

## Counterpoint Global Insights

# Categorizing for Clarity

## Cash Flow Statement Adjustments to Improve Insight

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### Introduction

You can think about a business using some simple ideas. A company spends money on investments that are expected to generate good returns relative to the capital's opportunity cost. It then sells a good or service to customers that generates revenues and incurs expenses. The difference between revenues and costs is operating income, and after financing costs and taxes a company is left with net income. When income exceeds investments, the company generates cash that it can return to the capital providers. When investments exceed income, the company has to raise capital, usually by issuing debt or equity.

The objective of financial statements is to help investors, creditors, and other interested parties understand the business. Financial statements are intended to be relevant and to have predictive value.<sup>1</sup> In standard finance, discounted cash flow (DCF) models are based on free cash flow, the difference between net operating profit after taxes (NOPAT) and investment in future growth. The analyst projects cash flows and then discounts them to estimate today's value.

Public companies are required to disclose an income statement, a balance sheet, and a statement of cash flows. The income statement starts with revenue and shows the costs and expenses that lead to net income for a given period. The balance sheet provides a snapshot of a company's assets as well as the liabilities and equity used to finance them.

The statement of cash flows classifies cash inflows and cash outflows into three categories: cash flow from operating activities, cash flow from investing activities, and cash flow from financing activities. The sum of the three categories reconciles a company's cash and cash equivalents from one period to the next. The statement of cash flows is a relatively recent accounting statement, having been required in its current form only since 1988.<sup>2</sup>

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Most financial statement analysis is focused on the income statement and balance sheet, and the statement of cash flows is often treated as “an after-thought.”<sup>3</sup> But the statement of cash flows appears to match the basic activities of a business. Cash flow from investing activities tells you how much money the company spent to generate future growth. Cash flow from operating activities goes beyond net income to reveal the cash in and out associated with activities based on the customer. And cash flow from financing reveals how the company addresses gaps between the cash flows associated with investments and operations.

A company is in a position to return cash to capital providers when the operations generate more cash than investment needs. When investment needs exceed cash from the operations, the company must raise capital to plug the gap. To be clear, negative free cash flow is not only fine but desirable when the return on investment is attractive.<sup>4</sup>

The point of this report is that today’s accounting creates a huge gap between financial statements and what an investor needs to understand a business. This is despite the conceptual match between categories on the statement of cash flows and how businesses work.

We will show how moving certain items from one category to another improves relevance without affecting the essential task of cash reconciliation.<sup>5</sup> A clearer understanding of the cash in, cash out, and financing activities provides relevance and predictive value beyond the current standards. This analysis is important because an accurate measure of the magnitude of investment and profitability is essential to understanding the business.

We use Amazon as our case study, but the analysis is relevant for nearly all companies. We limit the discussion to historical numbers to illustrate the concepts without implying anything about future results or the stock price. The main takeaway is that Amazon’s cash flow from operating activities and cash flow from investing activities are both substantially higher than what the company reports based on accepted accounting principles.

The definition of free cash flow that investors and companies commonly use is cash from operating activities minus capital expenditures.<sup>6</sup> This is inconsistent with finance theory and can be a very misleading heuristic. To Amazon’s credit, they provide multiple definitions of free cash flow. The company starts with the popular one but includes alternative calculations that better reflect the magnitude of investment. Our adjustments do not change a company’s free cash flow, properly defined, but do change the composition.<sup>7</sup>

## Adjustments to Improve Insight

We suggest moving the location of stock-based compensation (SBC), leases, and intangible investments within the statement of cash flow. Removing the purchases and sales of marketable securities from investing activities may also be appropriate.

**Stock-based compensation.** Using equity to pay employees is relatively new. As recently as the mid-1980s, fewer than one-half of the chief executive officers (CEOs) of publicly-traded companies in the United States were paid in stock or stock options. By 2000, equity was about two-thirds of the median annual pay for CEOs.<sup>8</sup> We can attribute this large shift to a number of factors. First, the median percentage direct ownership of stock by CEOs of the top 120 public companies in the U.S. was 8 times higher in 1938 than it was in 1988. The amount of skin in the game for CEOs had been trending lower for decades.<sup>9</sup>

A vibrant market for corporate control arose in the 1980s, encouraging many boards to try to reduce agency costs by aligning the interests of executives and shareholders. Paying with equity helped with this alignment.

But there is an essential distinction between incentive compensation, where pay is linked to performance, and equity compensation as a pay delivery mechanism.

Another factor behind the increase in SBC was the rising stock market in the 1990s. For example, for the 10 years ended in 1997, total shareholder returns were positive for each of the top 100 companies in the U.S. That means that all CEOs who had SBC made money, even if their relative performance was poor.<sup>10</sup>

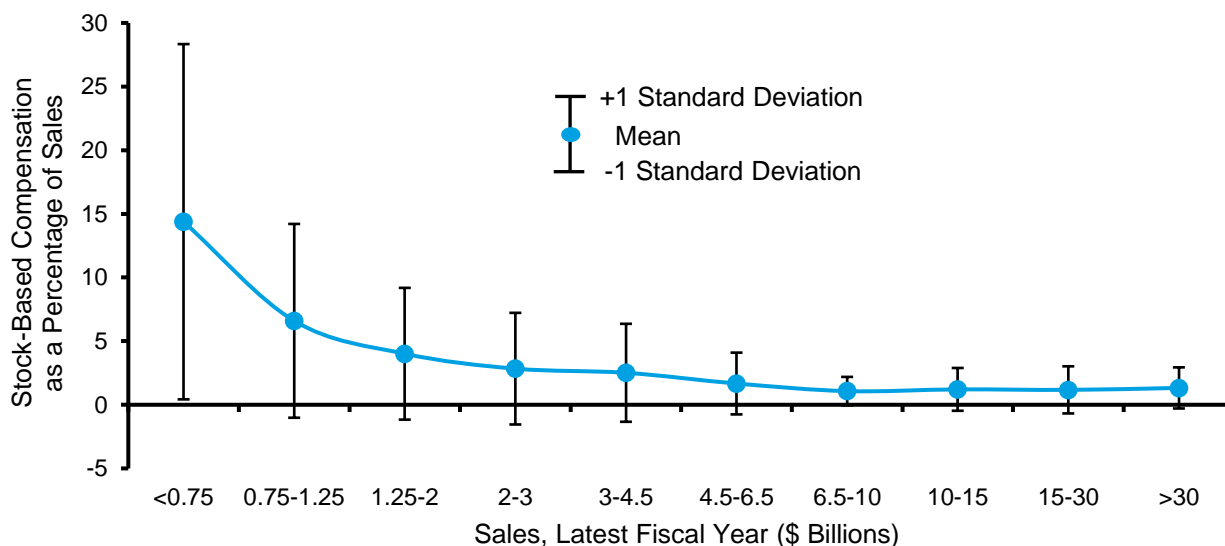
Finally, for a long time SBC did not show up as an expense on the income statement. Not until 2006 was expensing compulsory under U.S. generally accepted accounting principles (GAAP). The details of employee stock options were disclosed in the footnotes, but that an obvious expense was not included in the calculation of earnings encouraged their profligate use.

The Financial Accounting Standards Board (FASB) clearly believed that employee stock options were a cost that should be on the income statement. But accounting firms and companies, especially in the technology industry, lobbied heavily against including the expense. The misguided reasoning was that lower earnings would translate into lower stock prices. Dennis Beresford, then chairman of the FASB, recalls: “People said to me, ‘If we have to record a reduction in income by 40%, our stock will go down by 40%, our options will be worthless, we won’t be able to keep employees. It would destroy all American business and Western civilization.’”<sup>11</sup> Academic research shows that these concerns came to naught.<sup>12</sup>

But even as the issue of expensing SBC on the income statement has long been resolved, accountants still add back SBC expense in the calculation of cash flow from operations. SBC is a legitimate expense that should not be reversed.<sup>13</sup> Small companies, which generally have fewer financial resources than large ones do, rely heavily on SBC. Employees provide both a source of financing and a service.

Exhibit 1 shows SBC as a percentage of sales for companies in the Russell 1000 Index based on size. The index is the top thousand companies in the U.S. measured by market capitalization. The ratio of SBC to sales is about 15 percent for the smallest companies and declines steadily to about 1 percent for the largest companies. Further, SBC is strongly correlated with intangible investment.<sup>14</sup>

**Exhibit 1: Stock-Based Compensation as a Percentage of Sales by Size, Russell 1000, 2020**



Source: FactSet.

Note: Russell 1000 as of 12/31/20; Data for calendar year 2020; Companies with minimum sales of \$10 million.

You can think of SBC as one number that reflects two transactions.<sup>15</sup> The company first sells shares (financing) and then uses the proceeds to pay employees (compensation for service). Combine these ideas and it makes sense to move SBC from the cash flow from operating activities section to the cash flow from financing activities section. This portrays the cash flow statement more accurately.

Amazon's SBC was \$9.2 billion in 2020, or 14 percent of its cash flow from operating activities and 30 percent of its primary measure of free cash flow, cash flow from operating activities minus net purchases of property and equipment. Reclassifying their SBC reduces that measure of free cash flow from \$31.0 billion to \$21.8 billion.

Exhibit 2 shows median and aggregate SBC as a percentage of cash flow from operating activities for sectors in the Russell 1000. SBC was most significant for technology companies. For this sector, the median ratio of SBC to cash flow from operating activities was 25 percent and the aggregate was 15 percent.

### Exhibit 2: Median and Aggregate Stock-Based Compensation Relative to Cash Flow from Operating Activities for Sectors, Russell 1000, 2020

Sector	Median	Aggregate
Information Technology	25.0%	14.7%
Health Care	8.1%	6.4%
Consumer Discretionary	5.1%	8.2%
Industrials	4.7%	8.0%
Energy	4.5%	5.2%
Consumer Staples	3.4%	3.5%
Telecommunication Services	3.1%	4.4%
Materials	2.9%	2.6%
Utilities	1.6%	2.0%
<b>Total</b>	<b>5.7%</b>	<b>8.6%</b>

Source: FactSet.

Note: Russell 1000 excluding financial and real estate sectors as of 12/31/20; Data for calendar year 2020.

This discussion has no bearing on the merits of SBC. Using stock for compensation can make sense because it provides a source of capital and aligns the interests of employees and shareholders. The crucial point is to think of SBC properly in the context of how a business creates value.

**Leases.** A company that invests in a physical asset can generally buy it or lease it. A lease is a contract by which the lessor agrees to allow the lessee the use of an asset for a specific period in return for a periodic payment. For example, say you are at an airline and are in charge of acquiring aircraft. You would analyze the pros and cons of a purchase versus a lease and select the one that makes the most sense financially. Airlines in fact buy and lease, as do many companies making the investments required to create value.

Investors need to understand the magnitude of investment. The problem is that the assets a company purchases show up in cash flow from investing activities, while assets that are leased are reflected in cash flow from financing activities. The adjustment here is to move the property and equipment acquired with leases into the section that captures cash flow from investing activities.

For Amazon, \$10.7 billion moves from the financing to the investing category, taking the company's cash flow from investing activities from an outflow of \$59.6 billion to an outflow of \$70.3 billion, an 18 percent increase. It also reduces the company's secondary definition of free cash flow, cash flow from operating activities minus net

purchases of property and equipment less principal repayments of finance leases and financing obligations, from \$31.0 billion to \$20.3 billion. Remove the SBC addback and free cash flow drops to \$11.1 billion.

To be clear, Amazon adheres to all accounting standards and provides this modified definition of free cash flow. They specifically disclose that, “In this measure [of free cash flow], property and equipment acquired under capital leases is reflected as if these assets had been purchased for cash.”<sup>16</sup>

While we focus here on capturing the large adjustment from the financing to the investing sections, further modifications are necessary to properly calculate net operating profit after taxes in order to build an unlevered discounted cash flow model.<sup>17</sup>

**Intangible Investments.** The most significant adjustment deals with intangible investments. An investment is an outlay today with the expectation of an attractive return based on the present value of future cash flows. Until the 1990s, tangible investments exceeded intangible ones. Further, the basic structure of financial statements was developed to reflect a world of tangible assets and has not changed much in a century.<sup>18</sup>

Companies now invest much more in intangible assets than in tangible assets.<sup>19</sup> Intangible assets are not physical and include employee training, brand building, and software code. Tangible assets are physical, such as factories, airplanes, and machines. We estimate that companies in the Russell 3000 made \$1.8 trillion in intangible investments in 2020 and spent \$900 billion on capital expenditures.<sup>20</sup>

Accountants record most intangible investments on the income statement. The essential adjustment is to move intangible investment from cash flow from operating activities, where it is hidden, to cash flow from investing activities.

The analytical challenge is to separate selling, general, and administrative (SG&A) expenses into what is an investment and what is necessary to maintain the business. In recent years, academics have developed techniques to do this. The split between discretionary and maintenance SG&A spending is different based on the industry and the company.<sup>21</sup>

We use these techniques to estimate Amazon’s investment in intangible assets. We assume that fulfillment costs, about 45 percent of total SG&A, are linked to current sales and hence have no investment component. These are predominately the expenses to operate fulfillment centers, stores, and customer service centers.

Estimating intangible investment for the remaining SG&A requires two significant assumptions: the percentage of an expense item that is deemed an investment and the appropriate amortization period. We designate three-quarters of technology and content expense, one-half of marketing expense, and one-fifth of general and administrative expense as investment in intangible assets. This suggests that 62 percent of eligible SG&A, and 34 percent of total SG&A, are discretionary investments. Exhibit 3 shows the relevant components of SG&A in 2020 multiplied by the percent allocated to intangible investment.

**Exhibit 3: Estimate of Amazon's Intangible Investments, 2020**

<b>Item</b>	<b>Amount</b>	<b>Percent Allocated to Intangible</b>	<b>Intangible Investment</b>
<b>Technology and content</b>	\$42.7 billion	75%	\$32.1 billion
<b>Marketing</b>	22.0	50	11.0
<b>General and administrative</b>	6.7	20	1.3
<b>Total</b>	\$71.4 billion		\$44.4 billion

Source: Amazon.com and Counterpoint Global estimates.

We assume a useful life of five years for investments in technology and content and three years for investments in marketing and general and administrative. We create a schedule to capitalize and amortize these estimates through time. The amortization of past intangibles in 2020 equaled \$25.4 billion.

The adjustment to cash flow from operating activities is in two parts. First, net income increases by \$19.0 billion, the \$44.4 billion of intangible investment minus the \$25.4 billion in amortization. Second, depreciation and amortization rises by \$25.4 billion. The sum of \$19.0 billion and \$25.4 billion is \$44.4 billion, the figure we want to reflect in cash flow from operating activities and cash flow from investing activities. Exhibit 4 summarizes the net result of these category changes.

**Exhibit 4: Summary of Category Changes for Amazon, 2020**

<b>Cash Flow from:</b>	<b>Operating Activities</b>	<b>Investing Activities</b>	<b>Financing Activities</b>
<b>Reported total</b>	\$66.1 billion	-\$59.6 billion	-\$1.1 billion
<b>Stock-based compensation</b>	-9.2		9.2
<b>Leases</b>		-10.7	10.7
<b>Intangible investments</b>	44.4	-44.4	
<b>Adjusted total</b>	\$101.2 billion	-\$114.7 billion	\$18.8 billion

Source: Amazon.com and Counterpoint Global estimates and adjustments.

Cash flow from operating activities increases 53 percent, from \$66.1 billion to \$101.2 billion. Adding intangible investment net of amortization results in a near doubling of net income, from \$21.3 billion to \$40.3 billion.

Cash flow from investing activities goes from an outflow of \$59.6 billion to an outflow of \$114.7 billion. This is an essential insight for an investor who is trying to get a clear sense of the magnitude of investment in order to make an intelligent forecast about future profits.

Cash flow from financing activities goes from -\$1.1 billion to \$18.8 billion, suggesting the company raised capital to finance its operations. Note that the sum of the three sections is identical whether you use the as reported or the adjusted figures. Exhibit 5 summarizes the statement of cash flows before and after the adjustments.

## Exhibit 5: Summary of Adjustments to Amazon's Statement of Cash Flows

**As Reported**

<i>In millions of U.S. dollars</i>	<b>2020</b>
<b>Operating Activities</b>	
Net income	21,331
Adjustments to reconcile net income to net cash from operating activities	
D&A* of property and equipment and capitalized content costs, operating lease assets, and other	25,251
<b>Stock-based compensation</b>	<b>9,208</b>
Other operating expense (income), net	(71)
Other expense (income), net	(2,582)
Deferred income taxes	(554)
Changes in operating assets and liabilities	
Inventories	(2,849)
Accounts receivable, net and other	(8,169)
Accounts payable	17,480
Accrued expenses and other	5,754
Unearned revenue	<u>1,265</u>
<b>Net cash provided by (used in) operating activities</b>	<b>66,064</b>
<b>Investing Activities</b>	
Purchases of property and equipment	(40,140)
Proceeds from property and equipment sales and incentives	5,096
Acquisitions, net of cash acquired, and other	(2,325)
Sales and maturities of marketable securities	50,237
Purchases of marketable securities	<u>(72,479)</u>
<b>Net cash provided by (used in) investing activities</b>	<b>(59,611)</b>
<b>Financing Activities</b>	
Proceeds from short-term debt, and other	6,796
Repayments of short-term debt, and other	(6,177)
Proceeds from long-term debt	10,525
Repayments of long-term debt	(1,553)
Principal repayments of finance leases	(10,642)
Principal repayments of financing obligations	<u>(53)</u>
<b>Net cash provided by (used in) financing activities</b>	<b>(1,104)</b>
Foreign-currency effect on cash and cash equivalents	618
Net increase (decrease) in cash and cash equivalents	5,967
Cash, cash equivalents, and restricted cash, beginning of period	36,410
Cash, cash equivalents, and restricted cash, end of period	42,377

**With Adjustments**

<i>In millions of U.S. dollars</i>	<b>2020</b>
<b>Operating Activities</b>	
Net income	21,331
Intangible investment	44,393
Amortization of intangible investment	<u>(25,410)</u>
<b>Adjusted net income</b>	<b>40,314</b>
Adjustments to reconcile net income to net cash from operating activities	
D&A* of property and equipment and capitalized content costs, operating lease assets, and other	25,251
Amortization of intangible investment	25,410
Other operating expense (income), net	(71)
Other expense (income), net	(2,582)
Deferred income taxes	(554)
Changes in operating assets and liabilities	
Inventories	(2,849)
Accounts receivable, net and other	(8,169)
Accounts payable	17,480
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<b>Investing Activities</b>	
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Intangible investment	<u>(44,393)</u>
<b>Net cash provided by (used in) investing activities</b>	<b>(114,699)</b>
<b>Financing Activities</b>	
Proceeds from short-term debt, and other	6,796
Repayments of short-term debt, and other	(6,177)
Proceeds from long-term debt	10,525
Repayments of long-term debt	(1,553)
<b>Stock-based compensation</b>	<b>9,208</b>
<b>Net cash provided by (used in) financing activities</b>	<b>18,799</b>
Foreign-currency effect on cash and cash equivalents	618
Net increase (decrease) in cash and cash equivalents	5,967
Cash, cash equivalents, and restricted cash, beginning of period	36,410
Cash, cash equivalents, and restricted cash, end of period	42,377

Source: Amazon.com, Form 10-K, December 31, 2020, Counterpoint Global estimates and adjustments.

Note: \*D&A=depreciation and amortization.

**Marketable securities.** The Statement of Financial Accounting Standards No. 95 specifies where particular cash receipts and cash payments are classified within the statement of cash flows. It notes that cash outflows from investing activities include payments “to acquire debt instruments of other entities (other than cash equivalents)” and “to acquire equity instruments of other enterprises.”<sup>22</sup>

The standard also says that a “statement of cash flows shall explain the change during the period in cash and cash equivalents” where cash equivalents are “short-term, highly liquid investments” with original maturities of three months or less.

The analytical question is whether Amazon’s marketable securities should be treated as a cash equivalent. This issue is also relevant for other large companies that are rich in cash. The reasoning is that marketable securities are straightforward to value, non-essential to operations, and designated as current assets, which means they are expected to be converted to cash within a year.

An analyst who concludes that marketable securities and cash are equivalent can remove the purchases and sales of marketable securities from the cash flows from investing activities. The statement of cash flows would then explain the change during the period to reconcile cash, cash equivalents, and marketable securities.

Exhibit 6 shows this additional adjustment for Amazon. As compared to exhibit 5, adjusted cash flow from operating activities is unchanged at \$101.2 billion as is the adjusted cash flow from financing activities of \$18.8 billion. But now the revised cash flow from investing activities goes from an adjusted -\$114.7 billion to -\$92.5 billion. This is the result of reclassifying the net purchase of \$22.2 billion of marketable securities in 2020 as a component of the change in cash, cash equivalents, and marketable securities.

We believe that this adjustment is more open to debate than the other ones but makes sense for certain businesses, including Amazon.

### Impact on Traditional Multiples

Free cash flow, properly defined as net operating profit after taxes (NOPAT) minus investment in future growth (I). NOPAT and I are both appropriately adjusted up by \$19.0 billion. Free cash flow is unchanged, but the path to get there is markedly different than without the adjustments.

While free cash flow is unaffected, traditional measures of income change dramatically. As a result, common valuation methods based on multiples can be very misleading. One example is enterprise value-to-earnings before interest, taxes, depreciation, and amortization (EV/EBITDA). Enterprise value is the sum of the market value of the company’s debt and equity minus excess cash. At year-end 2020, Amazon’s enterprise value was just under \$1.7 trillion and its 2020 EBITDA was \$48.2 billion, for an EV/EBITDA multiple of 35.0.

These adjustments add \$44.4 billion to EBITDA (\$19.0 billion to EBIT and \$25.4 billion to DA), more than a 90 percent increase from the unmodified sum. As a result, the EV/EBITDA multiple falls to 18.2. If these adjustments make economic sense, the EV/EBITDA multiple is off by a factor of nearly two.



## Exhibit 6: Summary of Adjustments to Amazon's Statement of Cash Flows, Including Treating Marketable Securities as Cash and Cash Equivalents

### As Reported

<i>In millions of U.S. dollars</i>	<b>2020</b>
<b>Operating Activities</b>	
Net income	21,331
Adjustments to reconcile net income to net cash from operating activities	
D&A* of property and equipment and capitalized content costs, operating lease assets, and other	25,251
<b>Stock-based compensation</b>	<b>9,208</b>
Other operating expense (income), net	(71)
Other expense (income), net	(2,582)
Deferred income taxes	(554)
Changes in operating assets and liabilities	
Inventories	(2,849)
Accounts receivable, net and other	(8,169)
Accounts payable	17,480
Accrued expenses and other	5,754
Unearned revenue	1,265
<b>Net cash provided by (used in) operating activities</b>	<b>66,064</b>
<b>Investing Activities</b>	
Purchases of property and equipment	(40,140)
Proceeds from property and equipment sales and incentives	5,096
Acquisitions, net of cash acquired, and other	(2,325)
Sales and maturities of marketable securities	50,237
Purchases of marketable securities	(72,479)
<b>Net cash provided by (used in) investing activities</b>	<b>(59,611)</b>
<b>Financing Activities</b>	
Proceeds from short-term debt, and other	6,796
Repayments of short-term debt, and other	(6,177)
Proceeds from long-term debt	10,525
Repayments of long-term debt	(1,553)
Principal repayments of finance leases	(10,642)
Principal repayments of financing obligations	(53)
<b>Net cash provided by (used in) financing activities</b>	<b>(1,104)</b>
Foreign-currency effect on cash and cash equivalents	618
Net increase (decrease) in cash and cash equivalents	5,967
Cash, cash equivalents, and restricted cash, beginning of period	36,410
Cash, cash equivalents, and restricted cash, end of period	42,377

### With Adjustments

<i>In millions of U.S. dollars</i>	<b>2020</b>
<b>Operating Activities</b>	
Net income	21,331
Intangible investment	44,393
Amortization of intangible investment	(25,410)
<b>Adjusted net income</b>	<b>40,314</b>
Adjustments to reconcile net income to net cash from operating activities	
D&A* of property and equipment and capitalized content costs, operating lease assets, and other	25,251
Amortization of intangible investment	25,410
Other operating expense (income), net	(71)
Other expense (income), net	(2,582)
Deferred income taxes	(554)
Changes in operating assets and liabilities	
Inventories	(2,849)
Accounts receivable, net and other	(8,169)
Accounts payable	17,480
Accrued expenses and other	5,754
Unearned revenue	1,265
<b>Net cash provided by (used in) operating activities</b>	<b>101,249</b>
<b>Investing Activities</b>	
Purchases of property and equipment	(40,140)
Proceeds from property and equipment sales and incentives	5,096
Principal repayments of finance leases	(10,642)
Principal repayments of financing obligations	(53)
Acquisitions, net of cash acquired, and other	(2,325)
Intangible investment	(44,393)
<b>Net cash provided by (used in) investing activities</b>	<b>(92,457)</b>
<b>Financing Activities</b>	
Proceeds from short-term debt, and other	6,796
Repayments of short-term debt, and other	(6,177)
Proceeds from long-term debt	10,525
Repayments of long-term debt	(1,553)
<b>Stock-based compensation</b>	<b>9,208</b>
<b>Net cash provided by (used in) financing activities</b>	<b>18,799</b>
Foreign-currency effect on cash, cash equivalents, restricted cash	1,721
Net increase (decrease) in cash, cash equivalents, restricted cash, and marketable securities	29,312
Cash, cash equivalents, restricted cash, and marketable securities, beginning of period	55,339
Cash, cash equivalents, restricted cash, and marketable securities, end of period	84,651

Source: Amazon.com, Form 10-K, December 31, 2020; Counterpoint Global estimates and adjustments.

Note: \*D&A=depreciation and amortization.

Exhibit 7 summarizes all of the recommended adjustments and offers a brief rationale for each.

### Exhibit 7: Summary of Recommended Adjustments

Item from Cash Flow Statement	From	To	Rationale
<b>Stock-based compensation (SBC)</b>	Cash flow from operating activities	Cash flow from financing activities	SBC is the sale of shares to pay employees
<b>Principal repayment of financing obligations</b>	Cash flow from financing activities	Cash flow from investing activities	Consolidate investments by assuming buy and lease are equivalent
<b>Intangible investment</b>	Cash flow from operating activities	Cash flow from investing activities	Discretionary investments are capitalized instead of expensed
<b>Marketable securities</b>	Cash flow from investing activities	Cash, cash equivalents, and marketable securities	When marketable securities are deemed to be the same as cash and cash equivalents

Source: Counterpoint Global.

### Conclusion

Understanding the magnitude and prospective return on investment is the principal task of a business analyst. Financial statements are designed to contribute to this understanding. The investment analyst and academic communities tend to focus on the income statement and balance sheet. The statement of cash flows, required in the U.S. only since the late 1980s, documents the cash flows from operations, investing, and financing that can provide insight into how a business works.

The challenge is that the accounting has not kept pace with the economics. As a result, we suggest three adjustments within the statement of cash flows to better categorize activities. The first is stock-based compensation. Accounting standards prescribe adding back this expense to cash flow from operating activities, but it is better classified as equity financing and therefore should be in cash flow from financing activities.

A company making a physical investment commonly has a choice between purchasing or leasing the asset. It is an investment in either case, but a purchase and a lease show up in different parts of the statement of cash flows. We recommend reflecting all of these expenditures in cash flow from investing activities.

There has been a dramatic change in the nature of investment for companies, from tangible to intangible assets, in recent decades. Accountants place tangible investments on the balance sheet, as they have done for centuries. But investments in intangible assets are typically expensed on the income statement. This means that earnings and investments are understated absent any adjustments.

The proper measurement of the magnitude and useful life of intangible assets is a fast-growing area of research. Our estimates suggest that intangible investments by public companies in the U.S. are more than twice those of tangible investments. The central issues are which items within selling, general, and administrative expenses are reasonably considered discretionary investments, and the length of time over which those investments should be amortized once capitalized on the balance sheet.

A final potential adjustment is to consider marketable securities as part of cash and cash equivalents. This affects cash flow from investing activities and means that the statement of cash flows is reconciling larger beginning and ending sums.

We shared a case study of Amazon for 2020 in an effort to make the concepts more concrete. The adjustments change the portrayal of the company's finances, including a 53 percent boost in cash flow from operations and a 92 percent increase in outflows associated with cash flow from investing activities. Excluding net purchases of marketable securities, the adjusted cash flow from investing activities still shows a 55 percent gain relative to the unadjusted one.

We believe these adjustments substantially improve the description of a business. But we would add that free cash flow, defined properly, does not change at all. The main payoff from reclassifying items is a better appreciation of the cash flows in and out of the company.

**Please see Important Disclosures on pages 14-16**

## Endnotes

<sup>1</sup> “Statement of Financial Accounting Concepts No. 8: Conceptual Framework for Financial Reporting,” *Financial Accounting Standards Board*, September 2010.

<sup>2</sup> Income statements and balance sheets have been around for a long time (double-entry bookkeeping, a powerful innovation, goes back to the 13<sup>th</sup> century). In 1863, Northern Central Railroad summarized its cash transactions in an early version of a cash flow statement. In 1902, U.S. Steel provided a reconciliation of its current assets minus accounts payable, a rough proxy for working capital. (See <https://digital.case.edu/islandora/object/ksl%3Auniann00>.) In 1971, the Accounting Principles Board (APB) issued *Opinion 19*, which required a funds statement. In 1987, the Financial Accounting Standards Board (FASB) released *Statement of Financial Accounting Standards No. 95* to supersede *Opinion 19*. It specified a cash flow statement be included in financial reports. There are two noteworthy points about *FAS No. 95*. First, it encouraged companies to use the “direct method,” which starts the section on cash flows from operations with receivables from customers, relative to the “indirect method,” which starts the section with net income. Nearly all companies use the indirect method today. Second, there was substantial dissension on the FASB board, which is noted in the release. For a more complete discussion see, Geoffrey Poitras, “History of the Cash Flow Statement” at [www.sfu.ca/~poitras/cash-flow-stmt-history.pdf](http://www.sfu.ca/~poitras/cash-flow-stmt-history.pdf). For a broader discussion of the history of accounting, see Gary John Previts and Barbara Dubis Merino, *A History of Accountancy in the United States: The Cultural Significance of Accounting* (Columbus, OH: Ohio State University Press, 1998).

<sup>3</sup> Allen G. Arnold, R. Barry Ellis, V. Sivarama Krishnan, “Toward Effective Use of the Statement of Cash Flows,” *Journal of Business and Behavioral Sciences*, Vol. 30, No. 2, Fall 2018, 46-62.

<sup>4</sup> As we have discussed before, Wal-Mart Stores, Inc. had negative free cash flow each year from 1972-1986. Its annual total shareholder return was 18 percentage points higher than that of the S&P 500 during that period.

<sup>5</sup> For example, see the corporate performance statement in Alfred Rappaport, “The Economics of Short-Term Performance Obsession,” *Financial Analysts Journal*, Vol. 61, No. 3, May/June 2005, 65-79.

<sup>6</sup> Katharine Adame, Jennifer Koski, Katie Lem, and Sarah McVay, “Free Cash Flow Disclosure in Earnings Announcements,” *Working Paper*, June 3, 2020. For example, see Paul Roche and Sid Tandon, “SaaS and the Rule of 40: Keys to the Critical Value Creation Metric,” *McKinsey & Company*, August 3, 2021.

<sup>7</sup> The standard definition of free cash flow in finance is net operating profit after taxes (NOPAT) minus investment in future growth. NOPAT equals earnings before interest and taxes (EBIT) plus amortization of acquired intangibles assets minus cash taxes. Cash taxes reflect the tax provision, deferred taxes, and the tax shield. As such, NOPAT is the unlevered cash earnings of a company. Investment in future growth includes changes in working capital, capital expenditures net of depreciation, and acquisitions net of divestitures. Two components of investment are reflected in cash flow from operating activities: depreciation and amortization and changes in working capital. In Amazon’s case, changes in working capital have historically been a source of cash because the company receives cash from its customers sooner than it pays its suppliers. (To be more formal, the company has a negative cash conversion cycle.) In effect, working capital has been a source of financing for the company. This is not unique to Amazon but is an important consideration in assessing investment, profit, and financing.

<sup>8</sup> Brian J. Hall, “Six Challenges in Designing Equity-Based Pay,” *Journal of Applied Corporate Finance*, Vol. 15, No. 3, Spring 2003, 21-33.

<sup>9</sup> Michael C. Jensen and Kevin J. Murphy, “CEO Incentives: It’s Not How Much You Pay, But How,” *Harvard Business Review*, Vol. 68, No. 3, May-June 1990, 138-153.

<sup>10</sup> Alfred Rappaport, “New Thinking on How to Link Executive Pay with Performance,” *Harvard Business Review*, Vol. 77, No. 2, March-April 1999, 91-101.

<sup>11</sup> “Stock Options are Not a Free Lunch,” *Forbes*, May 18, 1998.

<sup>12</sup> Judy A. Laux and Abdou N’Dir, “Employee Stock Options and Market Efficiency,” *Journal of Applied Business Research*, Vol. 23, No. 2, Second Quarter 2007.

<sup>13</sup> Partha Mohanram, Brian White, and Wuyang Zhao, “Stock-Based Compensation, Financial Analysts, and Equity Overvaluation,” *Review of Accounting Studies*, Vol. 25, No. 3, September 2020, 1040-1077.

<sup>14</sup> Qi Sun and Mindy Z. Xiaolan, “Financing Intangible Capital,” *Journal of Financial Economics*, Vol. 133, No. 3, September 2019, 564-588.

<sup>15</sup> Sanjeev Bhojraj, “Stock Compensation Expense, Cash Flows, and Inflated Valuations,” *Review of Accounting Studies*, Vol. 25, No. 3, September 2020, 1078-1097.

<sup>16</sup> Amazon.com, *Form 8-K*, February 2, 2021.

<sup>17</sup> Building an unlevered DCF model requires an adjustment for operating lease expense. After the FASB updated its standards for Lease (Topic 842) accounting, which most companies had to implement by early 2019, companies capitalize operating leases but still expense lease costs. The result is a mismatch that needs to be corrected.

Consistent with the discussion in the body, think of an airline buying a plane and financing it with debt. The company records the plane as an asset and the debt as a liability. It would then subtract interest expense, a financing cost, from operating income. Now consider a lease of the plane. Per the updated standard, the plane would show up on the asset and liability sides of the balance sheet. But the airline records the lease cost as an operating, rather than a financing, expense. This means that to calculate net operating profit after taxes (NOPAT) correctly, you need to reclassify the embedded interest portion of the lease cost from the operating section of the income statement to the financing section. This is only for U.S. GAAP, as the International Accounting Standards Board (IASB) properly treats the depreciation and interest expense components of operating lease payments. See Matthew A. Stallings, “The Potential Impact of Lease Accounting on Equity Valuation: Implications of Cost of Capital and Free Cash Flow Estimates,” *CPA Journal*, Vol. 87, No. 11, November 2017, 52-56.

<sup>18</sup> Baruch Lev and Feng Gu, *The End of Accounting and the Path Forward for Investors and Managers* (Hoboken, NJ: John Wiley & Sons, 2016). For the case against capitalizing intangible investments, see Stephen Penman, *Accounting for Value* (New York: Columbia Business School Publishing, 2011). Penman writes,

“This view [that accounting is remiss if it does not get the balance sheet right] is shared by those who maintain that accounting fails by not putting intangible assets on the balance sheet. They ask: How can accountants leave important assets off the balance sheet, assets such as a firm’s ‘knowledge capital,’ its ‘human capital,’ the organizational capital’ in its customer and supply-chain relationships, and its R&D assets? Why in the ‘information age’ do we still have a balance sheet more suited for the ‘industrial age’ when value came primarily from tangible assets rather than intangible assets? Let’s get value back on the balance sheet!

This is an alluring proposal. The fundamentalist, of course, shudders. He or she see the term ‘intangible asset,’ as an excuse for speculation, for putting water on the balance sheet. . . . Anyone drilled in the methods of accounting for value sees the fallacy in the notion that the balance sheet is remiss if it does not indicate asset values; there is also an income statement and accounting for value employs both the income statement and the balance sheet. If value is missing from book value, it can be plugged with earnings from the income statement.” (179-180).

<sup>19</sup> For example, see Carol A. Corrado, Charles Hulten, and Daniel Sichel, “Measuring Capital and Technology: An Expanded Framework,” in Carol A. Corrado, John Haltiwanger, and Daniel Sichel, eds. *Measuring Capital in the New Economy* (Chicago: University of Chicago Press, 2005); Carol A. Corrado, Charles Hulten, and Daniel Sichel, “Intangible Capital and U.S. Economic Growth,” *Review of Income and Wealth*, Vol. 55, No. 3, September 2009, 661-685; and Jonathan Haskel and Stian Westlake, *Capitalism Without Capital: The Rise of the Intangible Economy* (Princeton, NJ: Princeton University Press, 2017).

<sup>20</sup> Michael J. Mauboussin and Dan Callahan, “Market-Expected Return on Investment: Bridging Accounting and Valuation,” *Consilient Observer: Counterpoint Global Insights*, April 14, 2021.

<sup>21</sup> Aneel Iqbal, Shivaram Rajgopal, Anup Srivastava, and Rong Zhao, “Value of Internally Generated Intangible Capital,” *Working Paper*, September 2021 and Luminita Enache and Anup Srivastava, “Should Intangible Investments Be Reported Separately or Commingled with Operating Expenses? New Evidence,” *Management Science*, Vol. 64, No. 7, July 2018, 3446-3468.

<sup>22</sup> “Financial Accounting Standards No. 95: Statement of Cash Flows,” November 1987, item 17.

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