

### Counterpoint Global Insights

# Intangibles and Earnings

## Improving the Usefulness of Financial Statements

CONSILIENT OBSERVER | April 12, 2022

### Introduction

The goal of accounting, the language of business, is to provide financial information to allow managers and other claimholders to make informed decisions about a company. The Sarbanes-Oxley Act of 2002 requires the chief executive officer and chief financial officer of a U.S. public company to certify that the firm's financial statements are true and without material omissions, and to present fairly the operations and financial condition. The executives must also certify that the necessary internal controls are in place to make sure that they receive material information.

In recent decades, the ability to interpret financial statements has been complicated by the shift from tangible to intangible investments.<sup>1</sup> Tangible assets are physical, such as factories or trucks. Intangible assets are non-physical and include brand-building or employee training.

This is a problem because accountants primarily reflect tangible investments on the balance sheet and intangible investments on the income statement.<sup>2</sup> Tangible assets are depreciated over their useful lives, which shows up as an expense on the income statement. And intangibles are recorded on the balance sheet and amortized only following an acquisition. But that today's investments do not show up in the same spots as in the past means that financial statements do not provide the same information.

A sensible solution to this challenge is to capitalize the investments that appear on the income statement and amortize them over their useful lives. This means treating an intangible investment the same as a tangible investment. But this raises two big questions: which income statement items are appropriately considered investments and what is a proper useful life for those assets?

This report takes up those questions by leveraging recent academic research. The main finding is that one size does not fit all. These adjustments recast profitability for some companies and are inconsequential for others.<sup>3</sup> Overall, we estimate that earnings for the S&P 500 would be about 12 percent higher with consideration of these changes.

### AUTHORS

Michael J. Mauboussin  
michael.mauboussin@morganstanley.com

Dan Callahan, CFA  
dan.callahan1@morganstanley.com

## Accounting and Approaches to Valuation

A simple way to think about approaches to valuation is to separate a company's results into two piles: earnings and investments. Earnings on the income statement are what accountants call a "flow," which measures a result over time. Investment on the balance sheet is a "stock," which is a snapshot at a period of time. Some valuation techniques rely more on flow, including multiples of price-to-earnings (P/E) and enterprise value-to-earnings before interest taxes depreciation and amortization (EV/EBITDA). Others are based on stock, such as the ratio of price-to-book value (P/B).

Earnings equal revenues minus expenses for a particular period. Companies and investors commonly fiddle with expenses, for example excluding certain items in the hope of adding clarity. But the idea is reasonably straightforward.<sup>4</sup>

Investments are outlays in the present that are expected to generate earnings in the future. An investment is worthwhile if the present value of the future earnings is higher than the cost. Tangible investments for a particular period show up on the statement of cash flows, and the cumulative amount shows up as assets on the balance sheet. Companies record depreciation as a cost on the income statement to match the use of the asset with its expense. The amount of annual depreciation reflects the asset's estimated life.

Intangible investments appear as an expense in the selling, general, and administrative (SG&A) section of the income statement. Intangible investments are also recorded on the balance sheet but only when they are acquired. Accountants amortize acquired intangible assets over their estimated useful lives in the same way that they depreciate tangible assets. Absent an acquisition, intangible investments are recorded solely as an expense.

These accounting conventions mean that figuring out what goes into the earnings and investment piles can be tricky and misleading. This is especially relevant when investors rely on shorthands to do their valuation work. We now look at how this sorting affects the metrics that practitioners use to value businesses.

**Discounted Cash Flow.** In theory, the value of a financial asset is the present value of future free cash flows. Because free cash flow considers earnings and investments, moving items from one pile to the other does not affect the outcome. For example, assume you examined a company and calculated that its earnings were \$250 and its investment was \$100. Free cash flow would be \$150 (\$250 - \$100).

In studying the company further, you conclude that \$100 of investments were recorded on the income statement. You move \$100 from one pile to the other as a result. Earnings are now \$350 and the investment is \$200. Free cash flow remains \$150 (\$350 - \$200), but the path to get there is different.

Sorting the earnings and investment may not appear to be worthwhile if you come up with the same answer. But, in fact, understanding the magnitude and return on investment provides vital clues about a business's capital intensity and future earnings.

This adjustment can also have an impact on a discounted cash flow model that uses a continuing value to estimate the contribution of the cash flows beyond an explicit forecast period. Estimates of continuing value are generally based on earnings. Common approaches include capitalizing net operating profit after taxes or applying a multiple of EBITDA. Continuing value increases to the degree to which the adjusted earnings are higher than the unadjusted earnings.<sup>5</sup>

**Multiples of Earnings.** A survey of nearly 2,000 professional fundamental investors revealed that nearly 93 percent use multiples to value businesses.<sup>6</sup> The most popular multiples are P/E and EV/EBITDA. Earnings can be misrepresented for businesses that invest heavily via the income statement.

Take Amazon as an example.<sup>7</sup> The company's enterprise value at the end of 2021 was approximately \$1.725 trillion, and its EBITDA was \$59.2 billion (\$24.9 billion in EBIT and \$34.3 billion in DA). Reclassifying \$60.1 billion in expenses as investments increases net income from \$33.4 billion to \$61.5 billion, effectively doubles EBITDA, and lifts investments by almost 90 percent.<sup>8</sup> Provided these adjustments present a more accurate portrait of the company's financial situation, the P/E and EV/EBITDA multiples are substantially lower than the traditional calculations suggest.

In a moment, we will show that the consequence of this adjustment varies widely. But it should be clear that a simplistic comparison of multiples from one company to the next is fraught with the danger of false conclusions.<sup>9</sup>

Research shows that earnings are less relevant and informative today than they were in the past.<sup>10</sup> That means that multiples, which seek to serve as a shorthand for the proper valuation process, are often not up to the task of discerning value and value creation.

**Multiples of Investment (via Book Value).** Over the last six decades, academics have worked on models to explain risk and returns for asset prices. The capital asset pricing model (CAPM) is the best known of these and posits a linear relationship between risk and expected return.<sup>11</sup> Risk in this case is defined as the standard deviation of returns.

Shortly after the CAPM was specified, it became clear that the model had a limited ability to explain returns. In the early 1990s, the finance professors Eugene Fama and Kenneth French developed a better model to explain returns that included the CAPM but added a size premium and a value premium.<sup>12</sup> The size premium reflects the observation that small-capitalization stocks have delivered higher returns than what the CAPM predicts. The value premium captures the fact that the returns of cheap stocks have been higher, and the returns of expensive stocks have been lower, than the estimates generated by the CAPM.<sup>13</sup>

The value factor seeks to harvest the value premium.<sup>14</sup> The classic setup is to create a portfolio that is long the cheapest stocks and short the most expensive ones. There are various ways to define value, but Fama and French used the P/B ratio. One of the benefits of this ratio is that it is more stable than multiples of earnings.<sup>15</sup>

There is a direct link between the investment pile and book value. Tangible investments are recorded on the asset side of the balance sheet. For instance, a new machine for manufacturing shows up as property, plant, and equipment (PP&E). Assets minus liabilities equal shareholders' equity. Liabilities are predominately debt. Divide shareholders' equity by the shares outstanding and you get book value per share.

The ratio of price to book value reflects the level at which shareholders are willing to buy or sell their shares divided by the value on the balance sheet that is attributable to shareholders. The problem with this method of valuation is that book value will be lower than it should be if the investment pile is understated. In turn, that will affect ratios of price to book and distort the results of this metric.

If the shift from tangible to intangible investment is meaningful, we would expect a weakening of the signal from the value factor. This is what we have seen.<sup>16</sup> As important, the signal from the value factor improves when intangibles are reflected as investments.<sup>17</sup> This result is well understood by academics and practitioners. In other words, accurately sorting the earnings and investment piles improves this approach to valuation.

The analytical issue should now be clear. The shift from tangible to intangible investment has left shorthand valuation methods less useful because the earnings and investment piles are not sorted as well as they could be. The accounting conventions we now follow, which are understandably conservative, fail to provide the information that managers and investors need to make knowledgeable choices about a company.

## How to Sort Earnings and Investments

The solution to the problem of how to sort the earnings and investment piles more accurately is to record investments that are part of SG&A on the balance sheet and then amortize them over their useful lives. This treats the intangible investments that a company expenses the same as the tangible investments that it capitalizes.

Here's an illustration to make the idea more concrete. Company A buys a machine for \$1,000 that has an estimated useful life of 5 years. The present value of expected cash flows is \$1,500. Company B spends \$1,000 to acquire a subscriber who is expected to remain a customer for 5 years. The present value of the customer's expected cash flows is \$1,500.

The economic profile of these investments is identical but their accounting treatment is different. Company A records the machine as PP&E and depreciates \$200 a year for 5 years. Company B immediately reflects the \$1,000 customer acquisition as an expense in SG&A. Note that Company B will "lose" more in earnings the faster it grows, even though acquiring customers creates value. We want a solution that sorts the earnings and investment piles in the same way.

Academics who study this topic seek to understand the impact of capitalizing investments from the income statement for a large sample of companies. As a result, they frequently use 100 percent of research and development (R&D), and 30 percent of non-R&D SG&A, to estimate investment. They also assume a standard asset life.<sup>18</sup> This is a step in the right direction but is a blunt tool. Business analysts recognize that the investment component of SG&A varies widely by industry and company. Investors buying and selling companies based on their fundamental outlooks must reflect these differences in their assessments.

In 2018, Luminita Enache and Anup Srivastava, professors of accounting, published a paper that posed the question at hand in the title: "Should Intangible Investments Be Reported Separately or Commingled with Operating Expenses?"<sup>19</sup> They show the significance of the rise of intangible investments over time and develop a method for estimating the magnitude of intangible investment. Their analysis reveals that the relevance of this accounting issue varies widely.

A straightforward description of their approach is that they figured out a way to separate SG&A expenses into maintenance and investment parts. Maintenance SG&A expenses are necessary for the company to sustain its current operations. Investment SG&A expenses are in pursuit of growth that creates value. In effect, they provide a method to make the earnings and investment piles more accurate than standard financial statements do.

## The Impact of Intangibles on Earnings and Book Value

We now discuss a framework to measure the impact of these adjustments on earnings. But before we do that, we need to address the nature of the adjustments in more detail. This requires judgment about what percentage of SG&A expense is an investment and what are the appropriate asset lives.

Aneel Iqbal, a doctoral candidate in accounting, and Shivaram Rajgopal, Anup Srivastava, and Rong Zhao, professors of accounting, developed a method to guide these assumptions.<sup>20</sup> Using a regression methodology, they examined 42 industries and specified the investment portion of SG&A expenses. They separated SG&A into two parts: Main SG&A, which is the SG&A expense less R&D, and R&D expense. Note that most researchers have historically deemed all of R&D expense to be a discretionary intangible investment.<sup>21</sup> Consistent with prior work, they find large variance across industries (see Appendix A).<sup>22</sup> Specifically, they answer two questions:

- **What percentage of SG&A expense is an investment?** Their analysis finds that between 0 and 80 percent of Main SG&A is an investment across the range of industries, with an average of 54 percent. They estimate that a range of 7 to 98 percent of R&D expense is an investment, with a mean of 76 percent. Note that many executives struggle to answer the question of how their SG&A expense breaks down between maintenance and investment spending.
- **What is an appropriate asset life?** Tangible assets have an average life of around ten years. Because we are capitalizing SG&A as we would a tangible investment, we must have a sense of asset lives to properly amortize them. Iqbal et al. judge the useful life of Main SG&A investments to be 0.25 to 5 years, with an average of 3.3 years. The useful lives for R&D investments range from 0.5 to 7 years, with a mean of 4.4 years.

Finally, we need to estimate the growth in investment SG&A in order to measure the impact of the adjustments. Growth affects the difference in the timing between the removed expense and added amortization. Consider a case where 30 percent of \$1,000 of SG&A is deemed to be an intangible investment with a 3-year life, and that amount of SG&A does not grow. Eventually, the company will be capitalizing \$300, hence removing it from SG&A expense, and amortizing \$300 (the last 3 years of investment with \$100 of annual amortization expense for each), adding to SG&A expense. The net effect on SG&A and earnings is therefore zero.

If you assume SG&A expense grows at 10 percent and all else remains the same, the net effect is a 5.1 percent reduction in annual SG&A expense and an increase in investment in the same amount. Growth opens the gap between the current investment expensed and the amortization of past investments. Note that it does not matter if the growth is the result of inflation.

Earnings that are reclassified as an investment also increase book value. The adjustment increases assets, liabilities remain the same, and shareholders' equity has to be revised up to maintain the balance on the balance sheet. Iqbal et al. estimate that the change in book value by industry ranges from 4 to 95 percent, with an average increase of 49 percent (see Appendix B).

## Two Case Studies and the S&P 500

Here are two case studies to illustrate the impact that capitalizing and amortizing part of SG&A have on earnings. We selected actual companies that represent industries at the extremes. One is in the pharmaceutical products industry, where the investment portion of SG&A is high, and the other is in the business supplies industry, where the investment portion of SG&A is low. We then look at the S&P 500 using a weighted average of all industries.

We start with pharmaceutical products. Iqbal et al. find that 68 percent of Main SG&A and 89 percent of R&D are investments and that asset lives are 4.2 years for Main SG&A and 4.5 years for R&D. Based on the company's mix of Main SG&A and R&D, we estimate that 75 percent of SG&A should be capitalized with a useful life of 4 years. We assume the growth rate will be 30 percent.

Exhibit 1 summarizes how these adjustments affect margins. The operating profit margin goes from -0.9 percent to 14.6 percent, a huge 1550 basis point swing. Applying these changes takes operating profit from a modest loss to a solid gain.

### Exhibit 1: Impact of Capitalizing SG&A on the Margins of a Pharmaceutical Company

Earnings Measure	Unadjusted Margin	Adjusted Margin
EBITDA	9.1%	24.6%
Operating Profit	-0.9%	14.6%
Net Income	-16.8%	-1.3%

Source: Counterpoint Global estimates for fiscal year 2021.

Next we turn to business supplies. Iqbal et al. find that only 11 percent of Main SG&A and 83 percent of R&D are investments and that asset lives are 4.9 years for both Main SG&A and R&D. Based on the company's mix of Main SG&A and R&D, we estimate that 15 percent of SG&A should be capitalized with a useful life of 5 years. R&D is a modest percentage of overall SG&A, unlike pharmaceuticals. We assume the growth rate will be 5 percent.

Exhibit 2 shows that these adjustments lift the operating profit margin by about 50 basis points, from 3.4 to 4.0 percent (there is a tiny amount of rounding). If accurate, these modifications have an immaterial impact on how earnings and investments are sorted.

### Exhibit 2: Impact of Capitalizing SG&A on the Margins of a Business Supplies Company

Earnings Measure	Unadjusted Margin	Adjusted Margin
EBITDA	6.7%	7.2%
Operating Profit	3.4%	4.0%
Net Income	1.0%	1.5%

Source: Counterpoint Global estimates for fiscal year 2021.

The effect of these modifications for the S&P 500 falls between these extremes. We assume that 60 percent of SG&A should be capitalized with a useful life of 4 years and that the growth rate will be 6 percent.

The operating profit margin increases 145 basis points, from 15.2 to 16.7 percent (see exhibit 3). There is a proportionate lift in net income of 11.8 percent, which comes out to about \$170 billion. Applying the S&P 500's P/E ratio to this sum yields \$3.0-3.5 trillion, about one-tenth of the index's market capitalization.

**Exhibit 3: Impact of Capitalizing SG&A on the Margins of the S&P 500**

Earnings Measure	Unadjusted Margin	Adjusted Margin
EBITDA	21.0%	22.5%
Operating Profit	15.2%	16.7%
Net Income	12.2%	13.7%

Source: Counterpoint Global estimates for calendar year 2021.

## Conclusion

The global economy continues to shift from one built on tangible assets to one built on intangible assets. Accounting, the means by which financial information is presented, treats tangible and intangible investments differently. This introduces bias into common metrics such as earnings.

Investors often use a multiple of earnings or book value as a shorthand for measuring the present value of future free cash flows. As a result, sorting earnings from investments is useful. Most intangible investments appear on the income statement. Capitalizing those investments treats them in a fashion similar to capital expenditures. The result is that earnings and investments increase the same amount. This leaves free cash flow unchanged but provides a more accurate picture of a company's operations.

Academics and practitioners are aware of this accounting quirk and make adjustments to improve the usefulness of financial data. But it is common to capitalize a similar percentage of SG&A for all companies, which obscures important differences between industries and the companies within them.

In this report, we apply a framework for categorizing earnings and investments based on recent academic research. We show that there is significant variance between industries, which is important for investors who rely predominately on multiples for valuation. Adjustments to the financial statements of a pair of companies showed a huge operating profit margin expansion for the one that is intangible intensive and an insignificant change for the one that is tangible intensive.

Given the assumptions we use, the capitalization of intangible investments would lead to net income for the S&P 500 that is about 12 percent higher than what is reported. These figures suggest great caution in comparing earnings or multiples over time.

**Please see Important Disclosures on pages 12-14**

## Appendix A: Investment Portion of SG&A and Asset Lives

Industry	Investment Portions		Useful Lives	
	Main SG&A	R&D	Main SG&A	R&D
Precious Metals	80%	85%	3.3	6.9
Shipbuilding	79%	31%	4.1	1.7
Medical Equipment	78%	88%	2.7	6.1
Coal	75%	20%	1.7	5.5
Petroleum and Natural Gas	73%	57%	3.6	4.2
Food Products	73%	61%	0.9	4.1
Mining	72%	96%	3.6	6.9
Wholesale	69%	80%	3.6	4.0
Pharmaceutical Products	68%	89%	4.2	4.5
Automobiles and Trucks	67%	82%	2.8	5.7
Computers	66%	80%	3.3	4.4
Steel Works Etc.	66%	82%	5.0	3.2
Construction	65%	64%	3.6	5.8
Meals	63%	89%	4.8	5.3
Electronic Equipment	59%	77%	2.8	4.5
Communication	59%	56%	2.9	5.2
Machinery	58%	81%	4.3	3.7
Electrical Equipment	56%	77%	2.0	6.7
Business Services	54%	62%	4.4	6.7
Construction Materials	53%	72%	3.9	4.1
Rubber and Plastic Products	52%	80%	1.4	5.6
Fabricated Products	52%	73%	0.3	4.9
Measuring and Control Equipment	51%	72%	2.4	1.9
Candy & Soda	49%	93%	4.2	2.6
Apparel	49%	64%	2.9	4.5
Consumer Goods	42%	91%	4.8	6.4
Healthcare	41%	85%	2.8	2.9
Entertainment	38%	89%	4.5	6.0
Retail	38%	91%	2.4	3.9
Printing and Publishing	38%	91%	4.0	3.0
Textiles	35%	45%	2.1	4.1
Recreation	34%	70%	4.3	1.2
Chemicals	32%	61%	3.0	2.8
Agriculture	31%	88%	4.5	2.3
Aircraft	29%	80%	4.8	0.5
Personal Services	23%	31%	2.4	4.6
Tobacco Products	18%	86%	4.3	5.0
Defense	12%	7%	4.1	0.8
Business Supplies	11%	83%	4.9	4.9
Shipping Containers	9%	88%	0.6	1.3
Beer & Liquor	9%	98%	1.5	5.3
Transportation	0%	96%	2.6	3.5
<b>Weighted Average</b>	<b>54%</b>	<b>76%</b>	<b>3.3</b>	<b>4.4</b>

Source: Aneel Iqbal, Shivararam Rajgopal, Anup Srivastava, and Rong Zhao, "Value of Internally Generated Intangible Capital," Working Paper, February 2022.

## Appendix B: As-Reported and Modified Book Values

Industry	Book Value		
	As-Reported	Modified	Difference
Wholesale	8.55	16.67	95.0%
Candy & Soda	7.45	14.53	95.0%
Medical Equipment	4.67	8.73	87.1%
Pharmaceutical Products	3.87	7.16	85.2%
Computers	5.01	9.27	85.2%
Consumer Goods	9.02	15.91	76.5%
Apparel	9.26	15.80	70.7%
Business Services	4.96	8.25	66.3%
Machinery	9.97	16.40	64.5%
Retail	9.75	15.59	60.0%
Printing and Publishing	10.02	15.89	58.7%
Automobiles and Trucks	11.38	17.69	55.5%
Measuring and Control Equipment	6.30	9.45	50.0%
Electronic Equipment	6.16	9.05	47.0%
Tobacco Products	10.64	15.59	46.6%
Construction Materials	11.92	17.30	45.2%
Recreation	6.38	9.06	41.9%
Construction	10.46	14.77	41.2%
Electrical Equipment	8.18	11.47	40.3%
Meals	8.86	12.41	40.2%
Shipbuilding	11.31	15.82	39.9%
Steel Works Etc.	14.74	20.02	35.9%
Communication	8.09	10.81	33.7%
Chemicals	12.42	16.23	30.7%
Rubber and Plastic Products	8.37	10.92	30.4%
Entertainment	5.53	7.13	29.0%
Coal	12.60	16.16	28.3%
Aircraft	16.16	20.63	27.6%
Food Products	12.12	15.18	25.2%
Personal Services	7.76	9.69	24.9%
Healthcare	6.41	7.78	21.4%
Petroleum and Natural Gas	9.05	10.97	21.3%
Agriculture	8.77	10.31	17.6%
Textiles	11.89	13.96	17.4%
Business Supplies	14.35	16.59	15.6%
Mining	9.70	11.09	14.3%
Fabricated Products	9.88	11.10	12.3%
Defense	9.72	10.62	9.3%
Beer & Liquor	13.57	14.74	8.6%
Precious Metals	5.80	6.20	6.9%
Shipping Containers	12.77	13.49	5.6%
Transportation	14.36	14.90	3.7%
<b>Weighted Average</b>	<b>8.01</b>	<b>11.90</b>	<b>48.6%</b>

Source: Aneel Iqbal, Shivararam Rajgopal, Anup Srivastava, and Rong Zhao, "Value of Internally Generated Intangible Capital," Working Paper, February 2022.

## Endnotes

<sup>1</sup> Carol A. Corrado and Charles R. Hulten, "Innovation Accounting," in Dale W. Jorgenson, J. Steven Landefeld, and Paul Schreyer, eds., *Measuring Economic Sustainability and Progress* (Chicago: University of Chicago Press, 2014), 614. For more on the rise of intangibles, 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; Jonathan Haskel and Stian Westlake, *Capitalism Without Capital: The Rise of the Intangible Economy* (Princeton, NJ: Princeton University Press, 2017); and presentation by Carol Corrado available at [www.wilsoncenter.org/sites/default/files/media/documents/event/Corrado%20Presentation.pdf](http://www.wilsoncenter.org/sites/default/files/media/documents/event/Corrado%20Presentation.pdf).

<sup>2</sup> For a detailed discussion of accounting for intangibles, see Thomas A. King, *More Than a Numbers Game: A Brief History of Accounting* (Hoboken, NJ: John Wiley & Sons, 2006), 131-143.

<sup>3</sup> Feng Gu and Baruch Lev, "How to Distinguish Between GAAP Losers and Real Losers," *Lev End of Accounting Blog*, February 6, 2020 and Masako Darrough and Jianming Ye, "Valuation of Loss Firms in a Knowledge-Based Economy," *Review of Accounting Studies*, Vol. 12, No. 1, March 2007, 61-93.

<sup>4</sup> Asher Curtis, Valerie Li, and Paige H. Patrick, "The Use of Adjusted Earnings in Performance Evaluation," *Review of Accounting Studies*, Vol. 26, No. 4, December 2021, 1290-1322.

<sup>5</sup> Doron Nissim, "Terminal Value," *Columbia Business School Research Paper No. 18-12*, April 2019. For a more detailed discussion of continuing value, see Michael J. Mauboussin and Alfred Rappaport, *Expectations Investing: Reading Stock Prices for Better Returns—Revised and Updated* (New York: Columbia Business School Publishing, 2021), 38-43.

<sup>6</sup> Frank J. Fabozzi, Sergio M. Focardi, and Caroline Jonas, "Equity Valuation: Science, Art, or Craft?" *CFA Institute Research Foundation*, 2017.

<sup>7</sup> This is an update to the figures here: Michael J. Mauboussin and Dan Callahan, "Categorizing for Clarity: Cash Flow Statement Adjustments to Improve Insight," *Consilient Observer: Counterpoint Global Insights*, October 6, 2021.

<sup>8</sup> The net income calculation is as follows: \$33.4 billion (reported) + \$60.1 billion in capitalized expenses - \$32.1 billion in amortization = \$61.3 billion.

<sup>9</sup> Gus De Franco, Ole-Kristian Hope, and Stephannie Larocque, "Analysts' Choice of Peer Companies," *Review of Accounting Studies*, Vol. 20, No. 1, March 2015, 82-109.

<sup>10</sup> Baruch Lev, "Ending the Accounting-for-Intangibles Status Quo," *European Accounting Review*, Vol. 28, No. 4, September 2019, 713-736.

<sup>11</sup> William F. Sharpe, "Capital Asset Prices: A Theory of Market Equilibrium Under Conditions of Risk," *Journal of Finance*, Vol. 19, No. 3, September 1964, 425-442.

<sup>12</sup> Eugene F. Fama and Kenneth R. French, "The Cross-Section of Expected Stock Returns," *Journal of Finance*, Vol. 47, No. 2, June 1992, 427-465.

<sup>13</sup> A neat line of research uses sports betting markets to determine whether investor behavior reflects beliefs or preferences. See Tobias J. Moskowitz and Kaushik Vasudevan, "What Can Betting Markets Tell Us About Investor Preferences and Beliefs? Implications for Low Risk Anomalies," *Working Paper*, May 13, 2021.

<sup>14</sup> We believe there is an important distinction between value investing and the application of the value factor. See Michael Mauboussin, "Why Value Investing Still Works in Markets," *Financial Times*, November 18, 2020.

<sup>15</sup> Fama and French actually used book-to-price, so that high multiples reflect statistically cheap stocks and low multiples capture expensive ones. The factor is shortened as "HML" (high minus low).

<sup>16</sup> Eugene F. Fama and Kenneth R. French, "The Value Premium," *Review of Asset Pricing Studies*, Vol. 11, No. 1, March 2021, 105-121 and Dion Bongaerts, Xiaowei Kang, and Mathijs van Dijk, "Intangible Assets and the Cross-Section of Stock Returns," *Working Paper*, September 2021.

<sup>17</sup> Baruch Lev and Anup Srivastava, "Explaining the Recent Failure of Value Investing," *NYU Stern School of Business Working Paper*, September 24, 2021; Feifei Li, "Intangibles: The Missing Ingredient in Book Value," *Journal of Portfolio Management*, Vol. 48, No. 3, February 2022, 164-184; Robert D. Arnott, Campbell R. Harvey, Vitali Kalesnik, and Juhani T. Linnainmaa, "Reports of Value's Death May Be Greatly Exaggerated," *Research*

*Affiliates Publications*, October 2020; and Noël Amenc, Felix Goltz, and Ben Luyten, "Intangible Capital and the Value Factor: Has Your Value Definition Just Expired?" *Journal of Portfolio Management*, Vol. 46, No. 7, July 2020, 83-99. Most quantitative firms do not rely solely on price-to-book ratios to capture the value premium, but rather use a blend of multiples. For a contrarian view, see Savina Rizova and Namiko Saito, "Internally Developed Intangibles and Expected Stock Returns," *SSRN Working Paper*, July 27, 2021.

<sup>18</sup> Ryan H. Peters and Lucian A. Taylor, "Intangible Capital and the Investment-*q* Relation," *Journal of Financial Economics*, Vol. 123, No. 2, February 2017, 251-272.

<sup>19</sup> 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>20</sup> Aneel Iqbal, Shivaram Rajgopal, Anup Srivastava, and Rong Zhao, "Value of Internally Generated Intangible Capital," *Working Paper*, February 2022.

<sup>21</sup> Vijay Govindarajan, Shivaram Rajgopal, Anup Srivastava, and Luminita Enache, "It's Time to Stop Treating R&D as a Discretionary Item," *Harvard Business Review*, January 29, 2019.

<sup>22</sup> Amitabh Dugar and Jacob Pozharny, "Equity Investing in the Age of Intangibles," *Financial Analysts Journal*, Vol. 77, No. 2, Second Quarter 2021.

## **IMPORTANT INFORMATION**

The views and opinions and/or analysis expressed are those of the author as of the date of preparation of this material and are subject to change at any time due to market or economic conditions and may not necessarily come to pass. Furthermore, the views will not be updated or otherwise revised to reflect information that subsequently becomes available or circumstances existing, or changes occurring, after the date of publication. The views expressed do not reflect the opinions of all investment personnel at Morgan Stanley Investment Management (MSIM) and its subsidiaries and affiliates (collectively "the Firm"), and may not be reflected in all the strategies and products that the Firm offers.

Forecasts and/or estimates provided herein are subject to change and may not actually come to pass. Information regarding expected market returns and market outlooks is based on the research, analysis and opinions of the authors or the investment team. These conclusions are speculative in nature, may not come to pass and are not intended to predict the future performance of any specific strategy or product the Firm offers. Future results may differ significantly depending on factors such as changes in securities or financial markets or general economic conditions.

Past performance is no guarantee of future results. This material has been prepared on the basis of publicly available information, internally developed data and other third-party sources believed to be reliable. However, no assurances are provided regarding the reliability of such information and the Firm has not sought to independently verify information taken from public and third-party sources. The views expressed in the books and articles referenced in this whitepaper are not necessarily endorsed by the Firm.

This material is a general communications which is not impartial and has been prepared solely for information and educational purposes and does not constitute an offer or a recommendation to buy or sell any particular security or to adopt any specific investment strategy. The material contained herein has not been based on a consideration of any individual client circumstances and is not investment advice, nor should it be construed in any way as tax, accounting, legal or regulatory advice. To that end, investors should seek independent legal and financial advice, including advice as to tax consequences, before making any investment decision.

Charts and graphs provided herein are for illustrative purposes only. Any securities referenced herein are solely for illustrative purposes only and should not be construed as a recommendation for investment.

The S&P 500® Index measures the performance of the large cap segment of the U.S. equities market, covering approximately 80% of the U.S. equities market. The Index includes 500 leading companies in leading industries of the U.S. economy. The Russell 3000® Index measures the performance of the largest 3,000 U.S. companies representing approximately 98% of the investable U.S. equity market. The Russell 3000 Index is constructed to provide a comprehensive, unbiased, and stable barometer of the broad market and is completely reconstituted annually to ensure new and growing equities are reflected. The index is unmanaged and does not include any expenses, fees or sales charges. It is not possible to invest directly in an index. The index referred to herein is the intellectual property (including registered trademarks) of the applicable licensor. Any product based on an index is in no way sponsored, endorsed, sold or promoted by the applicable licensor and it shall not have any liability with respect thereto.

This material is not a product of Morgan Stanley's Research Department and should not be regarded as a research material or a recommendation.

The Firm has not authorised financial intermediaries to use and to distribute this material, unless such use and distribution is made in accordance with applicable law and regulation. Additionally, financial intermediaries are required to satisfy themselves that the information in this material is appropriate for any person to whom they provide this material in view of that person's circumstances and purpose. The Firm shall not be liable for, and accepts no liability for, the use or misuse of this material by any such financial intermediary.

The whole or any part of this work may not be directly or indirectly reproduced, copied, modified, used to create a derivative work, performed, displayed, published, posted, licensed, framed, distributed or transmitted or any of its contents disclosed to third parties without MSIM's express written consent. This work may not be linked to unless such hyperlink is for personal and non-commercial use. All information contained herein is proprietary and is protected under copyright and other applicable law.

Eaton Vance is part of Morgan Stanley Investment Management. Morgan Stanley Investment Management is the asset management division of Morgan Stanley.

This material may be translated into other languages. Where such a translation is made this English version remains definitive. If there are any discrepancies between the English version and any version of this material in another language, the English version shall prevail.

## **DISTRIBUTION**

**This communication is only intended for and will only be distributed to persons resident in jurisdictions where such distribution or availability would not be contrary to local laws or regulations.**

**MSIM, the asset management division of Morgan Stanley (NYSE: MS), and its affiliates have arrangements in place to market each other's products and services. Each MSIM affiliate is regulated as appropriate in the jurisdiction it operates. MSIM's affiliates are: Eaton Vance Management (International) Limited, Eaton Vance Advisers International Ltd, Calvert Research and Management, Eaton Vance Management, Parametric Portfolio Associates LLC, and Atlanta Capital Management LLC.**

This material has been issued by any one or more of the following entities:

### **EMEA**

This material is for Professional Clients/Accredited Investors only.

In the EU, MSIM and Eaton Vance materials are issued by MSIM Fund Management (Ireland) Limited ("FMIL"). FMIL is regulated by the Central Bank of Ireland and is incorporated in Ireland as a private company limited by shares with company registration number 616661 and has its registered address at 24-26 City Quay, Dublin 2, DO2 NY19, Ireland.

Outside the EU, MSIM materials are issued by Morgan Stanley Investment Management Limited (MSIM Ltd) is authorised and regulated by the Financial Conduct Authority. Registered in England. Registered No. 1981121. Registered Office: 25 Cabot Square, Canary Wharf, London E14 4QA.

In Switzerland, MSIM materials are issued by Morgan Stanley & Co. International plc, London (Zurich Branch) Authorised and regulated by the Eidgenössische Finanzmarktaufsicht ("FINMA"). Registered Office: Beethovenstrasse 33, 8002 Zurich, Switzerland.

Outside the US and EU, Eaton Vance materials are issued by Eaton Vance Management (International) Limited ("EVMI") 125 Old Broad Street, London, EC2N 1AR, UK, which is authorised and regulated in the United Kingdom by the Financial Conduct Authority.

**Italy:** MSIM FMIL (Milan Branch), (Sede Secondaria di Milano) Palazzo Serbelloni Corso Venezia, 16 20121 Milano, Italy. **The Netherlands:** MSIM FMIL (Amsterdam Branch), Rembrandt Tower, 11th Floor Amstelplein 1 1096HA, Netherlands. **France:** MSIM FMIL (Paris Branch), 61 rue de Monceau 75008 Paris, France. **Spain:** MSIM FMIL (Madrid Branch), Calle Serrano 55, 28006, Madrid, Spain. **Germany:** MSIM FMIL Frankfurt Branch, Große Gallusstraße 18, 60312 Frankfurt am Main, Germany (Gattung: Zweigniederlassung (FDI) gem. § 53b KWG). **Denmark:** MSIM FMIL (Copenhagen Branch), Gorrisken Federspiel, Axel Towers, Axeltorv2, 1609 Copenhagen V, Denmark.

### **MIDDLE EAST**

**Dubai:** MSIM Ltd (Representative Office, Unit Precinct 3-7th Floor-Unit 701 and 702, Level 7, Gate Precinct Building 3, Dubai International Financial Centre, Dubai, 506501, United Arab Emirates. Telephone: +97 (0)14 709 7158).

This document is distributed in the Dubai International Financial Centre by Morgan Stanley Investment Management Limited (Representative Office), an entity regulated by the Dubai Financial Services Authority ("DFSA"). It is intended for use by professional clients and market counterparties only. This document is not intended for distribution to retail clients, and retail clients should not act upon the information contained in this document.

**U.S.**

**NOT FDIC INSURED | OFFER NO BANK GUARANTEE | MAY LOSE VALUE | NOT INSURED BY ANY FEDERAL GOVERNMENT AGENCY | NOT A DEPOSIT**

**ASIA PACIFIC**

**Hong Kong:** This material is disseminated by Morgan Stanley Asia Limited for use in Hong Kong and shall only be made available to "professional investors" as defined under the Securities and Futures Ordinance of Hong Kong (Cap 571). The contents of this material have not been reviewed nor approved by any regulatory authority including the Securities and Futures Commission in Hong Kong. Accordingly, save where an exemption is available under the relevant law, this material shall not be issued, circulated, distributed, directed at, or made available to, the public in Hong Kong. **Singapore:** This material is disseminated by Morgan Stanley Investment Management Company and should not be considered to be the subject of an invitation for subscription or purchase, whether directly or indirectly, to the public or any member of the public in Singapore other than (i) to an institutional investor under section 304 of the Securities and Futures Act, Chapter 289 of Singapore ("SFA"); (ii) to a "relevant person" (which includes an accredited investor) pursuant to section 305 of the SFA, and such distribution is in accordance with the conditions specified in section 305 of the SFA; or (iii) otherwise pursuant to, and in accordance with the conditions of, any other applicable provision of the SFA. This publication has not been reviewed by the Monetary Authority of Singapore. **Australia:** This material is provided by Morgan Stanley Investment Management (Australia) Pty Ltd ABN 22122040037, AFSL No. 314182 and its affiliates and does not constitute an offer of interests. Morgan Stanley Investment Management (Australia) Pty Limited arranges for MSIM affiliates to provide financial services to Australian wholesale clients. Interests will only be offered in circumstances under which no disclosure is required under the Corporations Act 2001 (Cth) (the "Corporations Act"). Any offer of interests will not purport to be an offer of interests in circumstances under which disclosure is required under the Corporations Act and will only be made to persons who qualify as a "wholesale client" (as defined in the Corporations Act). This material will not be lodged with the Australian Securities and Investments Commission.

**Japan**

This material may not be circulated or distributed, whether directly or indirectly, to persons in Japan other than to (i) a professional investor as defined in Article 2 of the Financial Instruments and Exchange Act ("FIEA") or (ii) otherwise pursuant to, and in accordance with the conditions of, any other allocable provision of the FIEA. This material is disseminated in Japan by Morgan Stanley Investment Management (Japan) Co., Ltd., Registered No. 410 (Director of Kanto Local Finance Bureau (Financial Instruments Firms)), Membership: the Japan Securities Dealers Association, The Investment Trusts Association, Japan, the Japan Investment Advisers Association and the Type II Financial Instruments Firms Association.