The Implementation of a Real Life Approach to Business Accounting

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INTRODUCTION

In a recent article published in this journal I have put forward the idea that the disappointing results of current research in the field of business accounting is largely attributable to a universal blinding obsession with the concept of profit [8].

As is well established in the literature, the concept of profit used in accounting can be logically defined only if the economic environment is assumed to be completely static [7].

When prevailing circumstances become somewhat remote from the stationary state, profit ceases to be a meaningful and measurable concept. Whilst other authors who recognise this fact continue to cling to the notion that, in spite of it all, profit should remain the cornerstone of accounting, I have proposed to abandon profit as the prime measuring tool and suggested an alternative approach.

The object of the present article is to show how this new approach can be implemented in practice. Before indicating what this implementation involves, we must review the essential ideas underlying the new approach.

The starting point of the new approach is that business wealth consists of two very different things: purchasing power and productive wealth.

It follows that, when debts are taken into account, the totality of all assets and debts can be divided into three categories: net current monetary assets (NCMA), productive assets and long term debt.

The second important idea of the new approach is that the profit statement must be replaced by a statement of all changes in business wealth.

Such a statement shows the effect of all transactions and business events on each of the three categories of assets and debts.

The total change in NCMA can be deemed "cash flow" because NCMA represents the purchasing power available to the firm in the short run.

The third important idea of the new approach is that the statement of changes in business wealth displays in fact two separate but complementary sets of information: (a) the constituents of cash flow and (b) all changes in "non cash" items, namely productive assets, and long term debt.

The rationale behind this distinction and the importance attached to cash flow deserve a short elaboration.

The pattern of cash flow over successive periods of time constitutes the ultimate indicator of financial performance when measurements are extended to the whole life of the firm.

For an on-going business taken at some point of its existence, the stream of known past cash flows ends to give way to a stream of uncertain future cash flows, with the result that financial success cannot be established firmly, let alone expressed by a single figure.

Traditional accounting attempts to go around this basic fact by using the concept of profit based on various assumptions totally unrealistic in circumstances of rapid economic change.

By contrast, the new approach recognizes that any assessment of financial performance must be based on an evaluation of likely future cash flows.

Since such an evaluation can never be perfectly accurate or totally acceptable to everyone, the new approach seeks to provide the reader of the accounts with information that will help him form his opinion about likely future cash flows.

Such information consists in (a) all constituents of cash flow over successive past periods, and (b) all changes in "non cash" items, i.e. productive assets and long term debt.

Hence the use of the statement of all changes in business wealth, with its emphasis on cash flow, as the cornerstone of the new approach.

Having reviewed the main ideas underlying the new approach, let us now examine how we could implement it in practice.

Firstly we clearly need a suitable bookkeeping method which lends itself to the systematic recording of all changes in business wealth, whilst still enabling us at the same time to comply with existing statutory reporting requirements.

Secondly we need to extend the approach beyond the limits of financial accounting; in fact we must apply the same ideas to all areas of management accountancy. This is essential to insure that general coherence is obtained throughout all procedures and reports, which, incidentally, is far from being the case in traditional management accountancy.

Thirdly we need to use computers effectively to deal with the extra clerical work involved in compiling both information along the lines of the new approach and information of the traditional variety to meet tax and statutory requirements.

A chapter will be devoted to each of the first two aspects, whilst references to the need for and capabilities of well designed computerised systems will be made at various points throughout the article.

BOOKKEEPING REVISITED: THE VARIATIONS METHOD

General overview

As will be demonstrated shortly in what follows, traditional double entry bookkeeping does not allow for the proper recording of changes in items of business wealth which have no impact on profit.

Since, according to our new approach, we want to report on all changes in business wealth, with or without impact on profit, we must be able to record these changes systematically.

A new method of bookkeeping, the "variations method", has been developed to that effect.

In the first section of this chapter we shall comment and illustrate by examples the limitations of orthodox bookkeeping.

In the second section we shall describe the "variations method" and see how it fits into our new approach.

To conclude the chapter we shall compare the main features of both methods and elaborate on the philosophy behind the "variations method".

The basis of traditional bookkeeping

Double entry bookkeeping was invented in the XVth century by the Italian monk Lucca Paccioli.

As it is applied today in business accounting, double entry bookkeeping is not as general as it could be because it is entirely geared to the traditional concept of profit.

This is evident from the basic fact that it revolves around the use of revenue accounts in addition to balance sheet accounts and around the classification of all transactions and business events into those which affect profit and those which do not [2].

Transactions or events are handled differently according to which of these two categories they belong to: when a transaction or event with an impact on profit is recorded, entries to balance sheet accounts are counterbalanced by entries to revenue accounts, whereas when a transaction or event without impact on profit is recorded, only balance sheet accounts are posted and no revenue account is used.

Two very simple examples will illustrate the difference between the treatments applied to the two types of transactions.

Example 1: a sale on credit; affects profit

Dr. Accounts receivable	(balance sheet a/c)
Cr. Sales	(revenue a/c)

Example 2: a new loan received; does not affect profit

Dr. Cash at bank	(balance sheet a/c)
Cr. Loans	(balance sheet a/c)

In practice, the four accounts appearing in these two examples will receive many entries in the course of an accounting period.

The essential difference between the revenue account "Sales" and the three balance sheet accounts lies in their behaviour with respect to the accumulation of entries over time.

The revenue account, which intervenes when the transaction has an impact on profit, does accumulate the amounts of all the transactions of a particular type – sales, in the case of example 1.

Balance sheet accounts, on the other hand, only show outstanding balances resulting from all kinds of transactions, without providing any information on the various types of transactions or events which together produced these balances.

Consider example 2: once the two entries have been posted, there is no trace left anywhere in the ledger of the amount of the new loan; the account "loans" merely shows the balance of all loans outstanding and the account "cash at bank" shows only the net cash position resulting from all kinds of transactions.

Yet, it would clearly be useful to find somewhere the total of loans received in the last accounting period.

In traditional bookkeeping, such information is extracted from detailed ledger entries; it requires extra work in addition to the double entry bookkeeping process proper.

Similar separate exercises are required to obtain a breakdown of transactions affecting any balance sheet item. It might be argued that this is no longer a major drawback thanks to the use of computers; any analysis of entries on any particular balance sheet account, or group of accounts, can be produced automatically by special programme blocks added to the basic general ledger system.

In practice, however, these analyses are always restricted to certain specific balance sheet accounts, require the use of extra codes in addition to account numbers, and are conducted with a particular limited (albeit sometimes very important) purpose in mind, such as, for instan-

ce, the breakdown of all entries on bank account balances in order to assist cash management and control.

Such financial management reports are regarded as essential off stream benefits of the computerised system, but the main output of the latter remains the end of period balance sheet and profit statement.

Since the profit statement only shows the totals of transactions which have an impact on profit and the balance sheet is a mere list of outstanding balances, the mainstream output of even the most advanced computerised accounting systems based on traditional bookkeeping technique fails to provide a complete and systematic analysis of all transactions and financial events of a period.

The variations method

The objective of the method is to insure that a comprehensive analysis of the various types of transactions and financial events occurring over a period of time can be obtained directly from the trial balance of ledger accounts.

To achieve this objective, "variation accounts" are created and used instead of the classical "revenue accounts".

Under the variations method, the recording of any transaction or event always involves posting to a "variation account", whereas in the traditional method, a "revenue account" is posted only if the transaction has an impact on profit.

To grasp the idea of the "variation accounts", let us go back to example 2 introduced in the previous section.

The double entry recorded in the traditional system is now split into two separate double entries, each involving a variation account:

traditional method	Dr. Cash at bank	(balance sheet a/c)
	Cr. Loans	(balance sheet a/c)
variations method	Dr. Cash at bank	(balance sheet a/c)
	Cr. Increase in cash at bank due to loan received	(variation a/c)

Dr.	Increase in loans received in cash at bank	(variation a/c)
Cr.	Loans	(balance sheet a/c)

In this example, the entries to the two variation accounts cancel each other out; this is due to the fact that the transaction recorded does not alter the total net worth.

Let us now consider a transaction which affects net worth and therefore would influence traditional profit.

Example 3: sale of a fixed asset at a price higher than its historic cost book value

traditional method	Dr. Cash	100
	Cr. Fixed assets, net of depreciation	80
	Cr. Profit on realisation of fixed asset	20
variations method	Dr. Cash	100
	Cr. Variation in cash due to sale of fixed asset	100
	Dr. Variation in fixed assets due to sale for cash	80
	Cr. Fixed assets, net of depreciation	80

With the variations method arrangement, the profit of 20 is obtained by adding algebraically the two entries to variation accounts.

This is an illustration of the general fact that when the variations method is used under the historic cost convention, profit appears as the net balance of all variation accounts, except those pertaining to new capital and distribution of earnings.

There is nothing surprising in this, since traditional profit is defined as the global variation in net worth leaving aside new capital and distribution.

Thus, the traditional profit statement can be extracted from variation accounts, which is a practical must for any bookkeeping technique to be implemented, since presently all legal and statutory reporting requirements are based on traditional accounting theory.

However, producing the traditional profit statement is only a by-product of the variations method; the real objective pursued is to ob-

tain a comprehensive analysis of all transactions and events along the lines of our new approach.

Such a statement would look like tableau I, reproduced from my previous article [8].

To explain how such a statement can be prepared at the end of an accounting period from the balances of all variation accounts, let us consider a particular line of tableau I: realisation of fixed assets.

The relevant variation accounts in this case are

	example of balances
(1) Increase in debtors due to sale of fixed assets	60 Cr
(2) Decrease in fixed assets, historic cost	200 Dr
(3) Decrease in fixed assets, revaluation (current cost-historic cost)	100 Dr
(4) Decrease in accumulated depreciation, historic cost	150 Cr
(5) Decrease in accumulated depreciation, revaluation	75 Cr

The line of the statement is composed as follows:

Type of transaction	Effect on Net current monetary assets	Fixed assets Historic cost	Fixed assets Revaluation
realisation of fixed assets	(1)	(2) + (4)	(3) + (5)
example	60 Cr	50 Dr	25 Dr

The procedure to prepare the whole statement consists in the following steps:

a. arrange the variation accounts in a sequence such that they are grouped by type of transaction;
b. for each type of transaction, identify and group together the variation accounts pertaining to balance sheet items in the three funda-

TABLEAU I

Principal events inducing change in business wealth

Type of event	*Effects on*		
	NCMA	Productive assets	Long-term debts
External transactions			
Operating sales	ΔC^+	$\Delta(S+s)^-$	
Operating sales pertaining to future periods	ΔC^+		
Purchases of materials	ΔC^-	ΔS^+	
Labour and other operating expenses	ΔC^-		
Prepaid operating expenses	ΔC^-		
Sales of fixed assets	ΔC^+	$\Delta(F+f-D-d)^-$	
Purchases of fixed assets	ΔC^-	ΔF^+	
Interest received	ΔC^+		
Interest paid	ΔC^-		
New long term debt	ΔC^+		ΔL^+
Repayment of long term debt	ΔC^-		$\Delta(L+l)^-$
New equity	ΔC^+		
Dividends	ΔC^-		
Income tax	ΔC^-		
Internal activities & occurrences			
Transformation of products		$\Delta(S+s)^+$	
Depreciation of fixed assets		$-\Delta(D+d)^+$	
Changes in current values			
Changes in current values of productive assets		$\Delta f^{\pm} - \Delta d^{\pm} + \Delta s^{\pm}$	
Changes in foreign currencies			$\Delta l^{\pm}$
Overall change in net worth	$= \Delta C + \Delta(F+f-D-d+S+s) - \Delta(L+l)$		

Note on symbols used

Δ^+ = increase

Δ^- = decrease

$\Delta^{\pm}$ = variation, either increase or decrease

Δ = total net change in the item

levels both to exercise permanent control over business operations and to carry out specific ad hoc studies when particular decisions are contemplated [2], [3], [12].

Apart from financial accounting, the principal fields within management accountancy are cost accounting, budgetary control and investment appraisal.

A vast literature exists on these subjects and one may at first wonder how the application of the new approach to these subjects can possibly be dealt with in a few pages.

In fact we are going to be greatly helped in our task by favourable trends in recent literature on management accountancy.

The first of these trends is a shift of emphasis from a general preoccupation with the past (e.g. computation of "actual" historic costs) to a general forward approach (e.g. budgetary control and use of standards).

The second trend is the increasing importance placed on the concepts of marginal costs, incremental cash flows and contributions.

As a result of these favourable trends, we can focus our attention to recent developments in the literature and concentrate on relating these to our general approach to business accounting. In so doing, it will at times be appropriate to stretch or rephrase some of the ideas found in the literature.

Let us deal first with investment appraisal. Although this subject is, quite rightly, included in management accountancy, it differs from accounting in its strict sense by the fact that it is concerned only with the future.

Recent literature treats the subject of investment appraisal in terms of analysis of future cash flows [2], [3], [5], [12]. This is entirely logical, and the only comment to be made here is to underline the analogy between this approach to investment appraisal and our new approach to business accounting (2).

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(2) The following quotation from a specialist on capital budgeting highlights the point: "By using cash flow estimates we are, incidentally, freed from the difficulties which surround the definition and interpretation of accounting profits as traditionally defined" [5].

Both concentrate on cash flows. But in the case of business accounting a difficulty arises due to the rupture between past cash flows and future cash flows with "non-cash" assets providing a sort of link between the two, whereas in the case of investment appraisal the cash flows to be considered are all neatly in the future.

Let us move on to cost accounting and budgetary control. As a result of the recent trends in literature already mentioned, these two subjects appear so intricately associated that they effectively merge into one comprehensive discipline [3], [4], [12]. In my opinion, this is a very sound development.

But it does not mean that everything said about this discipline in existing literature is entirely clear, far from it. In fact, two conflicting general ideas coexist: on the one hand emphasis is put on the analysis and control of revenues and expenses (i.e. the components of profit), but on the other hand, a great deal of importance is attached to cash flows, particularly with respect to incremental analysis.

To reconcile these two aspects is a rather cumbersome exercise, to say the least. The cause of this trouble is of course the concept of profit. The reason why are, firstly, that it restricts the analysis of changes in wealth to revenues and expenses, secondly, that it entails an artificial spreading of values over time through the application of the well known "accrual concept", and thirdly that it makes absolutely no difference between purchasing power and productive wealth.

The remedy consistent with our new approach is to enlarge the scope of analysis and control procedures by considering all changes in business wealth, not just revenues and expenses, and to make the appropriate distinction between cash flow and non cash flow elements.

In practice, this means that the whole process of detailed classification, allocation to responsibility centres, and regular comparison with pre-recorded budgets must be applied to all variations accounts. Any report giving budgeted and actual figures for a particular segment of the firm (division, department within a division, or centre within a department) should show all constituents of cash flow – revenues, out-of-pocket expenses, capital expenditures, purchases of new stocks – as well as all non cash items – internal consumption of materials, cost of goods sold, depreciation. Non cash flow items must be seen as separate from and complementary to cash flow constituents.

In short, the rationale behind the presentation of the general statement of all changes in business wealth, which is the principal financial accounting statement in our new approach, is directly applicable and should be applied to the detailed reports which constitute the regular output of the budgetary control system.

There is another important facet of cost accounting yet to be discussed: stocks valuation.

This question is the subject of lengthy developments in orthodox textbooks on accounting. The value of stocks at the start and at the end of an accounting period directly influence profit. Under the historic cost convention adopted in traditional accounting, the problem arises of having to choose a method for the pricing of issues from stocks: LIFO, FIFO, weighted average... etc. When manufacturing is involved, a second problem is added: should the value of goods produced incorporate all or only some costs.

When our new approach to business accounting is followed, the problem of pricing issues from stocks is immediately resolved; the same replacement value is applied to all identical items in stocks, and therefore, all issues are valued on the same basis. In practice stocks must be revalued whenever required – every week, month... etc. – and the new value is applicable to all issues until the next revaluation.

Although replacement values are the relevant values in our approach, historic costs must also be computed. This is necessary to be able to comply with existing tax and statutory requirements, and it is not uninteresting to compare the historic value of stocks to their replacement value as a means of measuring the effects of past decisions with respect to purchasing and hoarding ([3]).

When tackling the second problem – full costing *versus* direct costing – we must remind ourselves that, under the new approach, the value of stock issues, just as the value of any decrease in productive assets, constitutes a piece of information designed to help make estimates of future cash requirements. From this angle it is clear that direct, or marginal costing is more appropriate to serve our purpose.

([3]) But the rigorous assessment of such past decisions would have to be based on comparative cash flows, taking financing into consideration (hoarding may or may not be profitable depending on interest rates).

In addition to information about stock movements in the past we also need objective elements to be able, at any time, to compute present or likely future replacement values; the latter are essential in management decision making (pricing policy, development or contractions of sales segment... etc.).

This implies that reliable standards about the cost factors of products must be established and maintained. The only way to control the validity of these standards is through regular comparison with actual data (quantitative as well as financial).

The advantage of using standards as a means of controlling operations by drawing attention to significant variances is well recognized in the literature [3], [4], [13]. What we must stress here is that they are also the basis of future replacement value calculations.

As we accept that direct, or marginal costing is to be adopted, standards appear especially important with respect to prime cost constituents. Standards for the incorporation of indirect expenses will only be used in the computation of full costs required for (mainly external) statistical purposes.

In practice several different sets of information concerning products/stocks valuation will have to be prepared:

(1) at the end of each "sub-period" (week, month...);
  (a) variances between actual data and standards,
  (b) historic costs,
  (c) end of period direct replacement costs;
(2) whenever required for management or statistical purposes;
  (a) likely future direct replacement costs,
  (b) replacement or historic full costs.

The clerical work involved in the production of such information is rather heavy to be handled manually, but is quite manageable with the aid of computers.

We had reached a similar conclusion on the need for computerised systems when dealing with the variations method.

Generally speaking the effective use of computerised system is an essential factor in the implementation of our alternative approach to business accounting.

This is why we shall end this article with a rapid review of the principal systems required to put our various ideas in practice; for a typical commercial/industrial firm, these systems are:

(a) a general ledger
  – using the variations method of bookkeeping,
  – allowing for the recording of responsibility centre codes;
(b) a budget file
  – using the same account and centre codes as the general ledger;
(c) a combination of permanent inventory/historic costs file/standards file/products valuation system
  – meeting the various requirements in respect of stocks and product costs as suggested above.

Nowadays most companies already use fairly sophisticated computerised systems in these areas.

The full implementation of all the ideas put forward in the two articles would generally require a complete change-over to new systems. This kind of operation involves substantial costs running well into hundreds of thousands of US dollars for an average commercial/industrial firm.

However, some of the benefits of the new approach could be obtained from a relatively simple adaptation of existing systems, which would constitute a first step in the right direction.

Then, the question of replacing systems would arise sooner or later as a result of new users' needs being expressed and new developments in both hardware and software. A smooth way of tackling the full implementation of the new approach would be to combine it with a change-over systems that would take place anyway.

Once in operation, the systems based on the new approach will not entail more manual clerical work; they might require a little more computer processing and storing, but even that is by no means certain as some older specific applications might become redundant.

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SOMMAIRE

La nouvelle approche de la comptabilité des entreprises que j'ai exposée dans un article récent des Cahiers est envisagée ici sous l'aspect de la mise en œuvre pratique.

Celle-ci est grandement facilitée par l'utilisation d'une méthode appropriée de tenue des livres comptables: la méthode des variations. Cette méthode inédite est plus systématique que la technique traditionnelle et elle se prête bien au traitement informatique.

La mise en œuvre de la nouvelle approche passe également par l'adaptation et la rationalisation des concepts et des procédures de comptabilité de gestion.

La discussion consacrée à ce sujet permet de préciser et d'illustrer la nouvelle approche.