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Attention: Alex Milburn, PhD, FCA

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Comment Letter on:

“Toward a Measurement Framework for Financial Reporting by Profit-Oriented Entities”

Dear Sirs,

The invitation to comment on this paper is welcomed, as a deeper discussion on a comprehensive basis for measurement is much needed. At the same time, the author should be complimented on his enormous efforts to address the issues with a focus on the cash generating processes of business activities.

Nevertheless, I disagree fundamentally with almost all of the paper’s proposals. My areas of disagreement are set out below, and are based largely on the following three aspects of the paper:

- An insufficient analysis of cash generating input-to-output processes of business activities;
- An inappropriate and unsuccessful attempt to apply the Efficient Market Hypothesis to other than securities markets;
- The flawed assumptions underlying the notion of opportunity-cost-savings (or losses).

While these three issues are addressed in detail in Appendices A-C, specific disagreements (D) with subsequent Bases for Disagreement (BD) follow the various premises, assumptions and conclusions as they appear in the proposal. The focus of my response is on the concept of “Current Market Value” and its assumption of properties as well as its application in Principle 2. Whilst I disagree with all the other proposed principles as well, I have refrained from commenting specifically on these, as to do so would be largely a repetition of previous arguments of disagreement.

The author starts with a repetition of views, previously expressed in the widely rejected 2005 Discussion Paper, followed by setting premises and assumptions seemingly chosen for their ability to lead to the desired results. In this, he remains consistent in his technique as observed in comments on the 2005 Discussion Paper.<sup>1</sup>

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<sup>1</sup> Biondi, Y. 2011. “The pure logic of accounting: a critique of the fair value revolution”. Accounting,

## **Basic premises**

### *D 1*

Business entities<sup>2</sup> do *not* invest in assets for the future net cash flows that *they* are expected to generate.<sup>3</sup>

### BD 1

For the purpose of analyzing the economic purpose of profit-oriented entities it is necessary to focus on the essence of business activities: their *cash conversion cycles* as described in the Conceptual Framework of the FASB (Con 1, 39): “Business enterprises, like investors and creditors, invest cash in noncash resources to earn more cash.”

With the exception of holding activities in the definition of Edwards/Bell or investing activities in the author’s definition, where input equals output, businesses invest in resources that are more than assets and they produce more than assets: goods and services.<sup>4</sup> More importantly though, the net cash flow expectations are rarely directed towards single “assets”, but towards activities or parts of them, for instance production cycles or projects.<sup>5</sup> It is the business entity’s net cash inflows from activities that provide the basis to the specific net cash inflow expectations of individual capital providers. (Appendix A deals with the details of cash generating activities)

### *D 2*

It *cannot* be concluded that information about the cash-flow expectations ... attributes of assets ... should be considered a primary focus of financial reporting.<sup>6</sup>

### BD 2

As positive cash flow generation is a primary economic objective of business activities and users need information “to assess the prospects for future net cash inflows to the reporting entity”<sup>7</sup>, it follows that a primary focus of financial reporting has to be on those data that provide insight into the cash-generating processes of the reporting entities. Cash-flow expectations attributes of assets form part of the relevant data, but have to be reported with regard to the way they shape or influence the net cash inflow expectations of the process that they contribute to (see Appendix A).

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Economics and Law 1 (1): 1: “They questioned the IASB DP (2005)’s preference for fair value as a deductive consequence of an alleged set of premises and concepts that was formulated in a way that already implied that preference whilst preventing the related issues from being discussed.”

<sup>2</sup> Following, ‘businesses’ or ‘business entities’ are used for the term “profit-oriented entities”.

<sup>3</sup> As claimed on page 3 No. 13.

<sup>4</sup> As recognized by the author: page 4 No. 16.

<sup>5</sup> For the problem of relating non-arbitrarily cash inflows to input assets, see below BD4 and Appendix B.

<sup>6</sup> As claimed on page 4 No. 15.

<sup>7</sup> IASB Conceptual Framework for Financial Reporting 2011, OB3.

### D 3

Businesses *do not* typically create wealth by adding value to their assets. Cash-generating input-to-output processes *do not* have the objective that the *value* achieved from the sale of the outputs will exceed the *value* sacrificed for the related input.<sup>8</sup>

### BD 3

Businesses typically aim to create value ultimately by adding cash. As the term cash-generating process indicates, such processes are all about cash: it is the cash conversion cycle, and “a cycle that begins with cash outlays and ends with cash receipts. That description is not only straightforward and convenient...”<sup>9</sup>

That description contains all of the logic that is required to depict where net cash inflows come from and why. The introduction of the term “value” has no place at the level of describing fundamental premises. It only has a place when such conversion cycles are incomplete, where noncash resources remain unused and output remains unsold. However, that is not an objective of the activity or its processes. Whilst cash conversion cycles at the time of financial reporting are often incomplete, this does not form a characteristic of activities. It is only the consequence of the artificial cut in the business life due to annual reporting.

### **Defining Current Market Value**

### D 4

Reasonable market efficiency *does not* support the author’s extension of the Efficient Market Hypothesis [EMH]<sup>10</sup> to markets outside securities markets.

### BD 4

The EMH requires a number of essential conditions to be prevailing for the theory to be applicable:

- 1) in a market of certain qualities
- 2) information must be available -  
of a kind that can change cash flow expectations about an asset,
- 3) used for analysis and subsequent rational decisions by investors,  
thus representing the major cause of price movements in the traded asset.

These conditions do not prevail for most input assets, in particular non-financial assets that do not generate cash inflows directly. For most input assets, the information – cash flows – necessary to assume incorporation of the properties as claimed does not exist and cannot be ‘created’. Thus the assumption of embodiment of such properties is logically impossible.

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<sup>8</sup> As claimed on page 4 No. 16.

<sup>9</sup> FASB CON 1, 39, Fn 8.

<sup>10</sup> For the limitations of the theory and for instability of models that add further assumptions, see Ray Ball, University of Chicago, The Global Financial Crisis and the Efficient Market Hypothesis: What Have We Learned?, Journal of Applied Corporate Finance, Volume 2, No 4, p. 8-16.

Recent lessons of what markets are moved by raise further doubts as to the suitability of market prices for an unquestioned use as a measurement basis for all assets, even for financial assets in securities markets.

Appendix B contains the detailed arguments that lead to my disagreement on this issue.

*D 5*

The “current market value” *does not* embody the properties as claimed (except for g)) on which the author bases a claim of relevance over other measurement bases.

BD 5

As a consequence of the arguments developed under BD 4 and Appendix B, it is impossible for nearly all inputs (that are not outputs) to embody any of the proposed properties a) – d) as well as f).

### ***Business operating assets***

*D 6*

There is *no vital point* in the fact that “firms buy their inputs in the market place”.<sup>11</sup>

BD 6

The vital point lies in the cash conversion cycle of business activities whereby cash is converted into non-cash resources. That this conversion may take place in the market place is entirely circumstantial; it has no causative effect on the success of the conversion cycle. Causal is the event of conversion, as it determines the initial and final cash outflow for a resource that signals the beginning of the activity. Market value changes in input markets after acquisition do not impact the cash outflow any further and rarely will impact the net cash inflows from the business cycle that has started (see Appendix A).

*D 7*

Input assets should *not* be measured at current input market prices. Current market value is *not* the most relevant measurement basis for input assets.<sup>12</sup>

BD 7

The reasons for this disagreement are numerous. Not only is current market value missing the properties as claimed by the author (see BD 4,5 and Appendix), it also is missing any causal relationship to the cash generation process of the activity that is required for being relevant and faithfully representative information in the assessment of future net cash inflow prospects of the business.

It is this causal relationship that determines the qualification for financial reporting and its relevance over other measurement bases. As the agreed objective of financial reporting is to provide information about net cash flows from cash generating activities, the most relevant data for reporting will be those that have the most direct causal link between those

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<sup>11</sup> P 5 No 18, p 9 No 33, p 114, M6; there is no vital point that the ICAEW could have missed.

<sup>12</sup> As stated page 14 No 51, 52) 1).

processes and their net cash inflow results. A 'rigorous' analysis<sup>13</sup> of (1) the economic purposes and wealth-generating processes of business entities, and (2) the impact of market forces on these processes and the relevance of market changes to measurement objectives leads logically to the conclusion that real cash flows should be the primary factor in determining measurement bases for the mentioned objective.

The author correctly points to the significance of input-to-output processes of business activities;<sup>14</sup> unfortunately, though, he fails in his consideration of the underlying logic of cash conversion cycles: cash flow out for acquiring non-cash resources as input with subsequent cash inflow for whatever output the specific activity is able to generate. The cash outflow for the input acquisition is an objective event which does not change in its amount after it occurred. After the acquisition of a resource, the only change relevant is a change in the expected contribution of the acquired resource to the dedicated cash generating process. It may contribute more or less or longer or shorter to the process than anticipated, thus the fixed data, the cash spent, may relate to different amounts and timings of future cash inflows. The changes of market values for inputs have no effect on the amount of cash spent; there is no causal relationship that can be detected. Even if the non-cash resource is deteriorating, and this is recognized by markets by way of declining second-hand prices, it is not a causal relationship from market value. The causal relationship exists between the resource and the process with a less than expected contribution to it, which may or may not be reflected in a market value. However, in the event that it is reflected in a market value, that reflection would be circumstantial and possibly indicative, not causal.

Another characteristic of productive cash generating processes demonstrates the lack of causal connection to input market prices. The author recognizes repeatedly the multitude of business activities and the differences between their processes. If three different businesses buy the same non-cash resource in the same market for the same price, then, however, assign the resource to different activities with consequentially different net cash inflow results, the market price for the input will not change in anticipation of the different uses. It is only affected by supply and demand, not by different expectations of use. As explained in Appendix B, the market cannot have expectations of cash inflows logically associated to the resource in question; thus, this is non-existent information that is neither publically available nor can it be presumed to be incorporated. The author's conclusion and statement of assumptions as facts in this regard<sup>15</sup> are simply without foundation.

*D 8*

The author's proposal *does not* have the effect that revenues and expenses would reflect the results (as measured by current market prices) of cash-generating activities and other price-affecting events and circumstances when they took place.<sup>16</sup>

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<sup>13</sup> See Appendix A.

<sup>14</sup> The following comments are focussed on non-trading activities. Trading is less of an issue for measurement as there are no differences between assets as inputs or outputs – they can be valued at 'market' if realisable. The challenges for measurement arise from non-trading activities as they require the distinction between input and output resources as highlighted by the author.

<sup>15</sup> Page 14, No 52) 2).

<sup>16</sup> As claimed on page 15, No 52 3).

## BD 8

The proposed method measures causally unrelated value changes, causally disconnected from the cash generating process, thus creating a new form of mismatch. It measures value changes of unused input assets against output produced by use of different, other input assets. It is one of the author's fundamental errors when he writes: "The current market value of the inputs used up in achieving the revenues recognized in a reporting period measures the current economic sacrifice that has been made in achieving those revenues."<sup>17</sup> His method cannot do what he claims it is doing, this is because the input used up is no longer in existence as "input assets" that can be valued. The input assets that he suggests should be valued will only be used for future cash generating processes to which they contribute on the basis of their fixed cost, which will then relate to future revenues.

The author has difficulty with observing cause and effect for cash generating activities when he claims that costs are prices that "would have to be paid for the input today".<sup>18</sup> The reason for this difficulty may lie in his lack of focus on the agreed objective of financial reporting: aiding in the assessment of future cash flow prospects of the business in light of the economic objective of business activities, their cash conversion cycles.<sup>19</sup> "Would be" data are unfit for purpose.

The proposal does not measure what the businesses are trying to achieve as described by the author: "turning inputs into outputs with the objective that the value achieved from the sale of the outputs will exceed the value sacrificed for the related inputs."<sup>20</sup> Furthermore, this method will not enable an assessment of stewardship as its results are neither planned nor controllable by management, because there is no causal relation to the business activity (see below: Appendix C, *Evaluation of Management*)

## D 9

There *are no* effects of market price value changes for input that could be recognized by an entity.<sup>21</sup>

## BD 9

Continuing the arguments under BD 7, 8: there is no effect to be recognized, as market price changes of input value already acquired have no causal relationship to the cash generation of the activity – neither past nor future. In the words of the author, "current market price is the result of independent market forces that do not anticipate the outcome of the acquiring entity's cash-generating processes" from which, once more, follows that market price cannot incorporate estimations of the input's contribution to that process.

## D 10

The opportunity cost concept *does not* interpret cash flow implications.<sup>22</sup>

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<sup>17</sup> Page 67, D 11.

<sup>18</sup> See previous Fn.

<sup>19</sup> In regards to his view of "price bets" under the cash conversion cycles – see below BD 11.

<sup>20</sup> Page 66, D 6.

<sup>21</sup> As claimed on page 66, D 6.

<sup>22</sup> As described by the author, page 66, D 8.

BD 10

The author's opportunity cost concept is based on the work of Edwards/Bell<sup>23</sup> and their various assumptions that lead to the notion of "cost savings", in particular their invention of a new form of realization: the "realization by use". Appendix C contains a short evaluation of their assumptions, which is relevant for contemplating cash flow consequences without cash flows.

The opportunity cost concept of cost saving or loss ignores real cash flows altogether, which is not an interpretation, but a misrepresentation. It creates false images of non-existent cash flows – those said to be saved – whilst it overrides the necessary information about those cash flows that have occurred. Thus it contradicts the real economic picture of the business activity as well as hindering an assessment of the stewardship of the owners. Thus, it is in conflict with the objective of financial reporting as quoted by the author as it hinders the assessment of prospects for the future net cash inflows to the reporting entity. Last, but not least, it is in violation of the second cornerstone of corporate finance<sup>24</sup>, the conservation-of-value principle: "Value is created for shareholders when companies generate higher cash flows, not by rearranging investor's claims on those cash flows." It is almost as if Koller et al. had the author's current cost profit concept in mind when they comment that "changing the appearance of the cash flows without actually changing the cash flows, say by changing accounting techniques, does not change the value of a company."<sup>25</sup>

The author seems to have difficulty with the "broader accrual context" of his opportunity cost concept. First, he claims that opportunity gains and losses "do have relevant cash flow implications",<sup>26</sup> then he concedes that "this saving does not have any necessary consequences for the amount of cash flows that will be realized" and considers his cash flow saving consequence "to be independent of the cash flows to result from future revenues".<sup>27</sup> The difficulties are understandable if one needs cash flows to report on – or data, factors or events that are the cause of cash flows or cash flow changes – and none can be found.

In summary, the author's conception for the lack of cash flow impact of his proposal is to assume that there is, in fact, cash flow impact.

D 11

Current input market value *does not* measure current economic sacrifice.<sup>28</sup>

BD 11

As explained in detail in Appendix C, the input used up in the outputs that have achieved revenues was not sacrificed at 'current cost'; the input unused did not occur at current cost and will only contribute to future output; current cost is only relevant for future input to be acquired.

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<sup>23</sup> Edwards, E. O. and P. W. Bell. 1961. *The Theory and Measurement of Business Income*. Los Angeles and Berkeley: University of California Press.

<sup>24</sup> Tim Koller, Richard Dobbs, Bill Huyett, "Value: the four cornerstones of corporate finance" - McKinsey & Company, John Wiley & Sons, Inc., November 2010, p 5.

<sup>25</sup> Koller/Dobbs/Huyett [Fn 24], p 29.

<sup>26</sup> Page 66, D 6.

<sup>27</sup> Page 67, D 9.

<sup>28</sup> As claimed on page 67, No D11.

Principle 2 *does not* establish a starting point of input asset price risk. The risk to be managed has been assumed when the production plan was set up, and it appears in form of possible deviation from the input plan price to the actual input cost. That is the only risk that management can and should control. There is no specific price bet in acquiring resources. The risk and bet arise with the decision to start a business activity when making a plan of operations aiming to generate net cash inflows. Evaluation of management has to consist of analysis whether the plan of operation was realistic and achievable and whether execution has been according to plan. The question of current opportunity cost provides information on how future plans and actions need to be adjusted. They are imaginary for the past, and relevant for the future.

#### D 12

The response under D13ff does not deal with the arguments set out under D12, as they are misrepresented.<sup>29</sup>

#### BD 12

The recognition of a value change that is only temporary, i.e. a change not confirmed by cash flows, will inevitably lead to its reversal in a future reporting period.<sup>30</sup> There are no higher input costs, as there is no cash flow effect: the 'loss' is just a reversal of an incorrect valuation in the previous period. The author confuses his assumptions with economic reality. In his own words: "...an input price increase over the transaction price has no necessary implications for future revenues."<sup>31</sup>

The price change does not represent a 'holding gain' as it has no effect on the cash generating activity, as explained in Appendices A and C. The real question about the author's assumption of "price change effects" is whether or not price changes have really an effect, and if they do, precisely which effect? The author avoids having to analyse this question, because he "assumes an effect" by applying his cost savings notion.

#### D 13

Historical cost accounting *does not contain* a principle of non-recognition of input price changes.<sup>32</sup>

#### BD 13

There is no struggle with the application of "lower-of-cost-or-market", if one only concentrates on the essentials of the cash conversion cycles. As explained in Appendix A, input assets contribute in different ways to the process of a cash generating activity – however rarely – by direct cash inflows. They cause an initial cash outflow, which is the monetary expression of the sacrifice of the non-cash resource. Valuation at a reporting date needs to quantify the amount of the resource that remains available for further contribution,

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<sup>29</sup> Page 68.

<sup>30</sup> extensively: Andreas Bezdol, The Subject Matter of Financial Reporting: The Conflict between Cash Conversion Cycles and Fair Value in the Measurement of Income, Columbia Business School, Center for Excellence in Accounting and Security Analysis, Occasional Paper Series, New York, May 2009; [http://www4.gsb.columbia.edu/ceasa/research/papers/occasional\\_papers](http://www4.gsb.columbia.edu/ceasa/research/papers/occasional_papers); p. 24, 27, 66.

<sup>31</sup> Page 68, D13.

<sup>32</sup> As implied on page 68, D16.



which conventionally is done by some form of depreciation. The “locom” notion serves to answer two questions: a) is the remaining amount a representative amount of the service potential as remaining cost incurred?, and a lower market value can be an indication that this may not be the case; and b) is the lower market value an indication that the remaining cost may not be recovered from future revenues, even if the service potential is expressed correctly?

D 14

Principle 2 *is not* consistent with general financial analysis using estimates of sustainable earnings.<sup>33</sup>

BD 14

Sustainable earnings require an analysis of earnings that are ultimately confirmed by cash flows,<sup>34</sup> which is impossible under Principle 2 as it invents ‘earnings without cash flows’. The imaginary quality is made clear by the author in his example<sup>35</sup> of a cash flow cycle of output 80 minus input 50 resulting in net cash inflow of 30. As this takes place over two periods, the net cash inflow of 30 is declared to be a “gain” from buying input a period prior and a real operating profit of 10.

As explained in Appendix C, this interpretation of clear cut cash flows into imaginary numbers has nothing to do with any cash flow conversion cycle. It has nothing to do with business activities as the “gain” has never been part of planning or execution; it is impossible to be “planned” and is of no effect to the business. The subject is irrelevant for financial reporting and misleading to users.

The preference for historical cost accounting for productive activities has its origin precisely in its greater ability to reflect the cash flow generating processes of business activities. This view is not only shared by professional investors and analysts,<sup>36</sup> it is also the recently published view of ICAEW.<sup>37</sup>

D 15

The broader accountability concept *does not cover* accountability.<sup>38</sup>

BD 15

Business activities are based on management’s expectations because that is what businesses have to do: develop a plan. Such a plan is what the author rejects as “it would anticipate the results of future, yet-to-be achieved revenue generating activities”. But that is

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<sup>33</sup> Page 69, D 18.

<sup>34</sup> A very recent survey of 169 CFO’s confirms the view that high-quality earnings are sustainable and are backed by actual cash flows: Ilia Dichev/ John Graham/Campbell R. Harvey/ Shiva Rajgopal: Earnings Quality: Evidence from the Field, Working paper, September 2012; available at <http://faculty.fuqua.duke.edu/~jgraham/EQ/EQ.htm>.

<sup>35</sup> Page 69, D 19; see also the comments on the similar example of E/B in Appendix C, *Realisation-by-Use Assumption*.

<sup>36</sup> PWC, Survey June 2010: “What investment professionals say about financial instrument reporting”

<sup>37</sup> ICAEW Financial Reporting Faculty. 2010. Business models in accounting: the theory of the firm and financial reporting — information for better markets initiative. London: ICAEW.

<sup>38</sup> Page 70, D22.

what plans do. It does not, however, base “financial reporting measurement on private entity expectations” as the discussion is on evaluation of management. The correct process of evaluation is comparing planned prices with achieved prices, which in financial reporting terms means documented facts of cash flows, here: cost.

## **Appendix A**

### ***The Logic in Cash Conversion Cycles of Business Activities***<sup>39</sup>

Users are primarily interested in the prospects of net cash inflow from business activities, which consist of investing cash in non-cash resources to earn more cash. It is of utmost importance for financial reporting to depict correctly how this cycle of cash-for-input and change to output for cash (the cash conversion cycle) evolves over the reporting period, and why. The underlying business model of the activity and its specific economic logic determines how precisely this transformation from input to output has to be arranged for success.

Thus, business activities are characterized by two essential elements: (1) all business activities follow an inherent, specific economic logic which – once initiated – is mirrored by a concurrent logic of cash conversion cycles aimed at a net cash surplus at the end of the activity, and (2) it is this cash surplus that defines the value of an activity, that represents the value of a business. From this follows, that cash flow provides the primary and essential documentation of objective events. Only events that have an impact on cash flows will have an impact on the surplus<sup>40</sup> that investors are looking for. The conclusion from this – its corollary – is that only changes in the value of non-cash resources of a company can be considered profit that change its ability to generate more cash – a result of objective events. When objective events change cash flows or expectations thereof, they become relevant.

#### *The influence of Edwards/Bell*

As the proposal is largely based on the work of Edwards/Bell<sup>41</sup>, it will help to use their thoughts on the issues as a guiding line through the arguments. Their initial description of business income – quoting Hicks – is in line with a widely accepted view that the feeling of being well-off in terms of expecting future cash flow streams discounted to their time value of money represents value. As this will always include future events and subjective estimations, it is entirely subjective. Whether a “market” can develop expectations that are objective and whether expectations can be objective at all is more than doubtful.<sup>42</sup> More importantly, the authors attempt to prove that there is one method of measuring profit objectively: by introducing objective events to the measurement process. In their view, the change in market value is the ideal concept of short-run profit and (modified) for long-run purposes. This view entails two essential *assumptions*: (1) the profit of a business firm is represented by the sum of value changes of individual assets (and liabilities), and (2) market value is the optimal measurement of such changes.

The value of a business involves two issues: the cash generating process of a business activity per se and the respective expectations of owners and other investors. Edwards/Bell – rightfully – point to the need for accounting to separate those two issues as the second one cannot be reported objectively. Thus, I think it is unavoidable to agree with them that the focus has to be on how the business is generating cash through its activity. Again, this entails two parts: the first is the report of the progress of the activity up to and at

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<sup>39</sup> For a detailed analysis: Bezold 2009 [Fn 30].

<sup>40</sup> See BD 10, Fn 23,24: “The second cornerstone of corporate finance”.

<sup>41</sup> Edwards, E. O. and P. W. Bell. 1961.Fn 23;(hereafter quoted E/B).

<sup>42</sup> Penman, Stephen. H, Accounting for value, Columbia University Press, New York 2011, p. 169, 171ff.

measurement day, “its success” for a period and, the second is the report of objective information that aids users in their attempt to assess the impact of recent events on future cash flow streams.

### *‘Company-Value-attached-to-Assets’ Assumption*

Edwards/Bell describe “the economics of the firm” as being “essentially the economics of decision making”.<sup>43</sup> How should managers of the firm allocate its resources to maximise profit? According to their understanding, management’s expectations lead to “each asset arrangement or plan of operation”, signifying a series of expected dividends.<sup>44</sup> This equating of the “asset arrangement” with the “plan of operation” is much of the cause for the conceptual problems in their later arguments. The authors, initially, note that the concern is “with the activities of the business firm”<sup>45</sup>, that “the kind of activities... are not homogeneous”<sup>46</sup> and “accounts... should be classified according to the activity undertaken”<sup>47</sup>, that management’s “ability... to formulate expectations differs with the activities involved”,<sup>48</sup> that the “plan of operation entails a pattern of ...expected net receipts”,<sup>49</sup> and the resulting “subjective value [is] then assigned to the firm’s plan of operations”.<sup>50</sup> However, out of the blue, like deus ex machina, this value becomes “attached to the firm’s assets”<sup>51</sup>: the ‘company-value-attached-to-assets’ assumption.

How it is precisely that some future cash flow streams of an activity that usually will stretch beyond the lifetime of most assets in today’s balance sheet can be “attached” to those assets is left to the imagination. It would be understandable if Edwards/Bell were to refer to the net asset’s value as a number representing the initial capital invested against which the eventual return should be calculated. But a firm’s value cannot be broken down into different portions to be allocated to individual assets in any logical manner. Edwards/Bell are aware that profit is influenced by other factors of production besides from assets, thus the value change of the firm cannot be explained comprehensively by the value change of that sub-population of factors that remain in the balance sheet. And it is somewhat obvious that the value change of assets can easily be influenced with opposite effects on the value of the firm by managing factors that are immediately expensed, such as R & D costs. How then, should one allocate the changed value of the firm to the various remaining assets? The change in value of individual assets has in most cases no one-to-one causal relationship with the value change of the firm, i.e. its activity or plan of operations.<sup>52</sup>

### *Edwards/Bell’s ‘realisable-profit’ example*

Edwards/Bell develop their realisable profit concept by way of an example, which then leads – so they claim – to the conclusion that realisable profit is that amount of dividend (or consumption) that could be paid without endangering the initial value of the resources.

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<sup>43</sup> E/B, Fn 23, p 2.

<sup>44</sup> E/B, Fn 23, p 33.

<sup>45</sup> E/B, Fn 23, p 1.

<sup>46</sup> E/B, Fn 23, p 36.

<sup>47</sup> E/B, Fn 23, p 36.

<sup>48</sup> E/B, Fn.23, p 35.

<sup>49</sup> E/B, Fn 23, p 38.

<sup>50</sup> E/B, Fn 23, p 43.

<sup>51</sup> E/B, Fn 23, p 43.

<sup>52</sup> See also BD 4, and Appendix B.

The basic data of their example describe a business' cash generating process cycle over a period of three years where an input asset contributes to the generation of net cash inflows over that period, after which its potential for contribution is exhausted: A firm invests capital of \$10,000 into one machine with a plan of operation that is expected to generate over the plan-periods cash flows of \$4,000, \$7,000 and \$8,000; that adds up to a total cash inflow of \$19,000 or a cash surplus of \$9,000 over the initial investment. At the end of the cycle, the machine is expected to have no value; no further information on other cost factors is given. Over time, all expectations for the planned processes' cycle are confirmed by the occurrence of the respective cash flows. As everything goes according to plan, it is the arrival of the cash flows as expected that convert value to cash, the simple logic of cash conversion cycles; it does not in any way "permit" the conversion of any excess of subjective value over market values into market value as asserted by Edwards/Bell.

In a second phase, Edwards/Bell add the information of the machine's interim market values at the end of the first and second period. Obviously, the use of the machine exhausts its potential for service to the activity; the loss in value represents the machine's contribution to the activity: it is a sacrifice of value over time, expressed in the loss of the cash outflow for the purchase. At the end of the total period, the surplus remaining is evident: \$9,000 of cash. What the example does not explain, is how to allocate the loss in value to the three interim periods where a profit needs to be defined for the respective periods. As there are assumed to be no further cash flows, some reasonable method of allocation of a period's value loss can be found, commonly known as depreciation and/or impairment, terms the authors avoid until a much later chapter in their work.

The only hard facts of information provided are the initial cash outflow and the total loss of its value at the end of the term. In such cases, it is a matter of good common sense to allocate this loss in value as a sacrifice over the periods of contribution by any method that is based on reasonable analysis of the causal relation between the use of the machine, its contribution, and the loss in value; for instance the intensity of its use measured by machine hours or even output numbers. If there is no such causal relationship observable, an equal distribution of value decline over time, straight line depreciation, is an acceptable method.

Here, the authors fail to explain why they introduce interim market values instead of a contemplation of the causal relationship between use and value loss. A good reason could be that the market value is a good representation of the value that remains available for use in the activity, for sacrifice. This is the point to be made: the loss in value is caused by the use of the machine, not by the simple passing of time!<sup>53</sup> Market value change is symptom, not cause.

Apparently, the assumptions for the example are chosen to fit the desired conclusion: *market values of the machine are given – and assumed applicable*. As market values are defined to represent current values, they do not prove accuracy and objectivity, they are defined to be correct and objective. They do not prove that realisable profit is an accurate measure of changes in the market value of the firm. Whilst the changes in market value are given by assumption, the realisable profit is cash flow based. The objective element in the example comes entirely from its cash flows which occur over time as expected. Cash is always at market value; there is no "permitting" of conversion of expectations into the final cash

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<sup>53</sup> See below, Appendix B.

amount; it is only caused by the authors' assumptions that everything happens as planned and that market values represent what they are assumed to represent. Unfortunately, their example hasn't proven that the characteristics of their profit concept are objective in nature and "an accurate measure of changes in the market value of the firm".<sup>54</sup>

What the example is teaching us is a rather simple lesson: do not take cash flow as profit and do not forget the value consumption of the machine that you use. Beyond those messages, the example and its modifications can actually provide a very different lesson:<sup>55</sup>

- The deeper cause of value change of a machine is its limited and – with use – declining potential for contribution to generating cash;
- Temporary value changes of the machine that do not impact the expected pattern of net cash receipts<sup>56</sup> have no influence on profit.

### *Evaluation of management*

The total profit of the activity in the example and its pattern of net cash receipts remain as expected. There is no deviation from the plan of operation, which according to Edwards/Bell would be an unexpected event. However, what can we learn from it?

What would we be able to conclude from an evaluation of management's decisions and expectations? Furthermore, could or should management have planned for the deviation of market price from its remaining value for use? To start with the last question, the function of management was executed by placing its resources of \$10,000 into the one machine and generate through its subsequent plan of action a pattern of net receipts with a total of \$19,000, allowing the repayment of the initial investment topped with the total return of \$9,000. The events of the interim changes in market price for the machine have had no impact on either the plan of operation or its cash flow pattern. Essentially, it would have been a waste of time for management to second-guess any deviations in market price for second hand machines as long as they were content in staying with their plan, and expecting the same pattern of cash flows. Regarding the management evaluation task, the example teaches us that one can hold management responsible only for what rightfully can be planned and controlled by them. Deviations of market prices for input purchased from the date of purchase are not amongst them.<sup>57</sup> A firm that has cost in \$ and revenues in £ should plan for that currency relationship. To plan for the development of £ against € would be a waste of time, even though that price-relationship will constantly represent objective events. This leads to an important finding: there are many objective events; however, not all of them are relevant for measurement.

### *Objective Events with Relevance*

The focus on objective events is essential; however, they have to be relevant as well.

The logic of the cash conversion cycles (cash out for input and cash in for output equals surplus) dictates that objective events are relevant for measuring business income of a period, i.e. profit, if - and only if - they lead to changes in cash flows and in expectations

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<sup>54</sup> E/B, Fn 23, p 47.

<sup>55</sup> See in Detail: Bezold 2009 [Fn 30], p 24ff.

<sup>56</sup> See E/B, Fn 23, p 50.

<sup>57</sup> The issue of current opportunity cost is dealt with in Appendix C.

thereof. The changes in cash flow expectations can only be caused by changes in the resources that are employed for generating cash flows according to the plan of operations. Such changes entail changes in cash and changes in the contributing ability of non-cash resources employed to generate cash.

Sharing the laudable objectives of Edwards/Bell, the observation of the logic of cash generating activities as observable from their cash conversion cycles can be of help in establishing principles for measurement by the use of objective as well as relevant events. This suggests a view that the most representative value will depend on the specific function of the asset within the economic logic of the activity it serves. Thus, it is necessary to differentiate between input and output as one is related to cash outflows, and the other related to cash inflows.

The focus on the cash generating ability of a business enables one to differentiate between two basic forms of value relevance: one for the cash flow streams that shape the pattern for the expected net receipts from the activity as in progress, i.e. according to a valid plan of operations; and the other for a current entry price to a buyer into the afore mentioned cash flow stream without changed expectations for the stream, and, importantly, according to the valid plan of operations.<sup>58</sup> The first aspect of relevance can further be divided into three levels: (1) change in cash flows for the past period (including value increases of output that can reasonably be considered as realisable for the past period), (2) expected increases in cash flows from the activity in future periods, and (3) a final dividend at the end of the conceptual time horizon.

It is one of the greatest flaws in discussions about accounting to confuse those two issues: the relevance of value change of non-cash resources with respect to the cash generating activity, in contrast with its relevance to entry price considerations for new investors.

The analysis of the real cause of value changes for a business is referred to by Dobbs/Koller/Huyett as to “pinpoint the tangible source of value creation”.<sup>59</sup> It involves an in-depth analysis of the main elements of cause for changes in cash flows for and from an activity. We can limit that analysis here to the question on whether or not a change in value of an asset is the cause or the representation of such changes in cash flows.

Value turns to income only by re-conversion to cash. Only the ‘giving-up’ of the item, the value of which has changed makes it possible to realise the cash from that value change. Only realised receipts change the basis for future cash flow generation and thus value. And complimentary to this, only changes of assets in quality or quantity that enables them to contribute more (or less) to the cash-generating process can be viewed as an increase (or decrease) in resources. Value changes that do not have such an impact can only be value changes relevant for either the final dividend or for the calculation of an entry-price range for new investors. The only “holding gains” that deserve this name are value increases that are not part of past profit nor will become part of future profit from executing the plan of operations, but gains that can become part of a “final dividend”, e.g. capital gains on land and buildings in use for the activity.

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<sup>58</sup> See in detail the example of the fixed rate bond in Bezold 2009 [Fn30], p 19ff.

<sup>59</sup> Koller/Dobbs/Huyett [Fn 24], p 31.

When focussing on the interim value changes of an asset, the irrelevance of temporary value changes without cash flow effect, can easily be demonstrated<sup>60</sup> by amendment to Edwards/Bell's example. The time and volume of usage of the machine in the example remains as expected to be limited to three years with no residual value at the end, indicating a remaining value for use at the first measurement date of \$7,000. However, due to a shortage in production of the respective machine, the second hand market price surges to \$9,000 and remains at \$4,000 at end of year 2. This change in market price does not affect the contribution of the machine to the activity that is in progress.

The significance of the amendment lies in its consideration of a change in market value that is due to factors entirely unrelated to the performance of the machine for the firm. It highlights one of the key problems of using either current values or fair values: they introduce value influencing factors that bear no relation to an activity in question whose profit is to be measured. Worse, they introduce elements of accountability into the evaluation that bear no relation to the plans of operation and have no effect on the outcome of its execution. It obfuscates the criteria against which accountability ought to be measured.

Edwards/Bell offer a similar example<sup>61</sup> of the same investment, though with different expected market values *of the firm* at the interim period's ends. Unfortunately, they fail to explain the cause of the assumed value changes, and whether or not the difference in value is due to differences in interim cash inflows or in interim market value changes of the machine. As the total return over the initial cash outflow remains the same – by definition –, the examples prove that interim value changes have no effect on profit when not followed by respective cash flows. A temporary change in value is neither profit for the past period and can certainly not be considered as part of a final dividend (the value of the machine was expected and turned out to be zero). This is why financial reporting has to focus on the cash flow streams of the activity as they are generated, and, separately, provide information that enables investors to develop their own expectations and the price basis they are willing to sacrifice for joining the activity as owners.

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<sup>60</sup>In detail: Bezold 2009 [Fn 30], p 25ff.

<sup>61</sup>E/B, Fn 23, p 69 - Fn 32.



## **Appendix B**

### **Assuming Embodiment of Present Value Assessment**

The Author builds his case for current market value on the assumption that the Efficient Market Hypothesis (EMH) is applicable not just to capital markets, but to markets in all goods and services.<sup>62</sup> From this, he continues with the assumption that the market value of any asset embodies the market's present value assessment "of its expected future cash flows discounted at the currently available market rates of return for the time value of money and attendant risks."<sup>63</sup> Thus, he claims, current market value embodies special measurement properties in relation to future cash flows estimation of any asset.<sup>64</sup>

Unfortunately, the author does not offer any arguments for his view, other than the assumptions themselves. Therefore, an analysis is presented below of the conditions under which such extension may be tested. It deals with conditions and limitations of the EMH and attempts to understand how this could relate to input assets that are not financial instruments.

#### **Securities' Markets**

The thesis has been developed for securities markets by assuming a logical link between the behavior of rational investors, financial information about business entities and the balancing power of competition through demand and supply. In order to allow this power to work towards equilibrium the market has to be open, liquid and well regulated. Fair value proponents have extended this theory to the point that such a market is not always necessary, provided that it is possible to – reasonably – assume how markets would deal with and react upon the required information, which is data about future economic benefits, i.e. information about the amount, timing and uncertainty of cash flows to the entity whose shares or bonds are traded. The theory requires the possibility of calculating intrinsic value of an asset by which a market price can be moved.

The basic idea of the theory is to view changes in asset prices as a function of information flow to the market. The information must influence expert's assessment of intrinsic value. "In an efficient market, the actions of the many competing participants should cause the actual price of a security to wander randomly about its intrinsic value."<sup>65</sup> Eugene Fama's version of an efficient market as one "where, given the available information, actual prices at every point in time represent very good estimates of intrinsic values"<sup>66</sup> has been the basis for the thesis that fair value (or current market value) embodies the market's expectations of future economic benefits (ultimately cash flows). If information moves price, then the information is incorporated in the price after the move. In the author's view the specific information of a present value assessment is assumed to be incorporated in all market prices. "This requires estimating the timing and amounts of the future cash flows that are expected to be the basis of the market price and the interest rates that would be used in the market place to discount

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<sup>62</sup> Page 55, B 9; page 53 B 4.

<sup>63</sup> Page 59, B 21.

<sup>64</sup> Page 7, No 28.

<sup>65</sup> Eugene F. Fama, "Random Walks in Stock Prices", *Financial Analysts Journal* (Sept-Oct. 1965, repr Jan-Feb 1995: 76.

<sup>66</sup> Eugene F. Fama, "The Behavior of Stock-Market Prices", *The Journal of Business*, Vol. 38, No1 (1965), p. 90.

them.”<sup>67</sup> This would require availability of information necessary to make a present value calculation: as a minimum an asset must have a positive cash flow stream and the risk of the asset for an appropriate risk return rate must be determinable. Otherwise, intrinsic value cannot be calculated and then compared with market prices, a difference to which would be cause for investors to act upon.

Financial Instruments typically offer cash flow streams to work with. Thus, Capital markets are of a specific nature as their underlying instruments are assets, shares, which typically can have cash flow streams and expectations thereof.<sup>68</sup> Importantly, these cash flows are directly linked to the assets. If you own such asset, you can expect a return which can be calculated into a present value as discounted time value for money of expected future cash flows from the asset. The reason is that the asset itself is a subject of associated cash flows either contractual like in bonds or dividends like in shares of a company, that is: the asset generates directly the cash flow stream. What makes these assets stand out over non-financial assets is the fact that other than buying the bond or share, there is no further activity required: you buy, you own, you can expect return. The reason for this is that the cash the buyer has handed over is used by someone else for his/hers cash generating purposes. And you judge the certainty of the return by judging the other party’s ability to generate cash flows. In the case of shares of a business entity, one will judge the business entity’s prospects based on its nature, business model, management, market environment etc. This will provide the information basis for assessing the risk and the required rate of return.

#### *Non-financial Assets*

However, this is very different with non-financial assets that carry no other cash flow expectations than their selling price which will be just a function of supply and demand, not of additional other cash flows in the future that can move their price.<sup>69</sup> They do not ‘semi-automatically’ produce cash flows themselves that can be subjected to the Present Value methodology. To buy and own is insufficient for a non-financial asset; without further action there will be no cash flow expectation as return on the investment. For additional return on the investment, on its cost, one needs turning it into input in a cash generating process where it contributes to the business by being used up in full or in parts, immediately or over time or transformed into something else.

This creates an identification problem. One asset can be used in different processes with different forms of use and different time horizons. How can the unknown composition of the multitude of possible uses and related risks be condensed into one homogenous cash flow stream with a homogenous risk susceptible to PV assessment? The stock market does not have this problem. Its underlying has directly observable and assessable cash flow streams,

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<sup>67</sup> Page 60, B23.

<sup>68</sup> Koller/Dobbs/Huyett [Fn 24], p 89: “The stock market is unique because its underlying assets generate a stream of profit and cash flow; therefore, these assets have intrinsic value. On the other hand, most traded non-financial assets – like art, classic cars, and stamps – have no intrinsic value; their value is purely driven by the interaction of buyers and sellers.” They point out that analysis is difficult when “there is no inherent value against which to compare the market value. A reasonable value, for instance, might be bounded by the cash flow an asset generates or the cost to reproduce.”

<sup>69</sup> Obviously, non-financial assets that represent output carry the expectation of cash inflows from their selling price for which a market price can be a very good indication. However, this has rarely been in question, whilst it is not a representation of intrinsic value.

even when the entity has different activities with different risk and cash flow profiles: Sustainable earnings of the company allow appropriate cash flow assessment and the use of one appropriate risk rate.

This is not the case for non-financial assets used as input. The buyers of input assets have very different business models and processes, of which the respective cash flow streams are unknown to the market. In order for markets to apply the PV assessment, they would have to know the various different ways an identical input asset may be put to action and their respective cash flow and risk profiles. For example, three business entities acquire three identical cars. The first car is bought by a car rental firm, the second car is bought by a hedge fund as executive car, and the third car goes to a car sale retailer. Each of the three activities has a different cash flow and risk profile. The use of the cars will be different, thus, the cars will contribute in different ways over different time periods to the business activities. The first two cars are for use; their main cash flow contribution, directly and causally attributable to the assets, is the sacrifice over time of their initial cash-outflow-value: costs. The third car is for sale; its directly and causally attributable cash flow contribution is the net cash inflow from the eventual sale over the initial cash outflow and other input costs. So how would the market develop an assessment of cash flow streams for the identical car? Even, if we would assume there were cash flow streams observable, how could they be bundled and the three risk rates applied to reach an assessment for this type of car?

#### *“Pure Exchange Model of Information”*

But, this is not what markets analyse. In the author’s own words: “current market price is the result of independent market forces that do not anticipate the outcome of the acquiring entity’s cash-generating processes”<sup>70</sup>; that is: markets do not and cannot calculate an inputs asset’s contribution to cash flows.

The Efficient Market Hypothesis takes information as *given*, that is the information of the necessary content and quality is assumed to be available publicly. Ball calls this construction element of the EMH as a “pure exchange model of information” its biggest limitation.<sup>71</sup> If information of the required content does not exist, it cannot be assumed to be incorporated in a price either.

The majority of input assets do not generate cash inflows by themselves; their only direct cash flow contribution is and remains the initial cash outflow. As the author so perfectly states<sup>72</sup>, input assets contribute to a business activity by use, combination and/or transformation, none of which generates directly cash inflows. In cash-generating processes of productive, i.e. non-trading, activities several inputs are needed to enable the creation of a new or different product. Any input is expected to serve a process to achieve an overall positive net cash inflow for that process. The benefit expected from an input is that it enables – in its own specific way - the cash generating process to take place. As the author recognises<sup>73</sup>, there is no way for expectations of future net cash inflows to be non-arbitrarily associated with any single, specific input. In Chambers’ words, “net proceeds is not a figure

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<sup>70</sup> Page 66, D6.

<sup>71</sup> R. Ball, [Fn 10], p. 12; and he adds: “An almost exclusive focus on the demand side {of information} is perhaps the single biggest weakness of “modern” financial economics generally.

<sup>72</sup> Page 4, No 16; page 9, No 34.

<sup>73</sup> Page 98, J5.

independent of the net proceeds of other activities. In the typical case revenues arise from the use of assets in combination. In this case it is not possible to assign a significant net present value to each of the assets used in combination.”<sup>74</sup>

Of course, - to remain with Chambers – calculations can be made for projects or specific productions cycles which require various inputs in combination. But, “it follows that the present value of any project cannot be related to anything else than the present value of an alternative project given the same state of the firm.”<sup>75</sup> Most importantly, the input asset will be entered into such project calculation with its cash outflow, not with a discounted value of expected future cash inflows. However, none of this will – usually – be available as public information, thus missing one of the essential elements of the thesis.

The author’s definition of current market value<sup>76</sup> may well be correct in that the “present exchange price” is determined by competitive interaction of willing arm’s length buyers and sellers. But, “their value is purely driven by the interaction of buyers and sellers”<sup>77</sup> – probably bound by its reproduction costs -, not an expression of intrinsic value because the information required does not exist. To consider efficiency “with respect to whatever information is available”<sup>78</sup> is less than insufficient. It misses entirely the logic behind the EMH which requires information that enables to form a view of intrinsic value as a basis to assume “incorporation” by moving prices in the market.

#### *“Information Asymmetry”*

The out-of-touch-with-reality character of the proposal becomes obvious in the author’s discussion of assumed “information asymmetry” between markets for new and used cars.<sup>79</sup> The imagination of a “day-two-loss” arises only from the flawed concept that on “day-two” a market for used cars would deliver a relevant measurement basis. In contrast, the reality of business activities is that – after acquisition - a car serves the purposes of the specific business process. Its sacrifice is fixed by the monetary expression of the cash outflow as cost. The only variable left to check is whether the expected time or quality of contribution remains as expected or possibly becomes less. The market price of used cars is an objective event like a change in weather, however, neither is relevant as they have no effect on the cash flow generating activity of the business.<sup>80</sup>

For the used car discussion, another, rather important fact has seemingly been overlooked: the market for cars is strongly populated by buyers without any cash flow interest. Private car buyers usually intend to “consume” the car, that is, use it for non-profit oriented purposes. And many are willing to pay a premium for the privilege of having a not-pre-owned car. This is a question of taste or non-financial-preference; thus, it is not susceptible to analysis of cash-flow-generating capacity. The market is strongly influenced by the demand of buyers that do not care about supposedly “value-affecting properties” and cash flow

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<sup>74</sup> R. J. Chambers, Second Thoughts on Continuously Contemporary Accounting, Abacus September 1970, pp 39 – 55, p 45.

<sup>75</sup> See previous Fn.

<sup>76</sup> Page 55, B10.

<sup>77</sup> Koller/Dobbs/Huyett [Fn24], p 89.

<sup>78</sup> Page 56, B12, 2<sup>nd</sup> bullet point.

<sup>79</sup> Page 95, Appendix I.

<sup>80</sup> For the need of relevance for objective events, see Appendix C.

information that does not exist. The author's need to search for information asymmetry when information does not exist is symptomatic for the problem.

If there is no information, it cannot be incorporated in a market price by market participants nor can it be included in pricing models. It is then a corollary that one cannot assume the inclusion of non-existent information in a given price either. This may be the reason why the author was unable to detect any literature that was applying the EMH to other than capital markets.<sup>81</sup>

As informative as a current market price may be, it does not represent an intrinsic value of future cash flow streams of the asset if the asset does not generate cash flows. The only cash flow to be expected is not one *of* the asset but *for* the asset, that is for its sale, in exchange for giving away the asset. Intrinsic values exist for assets only when their sale is not required for cash flow expectations of them. The idea of the price moving as a function of the price does not really qualify for discussion of the EMH. These arguments lead inevitably to the rejection of the proposed interpretation and extension of the EMH to all other markets in goods and services, in particular for input assets that do not contribute to the cash generating activity by cash inflows that can logically be related to them.

#### *Lessons learned?*

Even for financial assets where cash flow streams can be calculated, the recent and continuing financial crisis has strengthened doubts as to the suitability of market values for unquestioned use in financial reporting. It is evident that prices can reflect very different factors than just intrinsic values from estimation of future cash flows, one of which is liquidity in the market as well of major players. There are examples where market prices have been influenced by information and motives clearly unrelated to the performance of the traded item.<sup>82</sup> Goldman Sachs research<sup>83</sup> has found that during 2008s September-October market rout shares that were widely held by hedge funds dropped much further than those in which hedge funds had few holdings. The overshooting of markets not only occurred on the way up, but also on the way down as prices re-bounded significantly during the early days of the crisis.<sup>84</sup> The severe case of evaporating liquidity in the financial crisis has been recognized by the author for which case he recommends to fall back – to square one - on private information and expectations.<sup>85</sup>

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<sup>81</sup> Page 55, No B9.

<sup>82</sup> This view is reflected by Lord Turner (FSA, "The Turner Review, A regulatory response to the global banking crisis, March 2009, p. 39ff, page 65), where he stated that "In the trading books a mark-to-market approach means that irrational exuberance in asset prices can feed through to high published profits and perhaps bonuses, encouraging more irrational exuberance in a self-reinforcing fashion: when markets turn down, it can equally drive irrational despair. And at the total system level, the idea that values are realisable because observable in the market at a point in time is illusory. If all market participants attempt simultaneously to liquidate positions, markets which were previously reasonably liquid will become illiquid, and realisable values may, for all banks, be significantly lower than the published accounts suggested."

<sup>83</sup> FT, Jan. 12, 2009, p. 14, "A vicious spiral of forced selling causes paralysis".

<sup>84</sup> Financial Times, Jun1, 2009, "Signs of life in distressed debt trade" shows a chart of European Flow Loans, (Source S&P), where bid-prices dropped from 85% of face value in October 2008 to 60% in January 2009, to recover in May 2009 to over 80% again.

<sup>85</sup> Page 58, No B18.

If prices are to reflect intrinsic values, the respective financial information about a company's performance and expectations thereof has to have been the major mover of the price. If markets move despite lack of new information, it must be for other reasons than the effect of financial information. If other factors play a significant role, then the price may contain some expectations for future cash flow streams; however, one will not know to what extent.

The previously mentioned recent McKinsey publication states:<sup>86</sup> "The third cornerstone is that a company's performance in the stock market is driven by changes in the stock market's expectations, not just the company's actual performance..." Most importantly, they explain that the market is moved by "the interaction of investors who have different strategies and different beliefs about the future ... and the interaction of investors creates volatility that isn't necessarily driven by new information."<sup>87</sup> Their description of the key market forces is eye-opening in its clarity of two major classes of investors, both of which have influence, "but one ultimately drives the range of prices"<sup>88</sup> (to be noted: a range, not a price). Their conclusion is most convincing: "There is a natural volatility to the market even without new information." For the discussion of market efficiency, their summary makes the point: "... short-term market movements are as much about changes in expectations as they are about actual performance. ... are also influenced by purely technical factors, such as large investors selling shares to rebalance their portfolios."<sup>89</sup> One of the technical factors that has recently become more evident is the impact of High Frequency Trading which employs automated systems to quote, trade and hold positions for fractions of a second.<sup>90</sup> It is difficult to believe that prices in such markets have much to do with rational price-building as envisaged by the EMH. It is also a factor that raises doubts on the author's assumption of well controlled and regulated markets. From this follows naturally that prices, that are driven in "ranges" and are the outcome of many factors other than information about the company, can logically not be taken as an implied representation of the company's fundamental value; which, to begin with, is obviously not what the EMH teaches.

From another angle, Andrew Smithers,<sup>91</sup> has proved that markets are imperfectly efficient and rotate around fair value. However, the length of time over which markets deviate is so long (decades) and their movements are so unpredictable that this opportunity cannot be exploited by way of arbitrage. The question for financial reporting is: when are market prices in line with fundamental values and how should that moment be determined? And to what extent may they be influenced by other factors? How much larger or smaller is the implied value compared to a given market price? For financial reporting it is unacceptable to leave it up to anyone's guesswork on how much of a price represents future economic benefits to the reporting entity and how much does not. This issue suggests that the current market value does not qualify automatically as a superior measurement basis for all assets at all times.

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<sup>86</sup> Koller/Dobbs/Huyett [Fn 24], p 5.

<sup>87</sup> Koller/Dobbs/Huyett[Fn 24], p 63.

<sup>88</sup> Koller/Dobbs/Huyett[Fn 24], p 64.

<sup>89</sup> Koller/Dobbs/Huyett[Fn 24], p 77.

<sup>90</sup> It is of concern for measurement discussions that such trading is estimated to account for 50% of US equity markets and 35% of European markets (FT 23.10.12 "UK report calls for measures to limit risks of high-speed trading").

<sup>91</sup> "Wall Street Revalued – Imperfect Markets and Inept Central Bankers", John Wiley & Sons Ltd, 2009.

## Appendix C

### *The Notion of Opportunity Cost by Edwards/Bell<sup>92</sup>*

The analysis of the “economics of the firm” and “the economics of management decisions” has led Edwards/Bell to their proposal whereby the value of a firm is attached to individual assets which, so they assume, enables – as a corollary – to measure profit of a business by measuring the changes of market values of individual assets. As this “business profit” is based on market values, Edwards/Bell claim it to be objective in nature.

#### *Broader Objective*

Edwards/Bell believe that the underlying broader objective (their primary focus) of their ‘business income’ is to serve the functions of management, specifically management’s evaluation function<sup>93</sup>: the control of events in the process and formulation of better decisions in the future. Whilst the objectives themselves are laudable, it is unfortunate that their proposal of measurement at current cost like the proposal under discussion is unfit for purpose.

#### *Two basic Types of Activities*

For the underlying causes of cash generation from activities, Edwards/Bell have provided a crucial line of thought: the need for differentiation between two basic types of “purposive profit-making activities”: “(1) those that yield a profit by combining or transforming factors of production into products whose sale value exceeds the value of the factors, and (2) those that yield a gain because the prices of assets rise (or prices of liabilities fall) while such assets (or liabilities) are in possession of the firm. In the first instance profit is developed by *using* factors; in the second it results from *holding* factors or products.”<sup>94</sup> One only can agree with their view that these two types are “so different, though related, that their separation is vital for decision evaluation” and even more so for understanding what the sources of profit are.<sup>95</sup>

#### *Passing of Time a “Profit-causing Factor”?*

Unfortunately, Edwards/Bell travelled only half way with their analysis with regard to the causes of “holding gains”: they believe that passing of time is a “profit causing factor”<sup>96</sup> itself. This is surprising, as they seem to be aware that it is quite often merely “incidental”. And the term “incidental” expresses the problem perfectly: the lack of cause between the changes in cash flows and the passing of time, the lack of relevance to the tangible source of cash flow generation. This leads further on to an erroneous definition of “operating profits” versus “holding gains”.

The critical difference lies in the business model, in what it aims for and its economic logic. A trading operation profits from changes in prices whilst holding the assets: this is their *operation* to which plans are formed and executed. However, it does not expect to make profits because time is passing by, but because it believes the acquired resource is

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<sup>92</sup> Edwards, E. O. and P. W. Bell. 1961, Fn 23,(hereafter quoted E/B).

<sup>93</sup> E/B, Fn 23, p 4.

<sup>94</sup> E/B, Fn 23, p 36.

<sup>95</sup> See for extensive details Bezold 2009 [Fn30], p5, 11ff.

<sup>96</sup> E/B, Fn 23, p 73.

undervalued. The passing of time is not the cause of the change in value. The operating profit of a trading activity benefits from a change in appreciation by market participants of the asset – without change in its quality or character. The cause for this change is not the passing of time, but different elements, like for example the correction of a mispricing, the growing likelihood of higher cash flow streams, rarity or simply a change in taste<sup>97</sup>. In arbitrage trading the “holding period” can be milliseconds. In neither of the cases, the cash flow changes are caused by passing of time.

On the other hand, there is a lot of action and subsequent waiting in agriculture where time and timing is essential to success. Still, the crops are not growing simply because of the passing of time, but because of the nature of how they develop. The passing of time is merely a concurrent occurrence, not a cause. The variations of weather have a causal effect, but the passing of time does not. At the same time, the passing of time is an important factor for cost as many production factors are “costed” by time measures like hours of work or hours of machine time used. But, again, the cause of “costs” is the use of the production factors, not the passing of time which is just a convenient unit for measure. For productive activities, it is the combining of input by a specific process which transforms it into something of different quality: output.

#### *Underlying Cause of Changes in Cash Flows*

Edwards/Bell confuse incidentally concurrent events (passing of time) with the underlying cause of changes in cash flows. Edwards/Bell’s criterion No (2)<sup>98</sup> should read: Operating profit from activity type (1) must be carefully separated from the operating profit from activity type (2). The separation has to be based on the differences in business models, the different economic logics which are the causes of value changes and consequently different cash flow patterns. Passing of time is a criterion that is unfit for the purpose Edwards/Bell are aiming at: judging management for their decisions: “The difference between the forces motivating the business firm to make profit by one means rather than by another and the difference between the events on which the two methods of making profit depend require the two kinds of gain be carefully separated if the two types of decision involved are to be meaningful evaluated.”<sup>99</sup> As it is the different causes and processes between the two types of activities that are the basis for “motivation” and respective planning, the passing of time not being a causal element, it would be a flawed judgement process to use the “passing of time” in the attempt to hold management responsible. Something, that is just incidental and without cash flow effects to be reported, is not worth being “planned”.

#### *Only real Cash Flows have an Impact on Value*

One can only hold someone responsible for something on which he is able to exercise some influence, i.e. in the case of management for something it can plan and/or make decisions about. Management can plan input and its cost, production and its processes, output and output prices; it can plan the details of a specific activity, its specific cash conversion cycle and its surplus. It cannot (nor should it) plan valuation changes that are not relevant for the surplus, in particular, deviations from actual cash outflows or cash inflows to hypothetical

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<sup>97</sup> To be noted: here the change in market value is, however, the objective, the aim of this activity, thus, part of the plan of operations! See also below Fn 100.

<sup>98</sup> E/B, Fn 23, p 90.

<sup>99</sup> E/B, Fn 23, p73



ones<sup>100</sup>. Only real cash flows have an impact on net receipts and thus on value. If the aim is to evaluate management's decisions one can only compare their plans to their outcome, i.e. the planned cash flows to the cash flows incurred. This becomes even more evident when we look at Edwards/Bell's concept of "cost savings" for input.

### *Realisation-by-Use Assumption*

Edwards/Bell propose to match current (exit) values with current (entry) costs as a means of defining operating profit. Each asset is valued by aggregating the current costs of all input which the firm uses in bringing the asset to its present stage. In their belief that time is a value factor, they have to define "a time dimension" to the realisation principle<sup>101</sup> and "assume... that production is timeless".<sup>102</sup> This way, so they claim, they "emphasise the genesis of a gain rather than its realisation" or "conversion into a more liquid form".<sup>103</sup> The result is their notion of *cost savings*, which are supposed to arise as current cost deviate from historic cost. So that this "arising" becomes relevant to profit, they have to invent a new way of realisation: the "realisation-by-use assumption".

### *Systematic Flaw in the Theory*

Their various assumptions make it apparent that this profit concept happily ignores the actual cash flows that occur, to be replaced by imaginary values based on observation of market prices. To ignore those facts and events that have taken place and caused cash to flow, when measuring and reporting a cash generating process, represents a systematic flaw in the theory which underlies the current proposal. To serve the objective of informing about net cash inflow generation it is essential that the view and analysis of the cash conversion cycles focuses on the real cash flows as they are caused by the activity through the physical exchanges of non-cash-resources for cash – and vice versa. The art and purpose of accounting is to reflect the development and outcome of cash conversion cycles as the monetary expression of the physical cycles of input towards output. The author's referral to a "broader concept" that merits ignorance of cash flows is a less than tenuous point.

The example used by Edwards/Bell to explain their view on cost savings<sup>104</sup> can help in clarifying this point. The output sold for \$175 was manufactured by input of \$100 in period 1 and \$30 in period 2 resulting in a cash surplus of \$45. The example is silent as to whether there was a measurable improvement at the end of period 1, so let us assume there was not. However, the input used in period 1 has increased in price by \$20 by end of the period which provides a reason for E/B to consider a gain in the form of a "cost saving". As it is realisable under their definition, it would form part of operating profit for period 1. This creates misleadingly the appearance of cash flows without increasing the cash surplus to be expected. It signals profit, though it has not increased the ability of the firm to generate cash flows. As a matter of fact, it could be seen as the cause for the opposite expectation, a

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<sup>100</sup> Obviously, non-trading activities have to plan for various market values: for input as well as for output. In both cases, value changes are part of planning and control until the cash flows fix the price. In the case of input prices, this holds until the acquisition of the input has taken place, after which further value changes of that type of input have no impact on the surplus of the process that has been started.

<sup>101</sup> E/B, Fn 23, p 88.

<sup>102</sup> E/B, Fn 23, p 81.

<sup>103</sup> E/B, Fn 23, p112.

<sup>104</sup> E/B, Fn 23, p 93.

decrease in value of the firm when considered for future planning of production. It is a change only in appearance without a causal relationship to the source of the firm's cash flow streams. It prevents users from analysing results with the conservation-of-value principle in mind, trying to understand "where is the source of value creation"<sup>105</sup>? For the increase in value by *cost saving* the answer is clear: it is Edwards/Bell's assumption that the passing of time is a causal factor.

There is no increase in value at work as there is no change in cash flows that can be expected. To make this increase in value work for generating more cash flows (without the sale of the resource), one would have to borrow funds against the value with which more resources could be purchased: that would be an increase in resources without change in net asset value! It would increase the value of future cash flow streams if the expected increase in revenues would exceed its funding cost. All of this, however, relates to future events (decisions and their respective executions).

A further issue is the matching principle as it is proposed to be applied by Edwards/Bell: "Current operating profit ... indicates the excess of the value of the output sold over the resources used in producing that output..."<sup>106</sup> and the current proposal: "...matching current revenues with the current cost of inputs sacrificed in the reporting period to achieve those revenues." The term "sacrificed to achieve" is vital because it signifies a defining element of the matching principle: it requires that there is some kind of causal relationship between two or more subjects, e.g. the revenues are achieved through the sacrifice of related costs and expenses.

### *True Performance*

The combination of assumptions used by Edwards/Bell constitutes a major problem: the majority of the revenues achieved in the reporting period have not been achieved through sacrifice of the values that this method assigns to them, i.e. current cost. It has been achieved by the cash outflows as incurred. That is their cash conversion and planning cycle. That was planned, that was the occurrence. The input unused in the balance sheet has not yet been used. It will be the cause for achievements of output yet to be produced and its respective cash inflows in future periods. The value increase as suggested for measurement for such unused input has no effect on either quantity or quality of the future output. Thus, this method matches revenues with unrelated cost (values). The output in the balance sheet will have been produced with inputs at prices that are unrelated to those that their concept proposes to report. This way it becomes impossible for readers to grasp the true performance of the firm.

### *Evaluation of Management*

The assumption of "cost savings" in the form of gains or losses due to the passing of time is counterproductive to the aim of evaluation of and by management. The assumption leads to the judgement of imaginary operating results that neither are planned nor will occur as assumed. It makes a judgement on what has been planned impossible as it renders what has actually occurred invisible.

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<sup>105</sup> Koller/Dobbs/Huyett [Fn 24], p 34; or as Penman,[Fn 42] p 176, puts it: "we lose our ability to understand how a firm makes money."

<sup>106</sup> E/B, Fn 23, p 99.

The deviation of future prices from cost incurred is not a planning dimension that management should be concerned with. They have to plan their cash conversion cycles and compare the cash flows that occur with those planned. Comparing current cost to historic cost is not the essential view required. The evaluation has to be by comparison of historic cost to planned cost! This is where management executes its plan, where it is the decision maker and executor for the cash outflow at the start of a conversion cycle.<sup>107</sup> That is where the truth is laid bare: should management have bought or fixed the cost earlier or later, and could they have even done so? For the cash conversion cycle that was started with the purchase, the result - the related net cash surplus - is fixed only by the actual cash flows, not by assumptions of them. Once the money is gone, you cannot recall it and start afresh. Any fluctuation in price for the input after acquisition through the time of use has no relevance to the performance of the activity as eventually evidenced by net cash receipts. The only variables left to play a role are the amount and cost of further input required and the fluctuation of output prices.

The question of how the performance will be in the future with changed cost and changed revenues is an entirely different subject, which can easily be calculated by management on the basis of additional information provided. Distorting the picture of cash flow generation in financial reporting by assumption is neither required nor appropriate.

It is of no relevance for investment decisions trying to hold management— as far as input is concerned - “accountable against current prices” as they neither are relevant for the activity in progress, i.e. according to plan of operation, nor are they, or even should be, planned by management. Management can be held accountable only against their plans compared to the actual cost incurred, which is a more appropriate term than “historic cost”.<sup>108</sup>

An objective event like a market price becomes relevant for measurement only through actual cash flows.

In my view, there has not been any new information to support current cost accounting since Tweedie-Whittington<sup>109</sup> wrote its eulogy.

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<sup>107</sup> If a conversion cycle cannot be followed as a one-on-one relation from input to output, a reasonable substitute is to follow the cash flow contribution of the input until the end of its life cycle!

<sup>108</sup> See to the misperception of the term “historic cost”: Penman, [Fn 42], p 179.

<sup>109</sup> David Tweedie and Geoffrey Whittington, *The End of the Current Cost Revolution*, in *The Development of Accounting in an International Context*, Chapter 8, Routledge 1997, p 149ff.