



Grounding Corporate Strategy in Planetary Health

PRIYA F SAJJAD

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Report from the Secretariat of the
Rockefeller Foundation Economic Council on Planetary Health

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Priya F Sajjad¹

¹ School of Anthropology & Museum Ethnography, University of Oxford

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Introduction to Planetary Health

Planetary health is a multi-disciplinary approach that addresses the interconnections between the processes of environmental change and their impacts on human health and well-being, at scale. The planetary health concept builds on the ecological framing of planetary boundaries and supports the UN Sustainable Development Goals and the Paris Climate Change Agreement, both of which recognize the importance of regional and global coordination to solve complex environmental and development challenges.

Links between environmental change and human health are both direct (e.g. impact of air pollution on respiratory and cardiac functioning) and indirect (e.g. extreme weather events or sea-level rise leading to permanent displacement) but there is plausible connection between the change in natural systems and human well-being. The planetary health approach requires transboundary perspectives covering issues that one country cannot address in isolation. Solutions, however, may be local, national, regional or international.

The Rockefeller Foundation Economic Council on Planetary Health, supported by its Secretariat based at the Oxford Martin School at the University of Oxford, aims to provide a policy-oriented, economic perspective to developing solutions. The central economic concept is that externalities – or costs and benefits to another party that are not priced, regulated or consented to – should better address planetary boundaries than at present. The analysis pays attention to equity and distributional issues, recognising how different people, institutions, countries and trajectories of development are affected by the impact of planetary health and the measures proposed to address it. This work seeks to target recommendations at global and national policymakers.

A series of background papers have been developed by the Secretariat. These papers aim to illustrate where solutions might be identified and applied, diagnosing planetary health issues by highlighting drivers of change, significant environmental impacts and the resulting human health impacts.

This paper explores the challenges to corporate strategy that planetary health brings, as well as the approaches and tools that could contribute to better allow businesses to understand their impacts on environment and health and take action. Incorporating non-financial data into financial accounts, employing natural capital tools and broadening the definition of corporate purpose are three important processes that are discussed. This paper analyses several available tools and provides two case studies of businesses that have acted to redefine their corporate strategy.

Sarah Whitmee

Executive Secretary

The Secretariat of the Rockefeller Foundation Economic Council on Planetary Health

The full set of papers can be accessed at: www.planetaryhealth.ox.ac.uk/publications.

Executive Summary

Key messages

- The knowledge base around how the environment relates to human health and wellbeing is limited. Corporations need to holistically explore the interrelationships between their activities, the environment and human health and wellbeing.
- Environmental degradation and the health consequences of current environmental challenges necessitate that corporate businesses move beyond their sole focus on profit.
- Corporate businesses around the world are redefining their purpose to take into account human, social and natural capitals alongside profit.
- New and evolving non-financial assessment approaches include Impact Valuation and the Economics of Mutuality frameworks, incorporating non-financial metrics into financial accounts, and natural capital assessment tools such as ENCORE.
- Tools and approaches need to be expanded to include environment-health link in order to operationalise the notion of planetary health.

The Earth's recent past, present, and future have become dominated by human activity, altering ecological, biological, and geophysical systems, and steering us into a new geological epoch, the 'Anthropocene'. The underlying premise of this term is that natural resources have become significantly altered due to human activity. The recognition of the Anthropocene has become a rallying cry necessitating urgent action on issues such as climate change, loss of biodiversity, ocean acidification and increased carbon dioxide levels, which are not only detrimental to the environment but also represent a threat to human health and wellbeing (Rockström et al. 2009). Planetary health, against the backdrop of the Anthropocene, therefore, emerges as a critical framework with an anthropocentric view aiming to alarm humankind about the environmental limits past which human health and wellbeing are unsustainable.

Over the past several decades, health gains across the world have been achieved, but at the cost of exploiting natural resources and accelerating environmental erosion. Benefits to human health have been attained by unsustainably extracting resources from the environment, especially in past decades, when natural capital was in abundance and financial capital was scarce (Whitmee et al. 2015). Environmental wrongdoings pose a severe threat to human health and wellbeing in several respects: they can cause an increase in water-related diseases, the spread of zoonotic and vector-borne diseases, food and water scarcity, natural disasters, air and water pollution, soil erosion, deforestation, silting, and flooding. The concept of planetary health has only recently entered debates of global health and environmental issues, but it is particularly distinguished from current narratives on health and the environment in that it makes an explicit link between human activity, environment and health, while taking a multidisciplinary approach. Advancement towards planetary health requires an understanding of the connections between the environment and human health, as well as how to conserve and rehabilitate ecological pathways to provide benefits to health. To achieve the objective of planetary health, collaboration and coordination between different

stakeholders and shareholders from private and public sectors is necessary (Whitmee et al. 2015; UNEP-WCMC 2019).

With natural systems depleting across the planet, there has emerged a strong sense of urgency to address environmental wrongdoings. Today, large private corporations find themselves in the spotlight like never before for contributing to exhausting natural capital. Businesses depend on natural resources for direct inputs, for instance, water and materials, and experience indirect impacts when events caused by environmental degradation, such as floods, impede production and distribution activities (UNEP 2019).

Traditionally, the main success indicator of performance measurement and management in corporate businesses has largely been financial profit. This traditional way of making and assessing profit, however, is being increasingly challenged, due to multiple stakeholder pressures on corporations: consumers are shifting towards products that are produced using sustainable, environmentally friendly methods and technologies, employees demand transparency from corporations, and governments are increasingly enforcing regulations to lower waste and pollution levels. A responsible business, therefore, balances the needs of all of its stakeholders with the need to make profit, and aims to create profitable solutions for environmental and social challenges that adversely impact people and the planet (Mayer 2019). Companies need to be aware of the impact that their operations and products have on the environment and human health and wellbeing.

Large multinational corporations are projected to play a leading role in enhancing the wellbeing of communities surrounding their operations and protecting the environment upon which human wellbeing is contingent. They are expected to actively and responsibly participate in achieving the globally agreed-upon Sustainable Development Goals to build a more sustainable planet and ensure that nine billion people can live well by 2030. To do so, businesses are moving beyond profit-centric and sustainable strategies to exert a positive influence on the society and the environment (Ittner and Larcker 2003). This includes incorporating non-financial metrics into accounting and profit and loss statements to develop long-term human, social and natural capitals and improve societal and environmental conditions, which may then have a positive impact on human health and wellbeing. It is worth noting that it is only recently that corporations have become concerned with and vocal about sustainable business practices. Corporations, such as BASF, Mars Corporation, LafargeHolcim, and Conservatorio – to name a few – are at the forefront of redefining their purpose and performance. These companies are incorporating a range of non-financial assessment approaches, such as impact valuation, non-financial metrics, ENCORE and the Economics of Mutuality (EoM) framework into their corporate strategies, in order to improve their overall value creation and become more responsible and sustainable in their impacts on society and the environment.

These approaches, however, often discount the interconnections between the multiple impacts that businesses may have on society and the environment. Corporations often do not make explicit the link between the environment and human health and wellbeing in their non-financial measurement

approaches, as health and the environment are mostly considered to be separate and are measured by independent metrics. The links between the environment and human health cannot be understated, as environmental degradation is increasingly having an impact on human health and wellbeing. Health and wellbeing are evolving concepts and the idea of linking business activities, the environment, and human health and wellbeing has not yet comprehensively been developed (UNEP-WCMC 2019). It would, therefore, be valuable for corporate businesses to expand their approaches and tools to consider the connection and interdependency between natural systems and human health and wellbeing.

This report offers an analysis of non-financial assessment approaches such as impact valuation, non-financial metrics, ENCORE and the Economics of Mutuality framework, and examines how two corporations, LafargeHolcim and Conservatorio, have aligned their corporate purposes for global prosperity. The non-financial indicators that these corporations use do not make a direct link between environmental degradation and impacts on human health and wellbeing as part of their operations. This report suggests that corporations holistically acknowledge the potential links between different impacts and take into account planetary health considerations to contribute to the wellbeing of both humanity and the environment.

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1. Introduction

Humanity is dependent on the environment and natural ecosystems for livelihood, food security, health and quality of life. However, by exploiting natural resources for health gains, such as increased life spans, humanity has reached a tipping point whereby the impact of human activity on the environment is starting to have a negative impact on human health and wellbeing (Whitmee et al. 2015). For instance, infectious diseases spread through an abundance of vectors and pathogens are ballooning as a result of extreme temperatures and flooding, which are attributed to human alteration of the land. Reducing society's impact on the environment calls for all of humankind to alter its behaviour and to develop business and economic structures that can respond to environmental challenges. The environment-health lens is the cornerstone of planetary health. Explicit in the planetary health framework is the recognition of the critical links between the environment and human health and wellbeing. This report analyses how corporate businesses, in particular, are changing their strategies to integrate environmental and social factors in processes of decision-making, monitoring and evaluation.

The purpose of corporations, as Mayer argues, is not merely to make profit but to 'do things that address the problems confronting us as customers and communities, suppliers and shareholders, employees and retirees' (2018: 40). They engage in a range of business activities that have environmental, social and economic consequences include purchasing, producing, providing good and services alongside the use and disposal of products (Impact Valuation Roundtable 2017). These activities have an impact on natural resources and ecosystems services upon which humanity is dependent, and therefore impact human health and wellbeing in multiple ways.

The methodology for measuring business activities' direct and indirect impacts on both natural capital and human health and wellbeing is still in its infancy. Some of the common and popular ways of measuring these impacts include examining carbon footprint and water usage, doing risk analysis and taking into account the Sustainable Development Goals (SDGs), adopted by the United Nations (UN) in 2015, while making investment decisions and implementing more sustainable business models. The recent upsurge in interest in a resource-efficient, low-carbon economy has often focused on reducing the environmental footprint of business supply chains and. Mars Corporation, for instance, is integrating the principles of the economics of mutuality into its business projects. Conservatorio, on the other hand, is changing its conceptions of corporate purpose to become more sustainable. Similarly, LafargeHolcim is putting much of its efforts towards achieving its Sustainable Development Strategy Plan by 2030.

This report draws upon targeted, in-depth interviews with participants of the Oxford–Mars Mutuality in Business Programme and Changing Conceptions of Corporate Purpose project at the Saïd Business School (SBS), University of Oxford. It also draws upon insights gained from the Responsible Business Forum 2019 at SBS. The report is divided into two main parts: the first, which examines impact valuation, non-financial metrics, ENCORE and the EoM framework; the second examining case studies that take account of non-financial indicators in their corporate strategy and

practices. While corporations do not actively consider direct and indirect relationships between business activities, the environment and human health and wellbeing (Figure 1), the aforementioned assessment approaches are a stepping-stone to ensuring that corporations perform sustainably and create long-term value for all stakeholders.

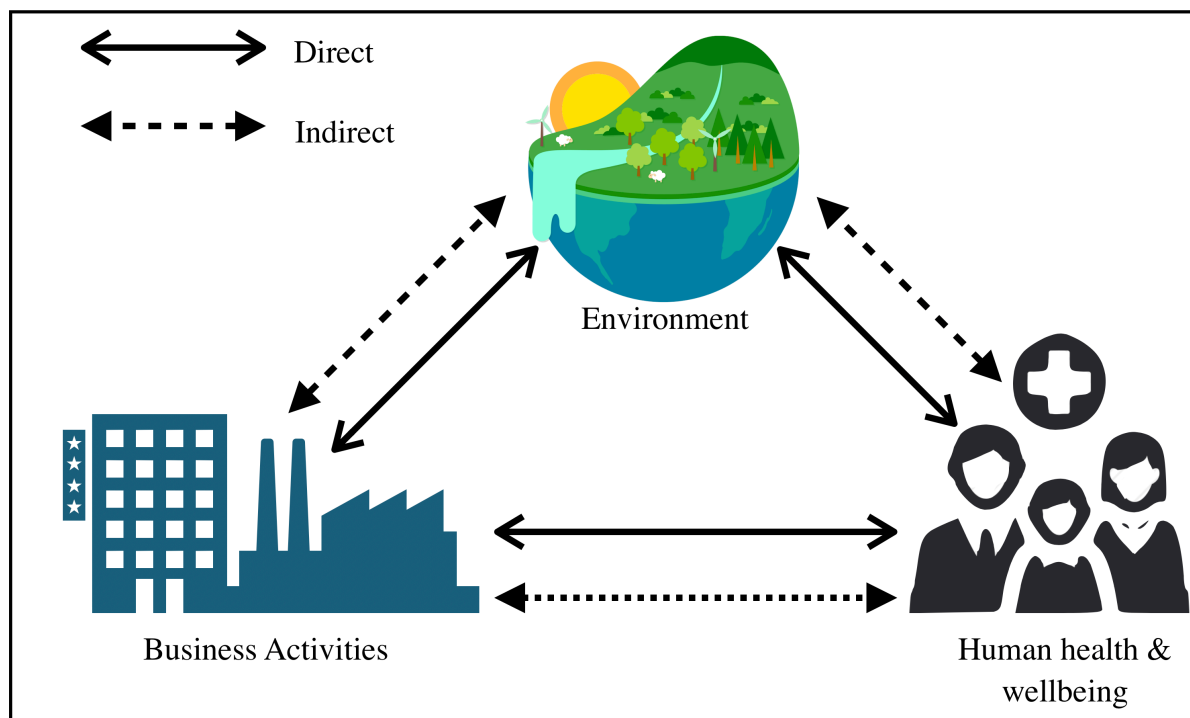


Figure 1: Direct and indirect linkages between business activities, the environment and human health and wellbeing. Corporate sectors, in their efforts to contribute to global prosperity, often discount the interrelationships between the impact their activities have on the environment and human health and wellbeing.

2. Incorporating the Immeasurable into Corporate Strategy

Only recently have an increasing number of corporations started measuring their impacts on the environment, society and economy, and started considering other factors that are not monetary, in order to move beyond an exclusive reliance on financial measures of performance. Traditional financial accounts, while necessary for measuring financial performance, often fail on many fronts, due to their inability to capture the intangible assets (e.g. natural resources) that may allow a corporation to make positive contribution to society and the environment (Barker and Mayer 2017). Non-financial indicators can give a better sense of a corporation's overall performance and allow them to recognise, evaluate and act on the right non-financial measures to advance their purposes.

Developing management accounting tools that incorporate non-financial indicators and externalities, and assessing their value to include them into profit and loss statements, will remain a long-term project. In the last decade, many companies have begun expanding their purpose to

include responsibilities towards humanity and the environment. In order to ensure that their purpose is aligned with their practices, companies are re-examining the ways through which they earn profit. It was only last year in 2018 that the University of Oxford's Saïd Business School, for instance, hosted the Oxford Impact Roundtables (OIR) where 35 practitioners and experts came together to discuss how measurement tools can be developed to have an expansive view of profit. The participants, brought together due to a strong sense of urgency for changing their accounting tools, discussed the necessity of measuring non-financial capitals and taking into account social and environmental externalities. (Stroehle and Murthy 2019). The OIR discussions laid emphasis on how corporations should extend their profit-centric boundaries, incorporate non-financial accounting frameworks and revise their purpose to act as agents of change given the urgency of environmental and social challenges.

There are various approaches, frameworks, and tools that can enable corporate businesses to measure and assess the multidimensional relation between business activities and their impacts on human, social and natural capital. Without these approaches, redefining corporate purpose, strategy and action for sustainable growth may become challenging. This section describes the evolving approaches of integrating the non-financial metrics and processes of impact valuation and the economics of mutuality framework into corporate strategies.

2.1 Impact Valuation

The notion of impact valuation is gaining momentum across different international corporations, particularly Impact Valuation Roundtable (IVR) participants¹, as they become increasingly interested in long-term sustainable value creation and increasing positive contribution to society and the environment. Impact valuation refers to the 'application of welfare economics to determine the positive and negative contribution of business activities to society in monetary terms' and is rooted in the premise that financial outcomes alone are not fully representative of a company's societal benefits and costs (Impact Valuation Roundtable 2017: 2). Impact valuation goes beyond the traditional, sole focus on financial outcomes of business activities and incorporates real-world impacts, such as economic, environmental and social dimensions along the entire value chain, as illustrated in Figure 2. It provides a window for businesses to create sustainable value for all stakeholders by way of 'comprehensive reporting, integrated thinking, better risk assessment, and strategic decision-making' (Ibid.).

¹ The IVR was found in 2015 to develop and operationalise the Impact Valuation framework. It includes the following international companies: Adidas AG, Allianz Global Corporate & Specialty, BASF, DSM, Dutch Development Bank, Kering Group, LafargeHolcim, Nestlé, Novartis, Olam International, Philip Morris International, SAP and Syngenta. The IVR met in 2016 and 2017 to discuss how Impact Valuation can be applied to businesses.

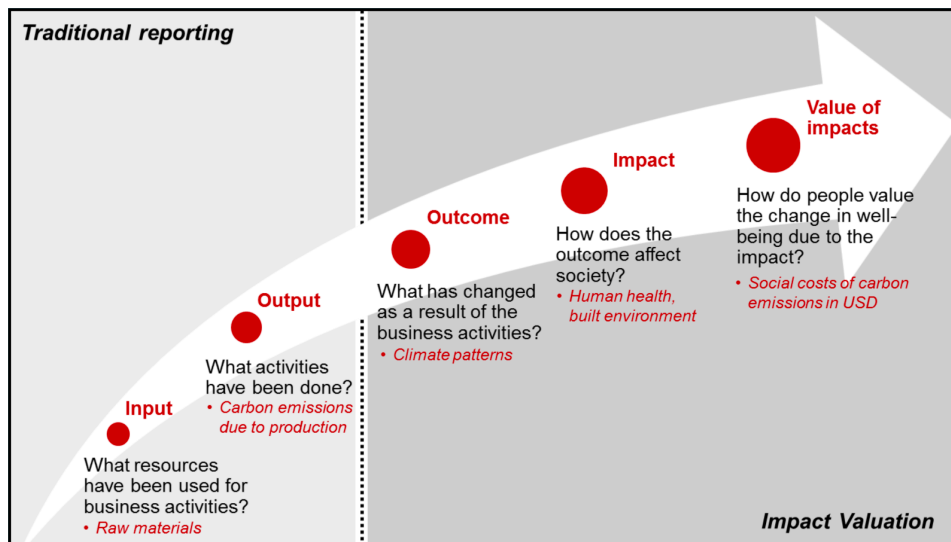


Figure 2: From tradition reporting to impact valuation. Adapted from Impact Valuation Roundtable (2017: 6)

Impact valuation approaches involve measuring and evaluating positive and negative economic, social and environmental impacts (externalities) of business activities in monetary terms. This allows for an improved understanding of the ‘materiality, relevance and interdependencies’ of a corporation’s positive and negative impacts (Ibid.: 9). The data used for measuring the externalities comes from primary sources, created directly by the company, or from secondary sources, which are publicly available. Primary sources allow for a more specific assessment to be made with respect to the impact of business activities on different externalities. To gauge how corporate businesses can contribute to society environmentally and in terms of human health, the externalities are measured in relevant non-financial units and then multiplied by a valuation coefficient, so that each impact is paired with a monetary value. Assessing and valuing the economic, social, and environmental impacts of businesses on society in monetary terms allows for an improved understanding of the interdependencies of a company’s positive and negative impacts.

The economic, social and environmental impacts of business activities differ from one corporation to another and between each corporation as a result of varying positions in the supply chains and different products and services. Companies, therefore, have to define their own valuation needs based on the impact their activities have on the economy, society and environment. By looking at business activities with an integrated lens, which takes into account varying economic, social and environmental externalities that are often missing in existing profit and loss statements and accounts, companies are better able to sustainably make decisions and assess risks. Box 1 illustrates how BASF, world’s largest chemical company with 122,000 employees, operating in more than 90 countries, incorporates impact valuation in its corporate strategy.

Although the impact valuation framework incorporates economic, social and environmental impacts of business activities, it does not, however, explain the links between these different impacts. A more comprehensive approach to impact valuation, which takes into account direct and indirect interdependencies between the environment and human health and wellbeing, is therefore required

for ensuring that corporations develop sustainable tools and approaches based on planetary health considerations that pivot on the environment–health interrelationship.

Box 1: BASF's Value-to-Society Approach

In order to put its purpose of 'creating chemistry for a sustainable future' into practice and to grow profitably while contributing positively to the society, BASF incorporates the concept of impact valuation into its 'Value-to-Society' methodology (RBF-EOM 2019: 2). This methodology integrates measurement and valuation of the 'financial and non-financial external effects of BASF's business activities in a common monetary unit' (Ibid.: 7). BASF's Value-to-Society approach was developed together with PwC and builds on PwC's Total Impact Management and Measurement (TIMM) approach. It measures economic, social and environmental impacts of business activities in the supply chain and customer industries, and makes use of primary data from human resource, environmental health and safety databases and financial accounting systems, and secondary industry data to obtain impact results for its stakeholders. BASF's impact categories include: profits, taxes, wages, human capital, health and safety, air pollution, greenhouse gases, water pollution, solid waste land use and water consumption (BASF 2018). The potential impacts are then quantified by attributing monetary values in euro and ascribing country-specific valuation coefficients to the value of the impact (RBF-EOM 2019). The impact valuation reflects the business activities' benefits and costs to society. In a nutshell, the Value-to-Society approach enables BASF to analyse how its outputs translate into impacts along the value chain and comprehensively assess its contribution to a sustainable future.

2.2 Non-financial Metrics

In recent years, corporations have started using non-financial metrics as indicators of their overall performance to increase their long-term value. They are shifting away from simply maximising short-term financial gains towards including non-financial metrics – employee engagement, political lobbying, climate change and resource depletion, among others – alongside financial metrics, as indicators of their performance. Financial metrics generally include profitability, income statements, sales growth, and balance sheet components, and these are no longer enough to reflect a full picture of how a corporation is performing (O'Connell and O'Sullivan 2016). Financial metrics cannot represent a company's impact on its stakeholders and society and, thus, fail to capture its performance in totality. Non-financial metrics, on the other hand, are composed of different economic, social and environmental indicators that a company sees as crucial to achieving its strategic objective. The need to incorporate non-financial metrics into company reporting has become strengthened by public worries over the impact of businesses activities on society and the environment. Non-financial metrics are, therefore, necessary for providing insights into the externalities that help frame financial results and showing how businesses may make a positive contribution to society in an efficient and effective manner. Each corporation has its own mix of financial and non-financial metrics, based upon which ones are the most aligned with its purposes and which best represent its business model and goals.

A growing belief that environmental degradation is a pressing issue that is threatening natural capital has led many corporations to advocate for changes in measurement and reporting. In order for companies to be aware of what makes putting their vision into practice successful whilst contributing to the general wellbeing of the society, they need to be able to recognise the economic, social, and environmental indicators that may maximise their performance in the long term. For instance, ESG, which includes environmental, social and governance data clustered together, has become increasingly significant for corporations when evaluating risks, capturing investor interest and assessing the long-term impacts on business performance, people, and the planet (Serafeim and Grewal 2016). Large asset management firms and investors are now pressuring corporate leaders to focus on ESG. Under this framework, the environmental criterion considers how a business performs environmentally. The criteria can be used to evaluate environmental risks a company might face and how it can manage those risks. Examples of businesses' ESG metrics may include managing waste responsibly, using energy efficiently, and emitting less greenhouse gases. Unilever, for example, has made an explicit commitment to reducing its environmental footprint of the making and use of its products (see Box 2).

The social criterion for ESG focuses on how a company manages its relationships with various stakeholders, including employees, suppliers, customers and communities in which it operates. The metrics may be diversity and inclusion, safe and healthy working conditions and human rights protection across supply chains. Governance, on the other hand, deals with internal controls, company leadership and shareholder rights, and examples of pertinent metrics range from donations and political lobbying to corruption and bribery.

Although ESG metrics may help a company reflect sustainable practices, they may not, however, be able to transparently represent the actual sustainability performance of that company. The ESG measures remain unreliable due to obscure methodology and lack of common definition and universally accepted standards. Most ESG metrics, as Eccles and Strohle (2018) argue, vary in terms of application, indicators measured, and methodologies employed. Different forms of assessments of a company's ESG performance can lead to a disconnect between the ESG data and measurement standards. This leads to little concurrence on how ESG performance, ratings, and rankings should be captured.

In order to select a metric, a company has to define for themselves what is important to its purpose. A corporation first assesses particular financial and non-financial issues, risks and opportunities pertinent to the business and then identifies which human, social and natural aspects are core to the business' purpose, strategy, and long-term viability (Strohle and Murthy 2019). In addition, a company's purpose speaks to multiple stakeholders, including the wider society and the environment. Materiality embeds the link between the purpose of a company and the selection of issues (relevant to that company) through measurement. A company will never be able to capture all of its impacts on the environment and society the assessment of human, social, and natural capitals must be guided by an examination of which issues are the most relevant and aligned to the

company's purpose. What is material for a company, therefore, has impacts on how metrics are identified, measured and understood. Corporations that recognise the significance and urgency of adapting to changing socioeconomic and environmental conditions and incorporate non-financial metrics into their mandate are able to realise strategic opportunities to strengthen their brands (Atkins 2018). Starbucks Corporation, for instance, in an attempt to expand their market share in China, integrated social metrics such as the emphasis placed on family bonds, into their strategy and management by offering healthcare to their employees' parents (see Box 3).

Companies often view the environment and human health and wellbeing as two separate metrics. The relevance of developing environmental metrics to achieve sustainable development and address the pressing problem of environment degradation has become increasingly pronounced. Health metrics, on the other hand, often do not take into account direct environmental links and are mostly viewed as disease metrics. In addition, the complexity of what constitutes health and wellbeing and how this relates to the environment has not yet been comprehensively addressed. As Bateman et al. point out, 'measures of global health impacts of environmental conditions generally have a narrow, hazard-risk-disease/mortality focus, and do not even properly reflect the breadth of the original 1948 definition of health' (2019: 3)². Without addressing health-related issues, corporations may face: 1) legal and regulatory risks as legislations related to health and wellbeing across the world increase; 2) operational risks, if the health and wellbeing of workers is ignored in decision-making processes; 3) financial risks due to the increasing trend among investors to invest in business activities that contribute to societal development, which includes stakeholders' health and wellbeing; 4) reputational and market risks, as there is a growing concern among customers and stakeholders regarding health and wellbeing (UNEP-WCMC 2019: 7–8). Corporations, therefore, need to develop approaches and tools that provide decision-makers with information on how corporate activities rely on natural resources and what impact they have on human health and wellbeing. A holistic view that takes into account the interrelationship and interdependency between environmental health and human health would also embed planetary health considerations into corporate strategy.

² The World Health Organisation (WHO), in 1948, defined health as 'a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity'.

Box 2: Unilever Sustainable Living Plan (USLP)

Unilever, one of the largest multinational corporations in the world with more than 400 brands under its wing, launched the USLP in 2010. The primary objective of the USLP is to increase positive environmental and social impacts. In the words of Paul Polman, the CEO of Unilever, the USLP is not only central to the corporation's business strategy but is also a critical part of their 'business model'. The key metrics of the USLP pivot around environmental footprint of the making and use of products, peoples' health and wellbeing and their livelihoods. One of the initiatives of the USLP comprises building a circular economy that ensures that plastic is reused, recycled or composted. Unilever aims to move away from the globally prevalent 'take-make-dispose' model of consumption, which entails consumers using products once or twice and throwing them away. The USLP targets for a more circular approach for its packaging material, particularly plastic, by using innovative solutions for designing products that use less plastic, better plastic, or no plastic. Some of the areas that Unilever is exploring includes modular packaging, wide use of refills, and using post-consumer material in innovative ways (Unilever 2019).

2.3 ENCORE

ENCORE (Exploring Natural Capital Opportunities, Risks and Exposure) is a comprehensive web-based tool developed by the Natural Capital Finance Alliance together with UNEP-WCMC (UN Environment World Conservation Monitoring Centre) to help financial institutions and corporations conduct natural capital assessments and risk management and addresses the lack of information available on how the economic sectors depend on natural capital. The idea underpinning ENCORE is that economic sectors rely on natural systems for production processes and, thereby, impact natural capital resources. ENCORE, therefore, explores the dependencies and impacts of economic sectors on natural capital and assesses their exposure to environmental issues like deforestation, droughts and floods, which, in turn, allows investors to understand natural capital-related risks in the relevant geographic locations (UNEP-WCMC 2019). ENCORE's current model is based on assessments derived from literature reviews and interviews with sector specialists. These assessments result in databases, materiality assessments and factsheets which 'present information on the natural capital assets that provide ecosystem services and the drivers of change which influence the ecosystem service-natural capital asset system' (UNEP-WCMC 2019: 2–3).

Some of the limitations to this approach include lack of comparability across datasets and data gaps. ENCORE was launched in 2018 and is yet to further develop and incorporate more information on impacts, as it does not currently explore the relationship between economic sectors and human health and wellbeing. The integration of human health and wellbeing would 'bring another dimension to the interactions explored through the [ENCORE] tool, rather than solely exploring natural capital-related information' (Ibid.: 11). It could make the necessary interrelationships between business activities, the environment and human health and wellbeing, and, therefore, assist corporations to take into account planetary health-related considerations.

2.4 Economics of Mutuality

The role of businesses in accelerating environmental change cannot be stressed enough. For the purpose of maximising profits, businesses tend to overlook the consequences of their activities on the environment, which not only has an adverse reaction on natural systems but also human health and wellbeing. Developed by Mars Catalyst³ in 2007, the Economics of Mutuality (EoM) framework focuses on the shared benefit for corporate businesses and the ecosystem in which they operate, and takes into account how much profit is required by a corporate business to add value to society and address the challenges posed by depleting natural capital. According to Roche and Jakub, the ‘right’ level of profit takes into account social, human and natural capital alongside financial capital:

‘The main point of expanding the basket of metrics available to business managers to include non-financial forms of capital is to give them tools to manage hitherto unrecognised (squandered) assets available to them’ (2017: 132)

The EoM framework is comprised of five overlapping dimensions: defining purpose as strategy, ecosystem orchestration, non-financial metrics, mutual P&L (profit and loss) and expanding leadership. The abundance of natural resources that has propelled human health and financial capital is now being compromised for short-term, monetary gains. In order to drive industry, expand development and achieve different health gains, such as increased life expectancy, humanity has exploited the environment; the effects of which are apparent in modern society. Today, financial capital is in excess, whereas natural capital is in scarcity. The EoM framework pivots on the idea that corporations should redefine their purpose to solve the current environmental and social challenges that the world faces, profitably and mutually: if the company benefits, all the stakeholders should benefit as well. Accounting for non-financial indicators in relation to a company’s amount of profit has only recently gained momentum amongst corporate businesses. However, such attempts, as Eccles and Stroehle argue, are ‘diverse, somewhat experimental and, as far as we can tell, are usually used for reporting and disclosure rather than for management accounting’ (2018: 5). Examples include Kering’s environmental P&L, AkzoNobel’s 4-dimensional P&L and the Value-to-Society approach of BASF. The mutual P&L, so far, is unique to Mars Corporation. Box 4 offers an illustration of how Mars Corporation uses the EoM framework to distribute its products to far-flung rural areas in Kenya.

Transforming existing businesses to put mutuality into practice includes conducting materiality analyses to see what issues companies should focus on and adjusting financial profit and loss statements (P&L) to develop ‘mutual P&L’. Mutual P&L puts the EoM framework into practice by going beyond profit maximisation to include social and environmental variables as well as positive and negative externalities. The purpose of the EoM framework is to create awareness for sustainable action and achieve long-term value while minimising negative impact and maximising

³ Mars Catalyst is Mars Corporation’s internal think-tank, which recently spun out as a collaborative platform called the Open Platform Initiative.

positive impact. The accounting systems are a basis of corporate strategy, and reflect what is important for a company and where they tend to place value:

'What is accounted for can shape organisational participants' views of what is important, with the categories of dominant economic discourse and organisational functioning that are implicit within the accounting framework helping to create a particular conception of organisational reality.' (Burchell et al. 1980: 5)

These realities, as Eccles and Strohle (2018) argue, are socially constructed and propagated by the corporate business itself and develop into realities of economies, thereby having an impact on human, social and natural capital. These externalities are selected based on their relevance for the company's strategy and are integrated into the mutual P&L. While all units in financial accounting are monetary, it is difficult to quantify externalities that often have subjective dimensions. Under the EoM framework, however, the selected non-financial externalities are monetised to account for the profit in the mutual P&L and positive or negative impacts of business activities on human, social and natural systems.

When a business activity results in a positive impact on human, social and natural capital, the resources given to that activity are deemed as an investment in a mutual P&L (Eccles and Strohle 2018). The positive reinforcement is considered as an increase of the profit in this calculation. The measurement of impact is contingent on particular non-financial metrics that are developed for the EoM framework. A negative impact, on the other hand, would be deemed as a cost, rather than as an investment, and would translate as a decrease of profit shown in the P&L, thereby necessitating the replacement of the affected capital.

In addition, there are multiple stakeholders, public and private institutions, networks, as well as consumers connected to every business purpose. The complicated network of interdependent enterprises and relationships that create business value is referred to as an 'ecosystem' in a business context. The defining features of an ecosystem are mutuality and orchestration. Ecosystems comprise stakeholders that act for mutual benefit to produce greater value for the company and the ecosystem as a whole. In the context of a business ecosystem, orchestration comprises the formal and informal coordination of relationships, cross-sector partnerships and interactions among various stakeholders, that create mutually beneficial value. Ecosystem orchestration informs the organisational culture and behaviour of a company, which should be aligned with the business purpose and practice of achieving long-term value and positively contributing to society and the environment.

Box 4: Putting Mutuality into Practice: Project Maua

Following Mars' principle of becoming the 'most mutual company' in the world, Mars Catalyst, the corporation's internal think tank, in collaboration with Wrigley East Africa, launched Project Maua in 2009 in Nairobi, Kenya. Maua, a micro-distribution programme for Wrigley's products, illustrates how EoM, when put into practice, allows for a mutual relation to be established and shared benefits to be exchanged between Mars and non-profit partners. The purpose of Maua is to solve real-world problems in a profitable and mutual way by enhancing social wellbeing among the rural poor in Kenya by giving them microcredit loans and improving their income by providing economic opportunities to them. Under Maua, the rural poor became exposed to the benefits of entrepreneurship, as they were trained to become micro-distributors, referred to as 'uplifters' and 'hawkers'. The uplifters and hawkers collect Wrigley's products from stock points; the uplifters sell the products to micro-retailers, in remote, white spot markets in informal rural settlements that lack infrastructure, whereas the hawkers sell them directly to consumers on the street. This pilot is one of Mars Catalyst's many experiments for Mars Corporation to mutually engage with non-profit partners. It allows Mars Corporation to reach new, difficult-to-reach markets and poor consumers while creating economic opportunities, social benefits and increased autonomy associated with the work for local communities living in poverty in Kenya.

Project Maua has now become one of the most substantial contributors to Wrigley East Africa's business, accounting for nearly 15% of its total sales. Maua follows the EoM framework by incorporating environmental and social dimensions into its strategy while allowing Mars Corporation to expand its market and increase profits. The EoM programme expands its accounting systems to include environmental and social capital, thereby enabling decisions to be made not only on the basis of monetary value but also on the basis of social and environmental factors. It is imperative to fully reflect upon the business purpose to see what impacts of the business need to be urgently addressed. These impacts are tracked and then internalised into accounting systems, thereby expanding their scope beyond financial metrics to include non-financial indicators. This makes it evident that mutual benefit is more productive and creates long-term value for businesses and non-profit stakeholders.

3. Case Study 1: Conservatorio

Founded and led by Keyes Hardin in 2006, Conservatorio is a real estate investment company and tourism fund, with projects worth over US\$200 million, that has centred the core of its strategy on balancing its responsibility to generate capital with its responsibility to the local communities in which it operates. Conservatorio is a real estate development company that focuses on numerous urban development opportunities in Latin America, while striving to minimise the negative externalities of cultural homogenisation and displacement. This company also aims to preserve heritage sites and the cultural ethos of the area it invests in. In addition, it takes measures to avoid the cultural homogenisation of areas and shows a preference to independent commercial retailers. Most importantly of all, it constructs affordable residential real estate.

By placing its purpose of sustainably turning long-neglected areas into residential areas at the core of its strategy, Conservatorio differentiates itself from typical real estate developers. Typical real estate developers often omit social considerations, with the sole focus of increasing rental yields, profit margins and returns for its investors. This often leads to the common urban development problems of urban sprawl, physical decay, segregation and inequality, traffic and pollution, and extreme poverty cycles. At a time where more investors are increasingly demanding social impact measures, in addition to financial returns, Conservatorio's novel use of non-financial metrics make it an increasingly attractive investment opportunity. It refers to this approach as 'sustainable urban revitalisation'. The organisation uses a range of sustainability metrics to measure its non-financial impact on the local and surrounding area, including social and human capital, environmental capital and shared financial capital. These measurements focus on the mitigation of negative and enhancement of positive externalities. They include restoring heritage buildings, reducing commute time for local residents, and lowering energy consumption and carbon footprint in project areas. Standard ESG measurements are also used to track the mitigation of negative externalities, such as displacement and cultural homogenisation, and enhance positive externalities by creating shared human, social, cultural and natural capital.

Conservatorio's strategy aims to minimise the issue of urban sprawl by constructing affordable housing within urban cores. This minimises the displacement of local residents after development, as new housing only caters for higher income people and existing housing becomes unaffordable after it is constructed. It also focuses on addressing the issue of physical decay by preserving and restoring heritage properties and preserving the cultural ethos of various areas. Conservatorio's focus on mixed use, mixed-income developments allows it to tackle the social issues of segregation and inequality, as it employs a participatory process. By working with local leaders and influential families in the area, it strives to maintain the social fabric and network. The urban development of lower income areas often also leads to extreme poverty cycles, as rising real estate prices and rent become unaffordable for local residents. These residents are then pushed out of urban cores, with some forced to turn to different forms of crime in order to make ends meet. In Panama, Conservatorio partnered with local gang members and appealed to their entrepreneurial nature by

encouraging them to become local tour guides. This reduced gang violence in the area almost to zero, as violence in the area would now impact tourism and the gang's income streams.

4. Case Study 2: LafargeHolcim

LafargeHolcim is a multi-national provider of building materials and employs approximately 81,000 employees. It is the world's largest cement manufacturer: it operates in about 90 countries and its net sales for 2017 amounted to 26.1 billion Swiss Francs. Population increase, migration to urban cities and demand for better living standards over the years has provided LafargeHolcim with better business opportunities. These opportunities, however, pose severe threats to the environment, through increasing carbon emissions, exhausting natural resources and increasing waste production. Buildings and infrastructure are responsible for nearly 40% of worldwide carbon emissions (LafargeHolcim 2018). In 2017, LafargeHolcim redefined its purpose to respond to the global need for a more sustainably built environment. The new purpose has four components: growth, simplification and performance, financial strength, vision and people.

In 2017, LafargeHolcim initiated its Sustainable Development Strategy Plan 2030. The central objective of this plan is to produce sales from sustainable products supported by four fields of action: climate and energy, circular economy, water and nature, and improved living quality. The primary sustainable development performance targets to be achieved by 2030 include the reduction of carbon emissions, the increased reuse of waste-derived resources, the reduction of water consumption in production processes and the creation of shared value for five million new beneficiaries a year. This shared value will be created via direct employment, tax revenues, infrastructural development and plans for community development. In order to achieve sustainable value creation for stakeholders, LafargeHolcim uses a non-financial sustainability reporting tool called the Integrated P&L Statement (IP&L), which represents its approach to impact valuation. The IP&L is intended to 'raise awareness of externalities' and help LafargeHolcim achieve its 'sustainability ambitions' by measuring the extent of the company's impacts and tracking its progress against a pre-defined sustainability framework composed of both traditional financial and sustainability metrics (LafargeHolcim 2018: 19–20). The tool embraces both the positive and negative socioeconomic and environmental externalities, such as health and safety of employees, carbon emissions and water usage, and incorporates them into their P&L statement to depict 'integrated profit', which also takes into account financial factors. The IP&L strengthens decision-making processes and informs the stakeholders about the impact that the company has on society and the environment and provides a compass for achieving sustainable value-creation in the long term (Ibid.: 19).

LafargeHolcim's efforts to positively impact the environment, upon which human health and wellbeing are dependent, can be illustrated by their joint venture in India with Ambuja Cement on a biodiversity-related management project. The IP&L was used to demonstrate and measure the impact of the project on biodiversity by looking at the ecological conditions of different habitats surrounding particular sites. Strategic initiatives were developed to maximise future profitability

while creating biodiversity value through rehabilitating end-of-life quarries and providing a habitat for the concerned species. In the end, the outcome of the study was communicated to the stakeholders, resulting in an integrated annual report. Thus, LafargeHolcim has developed its IP&L by engaging stakeholders. The IP&L has been published for more than three years and has served as a benchmarking tool for the materials industry. The IP&L complements large capital allocation decisions and is part of LafargeHolcim's decision-making processes, as it sustains long-term value creation for the environment and society.

LafargeHolcim, along with BASF, Bosch, Deutsche Bank, Novartis, Philip Morris International, SAP and SK, recently founded a non-profit organisation called Value Balancing Alliance. The Value Balancing Alliance is in its nascent stages, as it was launched in June 2019. It aims to create standardised tools and measures for impact valuation that will enable stakeholders to compare environmental and social externalities embedded within the IP&L, which will allow for sustainable value creation for society.

5. Conclusion

For decades, humanity has relied on the environment and natural resources to make advances in health and wellbeing. Natural systems, however, are being exploited at unprecedented rates. Environmental degradation, propelled by human activity, poses serious threats to human health. More and more people are suffering due to air pollution. Food systems are under major threat of becoming dysfunctional, as fisheries decline and increased carbon dioxide production may reduce nutrient concentration in crops. Changes in climate are reducing agricultural yields around the world, whereas changes in land usage are driving biodiversity loss and increasing diseases in humans. The scientific literature is relatively silent on the implications of environmental changes, particularly in relation to human health and wellbeing and the multiple effects of environmental change on health. From this realisation has emerged the notion of planetary health. Planetary health accounts for the importance of the environment and natural systems in enhancing human health and wellbeing.

Current environmental challenges, with inevitable, adverse consequences for human health and wellbeing, merit the attention of corporate businesses. Large corporations, due to the magnitude of their impact, need to be held accountable for the effects of their activities upon the environment and human health and wellbeing. The two case studies demonstrate different means by which corporations are going beyond short-term profit-driven strategies to take into account different externalities and include non-financial metrics. However, the activities of Mars Corporation, Conservatorio and LafargeHolcim do not explicitly take into account the interdependency between the environment and human health and wellbeing. Project Maua, for instance, is embedded within the framework of the economics of mutuality and takes into consideration social and environmental factors in its mutual P&L statements to be able to identify what real-world issues the company is able to solve. Conservatorio, on the other hand, has developed equitable projects, such as constructing affordable housing and restoring heritage sites, that help bridge inequality between

the rich and poor, which is one of the premises of planetary health. LafargeHolcim is demonstrating its commitment to sustainable development and contributing to the environment by actively reducing carbon emissions and water consumption, both of which are vital for human health and wellbeing in the long term.

Approaches and tools, based on interdisciplinary knowledge, need to be used to evaluate the impacts of business activities on the environment and human health and wellbeing. The knowledge gap surrounding what constitutes planetary health and wellbeing also needs to be holistically addressed. Environmental health and human health and wellbeing are inextricably interwoven. Corporate businesses would do well to integrate the health consequences of changes in the environment as a key externality in order to incorporate planetary health considerations into decision-making processes. Corporate businesses, therefore, need to actively be made aware of planetary health considerations so they may expand their current approaches and tools. This would further allow them to explore the role of the environment in contributing to human health and wellbeing, pay close attention to the interrelationships between the two, and incorporate direct and indirect environmental linkages in health metrics.

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