

Figure 1. Quarterly time series of *Cash Flow*, *EBITDA*, *Free Cash Flow*, and *Operating Income* usage in earnings conference calls, 2010-2020.

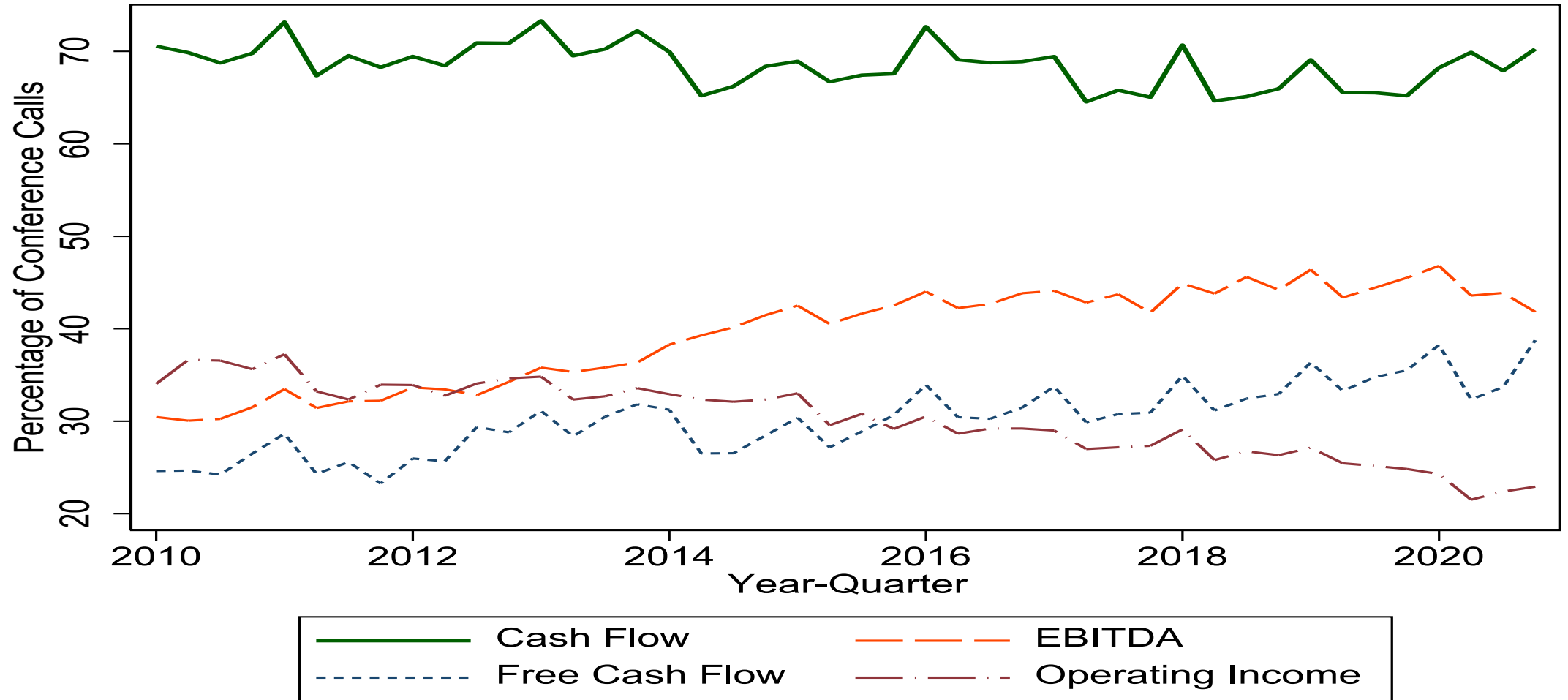


Table 3. Frequency of Capital Budgeting Evaluation Techniques in Graham and Harvey (2001) and our Conference Call Sample

Evaluation Technique	Graham and Harvey (2001)	
	Table 2 survey percentage always or almost always	Percentage of firms using the term at least once during a conference call
Internal rate of return	76%	1.77%
Net present value	75%	2.40%
Hurdle rate	57%	1.03%
Payback period	57%	4.44%
Sensitivity analysis	52%	<0.01%
Earnings multiple approach	39%	0.00%
Real options	27%	0.02%
Accounting rate of return	20%	<0.01%
Simulation analysis	14%	<0.01%
Profitability index	12%	<0.01%

Paper's Findings

- Second, we report that some capital budgeting terms almost never occur in conference calls.
- For example, the tokens *CAPM*, *real options*, and *simulation analysis* rarely appear in any earnings conference calls.
- Although Graham and Harvey (2001) note that the majority of CFO survey respondents say they always use CAPM in their capital budgeting process, the term appears only five times in all earnings conference calls during our time period.
- This suggests that the specific tools used to estimate the parameters used in the capital budgeting process are at a level of detail not critical for public consumption.

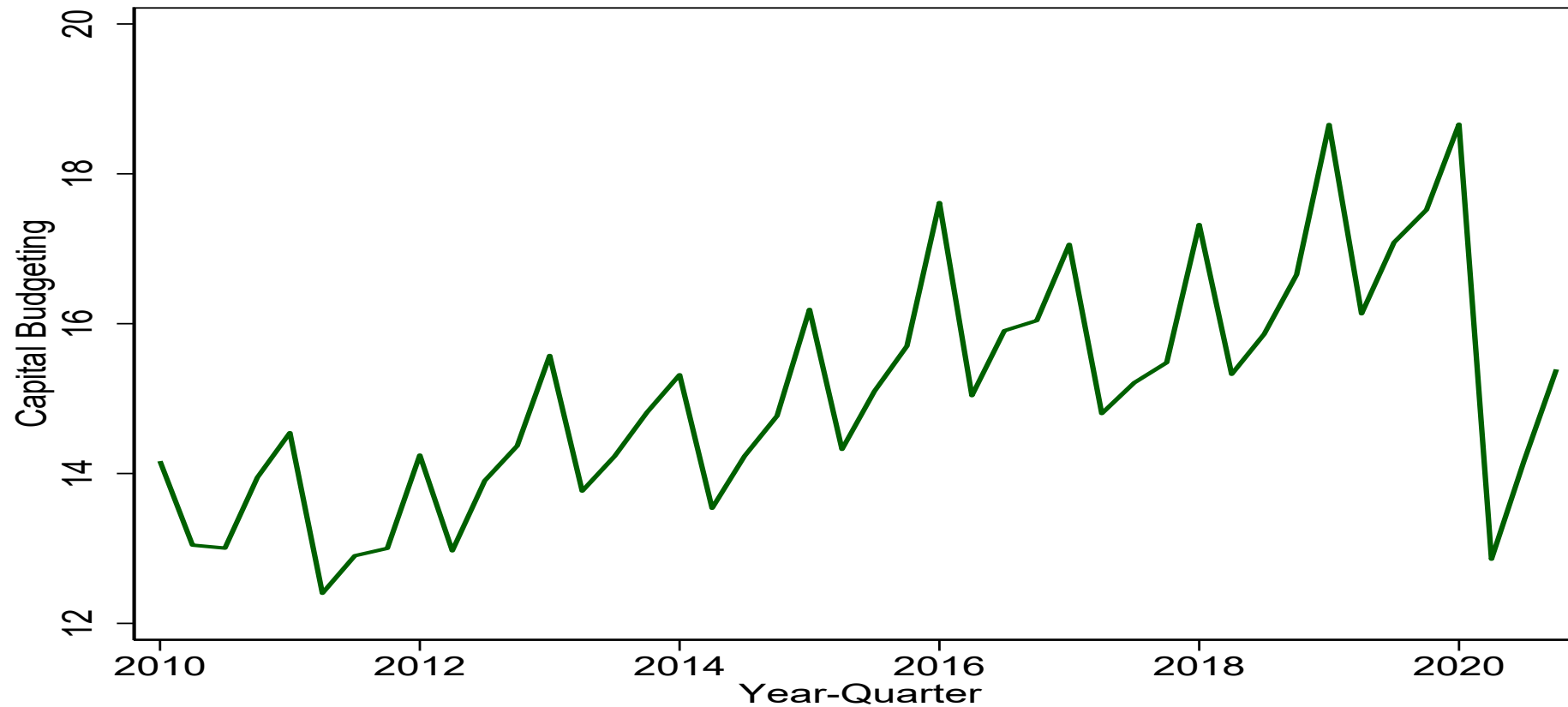
Paper's Findings

- Third, we document that capital budgeting terms are disproportionately used by firms in capital intensive commodity and manufacturing industries.
- In terms of average capital budgeting token counts, Telecommunications, Coal, Automobiles, Fabricated Products, and Agriculture are the top Fama and French (1997) 49-industries. Conversely, Banking, Pharma, Trading, Apparel, and Insurance have the lowest average capital budgeting term usage by managers.
- We find that firms with higher capital budgeting counts have higher market values, PP&E, FCF, and prior stock return performance. Higher capital budgeting usage firms tend to have lower Tobin's Q and less R&D intensity.

Paper's Findings

- Fourth, we document that both capital budgeting term usage and the number of words spoken by managers peak in the first quarter of the calendar year.
- This finding simply illustrates the information density of annual versus quarterly communications, since the majority of the firms have December fiscal year ends.
- Managers increasingly use the capital budgeting terms while discussing their annual results with analysts and investors.

Figure 2. Quarterly time series of the mean Capital Budgeting, 2010-2020.



Paper's Findings

- Fifth, we document how manager's word selections vary on the basis of whether or not trailing net income is positive.
- If the firm has positive net income, managers use phrases like *cash flow*, *free cash flow*, *operating income*, and *operating profit* significantly more than if net income is negative.
- In contrast, when net income is negative, managers have significantly higher counts of the non-GAAP phrase *EBITDA*.

Paper's Findings

- Lastly, we present evidence on whether capital budgeting token usage is firm- or manager-specific.
 - Looking at 473 senior managers who transitioned to different firms with at least four conference calls at each company, we find that managers with the job title of CFO or CEO use significantly more capital budgeting tokens than managers with other job titles.
 - Holding job title constant, token use by the moving manager is the same at each company. This suggests that it is the individual, not the firm, who determines the use of capital budgeting tokens in conference calls.

Conclusion

- We create a lexicon of 45 capital budgeting terms and document manager language usage in earnings conference calls over the years 2010-2020.
- Managers often use technical language like *cash flow*, *free cash flow*, *capital spending*, *return on investment*, and *return on capital* during conference calls.
- We substantiate the survey evidence of Graham and Harvey (2001) by demonstrating that managers actually use concepts like *payback period* and *ROI*.
- We find that managers mention the non-GAAP term *EBITDA* significantly more often when a company's net income is negative.

Thank you for allowing me to present this paper.