

Just Measures: A Methodology for Assessing the Global Value Added of Corporate Activities

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ABSTRACT

Background

This article accepts the premise of stakeholder theory, which asserts that corporations, like other human-run entities, have obligations to all parties affected by their actions. As such, corporations should be given suitable credit for projects that add value for these stakeholders, as well as held accountable for any damage done. To provide this credit and accountability, measurement is necessary. The methodology of measurement for corporate social value creation is in its infancy. Models are incomplete, measures are not validated, and methods used to esti-

mate net value accumulated from different domains need improvement.

Purpose

This article builds on one model of global value added (GVA), examining what methods are necessary to identify relevant domains, provide valid measures, and combine findings for the wide range of domains encompassed by a corporations' projects.

Significance

Once this methodology is successfully established, creation of valid measurement scales will warrant emer-

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gence of a subdiscipline in business and economics. To use these scales suitably will be a challenge on yet another level, but the potential for an industry index based not on economic but global measures will exist, allowing for fair and transparent accountability of commercial sector activities to other sectors of society. This has particular implications for the health sector, with its complex web of numerous stakeholders. The measurement modality presented here provides the possibility of evaluating all these health sector entities' contributions to society.

INTRODUCTION

Stakeholder theory has demanding implications for corporations. Contrary to the view of neoclassical economists that the main goal of corporations should be to maximize profit to shareholders,¹ the corporate social responsibility movement demands that corporations recognize other obligations to society. Borrowing from stakeholder theory,^{2,3} this movement focuses on a company's duty to stakeholders other than stockholders (who are also stakeholders). These stakeholders can be a corporations' employees demanding better treatment, environmental groups demanding environmental sensitivity, or a country's government in which a multinational corporation is operating requesting assistance in preventing the spread of HIV/AIDS among the populace. Stakeholder advocates have defined broad domains of corporate social responsibility, leading to a potentially complex web of commitments for corporations.

In the healthcare sector, this web of commitments to patients, payers, healthcare delivery organizations, communities, and others is particularly complex. Developing a coherent measure of performance that is relevant to them could considerably advance assessment of the contributions of businesses in the health sector to meeting society's needs. However, the measurement modality presented here would also be applicable to the other entities that comprise the health sector, including the aforementioned stakeholders. Thus, there is the potential for a comprehen-

sive evaluation of the value added or destroyed by different groups in the health sector, not just patients or payers, as has traditionally been the case.

Several researchers have created conceptual models that attempt to give a framework for understanding corporate social responsibility, such as Wood's^{4,5} Corporate Social Performance (CSP) model and Swanson's⁶ reorientation of Wood's model. Wood's model is important because it shifts the focus onto corporate social responsibility outcomes as they are achieved through management organization and processes. Swanson's model adds to our understanding of CSP by describing the value orientations that corporate decision makers use, as well as more micro-level decision-making processes. However, neither model presents a coherent measurement modality for CSP, although Wood in particular urges the creation of methodologies to evaluate the social impacts of business activities.

At present, the measurement research in the area of corporate social performance still has major problems that need to be remedied. Non-validated measures and inadequate methods for compiling measures across different domains are two primary issues. Perhaps more problematic is the fact that the research also tends to focus on the wrong research question. Most measurement research has not asked "How do you measure CSP?" but rather "Do CSP projects contribute to Corporate Financial Performance (CFP)?" This seems to be a premature question to ask when a well-theorized measurement methodology has not yet been developed.

Much effort has gone into the construction of various CSP indices, such as the Domini 400 Social Index (DSI 400), derived from the Kinder Lydenberg Domini (KLD) rating system, in which each company on the Standard & Poors (S&P) 500 is rated on 11 dimensions of Corporate Social Responsibility (CSR).⁷ While these are positive endeavors, they need to be conducted with valid measurement methodologies. These types of mea-

surements are often based on the subjective ratings of evaluators and may measure reputational aspects of CSR rather than the actual social impacts of CSR activities. In addition, they rarely use validated measures, and their methods for compiling measures from a variety of dimensions are simplistic or absent. Perhaps not surprisingly, the results of 122 studies over nearly a 30-year period, starting in 1972,⁸ have been decidedly mixed. Some have found a negative relationship between CSP and CFP,⁹ some a positive relationship,^{10, 11} and some no relationship at all.^{12, 13, 14} At this point, it remains impossible to tell whether these mixed results reflect reality or the sub-optimal methods that cloud analysis.¹⁵

It is perhaps laudable that many companies now include CSR information in their annual reports; however, these reports are unable to rely on readily available or accepted measurement methods. In keeping with the saying, “If you can’t measure it, you can’t improve it,” in this article we propose a rigorous methodology for accurately measuring CSP. We seek to return to the fundamental research question, “How do you measure CSP?” which we believe has not been satisfactorily answered thus far.

In this work, part of a series that focuses on health-related CSR projects for illustrations of the theoretical framework, we borrow from Hughes and colleagues¹⁶ proposal laying out a three-sector model of society, and seek a unifying metric designed to measure CSP for a given CSR project. In the view of Hughes and his colleagues, the most successful CSR projects will be at the intersection of the three relevant societal sectors: commercial, social-professional, and political. The commercial sector includes all for-profit business, and the social-professional sector is comprised of the traditional professions such as law and medicine as well as nongovernmental organizations (NGOs) and nonprofits. The political sector includes organizations that represent or govern members of a social group. The unifying metric that Hughes and colleagues propose is

Global Value Added (GVA), and they distinguish at least two components: Economic Value Added (EVA) and Social Value Added (SVA).

Triple bottom line theorists would contend that there are three relevant components for Global Value Added—economic/financial, social, and environmental.¹⁷ We subsume social and environmental concerns under SVA, although we acknowledge that there are important theoretical gains to be made from a sustainability perspective by considering all three bottom lines. What triple bottom line advocates can gain from the analysis presented here is a methodology for calculating their bottom lines. This would allow them to respond to their critics, who contend that construction of such bottom lines is neither feasible nor possible.¹⁸

Economic Value Added (EVA) is well-known and widely adopted in business, and contends that an action creates economic value when a company’s operating profit from the activity exceeds the opportunity cost of all capital invested in the enterprise. This essentially means that any returns should exceed the other best use of the shareholder’s funds.

$$\text{EVA} = \text{net operating profit after taxes} - (\text{capital} \times \text{cost of capital}).$$

Noneconomic parameters are less defined, and this is the key growth point that is needed in the field of CSP measurement. What is clear from Hughes and colleagues’ model is that the noneconomic parameters refer to value added to the noncommercial sectors of society; these are described as social/professional and public/political.

GLOBAL VALUE ADDED MEETS THE BUSINESS CONTEXT

The purpose of this research is to construct a measurement methodology to evaluate the value created or destroyed by individual cor-

porate social responsibility projects. The metric that is created must both be relevant to the business community and inclusive of social concerns. We therefore suggest the decomposition of GVA into two slightly different primary components: CVA (Corporate Value Added) and NCVA (Noncorporate Value Added). CVA represents all value that accrues to the corporation, while NCVA represents all value that accrues to parties that are not directly associated with the corporation itself. This would exclude corporate employees, but include community members who are not employees. We further depict the relationship between CVA and NCVA as a function (f), as opposed to a linear additive model, to allow for the modeling of nonlinear relationships between the variables. While the nature of the function will be determined in future work (and is beyond the scope of this article), we anticipate that the relationship between the two variables will sometimes, if not always, be nonlinear.

$$GVA = f(CVA, NCVA)$$

In using CVA and NCVA as the main components of GVA, we accept that a key distinction for corporate decision makers is between the corporation and society, and so, for the purpose of analysis, the two terms are considered mutually exclusive. We believe that this separation will be useful to corporate decision makers because it is easier to think of the firm as the unit of analysis as opposed to the entire commercial sector, which potentially includes competing firms. Despite this separation, it should be noted that aspects of CSR projects may simultaneously contribute value to both CVA and NCVA.

Some may object that we have committed to the Separation Thesis that Freeman in particular decries.¹⁹ This thesis proposes that the realms or discourses of business and ethics are separate and should not or cannot be considered jointly. Separating the decision maker from the rest of the world (including other

firms in the commercial sector) for practical purposes of measurement does not alone constitute an acceptance of the Separation Thesis. It should be noted that we specifically use the term CVA instead of EVA because, in addition to monetary benefits, there is the potential for nonmonetary value to accrue to corporations that engage in CSR projects. In a sense, we have combined business and social concerns into one component, CVA, thus rejecting the Separation Thesis.

An example of a nonmonetary benefit would be the positive gains in employee morale due to a company's commitment to corporate social responsibility. While management specialists have shown how CSR commitments can lead to competitive advantages in the marketplace in hiring and retaining employees,²⁰ we argue that there is a value to such nonmonetary goods that does not wholly reduce to dollar terms, at least initially. Thus, CVA can be thought of in the following way:

$$CVA = f(EVA, \text{Nonmonetary Value Added})$$

NCVA is an umbrella term that includes monetary and nonmonetary value added or destroyed in the social-professional or political sectors. It excludes any monetary or nonmonetary value added or destroyed for the firm in question, but includes effects on the commercial sector, excluding the firm. NCVA allows us to consider domains that involve all sectors of society and thus may be difficult to map on to only one of the sectors. In sum, NCVA can be represented in the following way:

$$NCVA = f(\text{Monetary Value Added to Society}, \text{Nonmonetary Value Added to Society})$$

A potential objection to our formulation of the GVA equation could be that it ignores the CSR-type activities that are taken on by the political/public sector using the tax dollars extracted from the commercial sector, or, alternatively, that it ignores the CSR-type ac-

tivities that the social/professional sector engages in using the charitable donations provided by the commercial sector. This is a valid point, but it merely demonstrates the need to extend the research that the authors present in this article. The multi-sector model is valuable precisely because all sectors contribute to the domains contained in NCVA, and expansion of this measurement methodology to include other sectors is desired and needed. For instance, this methodology could, by measuring GVA for activities in the noncommercial sectors, provide a measure for use in evaluating, say, tax policies enacted by the government or programs run by NGOs. However, we begin by demonstrating that such a measurement methodology is valid for firms in the commercial sector.

MEASURING CVA AND NCVA

As noted, CVA and NCVA have monetary and nonmonetary components. A central challenge of this article is to examine the validity of making these monetary and nonmonetary components commensurate within CVA and NCVA. If this can be done, we must demonstrate that CVA and NCVA can themselves be made commensurate to create a standard GVA unit. Thus, what follows is a discussion of units, domains, and measurement scales. This is a prerequisite to the application of a measurement methodology establishing whether creation of a standard GVA unit is conceptually and methodologically feasible. If this is successfully established, much work that falls beyond the scope of the present research will remain. To create valid measurement scales will require the work of many and will warrant the emergence of a subdiscipline in business and economics. To use these scales in suitable ways will be a challenge on yet another level. The final section of the present article will offer only preliminary thoughts about how such measures could be used and misused.

MEASURING UNITS

The monetary portions of CVA and NCVA already have a standard unit in the various currency units of different countries. One currency unit can be easily translated into foreign currencies using a conversion index, and doing so is standard practice. The monetary domain of CVA or EVA derives from the management literature, and the methods for calculating it are well developed. The monetary domain of NCVA is represented by monetary gains (or losses) to society, and the indicators used to measure it come from the field of macroeconomics. There is little theoretical difficulty here; the unit is already standardized, the domains of interest are well discussed, and transaction and accounting practices to arrive at an objective dollar value are, generally speaking, established.

COMMODIFICATION

In contrast to the monetary components of CVA and NCVA, the nonmonetary components do not have a standard unit. In addition, these nonmonetary components must be made commensurate with the monetary components in both the CVA and NCVA terms before these terms can be made commensurate with each other. Before continuing, we must discuss the philosophical implications of this process. Some might object that making nonmonetary elements commensurate with elements that carry a dollar value is acting against the ethical basis for CSR by commodifying these nonmonetary elements. However, we argue that this is not the intention, and making monetary and nonmonetary elements commensurate is actually necessary for decision making to take account of social concerns.

The final units that will be used to measure CVA, NCVA, and GVA could be expressed in multiple ways. They will be units of GVA that combine monetary and nonmonetary

value. In theory, a conversion index could be created to reduce these units to monetary value, or monetary value could be converted to nonmonetary units. While methodologically possible, whether, how, and when this is appropriate will depend on the analysis and use in question. In all cases, when such conversion occurs, it must be explicitly recognized so that the limits to its resulting meaning can be understood.

We see the measurement of GVA as a tool to inform business decision making in an analogous way that quality-adjusted life year (QALY) analysis is a tool that informs health decision making in the public realm.²¹ QALY analysis involves combining measurements of the quality of life (a nonmonetary element) with the quantity of life gained or lost from using certain medical procedures, devices, or drugs. This number, in turn, is multiplied by economic value in dollar terms of one year of perfectly healthy life—the value of which is open to considerable debate. The benefits of a given medical procedure would then be compared to the price in dollar terms of the medical procedure being evaluated, and a decision would flow from that comparison. The intention of this line of research is not to commodify quality of life, but to provide a metric by which to measure certain nonmonetary phenomena to inform decision making on important matters of public health. We seek to do the same for firms in the commercial sector to make sure that the decisions made in this sector are informed by concerns of social responsibility.

DOMAINS AND SCALES

In order to define the nonmonetary components of CVA and NCVA, we turn primarily to the corporate social responsibility literature, which has laid out a number of relevant domains. For example, Global Sullivan Principles of Social Responsibility presents eight domains of interest:

- human rights,
- equal opportunity and lack of exploitation,
- respect for freedom of association,
- fair compensation of employees,
- health and environmental sensitivity,
- respect for intellectual and property rights,
- improving the quality of life of communities in which businesses operate, and
- promotion of the aforementioned principles.

Domini Social Investments presents six “screens” for investment opportunities:

- corporate citizenship,
- diversity,
- employee relations,
- environment,
- sensitivity in non-U.S. operations, and
- production of safe and useful products.

While the organizations that establish these domains do define them to some degree, the content areas that are contained within them are often still broad and perhaps purposefully vague. These content areas of interest remain to be fleshed out, and they will be at least partially dependent on the CSR project being evaluated. However, if domains are specified on a project-by-project basis, these will need to be established using accepted methods. In the social sciences, the usual method is to conduct focus groups with all identifiable, relevant stakeholders to elicit domains of relevance from the perspective of participants. Mitchell, Agle, and Wood have created a framework for the identification of relevant stakeholders.²² The results of these discussions are then analyzed using content analysis. Once a survey has been constructed, it is possible to conduct exploratory factor analysis and confirmatory factor analysis on the response data, to identify empirically which domains appear to be independent entities and which are actually the same as another domain or which need more survey items to be sure. Factor analysis can also iden-

tify areas within a domain. Areas may have their own measurement scales. Domains may be assessed by deriving a composite score from all the constituent areas' scaled measurements.

The nonmonetary domains of CVA deal primarily with employee relations and reputation, and thus scales to measure these phenomena would most likely be found in the industrial relations and management literature. The nonmonetary portions of NCVA deal with a wider variety of social and political phenomena, such as health, environment, social capital, and income inequality. Thus, measures will derive from community quality of life studies, macroeconomics, political science, and sociology. We present several sample domains in table 1, which are derived from the literature in the aforementioned fields. In many cases, scales for certain CSR domains have not yet been constructed or validated. This creates the need for businesses and researchers to fill the gap by constructing and validating scales for the identified areas.

The end goal for what will need to be an emerging field of measurement in business and economics is the production of a body of valid measures that largely cover the measurement needs of all nonmonetary areas within domains in the CVA and NCVA categories. In order for the public to be confident that these are valid measures, a clearinghouse of measures that have known validation parameters will eventually be necessary. With such a re-

source, an industrial index for GVA could require, for instance, that each CSR project's domains be measured by scales from the clearinghouse that meet identified rigorous standards.

SUMMARY OR
LATENT TRAIT SCALES

GVA is, by definition, comprised of domains that differ and of areas within each domain that differ. The scales by which each area is measured, even if the units by which the scales are measured are the same, may not be combined without appropriate attention to how it is done. Item response theory (IRT) provides a well-tested methodology for this problem that has been used extensively in other fields. IRT has been routinely applied in educational testing to measure ability or proficiency (for example, the Graduate Management Admission Test—GMAT—score) and psychological assessment to measure personality traits (for example, extroversion). IRT has recently gained wide acceptance and has been applied to assess multidimensional health-related quality of life, due to the observation that it provides more adaptable and effective methods to construct measurement instruments, to conduct analysis, and to assign scores that complement those derived from classical test theory. However, its use in business settings is still in its infancy. A major appeal of IRT is that it provides an integrated psychometric framework for developing and scoring tests or questionnaires. The key feature of relevance here is that IRT involves positing an underlying or latent trait that encompasses the scales from all relevant areas, and that can itself form an anchor scale. We propose that IRT can be used for commercial activities, not only because it is an excellent method for measurement, but also because the latent trait in our case could be GVA. IRT can provide the method by which a summary score for GVA, comprised of appropriately

Table 1
Sample Domains for Analysis

	Monetary	Nonmonetary
CVA	EVA (Economic Value Added)	Employee relations, reputation
NCVA	Tax revenues, private income	Health, environment, social capital, income inequality

chosen and arrayed measures from the full range of relevant areas in the domains of interest, can be generated.

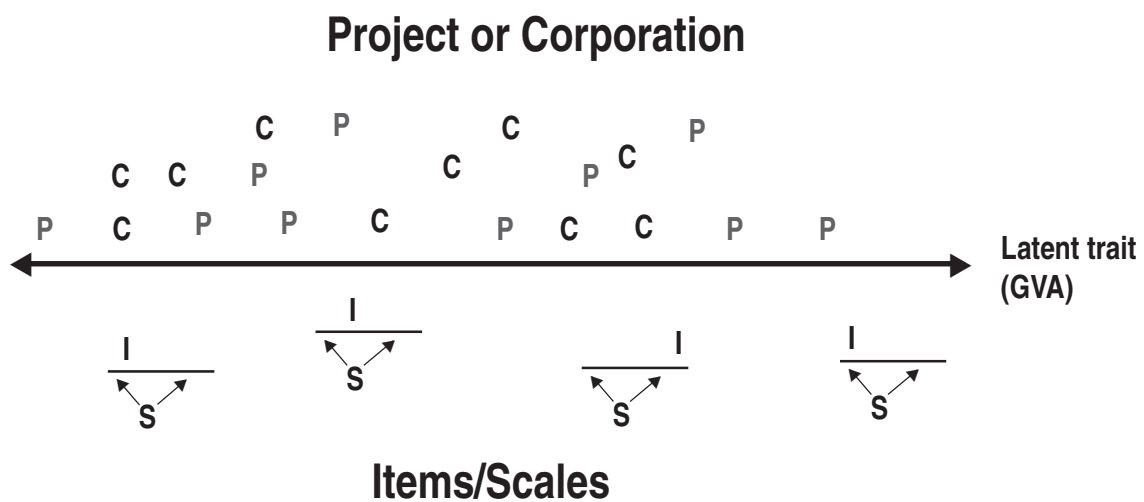
USING ITEM RESPONSE THEORY
TO BUILD A LATENT TRAIT
MODEL FOR GVA

IRT is a statistical theory consisting of mathematical models expressing the probability of endorsing a particular response to a test or survey item as a function of the ability or latent trait of the person, and of certain characteristics of the item.²³ IRT posits an underlying, unobserved trait on which the items are hierarchically arrayed (located) on the trait continuum, which extends from easiest (most likely to be endorsed) to most difficult (least likely to be endorsed). Domains of interest in the GVA application, each with relevant scales, can be placed on a to-be-defined GVA line. In a similar way, persons can be measured in terms of their achievement and calibrated onto a common metric (see figure 1). In the case of commercial activity, it would

be projects or companies rather than persons that could be arrayed.

To distinguish IRT scores from their classical test theory counterparts, “scale” scores are commonly used. The main advantages of scale scores are that they: (1) remain comparable when items (questions) are added to or deleted from the tests; (2) weight the individual items optimally according to their discriminating powers (information contribution); (3) have more accurate standard errors; (4) provide more flexible and robust adjustment for guessing or estimating than classical correlations; and (5) are on the same continuum as the item locations. Once an underlying scale for GVA has been constructed and available scales or items are arrayed along it, gaps or areas that remain in need of measurement are readily identified and additional items to fill the gaps can be constructed. The provision of IRT for treating the items, or small sets of similar items, as the exchangeable units of test construction and scoring has led to numerous innovations in test practice, including test development and refinement, test

Figure 1. Arraying Measured Entities and Measurement Parameters on a Latent Trait



C = corporation; GVA = Global Value Added; P = project; I = item or question; S = measurement scale

equating, test scaling, differential item functioning, item banking, and adaptive testing. We propose that the use of IRT models will enable the development of more targeted survey items to construct accurate and efficient scales for areas within domains and to array scales as components along an underlying GVA construct or measure.

**MANAGEMENT
DECISION MAKING**

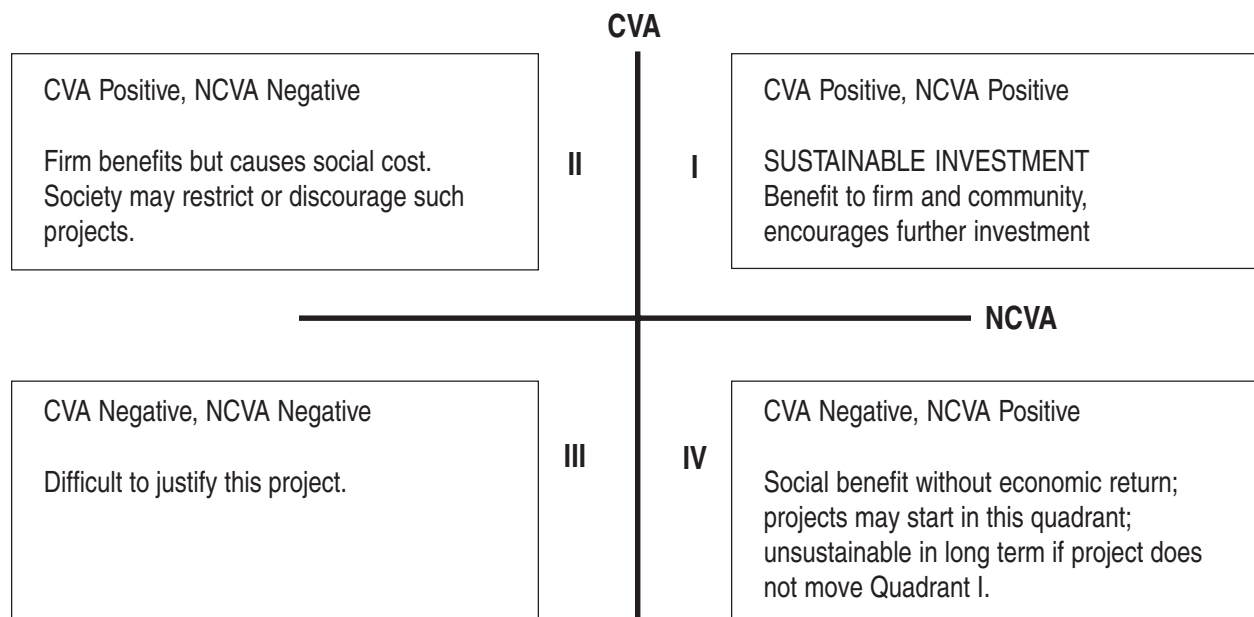
Once a GVA score is attainable for specific projects, we see a place for GVA scores in management decision making. In particular, we hope to enable corporate decision makers to estimate projected GVA, including its CVA and NCVA components, of every commercial enterprise and CSR project. With regard to CSR projects, each will need to be evaluated. The relevant corporate social responsibility domains and content areas will be identified using the focus group methods noted above. Validated scales measuring these content areas will be extracted from the appropriate lit-

eratures. If scales do not exist, then they will be constructed and validated. IRT methodology will be applied to make commensurate the monetary and nonmonetary elements to create CVA and NCVA anchor scales.

This allows projects to be plotted in one of the four quadrants of figure 2, below, to reflect how CSR projects contribute or destroy value for the corporate and noncorporate sectors. Only projects in Quadrant I offer sustainable investment. In general, the further to the right, the greater the CSP, and the further up, the better the CFP. However, there is not a one-to-one correspondence between CVA and CFP or between NCVA and CSP. This is because the social performance that relates to the corporation (for example, employee relations) is included in the CVA term, and thus NCVA is not a complete measurement of CSP. Projects starting in Quadrant IV may become sustainable investments after start-up costs have begun to pay dividends.

The establishment of this measurement methodology implies that strategic management teams would benefit from the contribu-

Figure 2. Mapping GVA



tions of a methodologists' predictive modeling based on estimated GVA measures.

TIME DIMENSION AND MEASUREMENT INTERVALS

A further dimension needs to be added to this decision analysis, and that is time. As noted above, a CSR project may begin in Quadrant IV, having a positive NCVA and negative CVA, but over time shift to Quadrant I and become a sustainable investment. As shown in figure 3, there are two possible outcomes for Year 2 (a and b). While both are in Quadrant I, they vary in their proportions of CVA and NCVA. Whether one outcome is superior to other, since both are sustainable, will depend on the goal of the project.

It will be up to business decision makers to determine the time frames for their CSR projects. Firms will be able to plan for the future of their CSR projects by determining the function of the line between the starting point of their CSR project and their ideal future point in Quadrant I. It also provides a method of evaluating the success or failure of said projects by how closely they adhere to this line's equation. For instance, it is possible that CSR projects require a longer time horizon than traditional business projects, as societal effects may not be manifest for many years, and the set-up period of certain projects may be longer due to international law or a specific country's legal requirements.

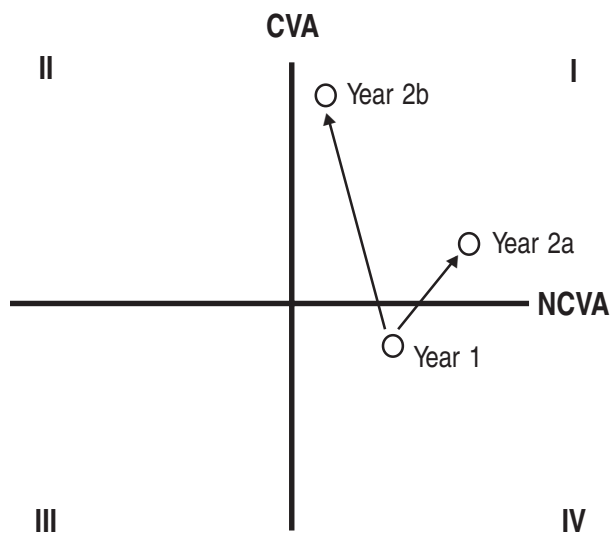
USES AND MISUSES

While we focus in this article only on individual CSR projects, we anticipate that the measurement methodology developed here will eventually be applied to all corporate ventures or actions to determine their corporate and non-corporate impact. Ultimately, we envision corporations being held accountable for many more than the monetary parameters that are currently of prime importance.

A major potential use of GVA measures will be the creation of industrial indices analogous to the Dow Jones index or NASDAQ, which purport to measure the economic success of firms, but incorporating nonmonetary value to stakeholders. In fact, we see the creation of multiple indexes, which may each focus on a particular NCVA domain, such as environmental protection, or a GVA index that will include only businesses from one industry. An NCVA index that includes all firms could represent the comparative success of businesses in pursuing socially responsible business practices, akin to the Domini 400 Social Index that was critiqued in the first section of this article. This could be a companion to the Dow Jones index. A comprehensive GVA index could subsume Dow Jones considerations under its umbrella and would offer a comprehensive picture of the business and its interaction with society.

While these indexes have the potential to impact positively on how business actions should be judged, they can also be misused in a variety of ways. As with any measurement device, the numbers used to create an

Figure 3. Progress of Projects' GVA Over Time



index or score can be manipulated to present a firm's business actions in a more positive light. This could be done by focusing on one domain of NCVA for which a firm performs very well while ignoring another domain in which it is destroying societal value. There will also be various ways to evaluate a CSR project on the time dimension. One could measure the absolute value added, the change in value added, or the cumulative value added over a certain period of time. A given CSR project may look more or less successful based on which of these evaluations one pursues.

Businesses and watchdog groups will be free to create their own indexes for internal use or publicity purposes. We encourage the erection of safeguards to ensure that the methodology behind these indexes is sound, including the creation of a body of valid instruments for measurement as described above. Related to this is the need to establish a fair method for including or excluding companies from the "public" indexes, such as the GVA index that would serve as a comprehensive Dow Jones. Questions of whether criteria should be more or less stringent for companies in certain sectors or operating in developing countries are relevant and important as well. Whether this is done through government regulation, self-policing, or some other method is a normative question that goes beyond the scope of this article.

GVA may also potentially be used by governments to modify tax laws and other regulatory laws. For instance, a governing body could provide special tax breaks to companies that engage in successful GVA projects, and nonprofit organizations could be required to perform by GVA standards in order to retain their tax-exempt status. There is great potential to stimulate strong social responsibility activity and to combine economic productivity with CSP. However, there is also great potential to apply regulations that tip the balance between CSP and traditional economic performance in unfavorable ways or that emphasize some types of social projects

over others that may ultimately be more controlling than is good for society. These subjects are important but fall beyond the scope of the present article.

AN EXAMPLE

To illustrate how such measures could be used, consider a collaborative CSR project such as the African Comprehensive HIV/AIDS Partnerships (ACHAP).²⁴ This was a true partnership between the three sectors of society: international pharmaceutical companies, including Merck, in the commercial sector; several foundations and medical professional groups from the United States and NGOs in Botswana in the social-professional sector; and the government of Botswana in the political sector. Antiretroviral and other drugs were distributed and care was provided to HIV/AIDS patients along with public education efforts to the people of Botswana. Measures for the GVA of the project taken at the outset could show a strong positive NCVA and a negative CVA that is offset only by the reputation for selfless professionalism by Merck. However, a longer-term analysis may show a positive CVA due to the market development that happens as a result of ACHAP. Which measures and over what time periods they should be used and how accountability should be rendered for performance on GVA components are all matters that will come up for scrutiny once the practice of measuring GVA components has become commonplace.

For Merck to assess the GVA of ACHAP, it might take the following steps. First it would consider which aspects of the project benefit Merck, that is, fall into the CVA category. It might consider market development in the monetary subcategory of CVA. It might consider improved reputation in monetary benefits due to enhanced sales based on quality reputation, and in less tangible features such as employee pride that would fall into the nonmonetary subcategory of CVA. Second, Merck would consider what types of NCVA

might exist, whether monetary or nonmonetary. In the Botswana Comprehensive HIV/AIDS Project (BCHAP) project, for instance, they would be interested in the impact of their preventive health education, in the change in HIV/AIDS related morbidity and mortality, in the indirect benefits of improvement in either one, such as improved mental health, social norms and networks, and economic productivity in the form of tax revenues. To ensure a suitably comprehensive measure of GVA, all the domains within both CVA and NCVA would be captured using focus group discussions, with focus groups being drawn from among all the stakeholders in the issue under consideration. These groups might include citizens with HIV in Botswana, family members, employees, government officials, and others. Using trigger questions, facilitators would lead a discussion about what matters have importance to the stakeholders; content analysis of these focus groups would then result in a list of domains.

These domains would then be used to either identify or create valid measures for the areas within that domain. So, for instance, if the focus group identifies that it is important to have a supportive culture for HIV-positive people, a survey-based scale would be sought that would estimate how supportive the culture is at the outset and then after the project gets underway.

For a full evaluation of the GVA of this or any other project, numerous methodological issues would need to be taken into account, and an ideal study design may not be possible in the real world of practicalities. However, the measurement sciences can produce estimates far better than tend to exist currently, even within the constraints of the real world of practicalities.

NEXT STEPS

We hope that we have laid the foundation for the creation of one or a series of anchor

scales to measure the impact of corporate social responsibility projects, taking into account social and economic concerns. However, many important steps remain, and many of them are further specifications of the sections we have discussed in this article. First, domains, content areas, and measurement scales need to be further specified so that we know the gaps that exist in measurement of crucial societal and business phenomena. Those gaps need to be addressed through the construction and validation of new scales.

Then the steps that are necessary to apply IRT and related methodologies to create a variety of anchor scales, such as a GVA anchor scale, need to be described and performed. This raises the question of what the criteria will be for selecting businesses to be in the more comprehensive public indexes; they could be limited in the number of companies they describe, as is the case with the Dow Jones, or the type of activity as with the NASDAQ. Finally, the indexes need to be empirically validated with a variety of CSR projects, and later, with all corporate actions and activities. While we have established the methodological validity of our method, it remains to be seen if the results will intuitively ring as true when applied to a series of case studies.

CONCLUSION

Social productivity is an obligation of corporations according to stakeholder theory. To promote the apportionment of credit where credit is due and to promote the improvement of CSP, including its balance with economic productivity, we have sought to set out a method for identifying the full set of domains in which social productivity can exist and for measuring social productivity. If this proposed methodology is accepted, much still remains to be done to create measures and to implement measurement procedures. Widespread measurement will allow creation of indexes

for GVA that will permit a new and potentially more balanced way of assessing and holding accountable the commercial sector of society. The systems for such accountability will require intense attention to ensure that they yield a net improvement to society as a whole.

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