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Reconstructing Accounting Research: Beyond Theory without Data and Data without Theory

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Abstract: Although we have been incessantly trying to construct accounting studies as a proper academic subject over half a century, neither what we have attained is great nor the road ahead easy. Nonetheless we have no choice but to pursue the way of positive (not necessarily empirical) scientific research with productive feedback between theoretical and empirical analyses, going beyond theory without data and data without theory.

It is crucially important to grasp rationally the self-development of accounting rules as a spontaneous order without any preconceived rigid understanding of rationality, and accordingly we must first build a consistent conceptual framework in consonance with accounting norms and phenomena as the vital analytical tool for the development of accounting research based on solid foundation.

Keywords: accounting, theory, research

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1 Introduction

In order to commemorate the late Yuji Ijiri, I shall reconsider the interaction between theoretical and empirical research and explore possible future ramifications. Before delving into the central theme, I briefly touch on the background of the current research practices and revisit what our forerunners did in the 1960s when Ijiri started his distinguished academic career in the United States in Section 2. Then I focus on an aspect of accounting standards as social norms emerging as the result of interactions among interested parties before codification, and consider what kind of viewpoint is necessary for this line of research in Section 3. Emphasizing that positive scientific research is not limited to empirical analysis based on data, in Section 4, I examine the possibilities and limitation of empirical observation and pattern discovery in theoretical construction, verification (falsification) and ensuing reconstruction. In Section 5, I explore the possibilities of accounting studies from both economic and linguistic viewpoints, keeping in mind the distinction between the role played by accounting information as the output of an accounting system in society and the nature of the system under the incessant process of transformation, while a more concrete linguistic analysis of accounting standards is relegated to Appendix. Section 6 is the conclusion of the lecture.

2 Revisiting the 1960s

Accounting standards were radically transformed in the United States in the 1960s. In 1959, the American Institute of Certified Public Accountants (AICPA) established the Accounting Principles Board (APB) to replace the Committee on Accounting Procedure (CAP), launching a project to critically examine how accounting recommendations should be set. Until then, the CAP Bulletins had largely been a codified compilation of existing business practices, while there was a fruitful exchange of ideas among regulators, professionals and academics in developing accounting standards in the 1930s and 1940s.[1] However, Moonitz (1961), the putative result of the new AICPA project, proposed a different approach to deriving accounting standards deductively from a limited number of postulates, and exerted a substantial influence not only on accounting opinions issued by the APB, but also on accounting research.

1 Paton and Littleton (1940) was in a sense the culmination of this endeavor.

A decade earlier, the American Institute of Accountants (AIA), AICPA's predecessor, had organized the Study Group on Business Income in 1948 and published five commissioned papers on the concept and measurement of corporate income together in 1950.[2] They were written mainly by economists at a time when traditional income measurement based on historical cost allocation was being considered problematic under the changing price level. Under the influence of the ideas presented in them, Edwards and Bell (1961) developed a theoretical framework with more operational concepts and together with Moonitz (1961) marked the start of a decade of hectic yet fruitful accounting research.

Income, once considered the center of gravity in accounting (Littleton, 1953), was downgraded to one of many pieces of information, and accounting was to be understood as an information system useful solely for decision making particularly in the United States.[3] Therefore it was natural that accounting scholars began to show a keen interest in understanding in which respects accounting should be distinct from an information system in general, and how corporate transactions should be measured and transformed into useful information. Mattessich (1964) and Ijiri (1967) who were pioneers in this line of research tried to systematize accounting measurement using axiomatic deductive inference based on mathematical formalism.

The growing interest in the accounting measurement system drove researchers not only to elucidate the mechanism of that system, but also to find a robust criterion according to which the usefulness of information as an output could be evaluated and a procedure of information production appropriate for making decisions could be selected. To this emerging need, reliance on information economics developed by Marschak and Radner (1972), Feltham (1968) and Demski (1974) offered a new approach to the evaluation of information. Under this new framework of choice under uncertainty, accounting data are analyzed as ex-ante information to be used for revising the probabilistic estimation of future events based on stochastic decision theory. In this context, they proposed the concept of information value as criterion for choosing the best system out of competing alternatives, grounded in information economic theory.

The focus of this new approach was gradually shifted from the evaluation and choice of an information system by an individual towards social choice with heterogeneous agents. Then researchers started to examine the relevance of information to be shared publicly in markets through results obtained in

2 AIA (1950). Contributors are Sidney Alexander, Martin Bronfenbrenner, Solomon Fabricant (two papers) and Clark Warburton.

3 There was a heated debate between Chambers (1955, 1957) and Littleton (1956).

microeconomic analysis of capital markets. They sought to ascertain the impact of public accounting information on investor's decisions and price formation. The research question is whether accounting data should have informational value because that additional information can cause equilibrium prices to change. Such pioneering work as Ball and Brown (1968) and Beaver (1968) has been followed by the huge literature of empirical research.

The relation between accounting information and price formation is also an important topic for economic analysis of the information system and market equilibrium. Accounting scholars have directed their energies to empirical research of this kind since the 1970s. They may claim with some justification that publicly available accounting data should respond to the theoretical interest of economists. In a sense, the academic accounting community has tried to avoid theory without data, but it might be trapped in the status of a mere data-providing servant if the endeavor ends in data without theory. It is vitally important for accounting scholars to construct verifiable theoretical hypotheses as well as to test them empirically.

3 Accounting norms as a research object

Theories of the empirical sciences explain the underlying causal mechanism behind observed phenomena and the relation thereof systematically. In accounting studies, accounting norms and behaviors directly related to them are phenomena worthy of investigation. What is to be constructed are theories that explain the initial formation and change of institutions including rules implicitly held as a norm among participants, and their societal effects and consequences. Among these norms, established accounting standards are the easiest to observe, and naturally these "written" standards have been under study for years. Recently researchers' interest has been increasingly focused on conceptual frameworks that should lay the foundations for them.

However, accounting standards are not necessarily publicly authorized in order to function. They are above all social norms in the sense that members of a society unofficially expect each other to behave according to them.[4] In this regard, they are essentially no different from customary laws and natural languages. In the past, best practices – which have emerged as the result of interactions among interested parties and recognized as preferable to others – used to be codified and systematized as generally accepted accounting

4 See Posner (1997, p. 365).

principles (GAAP). Although this pragmatic approach gave legitimacy to those social norms, we lacked any concrete criterion to evaluate the desirability of results. The fact that it "worked" as inherent in inductive inference did not give us any assurance of their universal validity and societal consequences.

Since those old days, accounting as a vital information source in capital markets has become more and more regulated under public supervision, and the GAAP has been transformed from unofficial social norms to "written" standards. Instead of inductively compiling best practices, standard setters have come to derive deductively standards from premises, and accordingly shifted their interest onto conceptual frameworks which are supposed to make these premises explicit. On the one hand, this deductive approach has contributed to the consistent application of standards which cannot cover every situation ex ante due to their inherently incomplete nature. On the other hand, its constructivism – a posture that regards any social institution as intentionally constructed – often erodes the nature of standards as *generally accepted* accounting principles. There is no procedure to ascertain the appropriateness of deductively derived standards from a societal point of view. Empirical research has been expected to mitigate this drawback.

Social norms by their nature are a spontaneous order emerging from human interactions, and the unintended consequences of behaviors play an important role in society. The interactions of human behaviors themselves and those with the order arising therefrom lead to the evolutionary process beyond individual capabilities and intentions. In particular, the market process is a quintessential emergent order and the accounting rule which plays in and becomes part of it cannot but be another one. Therefore it may be seen as inappropriate for not just standard setters but also researchers to uncritically derive accounting standards from a priori premises bypassing the formation process of emergent order.[5] At the same time we should avoid a Panglossian acceptance of the world as it is.[6]

Be that as it may, in addition to the systematic consistency of norms,[7] two important issues – functional economic rationality and historical path dependence – remain to be addressed by accounting researchers: why unintentionally formed accounting norms have been willingly accepted and maintained in the

5 See Hayek (1973) and Sunder (2016).

6 See Ulmann-Margalit (1978).

7 Because accounting standards are incomplete in the sense that they cannot cover every situation ex ante, virtually any arbitrary rule can be derived if the system of standards is inconsistent. Therefore it is vitally important to examine the consistency of accounting standards. However, what we are required to do is to systematically evaluate the rationality of the emerged spontaneous order ex post rather than deductively derive norms a priori before their emergence.

market; and how the future development is to be constrained by this very fact. From the aforementioned awareness of the problems, we may claim that: the traditional GAAP-centered pragmatic approach pays little attention to the necessity of examining the rationality and consistency of unintentionally formed accounting norms and exploring their universality and changeability. The deductive standard-setting approach makes little effort to find objectives, norms or concepts, which should be incorporated in the premises of inference, in the emerging process of spontaneous order, considering that accounting norms have the character of emergent order.

Accordingly, when studying either the implicitly recognized GAAP or explicitly specified accounting standards, we must also examine ex post facto the rational aspect of consequences that emerge and are sustained in the market spontaneously, explicate their causal relation with the formation of accounting norms, and explore various possibilities of their future development. At the same time, we must clarify how accounting rules are systematically interrelated, and work out how a newly formed rule influences the future development of existing rules and the system as a whole. However we should keep in mind that accounting standards as well as conceptual frameworks as their guidelines are subjected to ex post scrutiny in accounting research, and their practical development is beyond the scope of accounting *researchers*.[8]

4 Positive science need not be empirical research

Accounting studies in general, not limited to those of accounting standards, are often dichotomized into positive research and research on norms, the latter of which is considered similar to normative science such as legal interpretation and its consistency analysis in traditional jurisprudence. It is a rather strange assertion. Because accounting is a set of norms, accounting research cannot be anything but studies of norms and we should be able to conduct normative research in a positivist fashion. If research on norms were a branch of normative science, how could we classify law and economics, which study norms according to positive scientific methodology? Aren't welfare economics and social choice theory (which are generally believed to belong to positive science) studies on norms? Should we restrict positive science only to empirical research based

8 See Glover (2014) for a thoughtful opinion on what accounting researchers and standard setters should do.

on quantitative data? Is the consistency concerning theory and data unimportant[9]?

As stated above, the causal relation among observed phenomena is the central object for positive, either theoretical or empirical, science. Therefore, we need both theoretical and empirical studies: constructing descriptive propositions verifiable in principle through observables, as well as actually verifying or falsifying these propositions with data. It is true that we cannot obtain any theory simply cataloguing normative propositions such as accounting rules, but we can and should construct verifiable descriptive ones by causally linking these interdependent rules and observable events. The systematic construction and verification of these hypotheses are no different from studies on norms (not normative science) based on given premises. This endeavor no doubt belongs to positive science.

Nevertheless, the relation between empirical observation and positive science is not as simple as asserted by positivists in the accounting community. There exist varied responses to the said relation among philosophers of science. According to naïve positivism, a theoretical hypothesis is to be first proposed inductively based on prior observation and then verified on posterior one, as shown in Figure 1. It is well-known that Karl Popper denies the validity of induction as a process of hypothesis construction as well as testing, and he has replaced verifiability with falsifiability for theory construction. Although an emerged pattern recognized through empirical observation enables us to generalize it and infer the existence of a possible causal relation, we still have to know why it is so and the causal mechanism remains a black box. What we obtain is an a-theoretical empirical pattern, not a universally applicable theory.

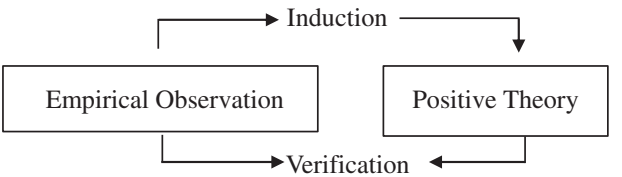

Figure 1: Naïve Positivism.
Induction and Verification through Observation

9 Inconsistent theories are not falsifiable, in the sense that they cannot separate the propositions compatible with them from those contradicting them (Popper, 1989 [1934]). Consistency is a necessary condition for falsifiability or verifiability. It is not reasonable to either pit consistency analysis against empirical research, or regard the former as an endeavor peculiar to studies on norms.

Rudolf Carnap, a leading logical positivist, proposed one of the most sophisticated approaches to theoretical hypothesis.[10] As shown in Figure 2, he separates observational terms defined by spatio-temporal operational rules (including institutions and norms) from theoretical terms (statements) to which observational ones give interpretations; then asserts that empirical patterns generalized from facts are to be described only by observational terms and theoretical laws explaining the empirical patterns solely consists of theoretical terms, while correspondence rules linking theoretical and observational terms can give interpretation of theoretical ones. Putting theoretical laws and empirical patterns into different dimensions, he seems to try to ensure conceptual operability in theoretical terms through correspondence rules with observational ones, and positive verifiability through the rules of language.

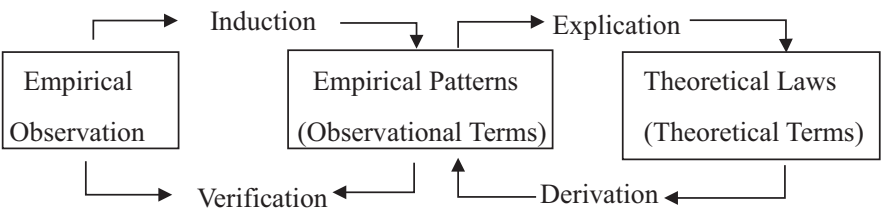

Figure 2: Sophisticated Positivism.
Separation of Empirical Patterns and Theoretical Laws

Carnap's attempt can be considered the most sophisticated positivist methodology, but shows its inherent limitation. Because the separation of observational and theoretical terms is relative as well as interdependent, theoretical laws cannot be verified by empirical observation per se. The Duhem-Quine thesis, partly aimed to criticize Carnap, denies not only the possibility of distinction through the form of language and framework of concepts, but also the falsifiability of any scientific theory as a network of interrelated hypotheses through observation inconsistent with any individual hypothesis.[11] Moreover, Thomas Kuhn asserts theoretical truth cannot be decided independently of a paradigm

10 See Carnap (1966).
11 See Quine (1951).

within which research is conducted.[12] In other words, if a truth claim is only valid within a particular theoretical framework, we cannot falsify any theory with observation. Even Popper, once a fierce critic of Kuhn's, accepted partially this "irrationality" claim in his later years.[13]

Even if we do not endorse the Duhem-Quine thesis or the Kuhnian notion of paradigm, we can learn the complicated relation between theory and observation in positive science shown by them and make use of them for accounting studies. Empirical patterns distilled from observation of facts on the one hand, and theoretical hypotheses systematizing universal causal law beneath them on the other, exist in different dimensions, and consequently observation can at most play a limited role for theoretical studies. No theory emerges through finding patterns from observation and verifying their statistical significance. We need to do something more: ask *why* the recognized patterns are as they are and conduct a *salto mortale*, that is, a theory construction. Although empirical research enables us to revise a theoretical hypothesis by confronting propositions derived from it with observed phenomena, it can never reject the core element of the hypothesis (Figure 3).

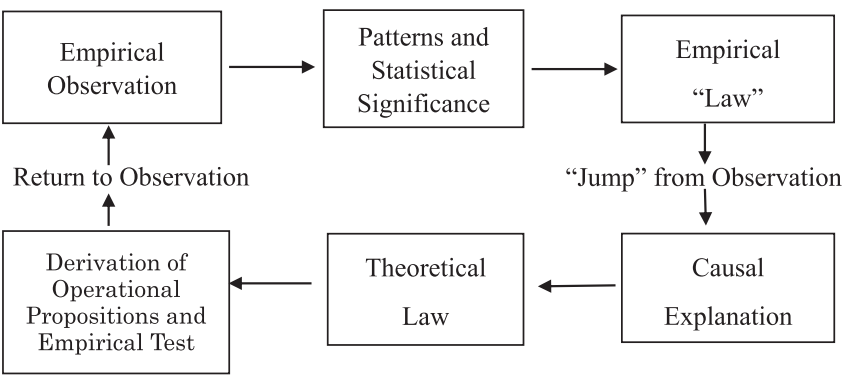

Figure 3: Theory and Observation in Positive Science.

12 See Kuhn (1962).

13 Popper, 1989 [1934], p. 76) claims that "There are no pure observations. They are penetrated by theories and driven by problems and theories" in a 1968 addendum (not included in the English edition and translated by the author). Developing Popper's falsificationist approach, Lakatos (1978) advocates the methodology of scientific research programs in which the unfalsifiable hard core and a revisable protective belt of auxiliary hypotheses coexist.

5 A possible direction: Economic and linguistic analysis of accounting

5.1 Output from accounting system

What kind of possibility, if any, do we have for theoretical research on accounting keeping the aforementioned methodological difficulties in mind? For years our research object has been the output from the accounting system, that is, accounting information. We have been incessantly examining the value relevance or the relation between disclosed accounting data and share prices brought about by the action of investors using those data. Their correlation has been believed to decide the usefulness of accounting information. Other research objects have been concerned with the relationship between managerial conduct of choosing accounting rules and making numbers at their discretion, and managerial incentives formed and influenced by related regulations. Some researchers have tried to (hypothetically) compose investment portfolios based on accounting information and evaluate their performance. It is true that these lines of research have been conducted empirically with little theorizing, but they should be obvious subjects for theoretical studies exploring the underlying causal relations.

In this context, the usefulness or value of accounting information should mean the (positive) difference between the increase of an expected payoff brought about by its utilization and the opportunity cost incurred in its production. This production includes individual and social costs to be considered. Although empirical researchers seem to have concentrated on the estimation of the former gross increase, we should rather weigh it against the latter opportunity cost,[14] except when we want to show non-existence of any accounting information value, including the gross one. Without a relevant cost-benefit analysis, we could not ascertain the value of information. What we have to consider is not just the expenses necessary to change and maintain the information system of each individual firm, but also the expenses incurred individually and socially in order to resolve conflicts with other systems surrounding and functioning complementarily with the accounting system if the changed information production necessitates changing the latter systems.[15]

14 It would be unnecessary to bother with the cost estimation only if the gross value were nil or negative.

15 It has little meaning to argue the value of information whose production necessitates the change of existing accounting standards, ignoring the possibly substantial costs of conflicts

Accounting empirical research has definitely shattered baseless myths or evidence-free beliefs examining the value of accounting information through the correlation between accounting data and share prices. However, its inherent limitations have also become clear. As pointed out for years, statistical significance cannot be used as a mechanical algorithm to judge whether empirical results are scientifically important (McCloskey, 1996); regression coefficients are silent about causality and price responses contain too much noise to correctly infer effects of information (Black, 1986). Moreover, the asymmetry between acceptance and rejection of any null hypothesis, and the near-certainty of its rejection with sufficiently large data are well-known among statisticians.[16] It is critically important for empirical researchers to understand statistical methods in form and substance correctly, and construct theories to be tested beforehand.

5.2 System of accounting rules

The purpose of theoretical research on accounting is to unpack not only the consequences of accounting information for markets but also the overall scheme and mechanism of accounting rules through which information is produced. In general the system of rules (including that of language) is analyzed as a phenomenon emerging in different societies synchronically and developing in a particular society diachronically. In the case of synchrony, which is a set consisting of rules and the relation thereof, we try to systematize them and examine the rationality of their continuing existence in markets. In the case of diachrony, which is a process of transition from one synchrony to another brought about by the systematic change in the existing synchrony due to internal or external perturbations, we seek to find out the propagation mechanism by which the transformation of rules are realized.

When studying the synchrony of accounting systems, we examine characteristics emerging in each synchrony and their apparent rationality by taking into account the market function which integrates participants' expectations under the influence of market environments. Because fundamentals-based investment behaviors in capital markets depend on some evaluation of corporate

with the surrounding complementary systems in which it is necessarily embedded. At present, each national government ponders over its own institutional complementarities, weighing benefit against cost of accepting international proposals in making its policy. Also see Saito (2013a) and other articles in the same issue of CONVIVIUM.

16 Fukui (2016) points out these problems in accounting research.

capital which in turn depends on expectations of permanent income,[17] the number measuring the latter is a universal piece of information extracted from every accounting system across environments/jurisdictions. Whether starting from assets and liabilities or revenues and expense, every accounting system cannot but be a nexus of rules measuring income and making it public particularly where corporate shareholding and management are separated.[18] The income information is utilized extensively, for example, in implementing corporate valuation and designing an incentive mechanism, while these purposes of use exert influence on the system producing the income number.

Therefore we need to define a universally held concept of income and its operational relation with actual measurement. The convention-based measurement of income may not necessarily guarantee its conceptual universality because convention is an operational procedure, the validity of which is not ascertained. If we define an income concept based on each operational convention, we are forced to admit different conceptual definitions corresponding to different conventions and never obtain a universally applicable concept. When we seek an operational concept of income, what we have to do is to construct an operational measurement procedure corresponding to a universally valid theoretical concept of income. We may obtain an income figure even if we follow the rule of double-entry, but it can never be miraculously transformed into any universal concept. Our quest for the generality and universality of measurable quantitative concept and simultaneously its operationalization is indispensable for accounting research as a scientific endeavor.

Accounting income can be conceptualized as an approximation of economic income which is a standardized expected future net cash flow series.[19] While a standardized economic income series is assumed to be infinite, we must construct an accounting one taking into consideration the limited-life of depreciating assets to be used for generating income through time periods. Above all the firm as a going concern needs investment renewal through depreciation and reinvestment cycle in order to maintain the income generating capabilities of its

17 Hicks (1946, Ch. 14) calls it "Income No. 2". In his neoclassical framework, income determines capital, not vice versa, in spite of a repeated misunderstanding of this crucial point among many accounting researchers and practitioners (Saito & Fukui, 2019).

18 The point is, shareholding and management are undertaken by different people. How they are related is not an issue here.

19 I take a neoclassical position in income measurement while acknowledging this is not the only approach worthwhile pursing. Needless to say, accounting research cannot be reduced to (part of) neoclassical information economics. It is crucially important to recognize that the

assets.[20] Moreover, although asset reevaluation resulting from changed conditions (including expectations) is basically outside the scope of economic income, it is to be included in accounting income once it is realized as cash flow by liquidation, and accounting measurement should match relevant expenses and revenues when realized. It is vitally important to develop the past achievement, Sydney Alexander's concept of variable income[21] in particular, and rejuvenate an endeavor to construct a system of concepts consistent with these characteristics of corporate income measurement in theoretical research.[22]

In general, such a phenomenon of transition from one stable order to another can be approached from a diachronic perspective on language system. Following the theory of generative grammar in which a kind of universal grammar exists (or is assumed to exist) prior to branching off to individual languages, Ijiri (1967) and Saito (1975) sought to establish a universal model of the accounting meta-system which precedes the coexistence of individual synchronic systems. Also Saito (2013b, Concluding Ch.) describes each synchronic system from a viewpoint of the meta-system; and tracing the interrelation of changing rules, tries to figure out the diachronic process in which an order of system perturbed by a change of a certain rule is transformed into another stable order through the adjustment of other rules to that perturbation.[23] In this way the mechanism by which the fluid nature of a synchronic system determines its further development is examined.

6 Concluding remarks

More than a half century has passed since we began reconstructing accounting studies as an academic discipline. What we have achieved does not seem to be as great as we had expected. Nevertheless, we shall resist the temptation of theory-without-data and data-without-theory, and pursue a positive scientific approach based on the constructive interaction between theory and data as a

generation of accounting numbers is structured under the double-entry system as pointed out by Penman and Yehuda (2009, 2018).

20 Investment cannot be properly evaluated unless the initial acquisition cost is taken into account at some points during the entire period.

21 Alexander (1950).

22 See Fukui and Saito (2018) for a preliminary attempt.

23 See the appendix for a concrete synchronic transformation of accounting phenomena emerging through a diachronic process.

viable option left for us. Having disentangled accounting norms per se and positive studies on them, we have to make every effort to construct theoretical hypotheses systematizing observed patterns, and revise or reconstruct them based on empirical testing. It is vitally important to try to understand the self-generating mechanism of accounting rules as an emergent social order open-mindedly, without any rationalist arrogance. Therefore our first task is to propose a consistently structured system of concepts corresponding to existing accounting rules and phenomena, as Ijiri did incessantly for his entire career.

However, the interaction between theory and data is easier said than done. In particular, accounting empirical research is in danger of being trapped in naïve positivism explicated in Section 4. I am now more sympathetic than before to Fischer Black, who made the following remarks in his presidential address to the American Finance Association.[24]

> In the end, a theory is accepted not because it is confirmed by conventional empirical tests, but because researchers persuade one another that the theory is correct and relevant.

In fact, no scientific theory can be totally independent of empirical phenomena. In his posthumous book aptly titled "Exploring General Equilibrium", Black (1995) indeed tries to fully explore the possibilities of the general equilibrium generating examples and specific models and explaining styled facts.[25] Regardless of methodological stances, we need to look back to the contributions in the hectic though flourishing 1960s,[26] and revitalize accounting studies reconsidering their untapped possibilities and synergies.

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24 Black (1986, p. 537). McCloskey (1983) is approvingly mentioned in a footnote.

25 Practical difficulties inherent in the relation between theory and data are not limited to accounting research. For example, Prescott (1986) points out that measurement is never independent of theory in his empirical time-series analysis on the relation between real business cycle theory and measured data.

26 Needless to say, we should also learn from the contributions before the 1960s.

Appendix Synchrony and Diachrony of Accounting Standard Setting

The recent zigzag course of setting standards of financial reporting for valuation of assets and liabilities using "fair values" furnishes an illuminating example for fruitful analysis both synchronically and diachronically.

We assume that the system of accounting rules is a hierarchical tree structure whose synchronic consistency is maintained by adjusting lower rules to higher ones. A new rule does not necessarily require the system to change if the new one conforms to its higher rule, and leaves the system consistent as before. Otherwise the system loses its consistency and consequently tries to reject the new rule; if it cannot, it adjusts the higher rule to the new lower one in order to recover the systemic consistency. This adjustment mechanism may affect lower rules and/or still higher ones. How far the introduction of a new rule exerts influence on the system depends on its attributes (Saito, 1975, Preface).

Before the advent of the asset-liability view armed with "fair value" measurement, accountants measured income as the realized result by allocating a cash flow series to each period on an accrual basis, and matching revenues and expenses under the traditional accounting system. As a corollary, assets and liabilities were measured on an acquisition or historical cost basis. When we started to measure some financial instruments at a current value and recognize the change of value as income, two different measurement rules, historical cost and "fair value", came to coexist; both realized and unrealized results were seemingly intermingled in income measurement. Although some claimed that the resultant system was understood to be based on a mixed attribute approach, it was undeniably inconsistent at least from a traditional conceptual viewpoint.[27]

A possible and vigorously pursued course for the recovery of the systemic consistency has been an extended application of "fair value" measurement to all the financial instruments and finally assets and liabilities in general. Advocating for comprehensive "fair value" measurement in place of historical cost-based income recognition and measurement, American and International standard setters tried to eliminate or severely restrict the higher rule of periodical cash flow allocation and revenue-expense matching, and ban the still higher rule of traditional earnings measurement, in view to make comprehensive income the only game in town. In essence they sought to make stock-based measurement of assets and liabilities, instead of traditional flow-based income measurement, the main objective of accounting at the highest level of the system. If this project

27 Ijiri (1981, p. 79) emphasizes that "Historical cost records reinforce accountability".

were to be implemented, no doubt it would have influence lower rules requiring us to apply "fair value" measurement extensively to assets and liabilities other than financial instruments.

Indeed if this undertaking had been completed as planned, the resultant status would have certainly become a stable synchrony. However, now this project has fallen through. Both historical cost and "fair value" are used for measurement without any definite criterion for their application, while comprehensive income and net profit or loss (earnings), the latter of which is actually based on the traditional realization principle but remains formally undefined, coexist uneasily. The failure of the transformation project may be attributable to the fact that a complete overhaul of the system has preceded a careful examination of related concepts. The situation would be somewhat different (not necessarily better) if we had proceeded from the following viewpoint: neither dichotomizing assets and liabilities simplistically between financial instruments and the others nor lumping both of them together, but evaluating the position of an investment and measuring the results based on its intended purpose, disentangling what kind of cash flow should be anticipated from it.

Investment is nothing but a transaction exchanging certain or uncertain cash flows at different points of time.[28] Its result remains undetermined until these cash flows are realized, and become determinate to extinguish risk, when expectations are transformed into facts. Such concepts as "release from risks" defined in the conceptual framework by the Japan's accounting standard setter (ASBJ 2006)[29] and "uncertainty resolution" advocated by Barker and Penman (2017) are criteria of income recognition focusing on the aspect mentioned above. The most important task that accounting measurement has to accomplish is that the information on realized results of investment consistent with its intended purpose, either financial or operational, should be fed back to investors in view to form or revise their expectations.

This perspective would lead us to apply "fair value" to financial investments, which are not constrained by any consideration for business and may to be cashed in at will, and historical cost to operational ones,[30] which are expected to generate and/or facilitate a cash flow series from ongoing business operations over time. The realization principle would not lose its general applicability even in the case of financial investments because we could implicitly equate a change in the current value of held assets with realized cash flow in the case that

28 Financial assets are to be exchanged for cash directly, while non-financial assets are indirectly in the sense that cash is to be generated through the use of the assets.

29 See Saito (2007) for a further elaboration of this concept.

30 Including prima facie financial assets actually constrained by business consideration.

transactions in liquid markets are available for liquidation purpose.[31] Therefore, the systemic consistency would be kept intact without any wholesale revision of higher rules and concepts, if we categorized assets and liabilities depending on their nature as investment and measured them accordingly. It would be an unnecessary project to apply "fair value" measurement to every asset and liability and make comprehensive income the sole income concept allowed in accounting. We must carefully observe the emergent self-generating process of accounting rules, bearing in mind the possibility that standard setters obstruct the emergence of a stable synchrony realizable through the aforementioned perspective.

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31 If the same financial instrument were constrained in its liquidation transaction due to management needs (or other circumstances), the price change could not be equated with realized cash flow, that is, the result of investment.

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