Abstract

“Decision usefulness” has been the organizing criterion for accounting policy and accounting scholarship for over forty years. Its authority however, was not gained over time through explicit theory development or argumentation, but was instead “born full grown” (Staubus, 1999, p. 163) as a conceptual “takeover in the dead of night” (p. 338). In essence, the concept of decision usefulness assumed a central place as the rationale for accounting choice by stealth rather than by careful argument or based on empirical evidence. The lack of an extended period of argumentation and debate over the meaning of decision usefulness meant its conceptual weaknesses were allowed to remain remarked upon but never resolved.

In this paper we argue that as the central focus defining and guiding accounting policy, decision usefulness has not proven any more useful than earlier, allegedly normative theories of accounting did. The recent debates on IFRS versus GAAP provide vivid testament to the inadequacy of decision usefulness as a criterion for selecting among alternative accounting choices. We briefly examine the history of decision usefulness and its emergence as the chief criterion for selecting policy. We then argue that in light of recent developments in our understanding of human decision-making and the shortcomings of conventional economic understanding, decision usefulness cannot be defined in a manner that allows its application to policy choice at either the micro (individual decision-maker) level or the macro, economy-wide level. We find that the current concept of decision usefulness is incoherent because policy makers and scholars have not seriously dealt with deeply-flawed ontological assumptions inherent in its definition and justification. We also describe how the decision usefulness criterion applied in the policy realm seriously undermines the current dominant methodology employed in accounting research to understand financial reporting phenomena. In our conclusions we argue for a root metaphor for accounting policy and research that is more consistent with the regulatory function of accounting in society, i.e., a more explicit return to accountability for understanding accounting and for making accounting policy.
RETHINKING DECISION USEFULNESS

Introduction

For over forty years the criterion around which financial reporting policy-making and related academic research has been centered is decision usefulness, i.e., when choosing among data and alternative ways to present the selected data, policy makers should select that reporting technique which produces the information most useful for economic decision-making by certain designated users. Further, the overriding quality that makes information useful is its contribution to more accurate prediction of future economic states. The proposed IASB Conceptual Framework explicitly states: “The objective of general purpose external financial reporting is to provide information that is useful (emphasis added) to present and potential investors and creditors and others in making investment, credit, and similar resource allocation decisions (IASB, 2008, p. 18).” However, at this particular juncture in the history of financial reporting, market participants using financial reports seem to have made and rather easily concealed some remarkably bad decisions; debates and power struggles about the framework for financial reporting continue unabated. The Nobel laureate Paul Krugman recently made the following observation about the state of financial reporting (2009, p. A27):

Let me quote from a speech that Lawrence Summers, then deputy Treasury secretary (and now the Obama administration’s top economist), gave in 1999. “If you ask why the American financial system succeeds,” he said, “at least my reading of the history would be that there is no innovation more important than that of generally accepted accounting principles: it means that every investor gets to see information presented on a comparable basis; that there is discipline on company managements in the way they report and monitor their activities.” And he went on to declare that there is “an ongoing process that really is what makes our capital market work and work as stably as it does.”

So here’s what Mr. Summers – and, to be fair, just about everyone in a policy-making position at the time – believed in 1999: America has honest corporate reporting, and also forces management to behave responsibly; and the result is a stable, well-functioning financial system. What percentage of all this turned out to be true? Zero.
The edifice that Summers refers to so glowingly and which Krugman indicates was an illusion, now borne out by historical events, was constructed on the rationale of “decision usefulness” as the basis for making accounting policy. Given recent events, it seems that now is a propitious time to rethink whether decision usefulness can ever be useful for shaping justifiable accounting policy, or for developing accounting theory and research (Young, 2005). We ask whether the accounting revolution spawned by the adoption of decision usefulness as the criterion for financial reporting choice and as the root metaphor for accounting scholarship (Ravenscroft and Williams, 2009) currently articulates even a minimally coherent basis for accounting as a social, regulatory practice.¹

Our purpose in this paper is to trace the evolution of the meaning of decision usefulness from when it was proposed by the American Accounting Association (AAA) to its current articulation by authoritative bodies representing the accounting profession. We will then describe the ontological premises that underlay the current concept of decision usefulness. This will be followed by discussions of three serious conceptual and operational flaws (genuine conundrums) inherent in the concept that make it incoherent as a basis for justifying public policy and for organizing accounting scholarship. We conclude with a summary and some suggestions about rethinking decision usefulness.

¹ Decision usefulness, we will argue, is more of the nature of a legitimating myth rather than a coherent rationale for doing accounting research and making public policy. According to Galbraith (2008, p. xvii) the purpose of such myths is to serve “...mainly as a device for corraling the opposition, restricting the flow of thought, shrinking the sphere of admissible debate. Just as even a lapsed believer kneels in church, respectable opposition demonstrates fealty to the system by asserting allegiance to the governing myth. This in turn limits the range of presentable ideas, conveniently setting an entire panoply of reasoned discourse beyond the pale of what can be said, at least in public, by reputable people.”
The Emergence of Decision Usefulness

Accounting practitioners and academic theorists have struggled since Paton’s seminal Accounting Theory to create a theory of accounting, the purpose of which is neither to describe what accounting practice currently is, nor to explicate a logical foundation of accounting, but rather to shape future choices amongst alternative financial reporting techniques. In 1966 two prominent academics stated that "Accounting is plagued by the existence of alternative measurement methods. For many years, accountants have been searching for criteria which can be used to choose the best measurement alternative," (Ijiri and Jaedicke, p. 474). The involvement of both practitioners and academic researchers is evident in the brief historical overview we present in this section of the paper.

An early, highly formal and influential articulation of criteria for standard setting appears in A Statement of Basic Accounting Theory (hence ASOBAT) (AAA, 1966). The American Accounting Association (AAA) charged the ASOBAT committee with the mission of defining a basic statement of accounting theory by providing a "cohesive set of hypothetical, conceptual, and pragmatic principles forming a general reference." The theory was meant to enable practitioners and standard setters to slice through the Gordian knot created by the various, conflicting alternative accounting measurement foci. An accounting theory, therefore, would justify the choices standard setters mandated. The ASOBAT committee defined accounting...

... as the process of identifying, measuring, and communicating economic information to permit informed judgments and decisions by users of the information. The concept of economics referred to in the preceding sentence holds that economics is concerned with any situation in which a choice must be made involving scarce resources. 2 The term

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2 Note ASOBAT refers to “informed judgments (emphasis added) and decisions” and to “all kinds (emphasis added) of limited resources.” ASOBAT did not specify who the judges and decision makers should be but only that accounting’s role was to inform them. “All kinds of limited resources” pretty much covers everything including air, water, security, physical and social health, democratic institutions, etc. and entails judgments and decisions that involve political and collective decisions as well as solipsistic actions in markets.
"measurement" includes the choice of an accounting method, as last-in, first-out to measure inventory or deferral of federal income taxes to measure income. (1966, p.1).

Although the committee asserts that decision usefulness is "the all-inclusive criterion" and recognizes that usefulness is defined contingent upon the user, the committee does not explicitly identify the users of accounting data (Young, 2006, p. 587). Instead the committee focused on the nature of information and designated relevance as the primary standard to be used in selecting among accounting alternatives because it reduces "uncertainty about the actual state of affairs of concern to the user" (p. 8). Nonetheless accounting professionals retain the responsibility of determining which information provides the most utility to accounting users because "especially in the case of accounting information, users often are not competent to determine what information is most useful to them or at least are not articulate in stating their needs (p. 3)." Thus, the individuals whose needs are most affected may not be the most informed about which data will lead to their benefit, so decisions about information must be made by others more qualified. However, the ASOBAT committee did not define higher qualifications, so how those people possessed of such can be identified is an open question, but presumably the Committee meant professional accountants.

Despite an emphasis on individual decision-making about scarce resources, the ASOBAT Committee did not limit reporting objectives narrowly. The committee stated that accounting served four primary objectives, with the third and fourth objective having a clear social welfare orientation. Accounting is to provide information for “maintaining and reporting on the custodianship of resources” and "facilitating social functions and controls" (p. 4, 1966). The latter objective is expanded upon considerably: "The accounting objective in this area is to facilitate the operations of organized society for the welfare of all," (p. 5, 1966).
In his history of decision usefulness theory, Staubus describes the reaction to ASOBAT as "instantaneous acceptance of the decision-usefulness objective by a substantial set of interested parties, especially academics and several members of the AICPA’s Accounting Principles Board and its staff," (1999, p. 159). The AICPA reinforced the centrality of decision usefulness in its fourth statement "Basic Concepts and Accounting Principles Underlying Financial Statements of Business Enterprises," (1970). The takeover occurred equally strongly and without truly critical examination amongst policy setters when the FASB adopted the concept. Staubus suggests that decision usefulness entered accounting thought born fully grown (1999, p. 337). Staubus observes that within academia the concept of decision usefulness was embraced for the most part unquestioningly and very rapidly:

It seems that at some date around 1967, most researchers adopted the unstated premise that decision usefulness was the test of good accounting. That development was like a neutral (neither hostile nor friendly) takeover in the dead of night. Decision-usefulness literature was seldom quoted, but all of a sudden the decision-usefulness objective was taken for granted (1999, p. 338)

As Staubus notes, even before the FASB reinforced the ASOBAT statement, academics weighed in. Beaver, et al. (1968) articulated a process for accounting method choice that supported standard setting based on decision usefulness. They proposed that predictive ability provided a meaningful way to resolve accounting method choice problems. “According to this criterion, alternative accounting measurements are evaluated in terms of their ability to predict events of interest to decision-makers (Beaver, et al.1968, p.675).” They claimed that the predictive ability “criterion is well established in the social and natural sciences as a method for choosing among competing hypotheses. It is our belief that alternative accounting measures have the properties of competing hypotheses and can be evaluated in a similar manner” (1968, p. 676). Inconsistently, they then concede that the decision-making criterion, per se, was
problematic for two reasons: we do not know the decision model of the decision-maker and, even if the decision model were specified, the model does not allow identification of which alternative measure of an argument in the model is better, i. e. "will lead to the better decisions (emphasis added)," (ibid, p.679). Despite these serious (and as we will later argue, insurmountable) weaknesses with the concept of predictive ability as the basis of defining decision usefulness, the concept quickly dominated the discourse of accounting policy making.

The rapid and wide-spread embrace of decision usefulness occurred even though skeptics raised concerns. For example, Greenball (1971) outlines a theoretical experiment that could be conducted to determine whether accounting Method 1 (M1) provides more predictive-ability than accounting Method 2 (M2). A sample of firms would be selected, a rule or decision model (F) would be formulated that specifies the relationship between dividends forecasted and earnings. The earnings number corresponding to M1 and M2 would be computed, with these numbers serving as input into the rule. The forecasts from the two inputs would be compared to the actual dividends and the forecast errors would be compared, with the method resulting in the lowest error being the preferred method. As Greenball notes, what could actually be empirically tested is not the predictive ability of the accounting methods, but rather the decision model F. And the findings would be useful only if F “were the universally accepted model for formulating dividend predictions on the basis of last period’s earning number. Obviously there is no such model”,(1971, p. 6). Boatsman made a similar point several years later (1977).

In 1973 the then recently-formed FASB provided more support for decision usefulness by creating a Conceptual Framework designed to rationalize the standards it promulgated. The Framework's format resembled ASOBAT in specifying the objectives of financial reporting (SFAC No. 1) and then listing the characteristics that accounting information should possess to
fulfill those objectives (SFAC No. 2). However, the FASB narrowed the class of users and the decisions for which accounting information is relevant. According to the FASB:

Financial reporting should provide information that is useful to present and potential investors and creditors and other users in assessing the amounts, timing, and uncertainty of prospective cash receipts...Since investors' and creditors' cash flows are related to enterprise cash flows, financial reporting should provide information to help investors, creditors, and others assess the amounts, timing, and uncertainty of prospective net cash inflows to the related enterprise (SFAC No. 1, p. viii).³

The FASB did not respond to any criticisms regarding “decision usefulness.” In addition, the FASB's statement that financial reporting should provide information useful to a certain group of decision makers regarding prospective cash flows is clearly a normative prescription rather than a descriptive summary or a statement of theory relating accounting measures to actual future cash flows. The oddness of this as a statement of theory was noted and objected to by many practitioners and academics who espoused the more traditional purpose of stewardship as accounting’s primary function (Young, 2006, p. 580; Watts, 2006). However, stewardship reporting was relegated to the last of the FASB's financial reporting objectives and limited only to how management “…discharged its stewardship responsibility to owners (stockholders)...”(FASB, 1978, 51) but did not refer to other resources that are limited in nature.

While ASOBAT⁴ indicated four criteria for evaluating accounting information-relevance, verifiability, freedom from bias, and quantifiability (ASOBAT, 1966, p. 7)- the FASB provided a more elaborate set of criteria, as well as a different lexical ordering (SFAC No.

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³ This signals the movement toward a rational decision theoretic discourse as the most meaningful way to understand decision usefulness. Ravenscroft and Williams (2009) trace this shifting discourse to the rise of neo-liberalism in the U.S. and U.K. and the growing influence politically and intellectually of the positive economics movement emanating out of the University of Chicago. That Staubus, a University of Chicago student, claims authorship of decision usefulness suggests its neo-liberal pedigree (Staubus, 1999, 158).

⁴ Neither the authors of ASOBAT nor the FASB seemed to note that once decision usefulness is established as the objective of accounting information other criteria or qualitative characteristics are unnecessary. If the information is useful for decisions, then it meets the objective of financial reporting and no other criterion is necessary. Indeed there is no necessity for “financial statements” nor even a double-entry system of accounting.
2). The FASB awarded relevance and reliability equal status and then created sub-criteria; e.g. ASOBAT’s “verifiability” became a sub-criterion of “reliability”. While the FASB defined relevance as the presence of either feedback or predictive value, the ASOBAT committee had demonstrated greater caution about the ability to make predictions, warning, “It is important to emphasize that accountants (with good justification) have avoided the role of forecasters in connection with reports to external users,” (1966, p. 23). Although costs and benefits were invoked as an over-riding constraint, FASB offered no prescription or examples showing how such costs or benefits were to be defined and quantified.⁵

The implications of a shift to decision usefulness as the purpose and objective of financial reporting are profound for both policy setting and research, and Beaver (as perhaps the most prominent exegete of what he dubbed the ‘accounting revolution’) acknowledges the "dramatic implications," (1981 p. 5) of such a shift. In its statement of accounting concepts, the FASB refers explicitly to a group of individuals -- creditors and investors -- whom it privileges, and a narrow set of judgments – “assessing the amounts, timing, and uncertainty of prospective cash receipts from dividends or interest and the proceeds from the sale, redemption, or maturity of securities or loans (FASB, 1978, 31).” In this way the FASB explicitly forsook the ASOBAT’s more socially-based objective of facilitating "the operations of organized society for the welfare of all," (1966, p. 5). While narrowing both the stated purpose of financial reporting and the target user group, the FASB failed to address the empirical issue of how to determine which alternative accounting approach was, in fact, most helpful to actual users (Young, 2006), users upon whose ability to use financial information the ASOBAT had cast doubt.

⁵ To this day there is no evidence to show that FASB or IASB has any substantive cost/benefit analysis underlying any prescriptions they have issued. Neither organization has demonstrated the ability to determine the cost of a pronouncement nor what are the benefits that allegedly exceed the costs. Whatever cost/benefit calculus the standard-setters use has never been disclosed for the purpose of independent verification of the soundness of the methods they use.
Although the AAA was not legally empowered to promulgate accounting standards, it remained active in attempts to influence accounting theory, and assembled a second committee (referred to as ASOBAT 2)\(^6\) in 1977. Rather than create yet another theory, the ASOBAT 2 evaluated the status of the existing theories of accounting choice. In its criticism of early accounting theorists, the ASOBAT 2 committee wrote that "normative" accounting theory\(^7\), which referred to intrinsic qualities of information (e.g. "objectivity, verifiability, and timeliness, among others," (1977, p. 33)\(^8\) was flawed because the espoused properties of information are not based directly on individuals' preferences.

"Since normative standards that are divorced from individual preferences cannot completely surrogate those preferences, the imposition of such standards presents serious difficulties. Specifically, if we assume that an accounting system should be designed to maximize, say, the expected utility of the users of accounting data, the data chosen to conform to imposed standards will not consistently lead to that result," (1977, p. 33).

In making this criticism of "normative" theories the ASOBAT 2 committee explicitly reinforced the importance of individual preferences and decision-makers as the focus of financial reporting, thereby supporting both the ASOBAT and the FASB’s promotion of decision usefulness. The ASOBAT 2 Committee's support was implicit as well; for while it criticizes earlier "normative" standards as deeply problematic, the committee ignored the normativity pervading both the ASOBAT theory and the FASB statement. This omission is notable because Demski, a member of ASOBAT 2, had previously asserted that earlier "normative" theories deviated from individual preferences by relying on "standards, such as relevance, usefulness, objectivity, fairness, and verifiability to delineate the desired alternatives," (1973, p. 718). Yet the terms

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\(^6\) This committee was known informally as the Schism committee (Chua, 1986)
\(^7\) See also Bamber et al. 2000 for a similar criticism of earlier "normative" theories.
\(^8\) The lack of progress in accounting theory becomes painfully clear when one compares the "normative" qualities of information (objectivity, verifiability, and timeliness, et al) criticized by the AAA 1977 committee to the enhancing qualities of information proposed by the IASB in 2008 (comparability, verifiability, timeliness, and understandability).
Demski and ASOBAT 2 criticized are substantively identical terms to the ones ASOBAT and FASB used to define decision usefulness; apparently the mere inclusion of a reference to decision usefulness and users, even if the usefulness is defined entirely by terms earlier criticized for being normative, was seen as revolutionary. Just as the ASOBAT and FASB relied on normative concepts, Staubus did also, claiming to define a new “multiple criteria approach” to decision usefulness, which appeared to be based on the nearly identical “normative criteria of useful data” of the earlier “normative” theorists. (1976, 276).

The most recent Conceptual Framework is a joint effort by FASB and IASB. With each new framework the objectives of accounting and financial reporting become more restricted. Because the FASB is coordinating and cooperating in writing the new IASB conceptual framework, it is not surprising that the language reiterates that of the earlier FASB pronouncements (Barth, 2008, p. 1163). The FASB/IASB objectives eliminate an explicit stewardship reporting objective, instead subsuming stewardship under decision usefulness. The proposed framework states that "the objective of general purpose financial reporting is to provide financial information about the reporting entity that is useful to present and potential equity investors, lenders, and other creditors in making decisions in their capacity as capital providers. Capital providers are the primary users of financial reporting," (IASB, 2008, p. 12 para. S2).\footnote{This move results in a radical conflating of social welfare with the welfare of investors and creditors. The “social well-being” entertained by ASOBAT has been finessed such that the outcomes produced in financial markets now are deemed to be synonymous with social well-being, at least as far as accounting policy is concerned. This is consistent with the free-market political philosophy of neo-liberalism and mimics the change that occurred in other regulatory agencies as neoliberal discourse established its hegemony in the U.S. policy arena after the election of Ronald Reagan. A parallel development occurred in the U.K. with Margaret Thatcher’s Prime Ministership (Ravenscroft and Williams, 2009).}

In the next paragraph the IASB notes that it is the qualitative characteristics of relevance and representational faithfulness that render information useful in financial reporting.
The IASB expands on the definition of these two primary qualitative characteristics. Relevance inheres in information "if it is capable of making a difference in the decisions made by users in their capacity as capital providers (emphasis added)," (IASB, p. 35). To apply the concept one must understand that "relevance is concerned with the connection of economic phenomena to the decisions of capital providers......application of the qualitative characteristic of relevance will identify which economic phenomena should be depicted in financial reports, with the intention of providing decision-useful information....Relevance refers to the economic phenomena." Thus relevance refers to and delimits the scope of what content appears in financial reports but is defined independently of and without reference to decision makers’ preferences or their decision models, implying the ASOBAT 2 committee’s criticism has not yet been addressed, even at this late date. An analogy to the IASB’s definition of accounting relevance is an admission committee’s determination that academic ability is relevant, i.e. important in selecting among doctoral program applicants, but once that determination is made, the choice of who makes the admission decision or how they select metrics of academic ability remain undefined and unexplored.

In a complementary manner, representational faithfulness refers to the appropriate presentation and portrayal of the economic phenomena deemed to be relevant. Representational faithfulness is enhanced by the four qualities of comparability, verifiability, timeliness, and understandability, (IASB p. 13, paragraph S4-S5). Thus, in the past forty years decision usefulness has been ever more narrowly circumscribed in terms of the actual decision needs and users, while the prescribed qualities of decision useful information remain basically unchanged.
The Ontology of Decision Usefulness

Standard-setters and accounting academics did not specify their preference for decision usefulness in a vacuum. For the concept of decision usefulness to be coherent as a basis for policy and a root metaphor for research, there must exist some enabling premises, or ontology, that characterizes the nature of the world in which financial reporting takes place. Williams (2010) describes the nature of that ontology based on the explicit statements made by the FASB in SFAC No. 1 (FASB, 1978). In paragraphs nine through sixteen of that statement, the FASB notes the salient features of the world of financial reporting.

- Financial reporting is not an end in itself but is intended to provide information that is useful in making business and economic decisions – for making *reasoned* (emphasis added) choices among alternative uses of *scarce resources* (emphasis added) in the conduct of business and economic activities (par. 9).

- The United States has a highly developed exchange economy. … Members of the society carry out their consumption, saving, and investment decisions by allocating their present and *expected* (emphasis added) resources (par. 10).

- Most *productive activity* (emphasis added) in the United States is carried on through investor owned business enterprises, including many large corporations that buy, sell, and obtain financing in national and multinational markets (par. 12).

- Those having funds to invest normally assess the *expected* (emphasis added) costs, *expected* (emphasis added) returns and *expected* (emphasis added) risks of alternative investment opportunities. They attempt to balance expected risks and returns and generally invest in high risk ventures only if they expect commensurately high returns.
and will accept low expected returns only if expected risk is commensurately low (par. 13).

- Markets -- … -- are significant factors in resource allocation in the economy. However, government *intervenes* (emphasis added) in the allocation process in many ways and for various purposes (par. 14).

- The effectiveness of individuals, enterprises, markets, and government in allocating scarce resources among competing uses is enhanced if those who make economic decisions have information that reflects the relative standing and performance of business enterprises to assist them in evaluating alternative courses of action and the expected (emphasis added) returns, costs, and risks of each (par. 16).

The nature of the world that has the financial reporting problem that is described by the FASB in SFAC No. 1 above is one largely based on the four founding myths of standard, modernist economics. According to Marglin (2008, p. 45) these myths are “… individualism, knowledge as algorithm, the nation as the sole legitimate community, and unlimited wants.” Williams (2010) notes that FASB’s description of users in paragraph 13 of SFAC No. 1 is “… the standard rationality assumption about economic agents, that is, they are agents whose preferences are stable and uniquely their own (p. 23).” These individuals know what they want, are generally risk averse, and have stable preferences since to assume otherwise is to introduce a paralyzing prediction problem into any economic decision. That is, whether a decision-makers’ preferences will be the same at the time of realization of any decision as they are now. If they could be different, how can the decision-maker know that and still have the same preference he or she has now?\(^\text{10}\)

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\(^\text{10}\) Arrow (1986) discusses the problems that “rationality” poses for economic theory. Given the severe conditions required for economic rationality, no actual person could be economically rational.
The FASB’s “ideology of knowledge,” or the privileging of algorithmic over experiential knowledge is reflected in paragraph 16 quoted above when it speaks of the usefulness of financial reporting. Williams (2010, p. 24) infers this, thusly: “For this statement to be a sensible declaration of what financial reporting is useful for the assumption must be made that there is some algorithmic understanding possible between accounting information and future returns.”

Paragraphs 10 and 12 enumerate the proposition that the nation state is the focal group for financial reporting policy since FASB emphasizes no other economy than that of the United States. The importance of the nation state myth is to permit the singular focus on efficiency. According to Marglin (2008, p. 46) “…the conception of the nation-state as the legitimate arbiter of distributional issues is critical to the economists’ focus on efficiency.” FASB’s mission statement states explicitly its similar focus: “Our [U.S.] financial reporting system is essential to the efficient functioning (emphasis added) of the economy (FASB, 2009, p. 1).” Two significant implications of this focus are that distributional effects of financial reporting are irrelevant (embodied in the quality of “neutrality”) and, even more significantly, that means exist by which financial reporting can be demonstrated to actually lead to a more efficient functioning economy.

Finally, paragraph 9 confirms FASB’s embrace of the proposition of unlimited wants as it refers to scarce resources. According to Williams (2010, p. 24) this is so because “without the belief that humans have unlimited wants there is no problem of scarcity and, thus, no problem for economists to solve.”

FASB’s “ontology” conforms to what Amartya Sen (1988) characterizes as the engineering approach (as opposed to the political economy

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11 The standard definition of economics is that it is the science of satisfying unlimited wants with limited resources. Were humans to limit their wants to what the available resources provide, then the economic problem is much less daunting. Nature pretty much forces this solution on every other living thing on Earth.
approach). According to Sen, “This approach is characterized by being concerned with primarily logistic issues rather than with ultimate ends and such questions as what may foster ‘the good of man’ or ‘how one should live’. The ends are taken as fairly straightforwardly given, and the object of the exercise is to find the appropriate means to serve them. Human behaviour is typically seen as being based on simple and easily characterized motives (ibid, p. 4).” Sen further labels the engineering approach as “[T]he methodology of so-called ‘positive economics’…(ibid, p. 7).” Decision usefulness, so rooted in the ontology of standard economics, thus suffers from serious shortcomings as a policy or research rationale. We consider the first of these shortcomings in the next section.

The Problem of the Unpredictable Individual

The key assumption we focus on in this section of the paper is the assumption about the individuals who purportedly consistently and in an economically rational way pursue only their own maximum utility. In Staubus (1991, p. 2) characterization: “The intended effects, from the point of view of those who advocate the decision-usefulness objective of accounting, are improvements in economic decision making. In this context, improvements mean increasing the probability that decisions will achieve one’s goals, e.g., increasing return on investment.”

Beaver (1972) ascribed two roles to information:"(1) to aid in establishing a set of security prices, such that there exist an optimal allocation of resources among firms and an optimal allocation of securities among investors, and (2) to aid the individual investor, who faces a given set of prices, in the selection of an optimal portfolio of securities, " (p. 408 emphases added). These two purposes are conjoined and related in the myth of economic individualism, which implies that “individuals are so constituted that, by their self-serving actions, they promote
efficient production and distribution when their interactions are mediated by a market system,” (Marglin, 2008, p. 61). However, since SFAC No. 1 was adopted, considerable research in psychology, anthropology, sociology and economics has revealed that the premises of the myth of “individualism” are not accurate. Both standard setters and researchers presume that accounting data are useful to individuals for predicting future cash flows of individual companies and, further, that the action prompted by that prediction results in a “rational” economic decision by the user. Yet research in several different disciplines shows the fallacy of those assumptions.

Cognitive Unpredictability

The users proffered by FASB and accounting research are idealized economic actors, i.e., the mythical individuals that populate the world of positive economics (Young, 2006). One advantage of idealized actors is that their behavior is scripted, thus, their behavior is predictable with respect to the scripted explanation. All behavior has an economic explanation and, in theory, can be predicted by sufficient knowledge of economic circumstances. Simon criticized neo-classical economics for carrying this approach to extremes, saying that predicting behavior requires knowledge of the actor’s goals and alternative behaviors in advance. Yet people are adaptive, creative, and flexible in their responses to their environments, which makes human behavior unpredictable and unlikely to lead to optimization, because optimization “can be realized only in (a) extremely simple worlds…and (b) worlds having strong and simple mathematical structures that admit the computations required for optimization” (1992, p. 157).

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12 As part of an AICPA Study Group, Joshua Ronen offers a definition of the rational man and the decision model he uses that is riddled with circularity: “The normative model is the procedure that rational man follows in making a particular decision in a specified set of circumstances. Consensus among writers regarding the soundness of normative models indicates that a majority of users is likely to follow the normative model. Thus, the benefit of information used in the model would accrue to many users and the sum total of the benefits resulting from providing the information is apt to be large (1974b, p. 81).”

13 This has been carried to the ultimate by the analytical work of Gary Becker. The economically rational actor is what Shapiro (2005, p. 15) labels a “gross concept.” According to Shapiro “Many people find gross concepts appealing. They are comforting and simplifying devices that function as ideologies, to legitimate things that people want to believe (ibid).”
As Simon notes, humans do not spend most of their lives in such easily predicted and narrowly-delimited worlds.

Moreover, the actual users of accounting data have limited rationality (e.g. Simon, 1993, Arrow, 1994) and do not have the mental capacity to store and rationally evaluate the complex, constantly-changing choices presented by the various asset exchanges in order to optimally allocate their capital amongst all the choices they face. Winter notes the irony of an economics built on notions of the optimal allocation of scarce resources, which assumes actors possessing unlimited information-processing capacity (1986, p. S431); the only good that is not scarce in this model is humans’ ability to process information rationally. Figure 1 illustrates the complexity of the problem accounting standard setters must solve in order to select that accounting standard which would lead each investor to make optimal decisions. The figure is adapted from

Insert Figure 1

Ackerlof and Shiller (2009, p. 168) and is based on recent developments in cognitive science and human decision making. Currently, FASB justifies standards by confining itself to the upper-left quadrant of the figure by assuming the other three quadrants either do not exist or are not significant enough to be a concern.

However, human motives are not simply economic, and responses are not necessarily rational as described in decision theoretic models of human decision making. No user of financial information uses it independently of some context; every user brings to that context his or her situationally defined skills and history. Thus, models can neither predict for any individual in which quadrant any particular action resides at any particular moment in time, nor
assume people will interpret data uniformly, use the information in uniform ways, or act in normatively rational ways.

Human irrationality is not always the result of ignorance, inexperience, or lack of financial expertise; even people who “know better” ignore theory and rely on simplifying heuristics. For instance, Harry Markowitz, who won the Bank of Sweden Memorial Prize for Economics for developing the mean-variance model, ignored his own work and relied on a simple heuristic for diversifying his personal portfolio (Gigerenzer, 2007, p. 26). Recognized experts have made very costly blunders. Just before the Great Depression and stock plunge of 1929 Irving Fisher predicted a permanently high and level stock market (Ball, 2005, p. 225). More recently, Long Term-Capital Management LP, a hedge fund managed by other Bank of Sweden Memorial Prize winners including Myron Scholes, had to be rescued with a $3.6 billion bailout to forestall its bankruptcy and further, more wide-spread trauma to financial markets (Orrell, 2007, p. 260).

Policy makers do not have the option of selecting accounting alternatives based on what decision makers say they find valuable for at least a couple of reasons. As the ASOBAT bluntly noted, decision makers may not know what information is most useful to them. People do not excel at estimating even their own hedonic effects. People are not always introspectively accurate; they may not be aware of what information they will use most efficaciously; even if they have the information they may not use it consistently (Ariely, 2008; Schipper, 2002). Prospect theory research shows that preferences change with endowments, and "people's choices over an objective set of outcomes will vary depending on how those choices are framed,"(Backhouse and Medema, 2009, p. 230). Humans’ individual decisions also are affected by their identities (Ackerlof and Kranton, 2010), and by the different languages they speak,
which in turn shape the way they think (Boroditsky, 2009). Layard (2005) reviews research showing that preferences are very much context-dependent and change as one’s endowments and level of current wealth change. Tastes and preferences change with exposure and can be heavily influenced by social comparisons; Layard showed that subjects selected less of a good in absolute terms when doing so allowed them to gain more than their comparison group (Layard, 2005, p. 47). Investors’ reliance on social comparisons creates problems for standard setters because it means preferences are unstable and change for reasons outside those related to setting efficient equity prices.

Marglin calls stable or given preferences “the hallmark of economics” because such preferences are a necessary condition for making the claim that market systems yield optimal Paretian distributions. Because stable preferences constitute a necessary assumption of economics built on comparative statics, the extensive evidence of unstable preferences threatens and invalidates the hypothesized notion that self-interested actions lead to optimal market allocations (Marglin, 2008). If preferences change and differ across equilibria, then preferences are both path and context-dependent (Bruni and Sugden, 2007). A preference at time X may easily be affected by factors not assumed in economic models of beta and portfolio mean variances.

Although experimental economists create highly simplified worlds with limited numbers of traded assets, periods, and a well-defined dividend distribution, unstable preferences emerge even within those controlled conditions. One experimental economist says that although preference reversals are seen in experiments, with proper incentives and “with experience in a market setting” (Plott, 1996, p. 231) such instability will go away. Unfortunately, current stock exchanges are not stark, stationary and simple, like laboratory settings are; decision makers do
not get second chances or the opportunity to practice, because the market contains so many variables that a trader never faces exactly the same situation again. Just as Heraclitus noted that as a person never steps into the same river twice, an investor never enters the same stock market twice. Even in the highly artificial and simplistic laboratory world, experienced traders cannot time market peaks or downturns (Haruvy, Lahav and Noussair, (2007). Experienced traders create bubbles over repeated periods, particularly if the highly constrained experimental parameters are changed moderately (Hussam, Porter, and Smith, 2008).

Another form of instability in preferences relates to delays in payoffs. Investing in the stock market means not consuming a good or service immediately, postponing immediate gratification for future payoffs via a discounting function, which Heath characterizes as the measure of our impatience (2009, p. 265). Experiments show that subjects do not discount in the same manner as theory would indicate. Instead, people are very inclined to hyperbolic discounting. Economists throughout the last century (e.g. Jevons, Fisher, Marshall, and Pigou) recognized the problem of “irrational” discounting of future value, and recommended better education, particularly of the lower and laboring classes, whom they felt to be more subject to this form of “fallacious” thinking (Peart, 2000). However, education and awareness of the issue have both failed to eliminate this problem; Heath claims that we are all “naturally disposed” to discount hyperbolically (2009, 266). Simple experiments demonstrate that preference reversals occur with changes in delay (Kirby and Herrnstein, 1995). Given the fact that cash flows to the FASB’s target group are primarily from sales of stock rather than dividend payouts, this cognitive limitation creates formidable challenges to the FASB. Investors cannot be expected to delay gratification, i.e. increased stock prices, in a consistently rational manner. Does the FASB
have a method for selecting accounting alternatives that would counter the wide-spread human tendency to hyperbolic discounting?

In summary, the decision makers for whom the FASB and IASB are providing information do not respond to that information in ways consistent with idealized economic models. Anderson concludes thusly about the expected utility model of human cognition:

We are not very good at judging probabilities; we do not think about risks in the way decision theorists think we ought; we do not order our preferences consistently, we care about sunk costs; and we systematically violate just about every logical implication of decision theory. There is probably no other hypothesis about human behavior so thoroughly discredited on empirical grounds that still operates as a standard working assumption in any discipline, (2000, p. 173).

Motivational Unpredictability

In addition to cognitive unpredictability, humans are not driven entirely by the motivations assumed in neo-classical economic models. Financial information is socially derived and socially applied. "Knowledge and technical information have an irremovably social component," (Arrow, 1994, p. 8). Furthermore, "Individuals do not form their preferences in isolation from other individuals, but in response to both public events and information that is widely broadcast. Theory must make room for tulip crazes, responses to oil shocks." (Simon, 1993, p. 160), in other words people are driven by animal spirits (Ackerlof and Shiller, 2009). What any particular user is doing with accounting information is of such specificity and is so socially entangled that to assert that any particular datum is more useful to users than some other particular datum is beyond the ken of any group of standard-setters or accounting researchers.14

Bruni and Sugden (2007) question whether decision makers can have well-ordered preferences, a minimum requirement of rational choice theory, because they question whether

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14 Elster describes the situation thusly: "Human behavior seems to be guided by a number of unrelated quirks (emphasis added) rather than by consistent maximization of utility. In fact, there are so many quirks that one suspects that for any observed behavior, there would be a quirk that fits it (Elster, 2009, p. 12)."
the wide variety of choices and needs being satisfied can be ranked using a “common objective attribute.” Pareto could not clarify what the single attribute was that provided a transcendant, common property shared amongst a multitude of seemingly incommensurable goods and services. Pareto struggled with this issue for two decades and was criticized by Hicks and later economists for spending so much time on it. Although utility is “immeasurable” economists have since the 1930’s relied upon utility as something which could be maximized (Frey, 2006, p. 424). In short, economists have assumed but never demonstrated that preferences could be ordered in ways described as rational by referring to ‘utility’, an all-purpose but still undefined concept (Bruni and Sugden, 159-160).

In addition to relying on the conceptually useful but empirically un-definable concept of utility, the FASB ontology relies on motives which do not necessarily apply to actual human beings. Repeated experiments of the Ultimatum games and variations thereon provide a simple setting where experimental subjects repeatedly violate basic classical economic behavioral and motivational assumptions (e.g. Frey and Bohnet, 2000). Subjects across many cultures sacrifice wealth in order to show the other player that fairness matters more than the money they are foregoing. Evans, Hannan, Krishnan, and Moser (2001) provide evidence that subjects will sacrifice financially in order to provide honest reports and do not respond to incentives for lying by increasing their lying. As Simon notes, "that economic actors desire economic gain is a far stronger assumption than that they maximize utility. It is also empirically false," (1993, p. 158).

Given the diminished motives ascribed to the rational utility maximizer, Sen concludes that a paradox of conventional economic theory is that it assumes human behavior is deterministic because it is alleged to be predictable; there are laws of economics like utility maximization whereby each of us is a prisoner of our utility function. Yet a free-market system, which most conventional economists seem to prefer is “free” only if one grants human beings some kind of free will. If choices are pre-determined (we have no choice in what we choose), then what can arguing for free choice mean? Whether humans have a free will or not, it would seem that
"the purely economic man is indeed close to being a social moron," (1977, p.336). Galbraith concurs:

Ordinary, intelligent people appear consistently unwilling, or unable to calculate the consequences of their decisions in a manner predicted by the view that they are responding purely to the market. Instead, they act as social beings, concerned about their standing with their peers, about the fairness of the deal they are being offered, and other matters quite irrelevant to the utility of the object or money on offer. These are remarkably subversive findings, for they suggest that even if there were no monopoly, no externalities, perfect information and perfect foresight, markets composed of real people would still not perform as the conservative vision requires. (2008, p. 22).

The actual users of accounting data are not idealized economic actors following a script but are instead Galbraith’s social beings with the capacity to ad lib; they are capable of writing their own scripts (Simon, 1992 ). While economics is based on a theory of externally-imposed incentives as providing the motivation for human behavior, significant evidence from daily life as well as from experimental research shows that people have very strong intrinsic motivation as well (Frey and Bohnet, 2000). In fact, most market-based systems rely heavily on strong intrinsic motivation to honesty and other “old-fashioned virtues” (Noreen, 1988, 369). Basu (2011) describes the recent research in behavioral economics and neuroeconomics (e.g., Zak, et al. 2004; Morhenn, et al., 2008; Andreoni and Samuelson, 2006) that shows that humans, rather than being strictly economically self-interested, possess a “public good” urge. Basu contends that conventional economic, rational choice theory is consequently deficient because it fails to take into account that “…(1) the cooperative instinct or the public good urge is innate to human beings, and that (2) this instinct flourishes when it is reciprocated (Basu, 2011, p. 101). The believing we have one has psychological advantages. If we do have a free will, then it must be granted we are free to violate the “laws” of economics.

16 The concept of “arationality” developed by the work of Dreyfus and Dreyfus (1986) is a further complication because arational behavior characterizes the behavior of experts whose behavior is experienced-based rather than rule-based. Thus, the presumption that high performers’ actions can be described by decision models is doubtful. Neither standard-setters nor researchers are expert enough to understand at a distance how experts make such decisions so could not convincingly demonstrate what information is useful or how it is useful. Abe Briloff’s Barrons phenomenon is a case in point.
interaction of external and intrinsic motivation as well as the “old-fashioned virtues” all create challenges for standard setters who presume they know how information users will be motivated and what they are actually interested in knowing.

Social scientists have attempted but failed to replicate the success of the physical sciences in predicting. “After more than 200 years of attempts, one could reasonably expect that there would exist at least a sign that social science has moved in the desired direction, that is, toward predictive theory. It has not (Flyvberg, 2001, p. 33).” Flyvberg explains that human action is always embedded in a context to which actors ascribe meaning based on their individual history/experience/psyche and that the role of theory is to provide a context-free definition of actions and responses…. Social scientists do not have a theory (rules and laws) for how the people they study determine what counts as an action, because the determination derives from situationally defined (context-dependent) skills, which the objects of study are proficient and experts in exercising, and because, theory – by definition – presupposes context independence (ibid, p. 42).

Thus, any individual’s rational resource allocation decision depends entirely on that individual’s “utility,” context, culture, emotional state, intellect, intuitions, values, native language, sex, etc. Thus, developing decision useful information when decisions of individual persons are the focus is an insuperable task because what is useful is determinate only from the perspective of the individuals making the decisions in the particular contexts in which they make them. Given the difficulties in identifying current and possible decision makers, specifying their utility functions (which include the public good urge), offering them situations of accounting alternative choice that would have any real-world analogue, the absence of useful accounting research in this area is understandable. From a research perspective the infinitude of
contexts of individuals makes establishing decision usefulness virtually impossible, and offers no substantive operational meaning that could guide FASB or IASB in choosing among alternative accounting regulations.

**The Transition from the Individual to the Market**

Economists recognize the gap between individual behavior and emergent market institutions (e.g. Nelson, 1986; Granovetter, 1992; Arrow, 1994); the debate between methodological individualists and methodological holists remains unsolved. That debate is mirrored within earlier academic accounting discussions of decision usefulness. The focus on the individual decision maker is emphasized by Beaver who says the FASB must “specify how the decision maker will use the information in altering his investment behavior,” (1972, p. 410). Dyckman and Morse emphasize individuals even more strongly. "In determining the least cost alternative, differences in individual investor processing costs should be counted," (1986, p. 86). They add, however "Different individuals experience different effects in terms of how well off they are under these choices. Hence, to make a choice among accounting alternatives results in social effects that researchers do not yet know how to measure. This issue, which has been mentioned before, requires resolution before optimal choices can be made," (ibid, p. 87)

Recognizing that the issue does not lend itself to ready resolution, however, they note, “Once again, however, individual investor welfare cannot be observed. Rather, the research must rely on inferences from market reactions to information announcements," (Dyckman and Morse,

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17 A further complication is the issue of time. Presumably useful information is useful in that it leads to “good” decisions. The goodness of a decision depends on the point in time that it is evaluated. Over one interval of time a decision may be deemed a good one; over another interval of time the same decision isn’t good. Many decisions cannot be definitively identified as good or bad since they shift between one or the other as time passes. Mitchell (2008) describes an aspect of time relevant to policy makers, “The greater the degree of separation in time and space between the decision-maker and the consequences of the decision, the less likely the decision-maker is to internalize responsibility for the decision itself (p. 20).” This raises the problem of the consequences to others of individual decisions – something no body that presumes to make public policy can ignore.
1986, p. 89). They recognize that these concerns lead to an agnostic position in terms of selecting among accounting alternatives.

"...Accountants will continue to find sufficient reasons to support different solutions to accounting problems. One's choice will hinge largely on one's prior beliefs in the adequacy of the underlying theory; the validity of the supportive research; the practical implication of the information system choice, including the impact on social welfare and economic activity; and the costs (political and other) of implementation," (1986, p. 90-1).

Arrow describes the problem policy makers face thusly, "In the aggregate, the hypothesis of rational behavior has in general no implications; that is, for any set of aggregate excess demand functions, there is a choice of preference maps and of initial endowments, one for each individual in the economy," (1986, P S 388-9). In summary, the move from a focus on individual decision making to conclusions about market efficiency represents an unsolved conceptual chasm. However, in the next section of the paper we do examine the possibility that there is a plausible sense in which financial information could be decision useful if pursued in an engineering sense. As discussed earlier, SFAC No. 1 explicitly emphasizes the predictive value of decision useful information in “…assessing the amounts, timing, and uncertainty of prospective (emphasis added) cash receipts from dividends or interest and the proceeds from the sale, redemption, or maturity of securities or loans (FASB, 1978, par. 37).” Williams (2010, previously quoted) notes, “ if financial reporting is to be useful in this manner, the assumption must be made that there is some algorithmic understanding possible between accounting information and future returns, costs, and risks.”

The Unpredictable Market

If decision usefulness could be demonstrated to investors and creditors as a class, this could defensibly orient FASB and more recent IASB decisions because it would provide some
scientific basis for recommending policy.\textsuperscript{18} This notion of usefulness lies behind Beaver’s observation "accounting is not of any value to the individual investor" (1981, p. 425); instead its value lies in addressing the "market as a whole" and thus one must study the relationship of accounting data to security prices (p. 425) rather than to individuals or individual decisions. The logic is that if one financial accounting system leads to higher predictive power for the class of capital providers than another, then that accounting reporting system is preferred on decision usefulness grounds. The central evaluative criterion of “decision usefulness” is the power of any datum for assessing the economic future. For decision usefulness at a social level to have validity, economic prediction related to firm cash flows, dividend payouts and future stock prices (adjusted for volatility) must be feasible and accounting data must be demonstrably useful for that prediction.

When the FASB upholds decision usefulness it assumes that the economic world follows a path that is governed by economic laws and, as such, lends itself to prediction (the engineering approach). The FASB states, “Thus, well-developed securities markets tend to allocate scarce resources to enterprises that use them efficiently and away from inefficient enterprises (ibid, par. 13).” This statement is itself a prediction about what well-developed securities markets \textit{will do}, not what they have done. The statement implies that if we were to introduce a “well-developed” securities market into a world where one did not previously exist, the end result would be a more efficient allocation of resources in that world, i.e., efficient firms would get resources; inefficient firms would be deprived of them.\textsuperscript{19} The FASB provides no specific mechanism to explain the

\textsuperscript{18} It is interesting to note that when the AICPA made this same grouping, Beaver and Demski (1974) objected rather strenuously, stating "The payoff-relevant partition of future states will vary considerably between these two classes.....even within these major classes of users, lack of unanimity may exist because of heterogeneity of preferences for future consumption and heterogeneity of expectations," p. 180.

\textsuperscript{19} Assuming that the efficiency alluded to has any meaning in a context without “well-developed securities markets.”
working of securities markets. Therefore, to determine whether accounting data are useful inputs for the predictive model suggested by the FASB (and IASB), we must look first at what such a predictive model entails.

We turn, therefore, to the natural sciences, where some useful predictive models exist. A preliminary classification must be made as to whether cash flow prediction (and economic predictions generally) fall within a linear or a non-linear model. As anyone with even a modest mathematical education knows, a system is linear when each predictive variable results in a constant amount of change in the dependent variable regardless of the existing level of either, i.e. “a function of some variable is linear if the plot of the function versus the variable is a straight line,” (Orrell, 2007, p. 98). Prediction in linear models is neither path nor context dependent. Is the FASB able to assume that stock selection is done with no consideration of a firm’s past performance because that is what is implied in the, to date, exclusive use of linear models to predict economic phenomena with accounting data?

Physicists examining stock market behavior have concluded that the market is clearly a non-linear dynamic system (Ball, 2005, Orrell, 2007). Orrell (2007) describes the economy and stock market as examples of “open systems,” meaning they are non-linear and comprise virtually infinitude of variables. The behavior of open systems is most relevant to accounting because as Stamp (1992, p. 268) notes “…almost all accounting entities are strongly coupled to their financial environment, and the financial system is a very open one (emphasis added).” World climate, population demographics, social conditions, current events, and many other extraneous factors affect capital providers’ beliefs about the value of stock.

The two basic elements of a non-linear, dynamical model are:
a) a clear statement of initial condition, i.e. the initial state must be clearly and fully described because in non-linear systems the initial conditions are significant (Orrell, 2007, p. 98) and b) a model of equations that enable one to make predictions of dependent variables from the condition of independent variables. We will argue that neither of these conditions can be met by the phenomena the FASB or the IASB or any other accounting standard-setting body is providing information to predict.

In order to clearly describe the initial condition, we must have independent measurements, and as Stamp observes. “In accounting we do not even know how to accurately describe the ‘financial state’ of a business enterprise, which is what we are interested in,” (1993, p. 290). The agnosticism arises because accountants have not yet arrived at “some unambiguous formal way of describing the economic state of the world,” (1993, p. 291). We cannot assess “the true underlying value of an asset which is independent of beliefs about that value” (Kay, 2009, 4). We are unable to describe the initial condition of a single publicly-traded company without relying on the various measures (i.e. accounting conventions) that we are trying to comparatively evaluate. As chaos theory has shown, initial conditions matter in that a minor adjustment to an initial assumption can result in major differences in predicted outcomes, e.g. whatever choices the FASB or the IASB make now regarding more decision useful accounting alternatives are based on conditions reflecting earlier decisions that – if they matter at all – have resulted in the current status, which differs from what it would have been had other choices been made by the FASB, the IASB, or earlier rule-making bodies.²⁰ Even if the path dependence of

²⁰The thousands of pages of Codification contain the rules adopted over many decades. This chronological alteration in the configuration of accounting information is merely one of what is a veritable google-plex of possible configurations that could exist. Standard setters have no idea, nor anyway to get an idea, whether the configuration of accounting information created when new rules are tacked onto existing rules, is more decision useful than would another configuration formed by any random combination of all previously considered rules.
current accounting data could be ignored, accounting measurement is not precise. Similar companies can interpret the same accounting principles differently, and professional judgment is applied frequently, e.g. in determining write-offs or useful lives, all of which makes careful, precise, mathematically respectable comparisons across firms and over time impossible.

Even if we were to accept the theory- and path-dependence of the initial condition and agree that the theory-contingent set of present stock prices or firm cash flows is an acceptable theoretical starting point, the second requirement of a scientific model eludes the FASB or any other accounting rule-making body. Physicists have shown that in complex models with actors applying very simple decision rules, the outcomes for each actor cannot be predicted with a series of equations. Instead, the model must be recreated in its entirety to determine what the outcomes will be.

When a capital provider buys stock, bonds, or notes the price paid theoretically equals the present value of all future cash flows, discounted appropriately for risk. A stock market participant is presumed by the FASB to use accounting information (as well as other information sources) to determine a company’s “rate of growth, its volatility, any dividends, and the interest-rate environment – not just for now but into the future,” (Orrell, 2007, p. 227) in such a manner that the stock price always reflects the intrinsic value, i.e. the true worth of the stock. One implicit assumption of a predictable stock market is that the volatility of an individual stock must remain constant, yet we know that individual beta values change, as do growth rates, dividend payouts, and other relevant financial variables.

Another characteristic of complex, non-linear, dynamic systems is sudden, extreme variability that cannot be easily explained. Investors pay attention to each other and often

Unfortunately for standard-setters it is likely that configurations of interacting sets of rules are useful or not and not individual pieces of information created by specific rules.
engage in feedback loops that amplify each other’s less than rational behavior, giving rise to bubbles and to variability (Sunder, 2002) that should not, if the market were a linear model, exist. In addition, the efficient market hypothesis “assumes that market events follow a normal distribution,” (Orrell, 2007, p. 247) but this assumption is false in a critical way.

Physicists have studied stock markets and consider a power law distribution a much more accurate description of the behavior of markets (Ball, 2005; Orrell, 2007). Econophysicists attempt to accurately describe market behavior, but do not presume to predict payoffs from individual stocks. While accounting research is premised on an assumption of a random walk, Ball shows that randomness does not accurately describe the stock market. Randomness provides a distinctive Gaussian pattern whereby mapping frequency of fluctuations against size of fluctuation results in a normal bell curve. Researchers find no support for such a distribution. Instead the pattern indicates volatility is greater than would be predicted by randomness and more frequent than would be predicted by a random walk. Extreme events – crashes and bubbles - occur more often than is predicted in a normal distribution. Mandelbrot proposed that the pattern of stock market fluctuations is actually a Levy flight, which allows for large sudden breaks in volatility and extreme fluctuations, but even this characterization, though it allows for unexpected volatility, is not accurate. More recent researchers have found that neither randomness nor Levy flights describe market behaviors consistently over time. Instead, markets unpredictably move between these two patterns. “So any model which assumes or predicts a single mathematical form for the statistics of price changes on all timescales cannot be right, “(Ball, 2005, 302).”
In other words phenomena like future cash flows or security prices or earnings are “uncomputable,” i.e., unforecastable.\textsuperscript{21} An economy is a complex network that simply denies any kind of consistently reliable prediction. Accounting data comprise but one miniscule component of the multiplicity of variables that affect the system. That system is simply too complex for us to determine which of the alternative values for one miniscule component is more decision useful. Orrell (2007) uses EMH (the efficient market hypothesis) as a classic example of a mistaken theory because it alleges computability of an inherently uncomputable system, i.e.: The EMH assumes that market fluctuations are the result of random external shocks, and that its response is governed by rational laws. In other words, it treats the economy as a dead object that can be modeled like a falling stone. However, a model that views the economy as a kind of super-organism would ascribe fluctuations not just to external causes but to the market itself. What makes its response unpredictable is to a large part its own inability to predict (emphasis added). And like a living organism, the economy represents a shifting, dynamic balance between opposing forces – positive and negative feedback loops, buyers and sellers – so models are sensitive to changes in parameterization. In its insistence on rationality, the EMH is therefore a strange inversion of reality. Its primary aim, it appears, is not to predict the future, but to make it look like we all know what we’re doing (ibid, p. 264).

FASB’s and IASB’s insistence that it is creating information useful for predicting is a reflection of this same effort to make it appear that we know what we are doing.

The unpredictability of economic phenomena and of other agents in the market (see also Taleb, 2005 and 2007; Ball, 2004; Ormerod, 1997; Keen, 2001) makes actually demonstrating decision usefulness an intractable problem. The FASB’s and IASB’s objectives cannot be operationalized for policy making. Economists at the Federal Reserve recently wrote “the asset-pricing literature does not yet have a firm grasp on when and why prices can deviate from market fundamentals for long periods of time” and added, “it appears that large and systematic

\textsuperscript{21} Representational faithfulness obviously becomes problematic since it requires knowing what economic reality is in order to know what to faithfully represent. Of course it would still be feasible to faithfully represent the outcome of an exchange between two economic entities in terms of the socially defined norms of exchange, but that is a decidedly different thing from representing economic reality!
departures from efficiency can and do take place (Gerardi, Foote, and Willen, 2010, p. 22)."

The FASB and IASB are writing regulations without a defensible basis for demonstrating that the regulations contribute to the stated objectives.

FASB (or IASB) is the designated authority in the arcane, self-constructed discourse of accounting and financial reporting.22 Given the intractability of actually demonstrating decision usefulness, their only justification available is simply that of *ex cathedra*. Their discourse is not about reality (Moore, 2009). It is comprised mainly of normative beliefs about a preferred reality and it is these norms and standard-setting authority alone that justify accounting standards. Beliefs and the authority to impose those beliefs seems to be all that currently justifies accounting standards making them merely a particular brand of economic snake oil (McCloskey, 1990).

**Decision Usefulness as a Link between Practice and Research**

The FASB’s engineering or positive economics approach is reflected in the U.S. accounting research enterprise. Decision usefulness is not simply the rationale for accounting standard-setting, but is also the central metaphor of how accounting scholars in the U.S. (and, increasingly, the rest of the world) understand their roles. For accounting research decision usefulness has become institutionalized as the explicit form of positive economic methodology. Decision usefulness is such a broad and unspecified concept that there is no necessary reason that it should be operationalized and researched using a single

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22 In a recent white paper issued by Contago Capital Advisors, Inc., Shojai and Feiger (2010) note this feature of financial information:

> In practice, people 'in the business' use old standbys. The most commonly used is the price-earnings ratio (P/E). Another, less common, is the price-dividends ratio (P/D). The appeal of the latter is that dividends are actually paid whereas *earnings are an increasingly esoteric accounting concept* (emphasis added) (ibid, p. 6).
paradigm (Sterling, 1972, p. 406). However, one dominant characterization of decision usefulness shares the same ontological suppositions as policy-making and has been enshrined in recent academic accounting history as the accounting “revolution.”

The concept of decision usefulness and the efficient market hypothesis (EMH) research are symbiotically related (e.g. Ronen, 1974a). EMH (or more broadly modern finance theory) has been the discourse of empirical financial research and continues to hold out the promise that decision usefulness can resolve reporting controversies via a focus on market outcomes. Since the early information studies were done, thousands of statistical models have been constructed out of accounting data and various dependent variables (objects of prediction). There is mutuality of re-enforcement amongst the Concepts Statements, the standard-setting bodies, and the epistemology of predictive ability that allows standard-setters to persist in the conviction that they select accounting rules that result in better economic decisions by investors and creditors. The predictive ability methodology (engineering approach) assumes that in the world described by neo-classical economics, such selections will eventually have an empirical solution. In their research, accounting academics continue their quest for predictive ability of accounting data, just as policy makers hold to decision usefulness based on predictive ability as the *sine qua non* of the standard setting process.

The efficient market hypothesis assumes there are no inefficiencies or price anomalies because these would be taken advantage of by traders, whose excess profits would be observed by others, following which the price would quickly, if not instantaneously, adjust to the intrinsic value. If this level of predictability held, then a series of equations, even a very complex series of equations, could be offered by the FASB to demonstrate that X method of accounting would lead to one set of stock prices, while an alternative method of accounting would lead to a different set
of stock prices. As we argued in the last section, this task is undoable. Even if this chimerical equation system were computed, the efficient market justification is left unsupported, because that argument claims that some set of stock prices is most efficient and the FASB would also have to independently demonstrate that the actual allocation of capital was an optimal one exceeding the efficiency of all possible alternatives. Therefore, despite all the empirical financial research that has been done over more than forty years, standard setters still lack the ability to know a priori (Sunder, 2005) whether a proposed accounting rule is decision useful.\footnote{Reflecting the continued lack of progress, Ray Ball recently (2008) provided an extensive list of unanswered questions. That these questions, asked in 1967, were crucially relevant to sound policy making and remain unanswered 44 years later should not induce sanguinity about ever having empirical solutions to accounting policy questions framed by decision usefulness. Similarly, in 1978 Staubus chaired a conference that resulted in a publication of a collection of papers (FASB, 1978). In the introduction Staubus posed a number of questions with the implication that empirical methods existed that would eventually provide answers; thus far, they remain unanswered questions.}

In the remainder of this paper we discuss one particular problem that now bedevils accounting research based on the belief in decision usefulness as the appropriate metaphor for accounting in the realm of accounting policy and research.\footnote{FASB is a body granted the authority to write financial reporting rules by the SEC, which was granted its power to regulate by the U.S. Congress via the Securities Acts. As such FASB is in substance a regulatory agency of the U.S. Federal Government similar to the EPA or FDA and is, therefore, a maker of public policy. Thus accounting is not exclusively a private but also a public policy issue. As such, it is essential to acknowledge that, “The point of public policy is public welfare, not to make rich people as rich as they might possibly be (Galbraith, 2008, p/ 10.)”}

**A Paradox of Usefulness: The Problem of Operational Numbers**

The third incoherency of decision usefulness is one paradoxically resulting from the application of the concept to the creation of accounting information. Because the FASB subscribes to the algorithmic knowledge myth to rationalize decision usefulness, the FASB itself has undermined the accounting research enterprise or at least the one geared towardascertaining the decision usefulness of accounting data. According to FASB, "The information provided by financial reporting is primarily financial in nature – it is generally quantified (emphasis added) and expressed in units of money. Information that is to be formally incorporated in financial
statements must be quantifiable (emphasis added) in units of money," (1978, par. 18). The IASB reiterates the primacy of quantification, i.e., “Most of the information provided in financial statements about resources and claims and the changes in them results from the application of accrual accounting" (2006, par. 0B19).” Asserting that accounting is about quantification is uncontroversial; accrual accounting is the process of assigning quantities to economic categories. Accounting is described as a “measurement discipline; accountants measure things” (Ijiri, 1975; Mock, 1976). Financial statements contain numbers and numbers are, after all, quantities. Most financial accounting research is predicated on the quantitative nature of accounting information, manifest almost exclusively in the production of elaborate mathematical models, F-statistics, correlations, and forecast errors. Analytical models of accounting phenomena relying on the calculus presume quantification, e.g., the process of integration is a summation, and meaningful summation requires quantification. Decisions are modeled on accounting inputs, as are the development of various prediction models. Indeed, FASB’s emphasis on accounting information's usefulness for assessing cash flows uses language implying some kind of calculation, i.e., “timing, amount, and uncertainty.”

To illustrate the reliance on unreliable but quantitative measure, we examine Volume 84 (2009) of The Accounting Review (TAR), accounting academia’s oldest journal, which contains 69 papers. Four of the papers were invited commentaries,25 seven were “analytic” papers,26 eight were papers that involved behavioral experiments utilizing ANOVA designs, three were other designs (non-parametric, simulations, and path analysis), and forty-seven produced some form of regression model (e.g., probit, logit, etc.) of some aggregate (non-individual) economic

25 Reflecting the sponsored nature of accounting academic success all of the invited authors were graduates of one the “elite” schools identified by Rogers and Williams (1996).
26 “Analytic” means they were all based on deriving consequences via mathematical models based on standard rational economic decision theoretic suppositions.
behavior. Thus, with the exception of the commentaries and the simulation paper, 93% of the papers involved some kind of linear, statistical causal analysis, i.e., they conform to the engineering approach. Such mathematical models of any phenomenon presume some predictive purpose because implied in their construction is the belief that were outcomes of future independent variables entered into the model the calculative results of the model would produce values for the dependent variable that would approximate the actual future value of that variable. Failure of a model to perform in that manner disqualifies the model as an explanation of the phenomenon it models because it fails the test of being replicable. Thus, the greatest quantity of U.S. academic accounting research is itself a process of prediction.

Of the forty-seven regression papers, forty-one utilized numbers pulled from the financial statements of actual firms (mostly from the COMPUSTAT data base). The frequency of such accounting measures (some taken directly from the financial statements, some based on arithmetic operations performed on financial statement numbers) ranged from one to thirty with an average of eight (median of seven) per paper. Thus, whether accounting numbers are decision useful or not, a substantial number of accounting scholars act as if those numbers are useful for understanding decision usefulness. The question arises as to whether this particular supposition of usefulness is valid.

In a rather ironic way, policy-making based on decision usefulness has led over time to a situation where the supposition of usefulness to accounting financial research is not particularly plausible. West (2003) argues that although accountants still produce numbers, those numbers are no longer meaningful quantities. Quoting Jourdain (1960) to the effect that the basic functions of arithmetic, addition and subtraction, may be performed with only concrete numbers of one “type,” West argues that today’s accounting reports lack such character, that is, “Present
accounting rules, and the conventional accounting practices upon which they are so often based, appear to treat all amounts expressed in a common currency as being of the same kind. However, such quantifications made in a common unit of currency may be of “different types” (West, 2003, p. 75). Motivated by concerns for decision usefulness standard-setters have created a situation where currently financial statements comprise numbers representing different “types,” such as historical cost, replacement cost, present value, market value, and “fair” value (“as if” accounting in the extreme). The performance of arithmetic operations on numbers of different types yield results which are by definition undecipherable.

For example, there are numerous quantities (or measures) we regularly assign to students. A student could have a GPA of 3.62, a GMAT of 661, and a weight of 187 pounds. These numbers summed yield an amount for the student of 851.62, but what could that number possibly mean? If we multiply GPA by weight and divide by GMAT we get a precise number, 1.024, but what could that number possibly mean other than “if we multiply this student’s GPA by his weight in pounds and divide by his GPA we get 1.024?” Accounting numbers are analogous to our uninformative student numbers because both represent numbers composed of other numbers representing many different types. Before some bit of information could be decision useful it should first be able to convey something meaningful about some relevant “type” about which it is a quantity, e.g., weight, height, or cost.

In the research context in which accounting data are used, the problem West describes has significant implications for what empirical accounting research could mean. In a research context Stamp observes:

Thus despite the common use of the terms ‘measure’ or ‘measurement’ in accounting, it seems to this author that there is no operation whatsoever in accounting that could be described as ‘measurement’, in the sense used by physicists, or biologists, or geologists,
and so on. To measure in science (and, actually, in the everyday sense described above) necessarily involves the physical operation of comparison of the quantity being measured with some standard. (ibid, p. 272).

Most financial accounting research is based on Sen’s engineering approach described previously. The success of this “positive” model of economic reality as a calculative one analogous to physics is dismal. West’s analysis of the need for single types of data offers one explanation for conventional economics’ failure as a mathematical predictive science, other than perhaps using the wrong mathematics.

Gillies (2004) provides a related argument by contrasting the success of physics with the lack of success of economics:

The physical world appears on the surface to be qualitative, and yet underneath it obeys precise quantitative laws. That is why mathematics works in physics. Conversely economics appears to be mathematical on the surface, but underneath it is really qualitative. This is why attempts to create a successful mathematical economics have failed (Gillies, 2004, p. 190).

This failure is due to the phenomenon of “operational numbers”, which Gillies contrast with numbers in physics, thusly:

Whereas numbers in physics are estimates, which may be more or less accurate, of exact quantities (emphasis added) which exist in reality, operational numbers do not correspond to any real quantities. They are a convenient, but sometimes misleading, way of summarizing a complicated, qualitative situation. Moreover their values depend to a large extent on conventional decisions and procedures (emphasis added) and are therefore arbitrary to a degree. Operational numbers are the numerical surface form of an underlying reality which is qualitative in character (ibid).

The raw material of accounting information (or data) is prices of various types: past ones, present ones, and, increasingly, future ones, which presumes some extra-market wisdom to discern. Such prices are operational numbers. Because the rules produced by FASB, IASB, and

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27 That the normal science model has failed so far in the social sciences is not all that controversial. Russ Roberts, writing for the Wall Street Journal in February 2010 opined, “We should face the evidence that we are no better today at predicting tomorrow than we were yesterday. Eighty years after the Great Depression we still argue about what caused it and why it ended (Roberts, 2010, p. 2).”
other accounting standard-setting bodies are conventional decisions and procedures, the numerical information produced via the application of GAAP yields nothing but operational numbers. Gillies uses goodwill as an example of an operational number, which is determined differently in the US and Canada from how it is determined in Australia, which is different from Germany, which is different from the UK. Another example is provided by Beaver and Demski, who criticized the American Institute of Certified Public Accountants for its effort to formalize the objectives of accounting; "the term income determination is used as if it were some unambiguous, monolithic concept (such as true earnings) devoid of any measurement error," (1974, p. 180). While we question the idealized concept of "true earnings" we agree with their criticism of the ontological status of income. Accounting numbers are not quantities of underlying physical reality, but numerical representations of a qualitative state. Users allegedly use accounting data to predict future economic states while researchers use accounting data to describe conditions (states of independent variables) that will allegedly enable prediction of the behavior of users and preparers. There is good reason to believe that accounting numbers do neither of those things.

The status of accounting data as operational numbers has important implications for research on decision usefulness in accounting. The implications flow from Gillies’ warning that operational numbers may be used only as:

... a rough indication, formed in a somewhat arbitrary and conventional fashion of a more complicated and qualitative underlying reality. As long as the number is understood in this way it is a useful tool, but the danger lies in taking the number more seriously and regarding it as an approximation to an exact mathematical quantity existing in reality, as would be the case for a similar number in physics (ibid, p. 195).29

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28 Accounting is not a measurement activity. It could be construed as measurement only in the weak sense of assigning numbers; what scale those numbers are from is ambiguous at best.
29 For example, seismologists have developed instruments that can register the foot stomps of soccer fans 30 miles from the instrument; time has been measured within a milliilionth of a billionth of a second, and the wavelength of
Because accounting data are operational numbers, they are unlikely to prove consistently useful in reducing uncertainty about future dividends, interest, share values, and loan values, all of which are numerical outcomes, even operational numbers themselves. Such assessments are what operational numbers will not give one the power to do.

The nature of accounting numbers as operational has profound implications in the domain of accounting epistemology. The financial reporting revolution (Beaver 1981) led to the empirical revolution in accounting epistemology, at least in the US. As we discussed earlier in this paper, Beaver outlined a paradigm for accounting research that established the so-called positive economic approach to accounting epistemology and turned academic accounting into a sub-discipline of neoclassical economics (Reiter and Williams, 2002). As a result, empirical financial research is now the dominant mode of scholarly discourse in the US (Williams, et al., 2006). This research is notable for its alleged mathematical rigor and involves the construction of statistical models to create economic explanations to all manner of behaviors, e.g., managers, investors, creditors, auditors, security markets, etc. As the TAR data show the vast majority of articles being produced today culminate in equations that calculate the contribution each variable makes to the phenomenon being modeled. In each article the authors then proceed to explain what these equations mean as if the numbers in the equations were representative of quantities of some real economic thing. But the numbers being used to make these calculations are largely accounting numbers. They are operational numbers, not quantities of anything, so what the equations actually calculate is indeterminate.30

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30 This is one factor contributing to the lack of progress in much of the work in all social sciences predicated on rational decision theory and statistical modeling. In describing this work, Elston (2009, p. 9) says: “My claim is that
For example, many of the authors of papers in Volume 84 of TAR utilized a “measure” of leverage as a control/explanatory variable in their regressions. “Leverage” is represented via an arithmetic operation of dividing liabilities by either assets or equity (the debt-to-equity ratio). “Leverage” is a concept about some potential ability to utilize debt financing to increase equity holders’ return on their investment in a firm. It is something, unlike wavelengths, that evades any kind of precise measurement. Even if it can be so measured, it could be so only in context, not by so simplistic an operation as dividing liabilities by assets.31 “Measures” of leverage for any two firms are not comparable for any number of obvious reasons:

- Through time accounting standards have changed what are considered liabilities (e.g., post-retirement health benefits), what are assets (e.g., capitalization of interest), and equity (e.g., all manner of new “expenses” have been created).
- At any moment in time standards allow for discretion in choice of operations, so for any two firms the permissible choices within the rules will produce different numbers for debts, assets, and equities.
- The conventional wisdom is now that numbers are manipulated. Indeed, a principal focus of financial accounting research has been investigating “quality of earnings” or management of earnings. It is a tenet of principal/agent theory that managers opportunistically manipulate financial statement numbers, e.g., via off-balance sheet financing, “abnormal accruals,” etc.

The last bullet point illustrates what we describe as the “clock” problem in empirical financial research. The clock problem is not confined simply to early principal/agent research dealt with by Williams (1989), but is a generic problem for all accounting research that relies on archival financial data. We describe it as the “clock problem” based on the clock’s essential function as a pure measurement device, i.e., its function is simply the measurement of time whatever the purposes for measuring time happen to be (deciding a winner in a slalom race,

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31 Two firms could have the same accounting measures, but not have the same “leverage.” An extreme example is Lehman Bros. and AIG. One was allowed by the political system to fail, the other was bailed out.
determining when an examination is over, knowing when to take a pie out of the oven, scheduling trains arrivals and departures, etc.).

As a thought exercise, suppose neuroscientists have established that human reaction time to visual or aural stimuli is explained by the physical characteristics of the brain, e.g., the number of neuronal connections. A neuroscientist wants to utilize this knowledge to test another contentious hypothesis, which is whether human intelligence, rather than being mainly determined by environmental/social factors, is largely a function of the physical properties of the brain that lead to reaction times being faster for some individuals than others. An experiment is conducted whereby standard IQ tests are administered to a group of human subjects to “measure” their intelligence. These same subjects are also exposed to various stimuli in a controlled setting and their reaction times measured with a sophisticated, precise clock that measures to very small parts of a second. In this experiment the clock provides the measures correlated with IQ scores to test the hypothesis that nature is dominant over nurture. Whether the theory is sustained or not by the experimental results, the interpretation of the clock’s readings is unaffected. That is, the meaning afforded the clock’s readings are independent of the status of the theory being tested. A reading of .18 seconds means .18 seconds elapsed between stimulus and reaction whether the theory about reaction times and intelligence is retained or rejected. The clock is independent of the theory.

In empirical financial accounting research we have no such assurance that our “clock” (published financial statements, i.e., COMPUSTAT data) is independent of the theories we test with them. If, for example, we have a theory that managers manipulate earnings (they manage earnings) how can one confidently use the very data management is allegedly manipulating to “measure” the variables alleged to contribute to managers doing so? The meaning of the
readings on the “clock” depends on whether a particular theory about the production of accounting data holds or does not. The problem is ubiquitous for financial research because the “clock” that is being employed by financial researchers is not constructed for their purposes. For over 40 years FASB, the SEC, etc. have been building a “clock” to produce readings, useful to investors and creditors, for predicting cash flows based on a rational decision theoretic characterization of investors and creditors. It is not at all certain that data produced in such a manner are also reliable “measures” of the economic constructs germane to a particular hypothesis being tested by finance researchers. To be certain a researcher would need the ability to adjust the data produced by standard-setters for one purpose (decision usefulness) to be suitable for her purpose (measuring some economic construct). She can’t simply presume that standard-setters have produced the optimal data system suitable for her scientific purposes. When one considers the operational character of such numbers the great faith in methodology completely dependent on such numbers is inexplicable. The standard excuse for ignoring such problems is usually “measurement error,” but that is false since the experimenter is not actually measuring anything.

With respect to utilizing operational numbers as scientific measures Gillies states: "Operational numbers are, however, only rough guides to a more complicated qualitative (emphasis added) situation. If we start performing elaborate mathematical calculations with them, the results can all too easily cease to bear any relation to reality," (2004, p. 195). Meaning thus becomes the significant problematic. Do accounting data mean what we claim they mean? What do all of the literally thousands of financial studies done in the past 40 years mean? A financial study with 15 variables “measured” mainly by operational numbers on 300 firms condensed into the calculations of a linear equation: what could that equation possibly mean (not
just the bits and pieces of it)? If it has no meaning in a mathematical sense, what explanatory power or policy implications could it plausibly have? Why must all accounting scholarship be in such mathematical forms? What kind of sense does it make? Unfortunately, the meaning of such studies is nearly always contained in their conception. Informed by an ontology described earlier the meaning given to these studies is also comprised of a narrative consistent with that ontology. Financial research continually attempts to close an open system. In spite of all the rigorous financial research and the deliberations of standard-setters we are still stuck in the world of paragraph 13 of SFAC No. 1. We are no closer to knowing with any greater precision what is decision useful than we were when ASOBAT was published.

**Summary and Conclusions**

We have briefly explored and analyzed the historical documents in which the concept of decision usefulness was initially presented as the root metaphor of accounting theory, practice, policy and research. Because more than 40 years have passed since the ascendancy of decision usefulness within the accounting theoretical framework, we believe it is appropriate to examine the progress that the concept has enabled in terms of shaping accounting practice and public policy and our understanding of them. We find that very little progress has occurred; the issues ASOBAT faced are still debated by the IASB. We discussed three incoherencies in the concept of decision usefulness. The first is the inability to demonstrate decision usefulness when the focus is individual decision makers. The second is the unlikely prospect that accounting data

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32 For example, the equation f = ma means something to designers of golf clubs; it has implications for the choice of materials used in and the design of golfing implements. No equation has emerged from over 40 years of empirical financial research that contains equivalent meaning for accountants, preparers, or users of financial information.

33 Elston, citing the work of David Freedman (1991, 2005) reaches the following conclusion: “I suggest that a non-negligible part of empirical social science consists of half-understood statistical theory applied to half-assimilated empirical material (emphasis in original) (2009, p.17).” Given the operational nature of accounting numbers, this goes double for empirical financial accounting research.
will ever have predictive value re economic outcomes. The third is the problematic nature of accounting numbers being operational numbers, which aren’t quantities, casting serious doubt on what meaning can be given to empirical financial research and whether accounting can still be called a truly measurement discipline.

**Looking forward: A different metaphor**

If the ASOBAT and FASB (and now the IASB) seriously intend to claim moral legitimacy as makers of public policy decision usefulness is not a coherent basis. This is evident in the incoherence of a due process emphasis in the adoption of standards with the criterion of decision usefulness. Due process implies that the standard setting process is one geared to reaching a fair decision, i.e., accounting standards are the product of a judicial process, which is a form of public reasoning (Sen, 2009). However, decision usefulness defined as predictive ability is a purely technical criterion in which issues of fairness don’t arise. If a datum predicts better than another datum, the standard-setter is obligated by the criterion of predictive ability to choose the one that predicts best. A process modeled after one designed to reach a fair outcome supposedly employed to reach an outcome based on fulfilling a strictly technical criterion is simply incoherent. Perhaps standard-setters’ ambitions should be lowered and the view should shift from decision usefulness to judgment usefulness. Decision always implies motives and a goal because an action is the end result of a decision. As a matter of practical reason before, and in spite of, any choice that must be made, individuals must make judgments about a state of affairs. Before one crosses the street, regardless of why one crosses the street, a judgment has to be made about the risk of being struck by a vehicle. Information systems abound. Mother’s admonition to look both ways is easily dredged from memory, the color of lights in the direction you are facing signal whether it is safe; for sightless people there is an audio signal that indicates
the way is clear. All of these signals comprise an information system providing data for making a judgment, i.e., whether it is safe to cross and depend for their usefulness on the factualness of the data provided. Whether one crosses or not is irrelevant and the motives for crossing are irrelevant, as well. Any individual’s decision to cross may be perfectly irrational, but the only thing that concerns the information system is conveying a “fact” – is the way clear to cross the street (Bayou, et al., 2011)?

The Consumers Union (CU) serves as a prototype of an agency that provides judgment usefulness information. It is an organization that has met the market test. The CU systematically tests various products along well-defined criteria and reports the results in a magazine to which members subscribe. Although the market for CU is not perfect (people share the information, magazines are left in offices where non-subscribers can access the information freely, etc.) CU is supported by its paying members. CU scientists assume that certain product characteristics are important for potential consumers. CU tests products for properties that are reasonably well defined and for which it is possible to gather evidence, based on past performance of the various products. A light bulb has a design and is composed of materials with known physical properties. One can test a light bulb for brightness (lumens) and longevity (turn it on and start the timer, stop the timer when the bulb burns out). In making a decision to purchase (invest in) a light bulb, a potential investor wants to know the "facts." This is what CU provides. Does CU care who will use the information? No, because the information is generic relative to the product being tested. No one’s utility and no particular group's utility is relevant to the information provided. The CU does not make claims of predictive value because its predictive value is

34 Anticipating the radical social constructiveness criticism about whether there are such things as “facts” we claim accounting is able to truck in “facts.” Though admittedly social facts (Searle, 1995, Lee, 2006 ), they are “facts” none-the-less. It would be impossible for a person to navigate safely through life without knowledge of some social facts. For example, if an American wants to remain alive while driving in the U.K. they had best know the fact that Britons drive on the left, not right side of the road.
limited to the extent to which the product being purchased is like the one tested. The CU does not claim their information leads to more efficient allocation of resources. No information provider should be so bold as to suggest that such an outcome will occur as a result of the information because, practically speaking, efficient allocation is indeterminate. If FASB were to be concerned with judgment usefulness it would entertain providing “facts” that were not constrained by the imaginary model of neoclassical economics. Recent events have demonstrated that there are no “free markets” that automatically discipline firms (Galbraith, 2008). Corporate governance and regulation are not things that can be accomplished via reliance on the disciplinary power of financial markets presumed to behave in imaginary ways, nor even something that should necessarily be left entirely to boards of directors. Publicly traded corporations are just that – public. The consequences of their behavior extend far beyond investors and creditors (BP comes immediately to mind).

For example, an economic fact completely ignored by FASB is the “equity” that the general public has in private firms through the subsidies it provides. Why shouldn’t financial statements reveal the magnitude of these subsidies? That and similar facts could be useful for decisions that people might need to make about taxation or continuation of such subsidies.

A good example is Taxol: the General Accounting Office (sic) estimates that the National Institutes of Health spent a total of $484 million on the development of this drug between 1977 and 2002. Bristol-Myers Squibb – the firm that obtained the patent and marketing rights – achieved world wide sales of $9 billion between 1993 and 2002, but the government received only $35 million in royalties from the earnings (Alperovitz and Daley, 2008), p. 84).

Elston (2009) prescribes a solution for the “excessive ambitions” of the social sciences:

One crucial step is to replace the aim of prediction with that of retrodiction, and the concomitant move of replacing general laws with mechanisms. Retrodiction – explaining the past – is a perfectly respectable intellectual enterprise, because hypotheses about the past can be falsified no less than predictions about the future (ibid, p. 23).
This prescription for the social sciences is ironic in that retrodiction mimics what accounting has been about for most of its history. The financial reporting revolution (rooted in “economic science”) brought about the root metaphor of decision usefulness and the expurgation of accountability from the discourse of policy makers and researchers. As social sciences have come up short as predictive scientists, so has decision usefulness come up short as a justifiable basis for policy and research. A kind of retrodiction in accounting would require a return to a discourse of accountability with its emphasis on evaluation of the consequences of actual behavior relative to a standard of expected behavior (Ijiri, 1975, 1983). Providing economic “facts” rather than decision useful information may be a more useful way to think about the mission for a public regulatory body. Doing so may also provide a way out of the incoherence that bedevils accounting policy and research now.
References


Rodgers, J.L. and Williams, P.F. 1996. Patterns of Research Productivity and Knowledge


FIGURE 1

Matrix of Human Decisions
(adapted from Akerlof and Shiller, 2009, p. 168)

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