

ASSESSING UNDERLYING REALITIES OF ACCOUNTING'S DUALITY CHECK BY THE ACCOUNTING EQUATION: A SEARCH FOR AN AUGMENTED FRAMEWORK

ABSTRACT

This paper explores a general validity of the prevalent Accounting Equation in determining the real wealth and accountability discharge through contemporary financial reporting. In so doing, an augmented accounting framework is developed in order to indicate the gaps that may arise in the Accounting Equation; which is inherent in the system if compared among different layers – *sign* to *alleged* to *referent* (Buarillard 1983, 1994; MacIntosh 2000, Ijiri 1986, and Mattessich 2003). We argue that this augmented framework will help in enhancing our understanding, at least at the level of pedagogy and for corporate governance and discharging social responsibility, about the missing elements and the nature of financial reporting including the determination of fair values and therefore, reduce the blaming games of maintaining *objectivity* and *neutrality* about information provision for an augmented reality of wealth (*economic* or otherwise) for an entity.

Key words: *The Accounting Equation, Financial Reporting, Accountability, Real Wealth, Augmented Accounting Framework; Accounting Measurements, Fair Value.*

1. INTRODUCTION

The (conventional) *Accounting Equation* [$A=L+E$ or $A-L = \text{Wealth}$] is a derivation of the double-entry bookkeeping system (cf. Pacioli 1494) first expressed in its algebraic form by Charles Sprague in the late 19th century. This *duality* check applying such an equation is to explain or to *account for* changes in the net balance in *wealth* accounts based on the underlying causes that are responsible for the change (Ijiri 1989). Over the last century several authors have elaborated on the double entry bookkeeping for financial reporting and/or preparation of financial statements, for example, Chatfield (1974), Littleton (1933, 1968), Patton and Littleton (1940), Sweeny 1936, Littleton and Yamey (1956), Hatfield (1930) and Ijiri, (1986, 1989).¹ It (*duality check*) essentially ties in with the comparison between wealth and income using a collection of flows that have occurred in past events which are considered to be transparent, transaction based and objectively measured. Financial reporting including the preparation of financial statements, is primarily an outcome of such an application, its purpose, according to Statement of Accounting Concepts SAC 2 (in Australia – the objective of general purpose financial reporting) being to provide users with information about a reporting entity which is useful for making and evaluating decisions about the allocation of scarce resources. (Financial Reporting Handbook 2009, p.3) When, for example, the general purpose financial reports (GPFR) can meet this objective it will then ultimately be indicative of discharging the accountability to those users by the management and the governing bodies of the reporting entity. (Financial Reporting Handbook 2009, p.3) But, in recent years several authors have cast doubt on whether the conventional accounting framework (expressed formally in various Conceptual Frameworks) is able to display the absolute economic (and social) reality and accountability in totality in a dynamic environment through such conventional financial reporting (viz, Miller and Napier 1993, MacIntosh et al. 2000 and Baker 2006). There are many reasons for such a view. For example, Miller and Napier (1993) argue that “accounting changes in both content and form over time; it is neither solid nor immutable”. (p.631) MacIntosh *et al* (2000) argue that: “(m)any accounting signs no longer refer to real objects and events and accounting no longer functions according to the logic of transparent representation, stewardship or information economics”. (p.13)² Baker (2006) argues that “the form of an accounting display has no relationship with the economic ‘reality’ which the display purportedly represents” (p.678)

In a Presidential Scholar address at the AAA meeting August 2008, Palmrose (2009) explored the fundamental question of whether accounting is at a crossroads of its own conception. She argues that:

We may need to draw on paradigms other than the traditional ones, like economics and psychology from social sciences... In centuries past, the guiding lights of double-entry accounting were people well connected to the larger scientific communities of their times. So perhaps, once again, science can inspire, as we take up the challenge of reconsidering the foundations of accounting in the 21st century. (p282)

¹ The purpose of this paper is not to deal with the historical development of single-entry or double-entry bookkeeping system however.

² In order to advance this thesis they used Jean Baudrillard’s theoretic on *postmodernity*.

Palmrose further emphasises that “the (US) Conceptual Framework is not particularly helpful for students (of accounting) when considering how to understand GAAP and they apply to answer real-world questions”. (p289) She argues that it was necessary to find such answers and face the reality of financial reporting which will ultimately reflect a fair representation and usable for decision usefulness. For her ‘we need to understand the basics’ including the Accounting Equation. She further claims that “we have lost touch with our accounting foundations somewhere along the way” (p 292) It is the complexity (measurement gaps) and invisibility (as far as the accountability gap is concerned) which has been a major theme threading through the truths of inconvenient accounting. Clarke and Dean (2007) also argue that “financial disclosure in accord with conventional accounting generally fails to disclose a company’s wealth and progress and that the newly heralded IFRSs (International Financial Reporting Standards) will do little to remedy that”. (p12)

These contradictions give rise to a question as to whether or not the application of the conventional accounting equation *only* will lead to fully capturing the dynamic nature of accounting realities and their underlying consequences. In order to exemplify the dynamic nature of accounting and its *duality* check to assess the underlying reality in measuring wealth as well as “forces” (Ijiri 1986, 1989) and fair (or otherwise) values at three levels (sign \leftrightarrow alleged \leftrightarrow referent – emphasis added) we argue that there is a necessity to develop *an augmented framework* that can exemplify the missing elements.³

We have used three *language sets* or *metaphors* (ie, *sign*, *alleged* and *referent*) to develop an augmented framework in order to show the missing portions of the Accounting Equation that should be considered in determining economic reality (wealth) and discharging accountability at these comparative levels in a dynamic environment. In particular, we have considered two of these language sets – *sign* and *referent* - from Baudrillard (1983; 1994a, 1994b) which have already been used in the accounting literature (cf. MacIntosh et al, 2000 and Mattessich 2003). The third metaphor or language set we have used here is *alleged (or imaginary)*, which is taken from the existing accounting literature (cf. Ijiri 1986, 1989, Mattessich 2003, and Ravenscroft and Williams 2009). The uses of these metaphors, we believe, at least will enable us to open up the ‘black box’ (Latour 1987) to see what makes the gaps as far as the missing portions of ‘the accounting equation’ is concerned and to develop an augmented framework. Ravenscroft and Williams (2009) argue that:

Root metaphors are particularly significant to any discipline, because such metaphors delimit the implicit assumptions of what is real, what is significant, how things relate, what can be known, and how it can be known. The root metaphor thus informs and reflects both the implicit epistemology and metaphysics of a discipline. (p 772)

In particular, the use of these three metaphors – *sign*, *alleged* and *referent* - is to create an arbitrary position of wealth and accountability determinations for these levels and their plausible pervading interdependencies that can shed light on the historical roots (e.g., the shift of metaphors including – the economic income measurement perspective to the information perspective to the accountability

³ We are not attempting to provide here the determination of the missing elements at all micro levels, rather we make an attempt to elaborate plausible missing elements at an aggregate level in the current accounting equation in determining the absolute economic (or otherwise) reality through a duality check, if needed.

perspective) of the development of accounting as well as the prevailing gaps/differentials that are inherent in the conventional accounting equation in representing economic reality and discharging accountability at different “layers”⁴ (Mattessich 1987, 1989, 1995, 2003).

Ravenscroft and Williams (2009) argue that the adoption of an information metaphor has thrust on accountants the responsibility of making an imaginary (alleged) world which can reflect economic wealth better, or, at least, can be useful to the users of financial reports. We believe the usage of the above metaphors will be helpful in identifying the plausible gaps between ‘layers’ (Mattessich 1995, 2003) which should be incorporated into the current accounting equation. These gaps may arise due to either inadequate measurement tools or expectation differences in the deliberations of accountabilities in a given context and space-time which are applicable for all ALORE (Asset, Liability, Owners equity, Revenue and Expense) items. However, instead of considering all the ALORE items individually here we would like to show of how our concept of an augmented framework can be applicable to various facets of accountings’ representations including the fair value debate.

Laux and Leuz (2009) argue that “the fair value debate is far from over and much remains to be done”. (p 833) There have been many attempts by the IASB to converge conceptual framework projects with the FASB in order to improve completeness and consistency (Whittington 2008). According to Whittington (2008, p 142), the most obvious gap is about the development of guidance on measurement. But, we will argue that, in addition to the measurement gap, there are obvious gaps in relation to discharge of accountability to users of financial reporting and the greater community. Therefore, in considering both measurement and accountability gaps an example of the debate on fair value determination will be undertaken at our selected three levels (layers): *sign*, *alleged* and *referent*. It should however be mentioned that it is not claimed that this paper attempts the identifications of all detailed elements of the plausible gaps of measurement and accountability discharge of financial reporting that may arise in reality. Rather, the intention is to indicate the missing portions of ‘the accounting equation’, and thus, the urgency is the development of an augmented framework. In reality, to make this framework workable in practice, we argue that there is a need for advanced systems to be developed to identify the missing elements (ie, gaps) depending on the layers and contexts under consideration.

The organisation of the rest of the paper is as follows. *First*, a theoretical prelude in relation to the use of three metaphors or language sets: *sign*, *alleged* and *referent* - is presented. *Second*, the debate on the *duality* check using conventional accounting in assessing economic reality is explored. *Third*, an explanation is provided for how these metaphors in representing the economic realities along with accountability discharge and their comparative differences between layers are applicable individually. In so doing, an augmented framework is proposed to include the missing

⁴ Mattessich (2003, p446) reiterated his earlier work (Mattessich 1995) in “The Onion Model of Reality) (OMR) and argued that “The OMR belongs to the same family as the ontological theories of Hartmann, Campbell, and Lorenz, but with some differences. It regards the layers of reality as dependent on and inclusive of each other, like those of an onion. It also conceives of these different levels from a multidimensional perspective that includes time and other dimensions, instead of seeing the layers in a linear and one dimensional way.” Our analogies of the usage of sign, alleged and referent is somewhat similar to Mattessich’s analogy of the OMR; but the question remains as to how big or small the onion will be. Is it knowable at a given time and space? Also, what would be the ways one could determine the layers of realities using certain epistemic positions?

portions (in a dynamic environment, of course) to the current accounting equation. *Fourth*, an example is provided as to how comparative fair values between layers (levels) under consideration give rise to gaps or differentials using our augmented framework. *Fifth*, convincing arguments are forwarded for the usefulness of our augmented framework, at least, at the level of pedagogy and for corporate governance. A conclusion is drawn in the *final* section.

2. THEORETICAL PRELUDE

There has been a plethora of ongoing debates on the underlying realities (*economic or otherwise*) that the accounting discipline can represent (cf. MacIntosh 2000, Mattessich 2003, Mouck 2004, Backer 2006). This reflexivity on the representation of underlying realities in accounting (especially financial reporting) is not just serendipity however. In our view this thematic/fundamental issue has emerged over the last three decades. In particular, such development started from an editorial statement by Anthony Hopwood in 1979 that “how little we know about the actual functioning of accounting systems in organisations” (Hopwood 1979, p 145). This was followed by studies conducted using alternative theoretical stances and strategies to those of “mainstream” accounting research (Chua 1986) through the movement of critical accounting since early 1980s (Burchell et al, 1980, Cooper 1981, 1983; Berry et al 1985, Cooper and Hopper 1987, Chua 1986, Hopwood 1987, see for a brief list of such references in Lodh and Gaffikin, 1997).

As stated earlier, we used two metaphors such as *sign* and *referent* from the work of Jean Baudrillard (1983, 1984a, 1984b), therefore, there is a need for an elaboration of the theoretical underpinnings of these terms. We are not the first to use these terms; these metaphors have already been used in the accounting literature including MacIntosh et al (2000) followed by Mattessich (2003). Mattessich (2003) used these terms to exemplify the thematic issues of MacIntosh et al (2000), of course, with some reservations. We are using these metaphors here to create arbitrary positions in order to show the missing portion(s) of the accounting equation and to develop an augmented framework.

MacIntosh *et al* (2000, p 14) argue that:

Baudrillard uses his ideas about simulacrum, implosion and hypereality to propose a radical description of postmodern society. Briefly, *simulacrum* is a sign, image, model, pretence, or shadowy likeness of something else. *Implosion* occurs when the boundary between two or more entities, concepts, or realms, melts dissolves or collapses inward and their differences disappear. *Hyperreality* refers to the current condition of postmodernity where simulacra are no longer associated with any real referent and where signs, images, and models circulate, detached from any material objects or romantic ideals.

MacIntosh et al (2000, p 16) further argue that:

For many of today’s pressing accounting issues, there is no underlying reality to which accounting signs refer...The idea of accounting as a sign, a faithful representation of physical and social realities in space-time, is pervasive. Indeed, the assertion that historical cost accounting keeps track of resources (a physical reality) under the control of entities (a social reality) is an axiom in virtually every text following Paton and Littleton’s (1940) influential work (Ijiri 1980).

In a boarder sense, following Jean Baudrillard’s work, according to MacIntosh et al (2000), the *signs* can be created by observing the impressions or following the

existing rules and principles.⁵ In this sense, the current Conceptual Framework(s), regulations and standards including EDs (Exposure Drafts), IFRS (International Financial Reporting Standards), SFAS (Statement of Financial Accounting Standards) and IAS (International Accounting Standards) can be considered as part of the creation of *signs* for the preparation of GPFs. On the other hand, the term *referent* is indicative of tracing actual resources or obligations. Jean Baudrillard used the terms *sign-to-referent* in a cultural (social) context; which may have different theoretical underpinnings. But, for our purposes, we argue that these language sets do give us a skeleton (Laughlin 1995) structure to view the gaps and indicate the missing elements to the current Accounting Equation. MacIntosh et al (2000) argue that, in Sumerian “urn-accounting”, *signs* might refer to real physical resources. They went on to argue that this premise might have even persisted in the most sophisticated financial accounting practices that prevail in today’s practice because, according to McIntosh et al (2000), accounting now-a-days deals with more complex transactions and uses money as a *numeraire*. This is a reason why they cast doubt on financial reporting and questioned whether “every dollar on a balance sheet (statement of financial position) can be traced to an actual resource or obligation of an accounting entity, just as every token in an urn or impression on an urn could be traced in ancient times”.(p 16) They further argue that “the same sign-function seems to underlie historical cost accounting practices, which struggle to sustain the belief that contemporary accounting represents reality in much the same way as it did for the ancient Sumerians”. (p 16).

Mattessich (2003), in a footnote, states that, according to Baudrillard, *signs* can be regarded as being an imitation of a real event (p 460 – footnote 22). However, we are reiterating the use of the metaphor of *sign* as a function of creating an impression in measuring or identifying issues of accountability in financial reporting through following the existing rules and standards that are employed in today’s financial reporting (e.g., IFRS, IAS, SFAS, EDs, etc); which can be seen as an “epistemic objectivity” as proposed by Mouck (2004) and Baker (2006) from Searle’s (1995) work.

Baudrillard’s theoretic on ‘*The orders of Simulacra*’ first appears in English with ‘*The Precession of Simulacra*’ in the volume *Simulations* (Baudrillard 1983).⁶ Indeed, as

⁵ However, according to MacIntosh et al (2000): “Given that the language and discourse dominate the nature of being in postmodernity, Baudrillard draws on his radicalization of Saussure’s semiotics for his epistemology. Saussure, concerned only with the form of language, identified four elements in his theory of structural semiotics: signifiers (words written or spoken); signified (the mind image invoked by each word); signs (one-to-one combinations of unique signifiers with particular signified); and referents (the real objects or ideas to which sign refers). Both the sign to referent and the signifier-to-signified relationships, Saussure (1959) revealed, are arbitrary, so sign has no meaning to its own. It has meaning only because it differs from all other signs in its linguistic system.” (p 15)

... Baudrillard also pays particular attention to the sign-to-referent relationship but proposes four successive phases or eras of the sign. (He refers to the sign variously as simulacrum, image, and model.) In the first phase, the sign is a reflection of a profound reality. (p xx)

MacIntosh et al (2003) further argue that the sign is deemed to be “a *good* appearance in the sense that it is a faithful and transparent representation”. (p 15) In this sense use of prevalent IFRS or IAS or consensus standards is a good appearance to represent profound reality.

⁶ In relation to simulacrum there are many views. The following statement is downloaded from a Google site which elaborates on it as follows:

Butler (1999) argues it was an attempt to criticise Michel Foucault's famous *The Order of Things* (Foucault 1977). Butler (1999) argues that Foucault's attempt was to write a history of *representation*, Baudrillard's attempted to write a history of *simulation* that will in a sense be critical of realist pretensions of Foucault's effort. (p35) In '*The Orders of Simulacra*', Baudrillard (1983) identifies three different orders or stages of simulation: the counterfeit, production and simulation itself⁷. Baudrillard (1983) argues that:

Abstraction today is no longer that of the map, the double, the mirror or the concept. Simulation is no longer that of a territory, a referential being or substance. It is the generation by models of a real without origin or reality: a *hyperreal*. The territory no longer proceeds the map, nor survives it. Henceforth, it is the map that precedes the territory – precession of simulacra – it is the map that endangers the territory and if it were to revive the fable today, it would be territory whose shreds are slowly rotting across the map. It is the real, and not the map, whose vestiges subsist here and there, in the deserts which are no longer those of the Empire, but our own. (p 2)

Baudrillard (1983) further argues that a *hyperreal* is sheltered from the imaginary, and from the distinction between the real and imaginary (p 4). He provides an example of Disneyland in USA to elaborate the difference between real and imaginary concept. Baudrillard (1983) argues that:

Disneyland is there to conceal the fact that it is the "real" country, all of "real" America, which is Disneyland... (It) is presented as imaginary in order to make us believe that the rest is real... but of the order of the *hyperreal* and of simulation. It is no longer a question of a false

"The simulacrum has long been of interest to philosophers. In his *Sophist*, Plato speaks of two kinds of image-making. The first is a faithful reproduction, attempted to copy precisely the original. The second is distorted intentionally in order to make the copy appear correct to viewers. He gives an example of Greek statuary, which was crafted larger on top than on bottom so that viewers from the ground would see it correctly. If they could view it in scale, they would realize it was malformed. This example from visual arts serves as a metaphor for philosophical arts and the tendency of some philosophers to distort truth in such a way that it appeared accurate unless viewed from the proper angle. Nietzsche addresses the concept of simulacrum (but does not use the term) in *The Twilight of the Idols*, suggesting that most philosophers, by ignoring the reliable input of their senses and resorting to the constructs of language and reason, arrive at a distorted copy of reality. Modern French social theorist Jean Baudrillard argues that a simulacrum is not a copy of the real, but becomes truth in its own right: the hyperreal. Where Plato saw two steps of reproduction — faithful and intentionally distorted (simulacrum) — Baudrillard sees four: (1) basic reflection of reality, (2) perversion of reality; (3) pretence of reality (where there is no model); and (4) simulacrum, which "bears no relation to any reality whatsoever." Baudrillard uses the concept of God as an example of simulacrum. In Baudrillard's concept, like Nietzsche's, simulacra are perceived as negative, but another modern philosopher who addressed the topic, Gilles Deleuze, takes a different view, seeing simulacra as the avenue by which accepted ideals or "privileged position" could be "challenged and overturned." Deleuze defines simulacra as "those systems in which different relates to different *by means of* difference itself. What is essential is that we find in these systems no *prior identity*, no *internal resemblance*." (Source: <http://en.wikipedia.org/wiki/Simulacrum> downloaded on 30/10/2009)

⁷ The first order of Simulacra is denoted by counterfeit what he calls 'natural law of value', the second order is labelled as that of production what he calls 'commercial law of value' and the third order is labelled as that of simulation itself what he calls 'structural law of value'. At this third level he sees that the real is hyperreal – it is only the simulated real (See Butler 1999 for a review of Jean Baudrillard's such works).

representation of reality (ideology), but of concealing the fact that the real is no longer real, and thus of saving the reality principle. (p 25)

Baudrillard (1983) further alerts that:

Of the same order as the impossibility of rediscovering an absolute level of the real, is the impossibility of staging an illusion. Illusion is no longer possible, because the real is no longer possible. (p 38)

... In this impossibility of isolating the process of simulation must be seen the whole thrust of an order that can only see and understand in terms of some reality, because it can function somewhere else...that no equivalence with the real is possible... the challenge of simulation is irreceivable by power. (p 40)

Hyperreality and simulation are deterrents of every principle and of every objective; they turn against power this deterrence which is so well utilised for a long time itself. (p 43)

Although, Baudrillard's rather extreme statement (1983, p 40) that "no equivalence with the real is possible" may not be accurate for all aspects of our accounting practices, including the measurement of all of the ALORE (assets, liabilities, owner equity, revenues and expenses) items at least, it can provide us with a reason for socially constructing and sensitising the missing elements of the accounting equation for a just and better representation of financial reporting. In recent years, there has been enormous debate as to whether stewardship or accountability should or should not be a part of financial reporting objectives (see O'Connell 2007, Birnberg 1980, Gjesdal 1981, Chen 1975). For example, O'Connell (2007, p215) quoted from one of the pronouncements in 2005 for the proposed converged Conceptual Frameworks for financial reporting, as follows:

In July, the Boards agreed that stewardship or accountability should not be a separate objective of financial reporting by business entities in the converged framework. Rather, the converged framework should acknowledge that financial information directed at the primary objective of providing information useful for investment, credit, and similar resource allocation decisions is useful for other purposes, including assessing management's stewardship. (IASB 2005a, para.24)

O'Connell (2007, p216) argues that "the International Corporate Governance Network (ICGN) has publicly stated its belief that not including stewardship as an explicit goal would be 'unfortunate'". He further states that "the deemphasizing of stewardship could also have important and perhaps unforeseen impacts on areas such as the future development of social and environmental reporting." (p216). This shows that if we have *objectivity* and *neutrality* clauses in representing financial reports then of course at the *alleged* and *referent* level, though not impossible, it would be difficult to get a consensus as to what could be an objective discharge of accountability through such reporting. We argue that the IASB/FASB should indentify the gaps, depending on the strategic selection of epistemic positions, before setting rules for the inclusion of separate reports to represent such a gap.

Baudrillard (1983) also alerts that:

Power too, for some time now produces nothing but signs of its resemblance. And it at the same time, another figure of power comes into play: that of a collective demand for *signs* of power – a holy union which forms around the disappearance of power. (p45)

In this sense, there could be power struggles for many aspects of standard setting processes including IAS harmonization projects. However, we are not dealing with the determination of such processes in this paper.

... The very definition of the real becomes: *that of which it is possible to give an equivalent reproduction*...the real is not only what can be reproduced, but *that which is always already reproduced*. (p146) that is, the hyperreal... which is entirely in simulation.

Baudrillard (1983) argues that:

The Hyperreal transcends representation only because it is entirely in simulation. (p147)... Today, when the real and imaginary are confused in the same operational totality, the aesthetic fascination is everywhere... Reality no longer has the time to take on the appearance of reality...The principle of simulation wins out over the reality principle just as the principle of pleasure. (p152)

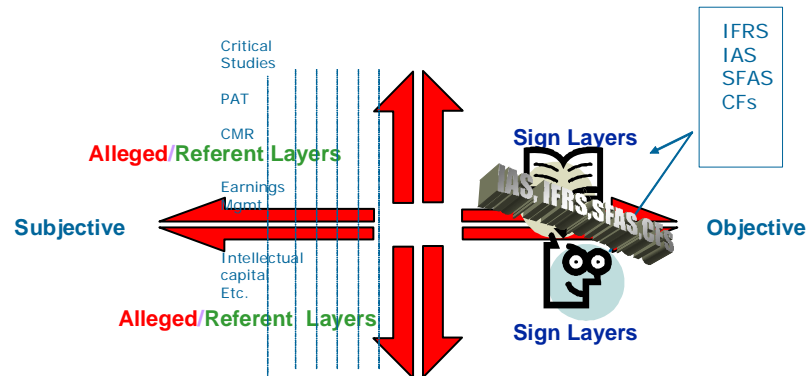
Similar to Jean Baurillard, we believe, some of the ALORE (if not all) items may have the characteristics of the hyperreal (economic or other realities) which can only be apprehended through social construction and in simulation. For example, the fair value determination at the third tiers (Hitz 2007) for many organisations may have similar characteristics.

In addition to the metaphors of sign-to-referent our considered third term is '*alleged or imaginary*'. This is used based on the exiting literature (cf. Ijiri 1886, 1989; Ijiri and Neol 1984, Mattessich 2003 and Ravenscroft and Williams 2009). At the meta-level works, including studies in capital market research (Beaver 2002, Jensen and Meckling 1976, Watts and Zimmerman 1978; and Sutton 1988), intellectual capital (Lev 2001, Aboody and Lev 2000, Lev and Sougiannis 1996)⁸, earnings management (Schipper 1989, Beaver et al 1979 and others) and a great deal of positive accounting as well as interpretive/critical field studies or ethnographic studies can be included on this layer. To reiterate, the assumption on the selection of any layer other than *sign* level will be value laden. The selection of any layer is however centered on value based epistemological choices and ontological beliefs about reality. In any case, the thrust for this alleged or imaginary layer is to improve the practice and unveil the gaps from the *sign* level of objective derivation of information through financial reporting using extant standards and regulations. The creation of such a level is dependent on the paradigms that are in existence in our discipline of accounting including mainstream, interpretive, critical or even postmodern (Chua 1986) researches in the financial reporting arena. In this regard, it should be mentioned that although McIntosh et al (2000) cast a doubt over the studies employing information economics

⁸ For example, Lev (2001) argued that "there is often large difference between the capitalised value of an entity and the net assets reported by that entity". Even with the adoption of AASB 138, there is strictness of the rules relating to the recognition of internally generated intangibles. This is indicative of differences between sign to alleged reality. Some more references for studies in intangibles and intellectual capital area: Forsman (1995), Bontis (1998), Jenkins & Upton 2001, Craig and Moore (2004), Matolcsy and Wyatt (2006), Sujana and Abeysekara (2007), Olsen et al (2007), Chalmers and Godfrey (2006), Cuganesan and Petty (2004), Barth and Clinch (1998), Wyatt (2005), Seetharaman et al (2002), Seetharaman et al (2004), Barth et al (2001), Aboody and Lev (1998), Healy et al (2002), Hoegh-Krohn and Knivsfla (2000), Godfrey (2001), Godfrey and Koh (2006), Foster et al (2003), Hunter et al (2005), Gelb (2002), Ritter and Wells (2006), Talha (2004), O'Conner and Feng (2005), Stolowy and Jeny-cazavan (2001).

(as if they were referring to the work of capital market research or positive accounting research), we argue, such studies are inevitable to create an imaginary or alleged level in identifying the gaps although we are not claiming that, as far as the information provision for decision usefulness or otherwise, these are objective exercises. Rather, these exercises are subjective in identifying the missing elements (measurement or accountability gaps).

Figure 1. Relationships among Sign to Alleged to Referent for ALORE items



At the alleged level the aim is to improve and/or unveil the practice of accounting for better usefulness or just and fair representation - although, of course, in a value laden way. Here we see the value of the work of Latour (1987) and Callon (1986) having an emancipatory power in freeing some language sets of our understanding of how the metaphors can be useful and create persuasive power. Chua (1995) draws on the works of Latour (1988) and Callon (1986, p 116) as well and argues that:

... the work of Latour and Callon draws attention to the persuasive power of non-human resources such as visual inscriptions, academic texts and “centre of calculations” (Latour 1988). Paper work such as formulae, graphs and charts are argued to possess many rhetorical advantages: they are mobile, immutable, recombinable and are perceived to be built on many facts. Most important of all, inscriptions make black boxes visible... Visualization is especially persuasive... Inscriptions further enable the exercise of comparative, normalizing judgement. This in turn permits action from distance, enabling people far away from the scene of activity to ostensibly have a window on those activities and intervene in the name of better management.

In this sense, at the alleged level capital market research, intellectual capital research, critical studies or other related work on financial reporting, as shown in Figure 1, can be seen as an attempt to derive an imaginary world in which organisations or users of financial statements use information for decision usefulness purposes and to perceive a better understanding of accountability (understandings which are subjective given space-time and contextual).⁹

⁹ However, it should be mentioned that the list of board research categories as has been shown in Figure 1 cannot be considered as exhaustive.

3. DUALITY CHECK USING THE (PREVALENT) ACCOUNTING EQUATION

The current accounting equation that we know until today assumes that information or values of all layers such as *sign* to *alleged* to *referent* [or any other selected layers (Mattessich 2003) of choice] are equal (as in Equation 1 below) and seen as transparent and known like the ancient Sumerian world (cf. MacIntosh et al 2000). There are no gaps in discharging accountability to the users of financial statements and/or the greater community. Thus, the relationships of wealths among our selected three layers can be stated as follows:

$$Wealth_{sign} = Wealth_{alleged(imaginary)} = Wealth_{referent}$$

Whereby at all three levels the application of the prevalent Accounting Equation will result in same wealth determination as follows:

$$\sum_{i=1}^n A_{ti} = \sum_{i=1}^n L_{ti} + OE_{ti} \quad (\text{Eq. 1})$$

$$\text{Where: } OE_{ti} = OE_{t-1} + \left(\sum_{i=1}^n R_{ti} - \sum_{i=1}^n Ex_{ti} - \sum_{i=1}^n COE_{ti} \right)$$

A_{ti} = Assets at time t period for i th item

L_{ti} = Liabilities at time t period for i th item

R_{ti} = Revenue at time t period for i th item

Ex_{ti} = Expenses at time t period for i th item

COE_{ti} = Contribution to owners equity at time t period for i th item

Equation 1 is valid and from it we would be able to determine the economic reality (wealth) using the conventional accounting systems *only* if it is a static like Sumerian world as suggested by MacIntosh et al (2000), where there exist none of the following including information asymmetry, inflation/depletion; gaps in discharging accountability and other imperfections. But, if we deviate from the assumption of the static world view whereby the information or values of *sign* to *alleged* to *referent* (or otherwise) for any of the ALORE items which does not match or cannot represent realities, then the use of the current accounting equation such as Equation 1 for the duality check in determining economic wealth (or otherwise) cannot be considered as real. In a dynamic world, an absolute equality may not be possible between layers if compared with the *sign* (objective) values due to the differences of fair valuations of wealth and recognition of fair income determination and even for inappropriate considerations of accountability discharging. These differences may arise as consequences of many factors including time dimensions, lack of appropriate measurement tools, different perception of realities and accountability discharge. Thus, there is a necessity to develop an augmented accounting equation, assuming information or values created through *sign* is not equal to *alleged* or to *referent* if considered independently in a dynamic (which is somewhat indicative of the *hyperreal* - cf., Baudrillard 1983, 1994a) world in which we live in and which can ultimately capture gaps/differentials in differing space-time. Here, the question remains as to whether the output of GPFR is the result of the application of the conventional accounting equation *only* whereby wealth is measured by comparing the transactions based changes on past events. Also, does the GPFR meet the general objective of financial reporting in displaying the entity's social and economic reality entirely?

Following Mouck (2004), Baker (2006) argues that:

The concentration of accounting standards setters on reaching a consensus about the rules can be clearly explained by the theoretical framework offered by Mouck (2004) who argues that while some financial accounting representations (e.g. monetary assets and obligations; ownership claims) may be connected with knowable facts (i.e. epistemologically objective), other financial accounting representations come into existence only through a set of rules. Thus, the rules of financial accounting are like the rules of a game. Once the rules are established, the representations made in accordance with the rules can be said “objective” with respect to the rules, even if they do not represent an underlying economic reality (Mouck 2004, p540).

The creation of *signs* (the information provision through financial reporting at any given time and space) by an entity, we also argue, by following existing standards, rules and regulations such as IFRS, IAS or SFAS are objective because at a given time and space the GPFR is an objective creation using the existing regulations. As we introduce the dynamic (and/or changing) nature of our contemporary world - in a hyperreal or post-modern sense - into the determination of wealth (economic or otherwise) the signs may not be equivalent with any other selected layers. In our case, *alleged to referent*, which is very much in the form of socially constructing (Mehan and Wood 1975, Hines 1988) and subjective.

Thus, if the information provisions (values or otherwise) derived from *sign* to *alleged to referent* are not equal, then the following plausible relationships may prevail for our three selected layers:

$$Wealth_{sign} \gtrless Wealth_{alleged(imaginary)} \gtrless Wealth_{referent}$$

As the determination of economic reality or wealth and/or accountability discharge moves from *sign* to *alleged* (imaginary) to *referent* (or any other layers *per se* such as *hyperreal*) the subjectivity will be greater. If comparison is made between layers *per se* it may be either greater or lower or approximately equal. The chances of the comparisons being equal may be rare unless there is an offset between the right and left sides of the accounting equation among the ALORE items. Because, using Baudrillard (1994a) words, “representation stems from the principle of the equivalence of the sign and of the real” (p6), when we move from layer to layer and compare *signs* (objective values) to other layers there will always be differentials. At the extreme, it may become an illusion in the end if comparisons are made from *sign* to *referent*, at least for some of the ALORE items, if not for all. Once again, Baudrillard’s (1994a) argument is as follows:

When the real is no longer what it was, nostalgia assumes its meaning. There is a plethora of origin and signs of reality – a plethora of truth, of secondary objectivity, and authenticity. (pp 6-7)

In this sense, to satisfy the existing *signs* in the production of GPFRs consistent with the objective of such preparations including *objectivity*, *reliability*, *comparability*, *relevance* and *neutrality* (amongst other things) can become more subjective as we move from layer to layer to determine economic wealth and an appropriate level of accountability discharge in dynamic environments.

As well, our analogies of three layers have also historical contexts in the accounting literature. In moving from *sign* level to the *alleged* level there is a shift of metaphors

as well. Over the last few decades the metaphors of *decision usefulness* (eg Beaver 2002) and *information content* used in capital market research are good examples of such a shift. At the alleged level if we are to reflect the wealth (economic or social) using the metaphor of accountability then we see it has become more subjective and the differentials become greater. Recent studies in environmental accounting including Emission Trading Scheme (ETS) are good examples of shifts from alleged to referent layers which in a sense will be more subjective if one attempts to identify the gaps among *sign* to *alleged* to *referent* levels for fair and just representation.

As has been stated earlier, Baudrillard (1983) argues that of the same order as the impossibility of rediscovering an absolute level of real is the impossibility of staging an illusion. "Illusion is no longer possible, because the real is no longer possible." (p 38) He further argues that "ideology only corresponds to a betrayal of reality by signs; simulation corresponds to a short-circuit of reality and to its reduplication by signs. It is always the aim of ideological analysis to restore the objective process; it is always a false problem to want to restore the truth beneath the simulacrum." (p 48) And, he goes on to argue that: "In its indefinite reproduction, the system puts an end to the myth of its origin and to all the referential values it has itself secreted along the way." (p 112) Therefore, at the referent layer, though not impossible, it would be difficult to get equivalence from *sign* to *referent* for some of the ALORE items and represent accountability discharge completely. For example, in a recent study on social and environmental reporting Spence (2007) argues that the production of environmental disclosures is a business case rather than the production of absolute reality. Spence (2007, p 855), in particular, argued that "both SER (social and environmental reporting) and corporate social responsibility (CSR) are driven by numerous motivations, although these motivations essentially form part of a business case". This is an indication that there exist gaps between created *sign* and *referent* in that the absolute level of representation has not been made which is dependent on ideologies being adopted. Further example, Messner (2009) argues that "a consideration of limits of accountability is crucial if we want to understand the full ethical dimension of practice of exchanging accounts" (pp 936-937). This is indicative of gaps which will always remain between *sign* to any other layers depending upon the limits of accountability. Roberts (2009) argues that "accountability is thereby reconstituted as a vital social practice – an exercise of care relation to self and others, a caution to compassion in relation to both self and others, and an ongoing necessity as a social practice through which to insist upon and discover of our responsibility to and for each other" (p 969). In this sense, once again, whatever accountability discharge is created by the *sign* using the prevalent standards or rules there will always be gaps from *sign* to *alleged* to *referent* or any other layers *per se* for such presentations.

Baudrillard (1983) argues that "The hyperreal represents a much more advanced phase, in the sense that even this contradiction between the real and the imaginary is effaced. The unreal is no longer that of dream or fantasy, of a beyond or a within, it is that of a *hallucinatory resemblance of the real with itself*" (p 142). He further argues that "the very definition of the real becomes: that of which it is possible to give an equivalent reproduction (p 146). That is, "the hyperreal transcends representation (cf. J.F. Lyotard, *L'Art Vivant*, number of hyperrealism) only because it is entirely in simulation. (Baudrillard 1983, p 147)

Baudrillard (1983) defines hyperrealism as "*It is reality today that is hyperrealist*" (p 147). He argues that "today it is quotidian reality in its entirety – political, social, historical and economic – that from now on incorporates the stimulatory dimension of

hyperrealism” (p 147). In this sense, the influential theses of Ijiri (1986) that the impulse can be measured for some of the ALORE items which will ultimately improve conventional accounting practices in representing the augmented reality of wealth (or otherwise) determination is worthwhile to be revisited.¹⁰ This is not to claim that it is the end of metaphysics in the era of *hyperreality*; rather, wealth at the *alleged* or *referent* level (or any other selected layer) is in simulation and will have greater differentials.

Since there exists hyperreal interactions in our contemporary dynamic world for which there is a need to recognise the interconnections between society, history, organisations and accounting theory and practice (Lodh and Gaffikin 1997) and therefore wealth and other determinations will be dependent on making interdependencies visible. At this level there is a need for a “new ‘intelligent’ processes of accountability that secures the relational nature of interests” (Roberts and Jones 2009, p 11)

4. AUGMENTED ACCOUNTING FRAMEWORK (EQUATION)

Following on from the differential relationships among layers as discussed in the earlier section the following augmented accounting equation is derived to indicate differentials (gaps) in the conventional accounting equation for all ALORE items:¹¹

$$\sum_{i=1}^n A_{ti} \pm \sum_{i=1}^n \lambda_{A_{ti}} \approx \left(\sum_{i=1}^n L_{ti} \pm \sum_{i=1}^n \lambda_{L_{ti}} \right) + OE_i [OE_{t0} + (R_t \pm \sum_{i=1}^n \lambda_{R_{ti}}) - (Ex_t \pm \sum_{i=1}^n \lambda_{Ex_{ti}}) - (COE_t + \sum_{i=1}^n \lambda_{COE_{ti}})] \quad (\text{Eq. 2})$$

Where λ_i (differentials from *sign* to *alleged* to *referent* values for i^{th} items) = the difference between signs (allowable measurement or allowance of accountability discharge on reality/value/resources and obligations/revenues/expenses by standards (IFRS, IAS, etc) along with entity specific judgements) and alleged or referent layers which are the estimation or impressions of the imaginary and referent (tracing true realities/ values/prices of resources/obligations/expenses/and revenues in totality sense).

Thus, following from the *sign* to *alleged* to *referent* metaphors, a claim is that the one-to-one correspondence is still possible for a taken as granted static world. That is, if all the values (or otherwise) remain stable for all the ALORE items with no inflation or deflation and transparent and determinant, the accounting’s role for duality check using the accounting equation that we know today is valid. Otherwise, it is the augmented accounting equation (Equation 2 above) which is indicative of the gaps with missing elements (if any), given differing epistemic choices and ontological assumptions about reality is possible. Once again, of course, this is not to claim that it is an easy solution for the identification or measurement of differentials at various layers; rather, it is an indication about the plausible gaps/differentials in representing accounting’s role for duality check by the prevalent Accounting Equation for equality.¹²

¹⁰ See the Appendix A for some of the works of Ijiri (1986, 1989) and relations with our augmented frameworks as far as the determination of forces are concerned.

¹¹ Of course, we are not claiming that this is a complete equation to represent the absolute reality. There is a need to add accountability gaps in the equation as well to show the plausible absolute reality; which we believe, is subjective in nature and in simulation in a hyperreal sense.

¹² Of course, this can only be valid if a ‘balance sheet approach’ is considered.

An observation of this augmented equation is that for a given space-time the left and right sides of the equation may not be equal given the gaps on the provision of information (values or otherwise) from *sign* to *alleged* to *referent*, which are considered independently; it is unlikely given there is a situation of offsetting in a pair wise comparison (ie, *sign* and *alleged*, *sign* and *referent* or *alleged* and *referent* or vice versa). Thus, it is obvious that gaps/differentials between the right hand and left hand sides of the augmented equation can either be positive or negative or approximately equal. That is, if the accumulated *sign* to *alleged* to *referent* values for all resources/left-hand-side is greater then the accumulated *sign* to *alleged* to *referent* values of all right-hand-side for obligations or accountability discharges (ie, $\pm \sum_{i=1}^n \lambda_{Aii} > [\pm \sum_{i=1}^n \lambda_{Lii} \pm \sum_{i=1}^n \lambda_{Rii} \pm \sum_{i=1}^n \lambda_{Exii} \pm \sum_{i=1}^n \lambda_{COEii}]$); then there is a positive values for *sign* to *alleged*, *sign* to *referent* or *alleged* to *referent* for the entity for a given time and space under consideration. On the other hand, if the accumulated differences from *sign* to *alleged* to *referent* values for all resources is less then the accumulated differences from *sign* to *alleged* to *referent* values of all right hand side of the augmented equation (ie $\pm \sum_{i=1}^n \lambda_{Aii} < [\pm \sum_{i=1}^n \lambda_{Lii} \pm \sum_{i=1}^n \lambda_{Rii} \pm \sum_{i=1}^n \lambda_{Exii} \pm \sum_{i=1}^n \lambda_{COEii}]$); then there is a negative value for the entity under consideration.

Three possible relationships and differentials or gaps for duality check:

a. Differential comparing $Wealth_{sign}$ with $Wealth_{alleged}$:

$$(A_{Sign} \pm u'_{A_{Sign-alleged}}) > \cong < OE_{Sign} + (L_{Sign} \pm u'_{L_{Sign-alleged}}) \quad (Eq. 3)$$

Where the differential can be either $\pm u'_{A_{Sign-alleged}} > u'_{L_{Sign-alleged}}$ or $\pm u'_{A_{Sign-alleged}} < u'_{L_{Sign-alleged}}$

Alternatively:

$$A_{Alleged} = IE_{Alleged} + L_{Alleged} \quad (Eq. 3a)$$

Where $IE_{alleged}$ = Impression Equity (wealth) at the alleged level.

u' = Aggregate gaps between *sign* and *alleged* values

b. Differential comparing $Wealth_{Sign}$ with $Wealth_{referent}$:

$$(A_{Sign} \pm u''_{A_{Sign-referent}}) > \cong < OE_{Sign} + (L_{Sign} \pm u''_{L_{Sign-referent}}) \quad (Eq. 4)$$

Where the differential can be either $\pm u''_{A_{Sign-referent}} > u''_{L_{Sign-referent}}$ or $\pm u''_{A_{Sign-referent}} < u''_{L_{Sign-referent}}$

Alternatively:

$$A_{referent} = IE_{referent} + L_{referent} \quad (Eq. 4a)$$

Where $IE_{referent}$ = Impression Equity (wealth) at the referent level.

u'' = Aggregate gaps between *sign* and *referent* values

c. Differential comparing $Wealth_{alleged}$ with $Wealth_{referent}$:

$$(A_{alleged} \pm u'''_{A_{alleged-referent}}) \geq \cong \leq OE_{alleged} + (L_{alleged} \pm u'''_{L_{alleged-referent}}) \quad (\text{Eq. 5})$$

Where the differential can be either $\pm u'''_{A_{alleged-referent}} > u'''_{L_{alleged-referent}}$

or $\pm u'''_{A_{alleged-referent}} < u'''_{L_{alleged-referent}}$

Alternatively:

$$A_{referent} = IE_{referent} + L_{referent} \quad (\text{Eq.5a})$$

Where $IE_{referent}$ = Impression Equity at the referent level.

u''' = Aggregate gaps between *alleged* and *referent* values

The relationships among the three levels of economic and social wealth will be as follows:

$$W_{sign} \geq \cong \leq IW_{Alleged} \geq \cong \leq IW_{referent}$$

If wealth at *sign* level is greater than wealth at the *alleged* level then the relationship between value *sign* and value *alleged* can either $V_{sign} - u' = \text{value } alleged$ or $V_{sign} + u' = \text{value } alleged$ (of course, there is a need to consider this for i^{th} item). u' is differential at time t (difference between *sign* and *alleged* value at time t). Finally, if the *sign* value is the same as the *alleged* value then the relationship is $V_{sign} + 0 = \text{value } alleged$; which will be a rare case given the subjectivity of the derivation at the *alleged* level. In any case, we are assuming such a derivation, as always, is socially constructing and subjective in nature. That is, whether it is either *alleged* or *referent* levels the determination of the provision of information may come from hundreds of sources (academic or practitioner) using differing instruments and assumptions – subjectivity is the game to identify reality with augmented models or frameworks.

5. FAIR VALUE CONTEXT AND THE AUGMENTED ACCOUNTING EQUATION: A NOTE

Our augmented framework does have an intuitive implication for many facets of accountings including the fair value debate. In September 2007 the FASB issued SFAS (Statement of Financial Accounting Standards) No. 157 on the measurement of fair value. It specifies amongst other things the definition and hierarchy to be used in fair value measurements. The issues of reliability and relevance and their trade-off in providing information to users are the triggering factors for such a pronouncement. The relevance ground has received greater support from many corners (academic and practitioner); though there are some critics (see Laux and Leuz 2009, Ryan 2008, and Plamrose 2009) of such an implementation. Laux and Leuz (2009) argue that “the fair

value debate is far from over and much remains to be done” (p 833). They argue that the fair value might not be suitable for investors and therefore it does not suit the business model of most banks if the investors hold illiquid assets to maturity. Whittington (2008) argues that “in a realistic market setting, the search for a universal measurement method may be fruitless and more appropriate approach to the measurement problem might be how to define a clear measurement objective and to select the measurement method that best meets that objective in the particular circumstances that exist in relation to each item in the accounts”. (p 139) Palmrose (2009) argues that the adaptation of fair value to reflect the economic substance may be useful for making economic decisions, but as heterogeneous users of financial statements may dismay the determination of fair values in particular using the mark-to-model approach (ie, tier 3 valuations, see Hitz 2007). She also argues that marking up through the marking-to-market approach (ie, tier 2, see Hitz 2007) to determine optimistic market values can be flawed in a bull market. It might even get worse “when market prices subsequently dropped, investors’ hopes and dreams – built on the margin and based on paper – evaporated into reality of despair”. (p 291) She further argues that “some worry that fair value accounting runs the risk of producing less accurate, less relevant and less auditable financial statements”. (p 291) Quoting from Silvers (2007, p 44), she states that fair value accounting “will lead to financial statements that are fundamentally less helpful in judging the operating performance of companies, and will likely encourage management and investors to think in shorter time frames than really best”. (p 291)

The SFAS 157 specifies that fair value should be based on market information rather than be entity specific. There are many cases where fair value may not be suitable - rather it is based on entity specific assumptions of their management forecasts. For example, as Whittington (2008) argues, “most notably, IAS 36, Impairment of Assets, bases recoverable amount on projected cash flows”, instead of the fair value. There are many examples of entity specific issues such as provisions and some revenue recognitions. The point here is that fair value excludes entity specific assumptions. Entity specific assumptions in our view are not only dependents on the measurement perspective, but also dependent on value based accountability discharges. For example, the value of a heritage asset or monument in an entity (public or otherwise) may need to reflect accountability more than a measurement of such values for a statement of financial positions for the entity. Therefore, identifying the gaps from the *sign* to a selected layer (*alleged* or *referent* or otherwise) and incorporating those to the augmented accounting framework can only serve the purpose of the preparation of GPFs; if it so desired.

One of the pivotal issues that we see in regards to valuation is that it is paradoxical in nature and depends on epistemological underpinnings. Mattessich (2003) argues that “accounting valuation is a methodological, not an ontological problem” (pp 460-461). The question then arises as to what comes first. Is it ‘ontology’ which leads to a methodology or vice versa? Gaffikin (2008, p225) argues that it is the ontological and epistemological issues that shape the methodologies through which knowledge of accounting is constructed. As well, it is well accepted in the accounting literature (at least in critical accounting literature) that the “world view” (the knowledge claim) is based on value based assumptions about “ontology”, “epistemology”, “methodology” and the purpose of the research (Chua 1986, Cooper 1983, Hopper and Powell 1985). Whilst we are not disagreeing with Mattessich in that “every process of valuation is a social reality, derived from *mental* reality of having preferences” (p 460); but such a

view on the valuation is a simplistic notion. In particular, what we disagree with Mattessich (2003) over is that it is the epistemic status of the person(s) or body (ies) which leads the process and on which it is very much dependent on for the real measurement of economic wealth (including the measurement of ALORE items) and identifying the gaps for accountability discharge. This exercise in identifying the augmented reality can come from various epistemic standpoints from a very subjective to an objective viewpoint (see Chua 1986 and Hines 1988 for such differences in assumptions).

It is not an underestimation to say that an enormous amount of dynamisms and invisibilities face accounting practices. For Chambers it was the *adaptive capacity* of the firm which matters in changing economic realities (Chambers 1966 and Sterling 1970). Therefore, to him it is the fair value (*exit price*) of assets that are the financial resources available to management and that are the reflection of adaptive capacity at any given point in time. Chambers's ideal, though nice to think in theory, was criticised with a crux of questions of how to determine the fair value(s).¹³

We live in an uncertain and imperfect world as far as economic reality is concerned. Not only has there been debate over the last half century in regards to inflation accounting and the fair value adaptation but there has been a lack of proper guidelines/standards on how to present financial reports that are useful to a wide range of users. That is, financial reporting has not only lost credibility for economic decision usefulness purposes in recent times but also it cannot represent the highest degree of societal accountability. Hence, there are wider gaps in relation to measurement perspective as well as what is to be represented for social accountability (Chen 1975). The adoption of fair value accounting, for example, received enormous criticism on the grounds of relevance as is evident from the economic crisis that we are facing today. Whittington (2008) argues that “critics of fair value are, in fact, offering alternative world view of financial reporting, although this view usually is not well articulated” (p140). According to Whittington (2008) again: “The alternative view is more difficult to articulate than the fair value view because it is drawn from a diverse range of constituents of the standard-setting process who are typically commenting on particular issues from a practical perspectives, rather than attempting to develop a coherent model of financial statement presentation in the manner of the authors of the Framework.” (p 158

Whittington (2008) further suggests that:

The fair view emphasizes the role of financial reporting in serving investors in capital markets. It seeks accounting information that has a forward-looking content, impounding future cash flows from non entity specific markets are complete and competitive; ideally, perfect markets would be accessible. (p 160)

¹³ Use of replacement costs (deprival value – Mattessich 1995, 2003) in the absence of appropriate measures may not be suitable to represent the reality as well. An example can be taken from a practical experience of the first author: during 2008 he wanted to refinance one of his loans with a bank. The bank's requirement was to obtain a valuation from the bank's recognised representative measurers. The valuations are undertaken within two week time by three representatives. The three representatives provided three different valuations for the property. The difference from the lowest to the highest was \$110K. Once enquired of from the highest value quote measurer, the information obtained was that the valuation was based on replacement costs. It was not an appropriate exit price either.

The Alternative View also seeks to serve investors, broadly defined, but it gives priority to existing shareholders and regards stewardship as an important and distinct function of financial reporting. It too seeks accounting information that is relevant to forecasting future cash flows, but it assumes that this will often be achieved by providing information that is useful input to investors' valuation models, rather than direct valuation of future cash flows. Such information may be entity specific. This approach assumes that information asymmetry and imperfect and incomplete markets are common. (p 160)

To reiterate, Hitz (2007), from a theoretical perspective, shows that an estimation of fair value in principle has three-tiers of hierarchy. First, market- based measure is a best estimate of fair value provided there is an active *liquid market* for regular trading of the item (asset). If the market prices do not exhibit sufficient quality or are not available, Hitz argues that the second level of the estimation hierarchy requires considering market prices of comparable items (assets). The problem here is that in many scenarios comparable valuation depends on the imaginations or impressions depending on time and space. If this *marking-to market* fails to determine the fair value then as a last resort the use of an internal estimate (the use of fundamental analysis) to be used for fair value determination. This valuation method is called *marking-to-model* which has also a serious problem and is dependent on the assumptions of how such knowledge can be constructed. If mainstream assumptions (Watts and Zimmerman 1990) are considered as those on which most of the Conceptual Framework was based over the past two to three decades, then the objective of the GPFs including *objectivity*, *neutrality*, discharging *accountability* to users and *relevance* need to be revisited. On the other hand, if alternative subjective ontological assumptions are considered where reality is considered to be socially constructing, subjective and somewhat hyperreal (Baudrillard 1983) then we need to adopt an augmented framework. This will, at least, we believe, indicate that there will always exist gaps between expected layers and indentifying those would make the current accounting equation complete. Otherwise, blaming would be the name of the game.

Thus, the relationships at three levels of Fair Value will be as follows:

$$FV_{Sign} > \cong < FV_{Alleged} > \cong < FV_{referent}$$

What we are alluding to here is that at the *sign* level the preparation of fair value determination is objective (what else could it be?) in the identification of *wealth* (economic or social) and it becomes subjective when we move through to a different layer (which is similar to the concept of OMR as advanced by Mattessich 1995, 2003¹⁴) – *sign* to *alleged* to *referent*. Then, of course, we move further to the absolute reality level or hyperreality level or dreaming or illusion level – which is like a *hallucination* (Baudrillard 1983). An example can be taken for the valuation of certain assets in public or not-for-profit sectors including valuation of heritage asset, monuments, etc.

¹⁴ The question to Mattessich, however, is how big or small will the onion(s) or their layers be? Do these onions exist or are the layers knowable... how many layers? .. What are the time and space... again? What about the assumptions on “world view” (knowledge claim)?

6. CONVINCING ARGUMENTS AND FURTHER POSSIBILITIES AND CAVEATS

We argue that our augmented framework has a lot of appeal and can be used for sensitising and improving many facets of accountings including financial reporting to identify the gaps in representing economic and social realities considering entity specific issues in deferring space and time. An example for such a gap analysis is suggested by Graul and Lekeme (1976). They have dealt with gaps that may arise in representing the economic substance of deferred taxes by the government bodies. In particular, they propose that new equity categories be created in the balance sheet to show the amount of deferred tax funds provided by the government incentive policies. Therefore, they suggested that:

The accounting equation should be changed accordingly from ‘Assets = Liabilities + Owners’ Equity’ to ‘Assets = Liabilities + Government Equity Investments + Owners Equity’. This expansion of the basic accounting equation reflects the reality that government has what is in economic substance a peculiar *equity* interest in the firm. (p 24)

Likewise, we believe, for many facets of accountings including representations of greater accountability and stewardships in financial reporting there is a need to identify the gaps depending on the layers of comparisons (ie, *sign* to *alleged* to *referent*).

7. CONCLUSION

This paper is an attempt to assess the duality check of wealth determination using the prevalent Accounting Equation. In a dynamic environment it is suggested that there is a need for an augmented framework for better representation of economic and social reality through financial reporting. For such an improvement we have extended the current accounting equation with an augmented framework using three metaphors – *sign* to *alleged* to *referent* – which can be useful for standard setting bodies or in the preparation of Conceptual Frameworks including FASB, IASB and SFASB. We conclude from our discourse that the prevalent IFRS, IAS, SFAS and CFs are considered to be *signs* and having *epistemic objectivity*. That is, the determination of wealth based on the prevalent *signs* is objective. Whilst any different layer is considered other than the *sign* level and if a comparison is made pair wise, there will always be differentials/gaps in the current Accounting Equation and therefore there is a need to use an augmented framework such as advanced in this paper.

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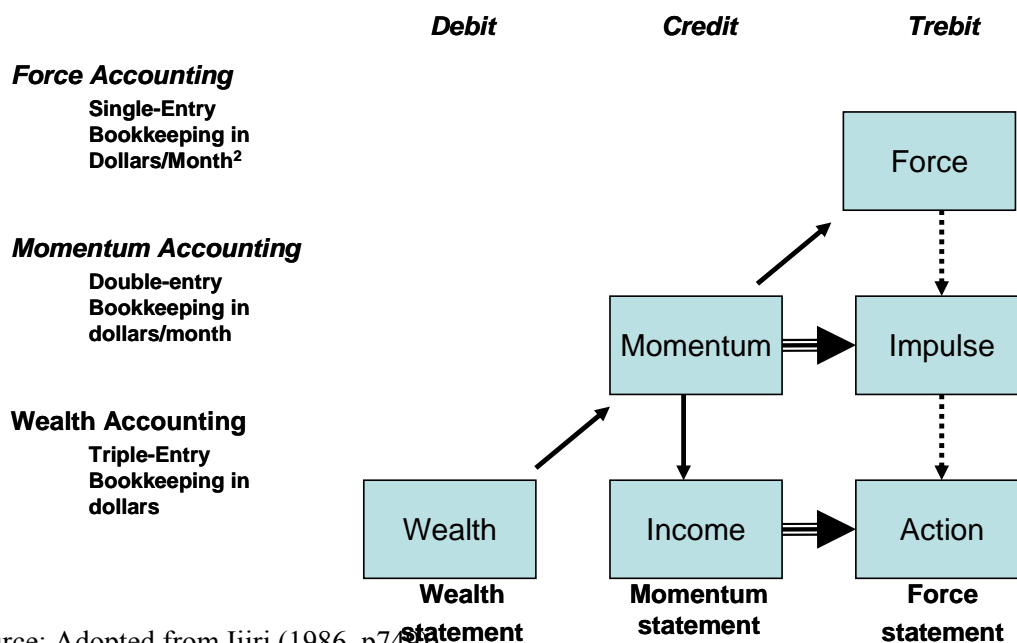
Appendix A: Ijiri (1986, 1989) - Momentum and Force Accounting

Ijiri (1989) extended the structure of conventional accounting¹⁵ measurements upon two fundamental axes: *time* and *component*. Using a *time* axis it is viewed that the accounting measurements are functions of time which allows developing new measurements from the conventional ones by taking their time derivatives and time integrals. And, using the component axis, Ijiri (1989) argues that accounting measurements have in common an important additional property which can form a hierarchy of measurements by means of the component-summary relationships. (p3)

He argues that:

The component summary relationship is the most fundamental relationship that ties numerous measures together to form a structure. It is also an indispensable step in explaining one's activities and their consequences in the complex accountability relationships that exist today in organisations. (p3)

Ijiri (1986) has advanced a framework by extending the existing double-entry bookkeeping to triple-entry bookkeeping as follows:



(Source: Adopted from Ijiri (1986, p74))

- A Derivative relationship
- An Integral Relationship
- ⇒ A difference relationship

Following his earlier work (Ijiri 1982), Ijiri (1986) argues that “(s)ingle-entry bookkeeping dealt with only stock accounts, such as assets and liabilities, while double-entry bookkeeping extended it to also include flow accounts, such as revenues and expenses, under an interlocking, articulated framework” (p476). Following on DeRoover (1946), Ijiri (1989) further argues that “the duality of transactions (each having a debit and a credit account) along with the use of income (profit and loss) accounts, have long been accepted as the essentials of double entry bookkeeping.” (p29)

¹⁵ According to Ijiri (1989), the conventional accounting is “that part of accounting which records financial transactions of an entity and reports their summaries in financial statements using the system of double-entry bookkeeping” (p1)

Ijiri (1986) has introduced four additional concepts in developing a frame-work of triple-entry bookkeeping: momentum, impulse, forces and action (see the above diagram). Ijiri (1989) explains of how the concept of momentum can be used to contrast conventional *wealth accounting*¹⁶ with *momentum accounting*. Ijiri (1989) borrowed the term *momentum* used in Newtonian mechanics; especially he used the term *inertia* principle as an analogy to comprehend the relationship momentum and income generation process. According to Ijiri (1986), *momentum* is a rate at which wealth is changing or equivalently the rate at which income is being earned. (p747) According to Ijiri, it can be measured at any single point in time. For example, according to Ijiri (1989), under the historical momentum principle, “the momentum is an item acquired is set equal to the momentum of an item given up in exchange, until the change is confirmed by the change in momentum”. (p747) Borrowing a concept from Galileo and Newton on the perception of motion Ijiri (1986) explains as to how motion and force are interrelated. It is argued that in a Newtonian principle that any “moving object in the natural world continues its linear motion with the same velocity in the absence of force”. (Ijiri 1989, p44) The term impulse is used to denote an explanation of change in momentum such as income is an explanation for a change in wealth. The concepts of impulse and momentum are related under an explanandum-explanans relationship. (p46) That is, in accounting, Ijiri (1989) argues that:

“Changes in earned wealth are accounted for by income, and changes in net momenta are accounted for by impulses. Moreover, income itself is further accounted for by means of momenta and by their changes, along with their timings of changes.” (p57)

Therefore, due to the dynamic nature of our (*hyperreal*) world the momentum can either dissipate or bring to visibility with an increment if determinable which may help management to choose actions. Whereby (managerial), according to Ijiri, action and impulse exactly relates to income while impulse relates to momentum. Ijiri (1989) borrowed the term force from mechanics to extend a structure for an accounting measurement tools using triple-entry bookkeeping. Ijiri (1989) has shown the derivation of momentum, impulse and forces using accounting examples for the present (current) financial status (see Ijiri 1989 for detailed accounting examples). Ijiri (1989) notes that:

In conventional accounting the need to forecast the future in determining a past performance measure is minimized by the use of the historical cost principle. In the same way, in momentum accounting we would like to minimize the need for forecasting by concentrating our effort on the fair representation of the earning rate at the present rather than at a near-term future. ... The reason for our desire to minimise forecasting elements is the fundamental need in accounting to make measurements as objective as possible. If subjectivity were fully acceptable, the basic performance measure, $w(t)$, in the structure of accounting measurements could be based on net present value of the future cash flows. (p95)

Whilst Ijiri (1989) was in the opinion of extending the conventional accounting (wealth and income relationship) up to the momentum measurements for performance measures by the users of financial statements; he had also shown how to add force measurements by estimating the future values of $w(t)$'s under the assumption of *status quo*. The derived quadratic function for such an analysis, according to Ijiri (1989, pxx), is as follows:

$$\approx w(1 + \tau) = w(t) + \dot{w}(t)\tau + 0.5 \ddot{w}(t)\tau^2 \quad \text{for } t \leq \tau < 1$$

¹⁶ Wealth accounting refers to the explanatory relationship between wealth (stocks or asset minus liabilities accounts measured in a single point in time) and income sectors that is the essential ingredients in double-entry bookkeeping. The fundamental of double entry bookkeeping is based on this theme and mostly interpreted as being Stock (assets minus liabilities) = Flow, that is, the present state of wealth is explained or accounted for by the accumulation of income flows in the past (See Ijiri and Neol 1984).

An observation of Ijiri's work on the triple-entry bookkeeping is nice in theory in a static world, but once we consider the dynamic nature of our postmodern world the measurement and accountability aspects of some of the ALORE items would become subjective rather than objective which derived under the assumption of a *status quo*. However, one good aspect of his work is about the identification of force accounting whereby for the purpose of improving the provision of information from *sign* to *alleged* to *referent* there is a necessity to identify forces and their interdependencies in the determination of wealth (economic or otherwise) and for an appropriate discharge of accountability through the preparation financial reporting. In that circumstances the relationships among three levels of forces will be as follows:

$$F o r c e_{S i g n} > \cong < F o r c e_{A l l e g e d} > \cong < F o r c e_{r e f e r e n t}$$

Similar to our analysis the gaps can also arise in determining the real forces in differing layers such as *sign* to *alleged* to *referent*.