Feature

Time to Declare a Planetary Accounting Emergency

by Mark W. McElroy and Martin P. Thomas



Part 1 - Introduction

The acclaimed systems thinker and sustainability guru, Donella Meadows, once wrote, "People can't respond to information they don't have. They can't react effectively to information that is inadequate ... or achieve goals or targets of which they are not aware." "Missing information", she explained, "is one of the most common causes of system malfunction."

At a time when some non-financial impacts of organizations outweigh the importance of their financial performance, it seems fair to expect that management accounting, too, would keep up with the trends. Why, then, does financial accounting, to the exclusion of all else, still predominate so heavily in most organizations? Are their social and environmental impacts immaterial?

Indeed, how are managers supposed to assess or manage their organizations' social and environmental impacts if the dashboards they rely on so systematically hide them from view? When it comes to understanding performance in these terms, most managers, boards and governors are flying blind.

One could even say there is a kind of planetary accounting emergency going on,² by which the dashboards we all rely on are no longer fit for purpose. Single bottom line accounting, that is, continues to prevail in an increasingly triple bottom line world. The question is, how much longer can managers in the post-COVID-19 world continue to do what they do using performance measurement tools forged in the industrial revolution?

If ever there was a "Houston, we have a problem" moment, this is it!

Reviving the Triple Bottom Line

In 2018, John Elkington ceremoniously "recalled" the triple bottom line concept because of what he felt was its poor track record of success.³ We and many others, however, remain committed to the idea, having pointed out that it was not so much the concept itself that was lacking as its implementation — or lack thereof.⁴ For all intents and purposes, the triple bottom

line idea has never really progressed beyond the level of metaphor, and metaphors hardly qualify to serve as performance accounting tools.

When it comes to understanding performance ... most managers, boards and governors are flying blind.

Notwithstanding his earlier reservations, in his 2020 book, Green Swans, Elkington confesses: "The wider context of a world in growing turmoil suggests that such multidimensional thinking and tools are needed more urgently now than ever." And he has certainly not been alone in lamenting the gap between principle and practice. In 2013, the International Integrated Reporting Council (IIRC) issued a multicapital framework for reporting intended to help close it, but regrettably stopped short of proposing a corresponding triple bottom line accounting method. Reporting standards unfortunately tell us little about how things should be measured before they get reported or in multicapital terms.

In the absence of a triple bottom line methodology approved by accounting standards institutions, it is perhaps unsurprising that all the excellent principles of Elkington, the IIRC and others should remain largely unfulfilled in practice. The old default mode, therefore – to stick to financial primacy – has prevailed.

Inspired in part by all of this, we took steps to operationalize triple bottom line measurement several years ago in the form of a structured, executable (and free and open-source) accounting tool known as the

MultiCapital Scorecard. News of it was first published in 2015. Companies that have since implemented it include Ben & Jerry's (Unilever), Cabot Creamery (Agri-Mark), New Chapter (Procter & Gamble), Griffith Foods, and also the accounting firm Ernst & Young (who used it as a tool to assess the well-being and triple bottom line performance of whole countries).

What distinguishes the MultiCapital Scorecard as a triple bottom line accounting tool are:

- 1. Its grounding in multi-capital theory, according to which the performance of an organization should be assessed in terms of its impacts on all vital capitals, including economic capital;⁸
- **2.** Its commitment to authentic context-based sustainability (CBS), arguably the most rigorous form of sustainability accounting in use today;⁹
- **3.** Its measurement of progression towards (or away from) sustainability norms; and
- **4.** Its ability to set meaningful performance norms at local, divisional and corporate levels.

At the heart of the MultiCapital Scorecard is the question it asks: "How much is enough to be sustainable" in specific areas of impact? And how can the answers then be used to set organization-specific standards of performance or norms? Capital maintenance for the sake of stakeholder (including shareholder) well-being is its overarching principle. Meaningful application in the context of each organization is what drives its methodology.

Part 2 – Triple Bottom Line Accounting The Study We Performed

To help illustrate the extent of the planetary accounting emergency we allege, we thought it might be useful if we were to take five well-known companies and evaluate their performance using conventional single bottom line criteria on the one hand, and triple bottom line criteria on the other.

The criteria we used to select them were as follows:

- All five companies should inhabit the same sector (e.g., Household/Consumer Goods);
- **2.** Data for each of the three areas of impact must be readily and publicly available;
- 3. The financial performance of each company must be strong (measured in conventional terms) given our interest in comparing their economic impacts alone (single bottom line) to their integrated triple bottom line performance (i.e., in which their social and environmental impacts are reflected as well).

The companies we chose were Clorox, Colgate-Palmolive, Hershey, Johnson & Johnson, and Procter & Gamble. All five are components of the S&P 500, with four of them (all but Hershey) also being a part of the so-called S&P 500 Dividend Aristocrats¹⁰—companies that have increased their dividend payouts for 25 consecutive years or more. All five also exhibited strong financial performance as seen from the perspective of their returns on equity relative to their book values. The results are shown in Table 1.

	% Return on Equity (relative to book value)		
	2019	2015-2019 (average p.a.)	
Clorox Company	147%	210%	
Colgate-Palmolive	424%	1,880%	
Hershey	66%	101%	
Johnson & Johnson	25%	29%	
Procter & Gamble	8%	24%	
Group Average	21%	31%	

Table 1 – Company Financial Performance (by conventional measures)

To perform our study, we created an abbreviated MultiCapital Scorecard for 2019 in which only three areas of impact were used: 1) *Gender Diversity* for the social bottom line (using a board composition norm), 2) *Owners' Equity* for the economic bottom line (using a *residual income* norm), and 3) *Climate* impacts for the environmental bottom line (using a greenhouse gas reduction norm). For each of the three areas of impact, a sustainability standard of performance was defined accordingly – referred to as a *sustainability norm* (see Table 2).

Triple Bottom Line Reporting in Action

Next, we turned our attention to gathering the information required to populate each of the five scorecards with company-specific data by reviewing their corporate sustainability and financial reports as well as additional data published by others. The results, including our analyses of each, are set forth below, beginning with Clorox (figure 1).

Areas of impact	Metric Used	Sustainability Norm	
Gender Diversity - Board	Gender composition of board	Board is composed of no less than 40% of either gender ¹	
Owners' Equity	Residual Income (RI)	RI of zero, covering a cost of capital of 5% per annum on Market Capitalization ²	
Climate	Greenhouse gas emissions (GHGs)	GHGs should be zero; or if not, are no higher than levels prescribed by a specific 1.5 degree science-based mitigation scenario ³	

Table 2 - Areas of Impact Definitions and Norms

Table 2 Notes:

- 1. Based in part on the Directive of the European Parliament and of the Council on Improving the Gender Balance among non-executive directors of companies listed on stock exchanges and related measures: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52012PC0614.
- 2. Cost of capital norm of 5% based on A. Damodaran's Cost of Capital by Sector dataset (Household Products sector) of 5th January 2020, with 'Risk Premium to Use for Equity' reduced from 5.2% to 3%: http://people.stern.nyu.edu/adamodar/New_Home_Page/datafile/
- 3. Company-specific emissions norms determined by reference to the SSP1-1.9 climate change mitigation scenario (https://tntcat.iiasa.ac.at/SspDb/dsd?Action=htmlpage&page=50) as configured in the Center for Sustainable Organizations' Context-Based Carbon Metric (https://www.sustainableorganizations.org/context-based-metrics-public-domain/).

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Note: All underlying data sourced from www.macrotrends.net

Some Notes on the MultiCapital Scorecard Methodology We Used

• The Use of Weights

As shown in each of the five scorecards, the MultiCapital Scorecard makes it possible to assign different levels of importance to each of the areas of impact being assessed. A scale of 1 to 5 is typically used for that purpose. In the present case, however, we opted to assign a weight of "1" to all three areas (i.e., no differential weighting) as we are not privy to any stakeholders' views.

• Progression Performance Scores

Each MultiCapital Scorecard shown below includes a column for a "Progression Performance Score" (PPS). It indicates in 2019 whether a company achieved sustainability for an individual Area of Impact; or if not, how it has progressed in its performance, either towards or away from it. PPS scoring utilizes a 7-point schema, ranging from a low score of -3 (3 or more years of regressive movement away from sustainability) to +3 (fully sustainable performance) in the year of interest. All scores in between signify annual incremental movements one way or the other relative to full sustainability and the prior year. A score of 0% indicates no significant net movement in either direction.

• Triple Bottom Line Performance Scale

Aggregate scores show sustainability performance for (1) individual areas of impact, (2) individual bottom lines, and (3) in an integrated way for the triple bottom line as a whole.





CLOROX COMPANY

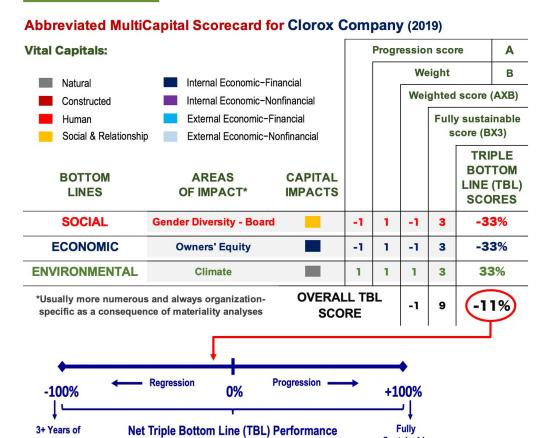


Figure 1 – MultiCapital Scorecard for Clorox Company (2019)

Our comments on Clorox Company's 2019 performance follow below.

- Social Bottom Line The proportion of women on the board at Clorox was 25%, constituting a regression from 2018 (31%). The resulting Progression Score under the MultiCapital Scorecard was therefore "-1": a one-year regression.
- Economic Bottom Line Clorox's residual income was -\$0.2 billion: a 1-year regression from 2018 (-\$0.1 billion). The resulting Progression Score was therefore "-1".
- Environmental Bottom Line Clorox's greenhouse gas emissions in 2019 were 11% down on the previous year, while still well short of their interim trajectory target. Hence a +1 Progression Score.
- Integrated Triple Bottom Line Clorox's overall score was a regressive -11%. The progression in GHG emissions was offset by regression in both gender diversity and economic performance.

COLGATE-PALMOLIVE

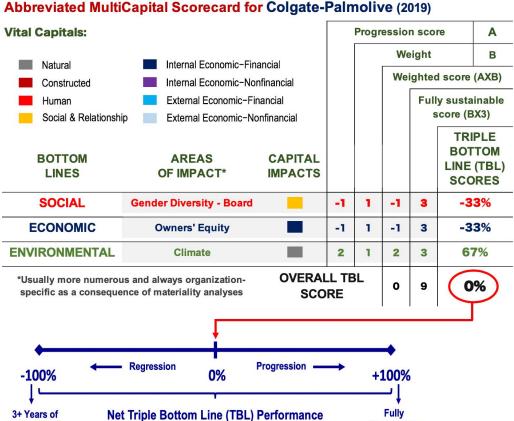


Figure 2 - MultiCapital Scorecard for Colgate-Palmolive (2019)

performance follow below.

Regression

- Social Bottom Line Women on the board at Colgate represented 25%, constituting a regression from 2018 (31%). The resulting Progression Score was therefore "-1": a one-year regression, while still not meeting the norm of at least 40 percent for both men and women.
- Economic Bottom Line Residual income was -\$0.6 billion, a regression from 2018 (\$0.2 billion). The resulting Progression Score was therefore "-1": a one-year regression.
- Our comments on Colgate-Palmolive's 2019 Environmental Bottom Line Colgate's greenhouse gas emissions were 4% down and more than met interim reduction targets. The resulting Progression Performance Score was "+2": meeting the year's interim target, while still not meeting the sustainability norm of zero emissions.
 - Integrated Triple Bottom Line Colgate's overall score was zero progression. The positive performance in GHG reductions was entirely offset by the worsening negative residual income to shareholders and lower board diversity.

HERSHEY COMPANY

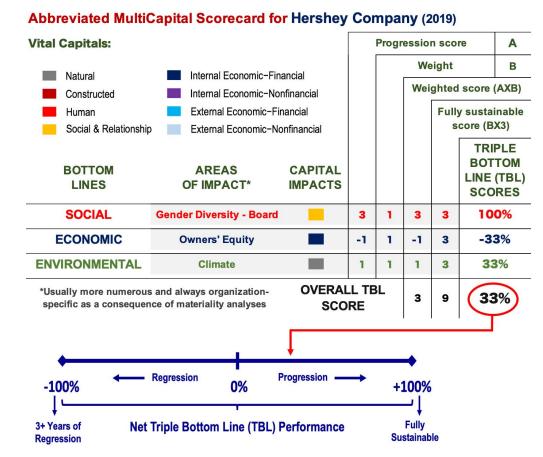


Figure 3 - MultiCapital Scorecard for Hershey Company (2019)

Our comments on Hershey Company's 2019 performance follow below.

- Social Bottom Line Women on the board at Hershey represented 42% exceeding the sustainability norm of at least 40 percent. The resulting Progression Performance Score under the MultiCapital Scorecard was therefore "+3": fully sustainable.
- Economic Bottom Line Hershey's residual income was -\$0.4 billion, lower than 2018 and below the sustainability norm of zero. The resulting Progression Score therefore was "-1": a one-year regression.
- Environmental Bottom Line Hershey's greenhouse gas emissions were 4% down on 2018, but still fell short of the trajectory target. Its Progression Score was therefore "+1": a one-year progression.
- Integrated Triple Bottom Line Hershey's overall integrated triple bottom line score was 33% on the TBL Performance Scale. The regression in economic performance offset the encouraging environmental improvement, while gender diversity remained fully sustainable.

JOHNSON & JOHNSON

-100%

3+ Years of

Regression

A **Vital Capitals:** Progression score Weight B Natural Internal Economic-Financial Weighted score (AXB) Constructed Internal Economic-Nonfinancial External Economic-Financial Fully sustainable score (BX3) Social & Relationship External Economic-Nonfinancial **TRIPLE BOTTOM BOTTOM AREAS** CAPITAL LINE (TBL) LINES **OF IMPACT* IMPACTS** SCORES SOCIAL 0 0 3 0% **Gender Diversity - Board** 3 **ECONOMIC** -1 -1 -33% 1 **Owners' Equity** 3 **ENVIRONMENTAL** 2 2 67% Climate **OVERALL TBL** *Usually more numerous and always organization-11% 9 specific as a consequence of materiality analyses **SCORE**

Progression -

0%

Net Triple Bottom Line (TBL) Performance

Abbreviated MultiCapital Scorecard for Johnson & Johnson (2019)

Figure 4 – MultiCapital Scorecard for Johnson & Johnson (2019)

Our comments on Johnson & Johnson's 2019 performance follow below.

- Social Bottom Line The proportion of women on the board at Johnson & Johnson was the same as the year before: 29%. The resulting Progression Score was therefore "0": no progression, while still not meeting the norm of at least 40 percent for both men and women.
- Economic Bottom Line Johnson & Johnson's residual income in 2019 was-\$4 billion, below both the prior year and the sustainability norm. The resulting Progression Score under the MultiCapital Scorecard was therefore "-1": a one-year regression, while still not

meeting the zero residual income sustainability norm.

+100%

Fully

Sustainab

- Environmental Bottom Line Johnson & Johnson's greenhouse gas emissions were 10% lower than 2018 and also met the trajectory target. The resulting Progression Score it received was therefore "+2": in line with the interim performance target; meeting its science-based greenhouse gas reduction targets for the year.
- Integrated Triple Bottom Line Johnson & Johnson's overall triple bottom line score was a progression of 11%, due entirely to the progress it made in its environmental performance.

PROCTER & GAMBLE

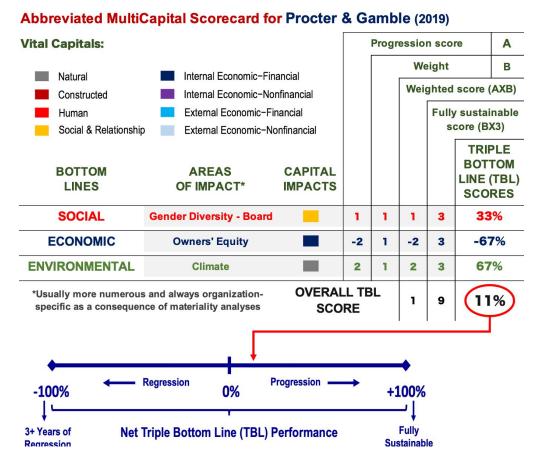


Figure 5 – MultiCapital Scorecard for Procter & Gamble (2019)

Our comments on Procter & Gamble's performance follow below.

- Social Bottom Line The proportion of women on the board at Procter & Gamble was 36%, constituting a one-year progression from 2018 (31%). The resulting Progression Score under the MultiCapital Scorecard was therefore "+1": a one-year progression, while not meeting the norm of no less than 40% for both men and women.
- Economic Bottom Line P&G's residual income in 2019 was -\$10.1 billion, after an exceptional "impairment charge of \$6.8 billion was recognized to reduce the carrying amount of goodwill for the Shave Care reporting unit." P&G's negative residual income in 2019 therefore worsened relative to 2018, with both

years falling short of the zero sustainability norm. The resulting 2019 Progression Score was therefore "-2": a two-year regression, while not meeting the sustainability norm of zero residual income.

- Environmental Bottom Line Procter & Gamble's greenhouse gas emissions more than met interim reduction targets for the year. Because of this, the resulting Progression Score it received was "+2": meeting the year's interim performance target, but not meeting the sustainability norm of zero emissions.
- Integrated Triple Bottom Line Procter & Gamble's overall integrated TBL score was 11% progression in 2019. Its strong environmental performance and improved gender diversity were undermined by the economic hit.

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Lessons Learned from Our Study

- 1. Financial performance for all five companies was poor as viewed from the perspective of our (modest) standard of 5% cost of equity on market value. (More on this below). Inadequate Residual Income in all cases destroyed economic value, despite what other, more conventional metrics may be telling us (per Table 1).
- 2. In all five cases, environmental performance failed to meet the zero-emissions sustainability norm, because no amount of greenhouse gas emissions are currently sustainable. As long as the climate system on Earth is impaired, only zero or negative emissions can be regarded as sustainable. The best a company can do in the interim is keep pace with the rate of reductions called for by science-based mitigation scenarios, by which humanity's deleterious impacts on the climate system can be reversed.
- 3. With regard to the social dimension of performance we used (i.e., gender diversity on corporate boards), only Hershey was able to meet the requirement of no less than 40 percent of either men or women, clocking in at 42 percent women. The writing on the wall here is clear. Even Goldman Sachs has recently indicated it will no longer help take public any companies that do not display a sufficient degree of gender diversity on their boards.¹²

Part 3 – Rethinking Performance The Investor's Perspective

One unique characteristic of the MultiCapital Scorecard is that its methodology places economic performance on a level playing field with other capital impacts. Priorities may be assigned by each organization in its own context, but the methodology affords no more importance to any one aspect of performance than it does to any other. For all areas of impact, the question is the same: "How much is enough to be sustainable?". Moreover, this makes the hitherto taboo subject, the sufficiency of profits – not their maximization – discussable and an integral part of measuring sustainability performance.

In Table 3 (3rd and 4th columns) and in the MultiCapital Scorecard cases presented above, economic performance is calculated on the principle known as Residual Income¹³ or Economic Value Added.¹⁴ This simply requires the financial bottom line (Net Income in USA, or Profit Attributable in UK) to cover the cost of financing a firm (the cost of equity capital) before calculating the economic residual. "Profits" that fail to cover the cost of the capital employed (as well as all losses) destroy economic value. Therefore, the philosophy behind the MultiCapital Scorecard suggests that the minimum sustainable economic income is zero Residual Income – sufficiency, not maximization.

	Return on Equity (%) (Relative to Book Value)	Return on Equity (%) (Relative to Market Value)	Residual Income (\$bn) (Using Cost of Capital of 5% on Book Value)	Residual Income (\$bn) (Using Cost of Capital of 5% on Market Value)
Clorox Company	147%	4.2%	0.8	-0.2
Colgate-Palmolive	424%	4.1%	2.3	-0.6
Hershey	66%	3.8%	1.1	-0.4
Johnson & Johnson	25%	4.0%	12.2	-4.0
Procter & Gamble	8%	1.3%	1.3	-10.1
Group Total	21%	3.0%	17.6	-15.1

Table 3 – Alternative Financial Metrics (relative to book vs. market values for FY 2019)

Note: All underlying data sourced from www.macrotrends.net

Traditional investment analysis applies a cost of equity capital to the book value of the equity invested. In Table 3, we show the effect of that approach by taking a 5% cost of equity capital and applying it to the book equity of the respective companies (3rd column in Table 3). On that traditional basis, all five companies exceeded the zero Residual Income threshold. All appear to be financially sustainable, therefore.

But the MultiCapital Scorecard is grounded in the view that organizations are accountable to all stakeholder groups, including the need to uncover and address the expectations of each. Clearly, we have not been able to undertake such stakeholder engagement with equity investors in the five companies we looked at. But equally clearly, shareholders are very significant stakeholders. For quoted companies, such as our selected five, their invested capital is represented by the market value of their shares and not just the companies' book values. When multiplied by the number of shares, the result is market capitalization. So why use book values?

Indeed, book values of equity are today very poor representations of shareholders' economic investments. Whereas in earlier centuries, tangible assets (such as land, buildings, plant, machinery and inventories of goods) were thought to be the drivers of future profit flows and largely underpinned the market price of shares, that is no longer so. Brands, reputations, innovative capacity and know-how all largely escape the financial accounting for assets despite being the drivers of future income streams. Accounting rules consider their created value "intangible" and "unrealized". They therefore find no place in the assets or in the equity values in the books of account, despite representing 80%+ of total market capitalization. Still, they are real.

So why would equity investors use book value to value their shares? Remember that the market value is the only relevant value to the equity investor's three options: sell, hold or buy more. It is therefore the true economic value from which investors are expecting a return. This delivers a more meaningful measure of economic performance because it directly addresses the question of how much income stream is enough to be sustainable; to keep investors' economic capital invested.

The relevant cost of capital is therefore the opportunity cost; the return that investors could expect from a similarly risky investment elsewhere. For the purposes of this article we adopt 5% as the opportunity cost of equity capital for our five sampled companies. Five percent may be quite wrong, but the principle remains valid. Damodaran's basic model (see note 2 in Table 1 and the Cost of Equity Capital box below) would set a higher cost of equity. Without engaging with the equity investors, nobody is able to know. But we believe that engaging with all stakeholders is essential to keep abreast of their evolving views and expectations. This is particularly important where different shareholder groups may have different expectations, such as in joint ventures (perhaps with governments) or where there are multiple markets for shares. Ongoing shareholder engagement is most critical, too, in turbulent times such as those we might now expect in the 2020s. These examples demonstrate that stakeholder engagement is at least as helpful to equity investors as it is for all other stakeholders. It is also vital for genuine triple bottom line thinking. The exclusion of economic performance from "integrated reporting" consigns sustainability to a perpetual side-show. Sufficient economic performance underpins all else.

Not only are many companies that seem strong and secure in the world demonstrably unsustainable, so too are the very accounting concepts they rely on to measure and disclose their performance.

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The Cost of Equity Capital

There is usually no contractual price to be paid for Equity Capital, but it is not cost-free. Academics and investors have argued for decades about how to determine its cost. There is a broad consensus that the two main components of the cost of equity are:

- an interest charge (risk-free) for the use of the invested funds and
- a premium for the risks incurred by equity investors.

Professor A. Damodaran (of Stern Business School) uses the long-term US treasury bond rate as the riskfree rate and adds a 5.2% p.a. risk premium. For Household Products, that delivered a Cost of Equity of 7.3% p.a. We chose to be less financially demanding, reducing the Risk Premium from 5.2% to 3%. Using the same Damodaran equation, this reduced the Cost of Equity to 5.0% p.a. But still, not one of the 5 companies featured in this article covered this Cost of Equity in 2019.

Whereas we do not expect the financial accounting profession to make fundamental changes (such as the valuation of created intangible assets or the relaxation of the realized income rule) in the immediate future, we can all now start the process in our management accounting; doing the best we can. The "best we can" as of 2020 is for every organization to adopt the contextbased principles of the MultiCapital Scorecard and set performance norms of how much is needed in each area of impact to be sustainable.

Where market values are not available, we should adopt the best surrogates possible or ignore monetization altogether. It is better to be approximately right than very precise, but wrong. Waiting for perfect solutions to be enunciated from the accounting institutions or the IIRC may take decades. Moreover, it will ensure that we continue to destroy the planet and underserve its people while we focus on profit alone. This is surely not in the interest of equity investors or anyone else!15

Embracing Multicapitalism

We began this discussion by calling attention to what we and others are now referring to as a planetary accounting emergency. Indeed, if the overall performance of an organization is best thought of in terms of not only its financial impacts, but its social and environmental effects as well, why exclude consideration of people and planet in favor of focusing only on profit? We do not believe that ultimate investors (e.g., savers and members of pension funds) are asking for accounting systems that ignore companies' social and environmental externalities.

Even the apparently strong financial performance of organizations that continue to promulgate social and environmental harms in the world will suffer the consequences of such neglect. We need to question, therefore, performance accounting systems that systematically hide them from view. Not only are many companies that seem strong and secure in the world demonstrably unsustainable, so too are the very accounting concepts they rely on to measure and disclose their performance.

This, then, is the essence of the accounting emergency we speak of – our reporting systems are no longer fit for purpose. Far from faithfully revealing the truths of our impacts in the world, they systematically misrepresent them to us – and yet still they prevail. The time has come, therefore, to renounce them and to usher in a new era of authentic triple bottom line accounting; an era in which our performance accounting systems unreservedly tell us the truth in all of its dimensions, not just one of them.

With this in mind, it should be clear that triple bottom line performance accounting is now a management necessity and not just a metaphor. The key to making it possible as a practical matter is to realize that just as capital maintenance can serve as a criterion for assessing economic performance, so can it serve for assessing social and environmental performance. The nature of the capitals will simply differ, as will the identities of the stakeholders involved. Performance, in turn, reduces to maintaining the carrying capacities all vital capitals at whatever levels are needed to ensure stakeholder well-being. The triple bottom line thereby evolves from metaphor to methodology.

Capitalism, we believe, has never really been the problem; rather, it is the unnecessarily narrow interpretation of it that has.

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Now that we can determine whether or not an organization's impacts on vital capitals are having the effect of maintaining or destroying them, it should also be clear from our work that integrated accounting is indeed possible. And while it is true that the scoring conventions and units of measurement for each of the capitals will be different (and will thereby seem to defy all conventional attempts to count and aggregate them in an integrated way), nothing prevents us from scoring the scores from the vantage point of a higher-level metascale – a capital-maintenance performance scale.

And that, in fact, is exactly what the MultiCapital Scorecard has been designed to do with its Progression Performance Scoring Schema. It thereby brings to life triple bottom line accounting and the consequent - and necessary - transition from monocapitalism (performance interpreted in terms of impacts on only one type of capital) to multicapitalism (performance interpreted in terms of impacts on all vital capitals).¹⁶ Capitalism, we believe, has never really been the problem; rather, it is the unnecessarily narrow interpretation of it that has. By enacting reform in what passes for mainstream performance accounting, all of that can change. For as everyone knows, we get what we measure – no more, no less. S

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