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"TOWARDS A MEASUREMENT FRAMEWORK FOR FINANCIAL REPORTING BY BUSINESS ENTITIES" – An Alternative View

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Abstract

1 *This paper provides an alternative view on a measurement framework for financial reporting by business entities.*

2 *In so doing it focuses on the object of financial reporting, which it defines as the cash generating activities of business entities. To this end it develops the input/output logic of non-cash resources that businesses invest in*[1] *and establishes the cash generating activities as the central focus for measurement concepts of financial reporting.*

3 *The paper points to the two critical issues of market relevance as the representational quality of market prices in the absence of real transactions and the impact of changes in market prices on the economic resources serving a business activity.*

4 *The paper argues that market prices represent a causal event for financial income reporting if and only if their changes lead to changes in cash flows. So whilst the market price of an asset may change, it may not cause a change in expected future cash flows from the activity compared to prior expectations.*

5 *This is contrasted with the paper's principles for selecting the measurement basis for financial reporting, which focus on the contribution to real cash flows by the items that are being measured.*

[1] For a detailed analysis of input-output logic of business activities and the essential logic of cash conversion cycles see : Andreas Bezold, *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

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Introduction

6 The quest for an agreed conceptual framework for financial reporting has been a focus for national and international accounting standard setters for decades.

7 In particular, the issue of a consistent approach to measurement principles has prompted some of the fiercest debates amongst academics and has eluded standard setters in their attempt to develop an agreed approach to standard setting.

8 In this context, a paper was presented at the last meeting of National Standard setters[2] (henceforth referred to as "*the Paper*"), which introduces some new lines of thought into the debate by focussing on the business entity and its economic purpose of adding value for capital providers through cash generating activities. This focus can inject some much needed new thinking into this vital and controversial debate.

9 *The Paper* proposes as one of its core principles the use of a market-input-to-market-output focus for developing a conceptual measurement framework for business operating assets. The focus on the input-output logic of business activities recognises the essential logic of cash conversion cycles for business activities.

10 However, the link between inputs and market prices should be analysed with more rigour as there are apparent and significant differences between inputs and outputs. The differentiation between these separate functions in economic processes suggests that a single measurement attribute may be an inappropriate solution to the issue.[3]

11 It is self-evident that the measurement basis should be the product of 'rigorous reasoning' when deducing such principles from fundamental concepts with consideration of accepted financial reporting objectives. At the same time, though, rigorous reasoning requires – amongst other things – adherence to common laws of logic in general and the precise analysis of cause and effect in particular. For instance, if 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 processes and their net cash flow outcomes. Furthermore, the analysis for the purpose of determining measurement concepts has to provide an understanding of the question "why do we measure", i.e. the numerical representation of a non-cash item. The answer has to be deduced from the economic purpose of business entities and the causal relations between cash generating activities and the respective assets[4] that serve them.

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[2] Meeting of National Standard Setters, Seoul, April 2010, Paper 8.1, TOWARDS A MEASUREMENT FRAMEWORK FOR FINANCIAL REPORTING BY BUSINESS ENTITIES

[3] This view is apparently widely shared by professional investors and analysts, according to PWC, Survey June 2010: What investment professionals say about financial instrument reporting.

[4] For reasons of clarity in the line of the arguments, the comments further on focus exclusively on assets

12 The following comments represent the application of such ‘rigorous reasoning’ to the analysis of (1) the economic purposes and wealth-generating processes of business entities, (2) the impact of market forces on these processes and the relevance of market changes to measurement objectives, and (3) the implications of them to financial reporting under accepted objectives. The analysis results in alternative conclusions with regard to the role of market information for the measurement process. It concludes that the observation of real cash flows should be the primary factor in determining measurement bases for financial reporting.

13 Whilst the objectives of financial reporting are well rehearsed, there is much less focus on the object of financial reporting. However, it is axiomatic that in order to determine the appropriate basis for measurement it is necessary first to establish what is being measured and why.

14 Consequently, this paper first defines cash generating activities as the object of financial reporting. This approach appears to be compatible with the view expressed in *the Paper.*

A. Basic Premises - the Object of Financial Reporting: Cash generating Activities

15 **The Object of Financial Reporting**

(1) The object of financial reporting is the cash generating activities of business entities.
(2) Business activities are based on the economic purpose of adding value for capital providers through processes that generate net cash inflows.
(3) Cash generating processes consist of obtaining non-cash resources in exchange for cash outflows (input) and holding or using these inputs in order to obtain cash inflows in exchange for held or generated non-cash resources (output).

16 **(1)** The core object of financial reporting is the cash generating activities of business entities. This is at the centre of attention for businesses and the reason why users provide capital. The net cash inflows of a business entity and the expectations of their development in the future determine the value of a business entity. It is the business entity’s net cash inflows that provide the basis to the specific net cash inflow expectations of individual capital providers. This line of logic provides the foundation to the long-accepted objective of financial reporting: providing information to capital providers about net cash inflow generation from business entities. In so

doing, it establishes the cash generating activities of business entities as the central focus for the measurement concepts of financial reporting.

17 **(2)** The economic purpose of business entities is to generate net cash inflows.[5] FASB's CON 1, par 39, provides a useful description of business activities: "…business enterprises … invest cash in non-cash resources to earn more cash."

18 A given amount of cash is converted into something different, a non-cash resource, to be re-converted, eventually, back to cash. The broader term "non-cash resource" includes all of the resources acquired by businesses for their activities beyond those that are recognised as assets in balance sheets. Limiting the definition of business activities to investing in assets may be sufficient to capture businesses that focus on relatively pure forms of trading. However, it is inappropriate for other value adding activities such as the production of goods and services. Such activities involve the investment in a large range of non-cash resources that are not captured in the balance sheet such as labour or consumables. Furthermore, some assets are purchased for their contribution to the net cash inflow that may not represent a direct cash inflow from the asset itself, for example, a head office. In only a fraction of business activities can future cash flows be associated directly with specific assets as a flow from the resource, e.g. rent, interest, etc, or a flow for the exchange of the resource, e.g. its sale. In the majority of service, manufacturing and production industries, investment has to be made in a number of different resources with a multitude of causal relationships with the end product sold. In these cases, there is no non-arbitrary way to associate the final cash inflows or parts of it with one or more of the resources used in combination with each other in the process. Thus, the most appropriate description of the economic purpose of business entities is the investment in non-cash resources, regardless of their form, for the future net cash-equivalent flows that are expected to be *generated by the activity* for which those resources are required.

(3.1) The Nature of Cash generating Activities

19 Logically, all business activities that aim at generating a cash surplus have to follow the same pattern: first, 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 inevitable logic of cash conversion cycles leads to the cash flow sequence of cash out before cash in and the resource sequence of resource in before resource out. *The Paper* correctly points to the significance of this input-output process for business activities in the context of financial reporting.

20 This sequence of events for investing by business entities is valid for all cash generating processes independent of what non-cash resources are acquired.[6]

[5] It is sufficient to remain with the term "cash" for the purpose of this discussion as it is correctly seen as the ultimate goal: more cash at the end of the activity than at its start.

Differences between business activities surface after the initial acquisition of resources, when different business ideas/models lead to different processes for identical resources. The key economic difference is to be found between two major classes of processes: one where essentially the acquired input represents the output versus another where the input does not equal output. In processes of the latter type inputs are altered or just consumed with or without ever being recognised as an asset. Input can be of service to the activity without being consumed, yet never becomes output, e.g. the acquisition of land for an office or a factory. The two major classes of business activities are trading and non-trading.

21 The following comments are focussed on non-trading activities. This is because 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 Paper.*

(3.2) The Role of Assets in non-trading Activities

22 Different business activities have different cash generating processes due to different business ideas, business models and subsequent business plans, all of which are based on their specific economic logic of input and output for net cash inflow. The same type of non-cash resource can serve very different processes. They can be output to one process, and input to another. Thus, their contribution to the net cash inflows will differ according to their function within the specific process they serve. Some resources will never contribute in cash flow terms other than by their initial outflow, e.g. they are consumed or sacrificed within the process of creating something different, a service or a new product. Some of these sacrifices occur instantly, some extend over more than one reporting period. Thus, the challenge for financial reporting is how to reflect their cash outflow contribution over several periods in a way that faithfully represents their contribution to the net cash inflow of a specific business activity over these periods. The issue of cash outflows as a contribution to net cash inflow generation exists for all resources that have become input. Clearly, accrual accounting is a helping tool used for matching to avoid the misinformation that would result from accounting on a pure cash receipt and payment basis. However, that does not yet provide the answer as to how to relate previous cash outflows for assets that remain to be recognised at reporting date in the balance sheet to their residual value to the activity of the business.

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[6] The differentiation between operating and (other) investing activities of businesses is inconclusive for the purpose of understanding the nature of cash-generating activities. The definition used by the 2008 IASB/FASB ED on Financial Statement Presentation (2.33) refers to the difference between investing for the "central purpose for which the entity is in business" as its "primary revenue- and expense-generating activities" vis-à-vis investing which is considered secondary to the central purpose.

23 If a business activity were to be finished, its cash conversion cycles completed, an issue of measurement of assets wouldn't exist, as everything would be in cash. But reporting dates cut into processes anywhere along the cycles – and the extent of progress in cycles will determine the amount of non-cash resources that remain unconsumed to be recognised in the balance sheet. These "input assets" are tools to the cash generating activity, not its primary subject. The cash flow information that they can provide for future cash flow generation is more often than not somewhat limited. The future net cash inflows of the activity that these assets serve can rarely be causally related in any reasonable and non-arbitrary way to the amount of cash outflows that remain unconsumed.

B. The Role of Markets

24 The role of markets for financial reporting touches upon two separate issues. The first concerns the reliability of market prices and their representational quality in the absence of a real transaction. The second relates to the question of the causal relationship between market price changes and the value of the item considered for measurement to the activity of the entity.

Representational Quality

25 If market prices would

- represent fair values in the sense of fundamental values,
- incorporate all information concerning the item (and only those),
- reflect cash flow expectations specific to the item, and
- \- in their volatility - reflect the volatility of the item's value (and only that),

26 then the representational quality as value in absence of real transactions would be beyond doubt. Unfortunately, these are just assumptions used by "derivatives" of the Efficient-Market Hypothesis. This theory proposes that all relevant information is in the price and prices will then move only in response to news. The movement of the market will be a "random walk". Using further assumptions, "derivatives" to this hypothesis have been developed such as "market prices are objective and efficient as they reflect all information available", or they even could "represent the best use of an item".[7]

[7] The EMH does not state that prices are representative of intrinsic value and that investors do not need to verify the true values of publicly traded securities. Some helpful insight about true substance and limitations of the EMH can be gained from Ray Ball, University of Chicago, The Global Financial

27 The recent financial crisis has proven these extensions of the initial hypothesis invalid.[8] The markets did not tell us "how it is"; they developed an asset bubble – as everybody is aware of now – over a number of years. An asset bubble represents a systematic deviation of market prices from fundamental values. The overshooting of markets not only occurred on the way up, but also on the way down as prices rebounded significantly in the last year.[9] 2009 brought one of the fastest rallies in stock market history. The crisis has delivered the objective proof that even the markets considered most liquid are influenced by a host of different motives and expectations other than those related to the cash flows of the business activities.

28 Computer trades recently brought about a "Flash Crash" that shocked even the most experienced regulators, who were scrambling for answers. Statistical assumptions and presumed correlations have broken down. Goldman Sachs research has found[10] that during 2008's September-October market rout shares that were widely held by hedge funds dropped much further than those in which hedge funds had few holdings. This is an example of where market prices are influenced by information and motives that are clearly unrelated to the specific item.[11]

29 On a more systematic basis, Andrew Smithers[12] 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 movement 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?

Crisis and the Efficient Market Hypothesis: What Have We Learned?, Journal of Applied Corporate Finance, Volume 2, No 4, p. 8-16

[8] For a systematic analysis of the failure of such EMH extensions see: FSA, "The Turner Review, A regulatory response to the global banking crisis, March 2009, p. 39ff, 1.4 Fundamental theoretical issues.
In fact, as noted by Lord Turner, p. 40, scepticism about the rationality of markets and the benefits of liquidity has a long intellectual lineage. Keynes's General Theory contains a famous attack on the idea that equity prices are driven by the rational assessment of the available information. Hyman Minsky argued in 1986 that financial markets and systems are inherently susceptible to speculative booms which, if long lasting, will inevitably end in crisis.

[9] 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.

[10] FT, Jan. 12, 2009, p. 14, "A vicious spiral of forced selling causes paralysis"

[11] This view is reflected by Lord Turner (see Fn 7, op. cit. 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. While it is difficult to quantify the effect, it is a reasonable judgement that the application of fair value/mark-to-market accounting in trading books, played a significant role in driving the unsustainable upswing in credit security values in the years running up to 2007, and has exacerbated the downswing."

[12] "Wall Street Revalued – Imperfect Markets and Inept Central Bankers", John Wiley & Sons Ltd, 2009

Causal Relationships

30 The second issue regarding the role of markets raises the following question: under what circumstances do changes in market prices constitute an event for financial reporting? Do changes in market prices always bring about changes in economic resources, as asserted by certain standard setters?[13] The answer depends on the impact that change in market prices has for the cash flows of the activity, i.e. if the changes in prices lead to changes in cash flows or to changes in expectations of cash flows. The view presented here requires a test for each measurement.

31 For items that are held for sale, i.e. for output, it is not disputed that changes in market prices lead always to changes in cash flows (or expectations thereof). In the case of output for sale, these changes are even relevant when market prices deviate from fundamental prices – no matter in what direction – because they are representations of cash inflows from the activity in progress. Changes in market prices can lead also to changes in expectations of changes in cash flows for unfinished output when they indicate the inability to recover cost for the unfinished item; a classic example is the LOCOM principle.

32 For items to be used, i.e. input, the basic principle of a causal relationship between market price and item remains the same: market prices represent a causal event for financial income reporting if and only if their changes lead to changes in expectations of cash flows. A drop in market price that indicates a reduction in value to the activity because of damage or depreciation faster than originally estimated can lead to less contribution to the cycle than anticipated. However, an increase in market price leads to changes in expectations only if a change in use is imminent, e.g. the sale of the item. If there is no change in use and, thus, no change in cash flows from contribution expected, a causal relationship to support the quality of the "event" cannot be evidenced. The significance of the change in prices remains one for reporting as additional information, not balance sheet measurement.

C. The Objective of Measurement

(1) The objective of measurement in Financial Reporting is to determine the contribution of a non-cash resource to the net cash inflow generating process of business activities.

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[13]For example, IASB Exposure Draft, *An Improved Conceptual Framework for Financial Reporting,* paragraph OB 22 (London: IASB, May 2008).

(2) The cash flow contribution of non-cash resources to business activities requires determination of

   a. The cash flow contribution of the non-cash resource to the net cash inflow of the business activity in the reporting period, and

   b. The value basis of the non-cash resource for contribution to the net cash inflows of the business activity in future periods.

Assessment of activity in future periods should be based on the activity as in progress unless clear evidence of change is documented.

(3) Cash flow contributions of non-cash resources to business activities depend on the function of the resource within the cash generating process in progress and can be of two kinds:

   a. Contribution by use (input), and

   b. Contribution by holding/sale (output).

33 **(1)** Cash flow generation is the primary objective of business activities as well as the focus of attention of capital providers. Correctly reported past cash flows are an essential tool in the prediction of future cash flows, and, thus, form the essential elements of value and wealth concepts of business entities.[14] That is why capital providers "are directly interested in the amount, timing, and uncertainty of an entity's future cash flows"[15], i.e. the net cash inflows from its business activities.

34 The value of a business activity is determined by expectations of net cash inflows in future periods. Although the balance sheet cannot represent these expectations, it can provide information on the economic resources that qualify as assets and are used to produce future net cash inflows.

35 The objective of measurement in financial reporting therefore has to be a faithful representation of contributions to the input-output cycle of non-cash resources, i.e. economic resources that qualify as assets, as documented by the outflow-inflow cycles of the related cash amounts.

36 **(2)** The procedure of measurement touches on the two basic elements of value: the cash flow contribution to the business activity in the (past) reporting period as realised or realisable, and the cash flow prospects in the future, i.e. the expectations of future cash flow contributions to the activity. The first is based on observable facts that are the subject of accounting procedures. The latter is the outcome of subjective assessments, based on information that is considered relevant to that assessment.

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[14] The line of arguments in this paper are based on a concept of Hicksian Income No 2 as analysed by Bromwich et al. in the sense of Ohlson's maintainable earnings which "require that assets and liabilities be derived from income and not *vice versa* " (Bromwich, M., Macve, R., and S. Sunder 'Hicksian Income in the Conceptual Framework' (LSE/Yale working paper, version 23.3.2010), page 15 with further reference Fn 23; Electronic copy available at: http://ssrn.com/abstract=1576611

[15] IASB/FASB ED Financial Statement Presentation, October 2008, (2.1.b)

To provide that information is the task of financial reporting, to make the assessment is the privilege of users of financial reports.

37 Measurement takes place on the level of individual assets (or groups); however, its primary purpose is to inform on the value increase for the activity of generating net cash inflows. In other words, the result of the measurement of assets has its essential meaning beyond the level of the measured assets. The information required is, whether or not, and if so, to what extent, the value changes of an asset cause a change in economic resources for the activity to generate net cash inflows. The market price of an asset may have changed, yet may not have achieved a change in expected future cash flows from the activity compared to prior expectations.

38 Thus, the quality of an asset's value change has to be analysed as to its nature and its impact on the ability of the activity to generate future cash flows. Two different sources of value changes can be observed. One is a change caused by the asset itself through changes in amount or quality, e.g. the transformation from input to output; these could be called endogenous changes. The other source of change is of an exogenous nature: it is value change from market forces, e.g. typical for trading assets. For non-trading assets, these changes need to be analysed with regard to whether or not they are or will be the cause of a change in cash flows or in expectations of cash flows from the activity.

39 Clearly, one should reasonably only compare cash flow expectations for the same cash generating processes. In order to determine whether the prospects of an activity have changed, one has to compare the activity that has been performed in the past (i.e. reporting) period with the same form of activity in the future. Therefore, the assumption for the activity to be performed in the future should remain consistent with current experience unless there is clear and documented evidence that suggests otherwise.

40 For example: a machine is used in a productive activity that is expected to generate net cash inflows of the amount of X for the next two years. A sale of that machine (without replacement) would enable the entity to realise the cash flows for its value increase (over book value) of an amount of Y. However, as production would have to be ended, the future cash flow expectations would be ([Y + the cash flows from the investment of Y for the next two years] minus 2X). The value increase of Y for the asset does not equal the expected (discounted) amount of net cash inflows from the activity as currently performed. A different cash generating process would be required to realise the cash flow from the asset's value increase of Y. It becomes obvious that it cannot be the function of financial reporting (and accountants) to assume the future decisions required: (a) to stop the current process, (b) to sell the

asset, and (c) to re-invest its proceeds.[16] Thus, the value change of the asset does not represent a value change or income for the business activity.

41 This means that when market prices are observable, they provide additional information to capital providers. For example, they can be relevant for assessing the quality of collateral. Importantly, it also provides information about the “reproduction cost” of the current cash flow generating process, i.e. the re-entry price for re-building the business (activity).

42 Changes in values of assets – beyond their remaining unconsumed cash outflow values – will be relevant information for users; however, they do not necessarily represent changes in the economic resources that impact the net cash inflow generation from the performed business activity. If decisions are taken to alter the course of actions, they will be events of the future. At the point in time of such potential decisions, the values will be different.

43 The litmus test for market price changes of assets in their impact on cash generating processes has to be the following question: has the market price change of the asset changed the cash flow prospects of the currently performed activity? Or is there a change of process required to turn the price increase into cash flow?

44 **(3)** The decision about an asset’s function as input versus output is made upon acquisition by assignment to its designated specific process, either use or sale. Input is for use, output is for sale.

45 For example, a business entity acquires three identical cars. The first car is handed over to the leasing department, the second to the car-rental department, and the third car is placed in the show-room of the sales department. Each of the three activities has a different cash flow profile specific to it, to which the three cars contribute in different ways over different time periods. The first two cars are for use; their main cash flow contribution, directly and causally attributable to the assets, is the sacrifice of their initial cash-outflow-value over time. The third car is for sale; its directly and causally attributable cash flow contribution is the net of cash inflow from the eventual sale over the initial cash outflow.[17]

46 This example demonstrates that identical assets can be either input or output. The respective function is documented by designation to the respective business activity. This designated function remains the relevant criterion for measurement purposes until the asset meets reasonably definitive conditions for being removed from its input purposes to be an asset that is held for sale.[18] There may be situations where

[16] The assumption of repurchasing the machine and continuation of production would be of no information value (except the loss of exit-entry-market spreads).

[17] All cars have indirectly related cash outflows in the form of further input required to complete the individual processes: e.g. the cost of the respective administrative departments. They are reported in the same periods as the use of the input-cars, but relate to future periods until the sale of the output-car.

[18] This important qualification is correctly recognised and suggested by *the Paper*, Page 10, Fn.4.

the distinction of function is unclear through lack of documentation of designation. In these cases, the issue of whether or not an asset is input or output can be determined by answering the following question: Can the asset be sold without identical replacement, whilst at the same time the identical cash generating process continues? If the answer is yes, it is output.

47 Any non-cash resource is acquired through a cash outflow. This cash outflow represents its initial cost. Cash outflow is the initial contribution of any non-cash resource to a cash generating process. Cash outflows have the same important quality as any cash flow: they represent documented facts, i.e. objective information. This designates them as the starting point of any recognition and measurement process.

48 This view differs from *the Paper,* which proposes the application of market values for output assets (exit-markets) in its Principle 2 from which it concludes the same approach for input assets in its Principle 3 (entry-markets). Whilst *the Paper* provides valid reasoning for the focus on an input-output process for business activities, it fails to provide the logical link to the role of markets for inputs as its' suggested measurement base.

49 The reason for these differences in approach may derive from different interpretations of the role of assets representing economic resources "*from which* future economic benefits ... are expected to flow to the entity"[19]. The problem lies in the words "from which". Many have interpreted this definition in the sense that economic benefits have to be cash flows that are expected to flow from the asset. In line with this view, *the Paper* places an overemphasis on the subject of "asset properties", whilst the line of argument in this paper focuses on the role of assets "*within* the entity's cash generating process".

50 *The Paper* considers management to expect "it[20] to achieve value in excess of its acquisition price…". This is an appropriate analysis for cases only where input largely equals output, i.e. mostly in trading. Only in such cases can expectations for future net cash inflows be non-arbitrarily associated with the input. 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. Management can reasonably only focus its expectations on the net cash inflow that is a result of the sum of the various inputs. Any input is expected to serve the process to achieve an overall positive net cash inflow. The benefit expected from an input is that – in its own specific way - it enables the process to take place. Management can only expect that the cash outflow for a specific input will be recovered by the final cash inflow result of that process.

[19] IASB *Framework for the Preparation and Presentation of Financial Statements,* paragraph 49(a).
[20] [i.e. the asset]

51 Even a higher-than-market price for an input may be justified if the entity is able to cover it from higher cash inflows or by reducing the cost of other input, e.g. by improving the process, reducing machine running time or cost of labour. Thus, the decision on whether or not a price is justified does not depend on the input in question alone, but on several other variables that cannot be known by the market. The argument of embodiment of the market's expectations of an asset's future cash flows fails to capture the essence of input to cash generating processes. The market cannot develop such expectations and the expectation of management is superseded by the objective fact of the cash outflows that have occurred.

52 Analysis of the cash generating process of business activities has revealed that output assets contribute to it by cash inflows whereby input assets contribute to it by cash outflows. It remains unclear how market prices should develop relevance for measuring input assets that have made their contribution by cash outflows. For many input assets, these cash outflows are their final contribution. To replace information of such objective quality by other information would require a similar quality for such a "value": it would need to be "like cash flow" and justified on the basis that it is the representation of cash flows from the activity or expectation thereof. Such justification would have to be provided on the basis that this new information is a faithful representation of the asset's contribution to the net cash inflow of the activity it serves, not an alternative one.

D. Principles of Measurement

53 The objective quality of real cash flows over fictitious ones leads to the suggestion of the following principle relevant for measurement:

> **(1) Cash flow contributions are the primary factor for determining measurement bases for financial reporting purposes.**
> **(2) Market values are relevant for reporting of income from cash generating processes if and only if they lead to imminent cash flows or expectations thereof.**

54 **(1)** The measurement basis for assets serving cash generating activities should primarily be determined by the cash flows that can directly and causally be attributed to them.

55 The starting point of measurement has to be the cash outflows that occurred for any acquisition of an asset. This is followed by a test of suitability of the input to serve the process as intended and the probability that its' cost will be recovered by the sum of cash inflows from the process being higher than the sums of cash outflows from all input required to finish the process. If either of the tests is negative – a "failed

acquisition" – the cash outflow turns immediately (to the extent necessary) into an expense. Unless there are indications of such a "failed" acquisition, the cash outflow represents the initial value of the input available for serving the cash generating process. A higher or lower market entry price has no relevance to the cash flow generating process in progress.[21]

56 This initial step of measurement is followed by another step of subsequent measurement that decides when and how much of the initially recognised cost will become an expense for the asset's use or netted by cash inflows from its sale. Subsequent measurement has to determine how much of that cash outflow for input has turned to expense by sacrifice or consumption and what is the new remaining input value available for serving future period's cash generating activities. The question of availability includes, again, the test for suitability which has to cover any potential changes in the input (endogenous changes) such as deterioration or aging or damages that have occurred. Does the non-cash resource continue to contribute as expected and estimated or has it become less useful through damages or by aging faster? If such changes lead to a lesser contribution for the remaining part than previously expected, the differing amount expressed in terms of initial cost would have to be charged to expense. Such deterioration could also be indicated by lower market prices for comparable inputs.

57 After determining the adjusted cost base remaining, the question of relevance of market values differing from the adjusted cost base reappears. Again, cash flows and the expectation of changes in them can be a guideline for decisions. Cash flows serve as reality checks in measurement.

58 Each asset that is subject to measurement procedures has to be tested for its respective cash flow expectations from the specific cash generating process that it serves. It is the litmus test for market relevance: has the change in market value the consequence of causing an increase or decrease in economic resources, i.e. in the ability of the business activity to generate cash flows? If the expectations from that process are such that the asset will be sold imminently, a change in market value will cause a change in cash flows from prior expectations. The different than expected cash flows will become realised and thus change the amount of resources available to earn future income. The basis for the future increase in net cash inflows has been altered, i.e. income realised, if either the amount of cash resources or the amount or quality of non-cash resources has changed.

59 However, as with the example of the machine in use for production, the change in market value does not lead automatically to a change in cash flows[22] from the activity in progress. If there is no documented evidence that this process will be

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[21] For other informational quality like replacement -, reproduction – or collateral value, see comments above on page 10.

[22] See page 10; for further details and examples, see: Andreas Bezold, 2009, op. cit. Fn 1, pages 25ff and Appendix

amended due to that market value change, the economic resources available for cash flow generation have not changed. In this case, the market price change of the asset is relevant for information, not for income of the business entity.

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60 The empirical developments of the recent financial market crises should not obfuscate the relevance of market prices for financial reporting as important information. However, they point to the critical distinction between cash realisation (and the assumption thereof) and information. As a result, there is strong evidence that the theory of efficient markets providing objective information on fundamental values cannot hold its place as the superior and widely accepted view any further. The evidence suggests that a market price does not automatically provide the required representative quality for measurement. Standard setters have to start afresh with a new approach that considers the ramifications of the evidence delivered.