Translation of Financial Statements

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Abstract

This paper has the purpose of surveying and critically analyzing the effects of accounting procedures which are closely related to groups of companies operating multinationally. These are the methods for translation of financial statements, e.g. the Temporal and the Closing-rate Methods, as far as those methods are embodied in accounting standards which have been either recommended or adopted by countries such as the UK and US. We conclude that with regard to changing prices, General Price Level Accounting is the best option. As for exchange rate fluctuations, the Closing Rate Method should be preferred over the Temporal Method, the order being owed to the greater relative importance of foreign operations which are carried out in an independent way, vis-à-vis those which are mere extensions of the parent company's. Costs may also have played a part towards the choice. However, the main conclusion that can be drawn is that convenience of use, for both the accounting profession and report users, seems to have been the determinant factor.

1. Introduction

Accounting problems abound in the context of multinational operations. Problems include the aspects connected with inflation and accounting for changing prices. Problems also comprise the aspects related to accounting for fluctuating exchange rates, including not only the mere accounting for transactions, but also those regarding the translation of foreign financial reports. They also embrace the consolidation of financial statements, where the elimination of intercompany transactions, in a multi currency setting, is required. Inflation has been a matter of concern for both managers and accountants. Managers have to worry about inflation, especially with regard to the future: planning is a hard task to perform under such conditions. In their turn, accountants are concerned the majority of the time with the past: preparing meaningful reports, in an inflationary environment, since standard, historical cost accounting does not fulfill the needs of financial reports users is just as hard. Practicality requires feasible solutions for accounting problems. Price level accounting and current value accounting have proven to be good alternatives for dealing with the problem of inflation, with respect to both theoretical foundation and implementing costs.

Exchange rate movements also provide reasons for managers to worry. Again, their problems reside in the future. For accountants, the past still is the source of problems, for historical exchange rates do not serve the purpose of translating current carrying amounts of assets and liabilities denominated in foreign currencies. Transactions that have a definite settlement do not present any serious difficulties. However, transactions that have no settlement as such require translation procedures that are far from enjoying general acceptance among either managers or accountants.

Two distinct sets of accounting procedures are closely related to groups of companies operating multinationally. In the first set there are issues regarding accounting for changing prices, on the one hand, and those concerning accounting for fluctuating exchange rates, on the other. The second set comprises the different accounting conventions required for consolidation and profit determination for group companies, as regards some of the main transactions carried out by such groups. This paper has the objective of analyzing the available alternative approaches proposed for procedures to treat the problem of fluctuating exchange rates. The approach adopted involves a multi-period accounting time frame, to determine the cumulative, medium to long-term effects on groups of companies adopting them.

The paper is constructed as follows. Section 2 presents a discussion regarding the problem of translating foreign currency financial statements; Section 3 analyses the Temporal and the Closing Rate Translation Methods; Section 4 discusses international accounting standards for translation and consolidation; Section 5 deals with translation and performance measurement; and Section 6 concludes.

2. Accounting for Fluctuations in Exchange Rates: Translation of Foreign Financial Statements

In this section, a discussion is presented with the aim of examining the problem of translating foreign currency financial statements, which, given the affinity it presents with regard to accounting for changing prices, is also one of period income measurement[1]. Both, event or transaction approach (accounting for exchange rate fluctuations directly) and end-of-period valuation approach (assessing net effects of all events indiscriminately, by difference of net asset

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[1] Although translation is a measurement unit problem, while price level adjustment is a measurement process (valuation for distinction between invested capital and income), it is difficult, in practice, to separate both problems. See Choi and Mueller (1978).

valuation at the end of consecutive periods)[2] can be made coincident by using an arbitrarily small period. Of course, it must be long enough to contain a change in exchange rates and, possibly, in price levels, both domestic and foreign, but excluding any other economic events or transactions. Though exchange rate changes are not necessarily related to differences between the rates of change in domestic and foreign price levels, the latter are brought in just because some of the methods that have been proposed for translation also claim to provide for price level change differentials to be accounted for. In order to make the distinction clear, the three issues (income measurement, accounting for changing prices and translation) are examined separately. Net asset valuation rules and capital maintenance rules are used alternately only to throw light upon the process.

2.1 The Problem of Income Measurement

According to the Hicksian concept of income - a concept originally directed to the individual and which, therefore, can be extended to the ultimate owners of a firm - shareholders of a company will require, firstly, that their interest in the company is maintained. Any surpluses arising from operations will be regarded as income only after maintenance of invested capital is guaranteed. In this context, income is to be understood in the sense of real income as opposed to nominal income. As a residue, after providing for capital maintenance, it can be either distributed to shareholders, without impairing operations in later periods, or re-invested, that is, kept in the business, for further expansion. In this case, as much as in the event of a new subscription by shareholders, retained income acquires the status of invested capital and, as such, will require both maintenance and remuneration.

In order to formalize these ideas and to introduce the notation that will be used later on, assume that a company presents the following records:

- each asset a_i, owned by the company since time *t* has a nominal, historical cost a_{it}, which after a suitable valuation[3] at time t^* would be represented by a_{it}^*;

- equally, each liability l_j, owed by the company since time t, has a historical value l_{jt}, which would be valued, at time t^* at l_{jt}^*.

At time t^*, the owner's equity section of the company's balance sheet e_{t^*} represented by invested capital and retained earnings, should be such that:

$$e_{t^*} = \sum_i a_{it}^* - \sum_j l_{jt}^*, \tag{2.1}$$

However, if c_t and r_t are nominal, historical accounting values for paid-in-capital and retained earnings, respectively, and if their sum is represented by e_t, that is, if:

$$e_t = c_t + r_t, \tag{2.2}$$

then one has, in general, that:

$$e_t \neq e_{t^*}. \tag{2.3}$$

Assume now that c_t^* is a fair amount to represent total investment, that is, paid-in-capital plus later subscriptions made during the life of the company, regarding some suitable criterion for capital maintenance, from shareholders' point of view[4]. Coming to full circle, the part of real income, or, otherwise, "would-be-dividends", which has been generated by, and re-invested in operations, can be valued as a residue or plug r_t^* where:

$$r_t^* = e_{t^*} - c_t^*, \tag{2.4}$$

and, therefore:

$$e_{t^*} = c_t^* + r_t^*. \tag{2.5}$$

From equations (2.1) and (2.5), it can be seen that r_t^* is a function of several possible combinations of rules for net asset valuation and for capital maintenance. Naturally, these combinations cannot be verified, as for suitability, in common practice, unless the company is totally transferred, i.e., sold out to another group of investors, or liquidated.

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[2] For a detailed discussion of the alternative approaches for accounting, see May et al (1975).

[3] Suitable valuation, in this context, is understood as a valuation that observes a given set of objectives as, for example, to reflect the actual mix of production factors and the distribution of invested capital, according to changes in specific price levels.

[4] Alternatives based on the time-value of money and present value of future cash flows will not be considered here.

Since these two possibilities can hardly represent the general case, combinations of rules have to be chosen according to their potential capacity to satisfy a given set of objectives. A warning should be made at this point that more of an economist's approach is sought for in the preceding discussion rather than that of a bookkeeper. Thus speaking, the net asset valuation rule might be one that does not consider historical values at all. For example, it might be based on the prospects for the company's management performance, in the future, as measured by the present value of an expected stream of dividends plus the share price at some later date, both discounted at a suitable rate. With the above remark in mind, from equations (2.2) and (2.5), one can write:

$$e_{t^*} = c_t + r_t + \Delta e_{t^*}, \tag{2.6}$$

where the rightmost term Δe_{t^*} represents the difference at time t^* between restated and historical values of the owners' equity section of our hypothetical company's balance sheet.

From equation (2.6), one can also write:

$$e_t^* = \left(c_t + \Delta c_{t^*}\right) + \left(r_t + \Delta e_{t^*} - \Delta c_{t^*}\right), \tag{2.7}$$

where Δc_{t^*} is the difference between historical and restated values of paid-in-capital, that is:

$$\Delta c_{t^*} = c_{t^*} - c_t. \tag{2.8}$$

The difference Δc_{t^*} represents what is called return of capital, while the far-right term on equation (2.7), that is, $\left(r_t + \Delta e_{t^*} - \Delta c_{t^*}\right)$, is called return on capital. Even where accounting standards do not allow for such a consideration, managers should use a framework that is flexible enough to accommodate the proposed approach, in order to assess shareholders' prospects and thus act accordingly. Shwayder (1969) lists several feasible combinations of rules for net asset valuation and capital maintenance. They range from the use of purely historical value, with no restatement, to the consideration of the time dimension of money, for the reappraisal of invested capital and net present value of projected cash flows. As one should expect, the list also includes the use of specific and general price level indices for purchasing power restatement of historical values and cost of replacement or market valuation. Some of the combinations turn out to be completely inadequate, in certain circumstances. For example, the use of historical cost accounting under persistent inflationary conditions, even if inflation rates are not very high, produces useless and deceptive financial reports. Others, in their turn, can only be justified in the light of very specific sets of objectives. None of those combinations, however, seems to satisfy most of the audiences, even those for which they have been designed and were supposed to suit best. For example, Shwayder (1971) questions AICPA's pronouncements in support of supplementing financial reports with information based on general price level adjusted accounting data. The author's conclusions are that the procedures for price level adjustment of the firm's accounting data should be determined by the firm's amortization procedures. Shwayder also concludes that if the amortization procedures are such that book values of assets and liabilities are compatible with their imputed values, that is, the expected values of cash-flows associated with them, then price level adjustments should take into account unanticipated changes only. Still today, accounting standards generally require the use of historical costs and may, in some cases, allow for changes in price levels to be taken into account. This attitude may be seen, at first, as a conservative approach towards the preparation of financial statements and reports. However, profound implications are behind the scenes. Consider, for example, that the same set of standards may have to provide the basis for income measurement for both shareholders reporting and taxation purposes.

Miller (1979) has pointed out that the decision about accounting for changing prices, for example, is not just a matter of conservatism (or the lack of it). Several constraints related to methods and procedures of accounting for inflation, such as uniformity, objectivity, and verifiability, economic consistency and costs (as compared to usefulness), among others, may, and certainly do, impose the practical structure to work with. Therefore, the main reason for the acceptance of simpler standards may be the ease to work figures out and check them out, as well. Anthony (1979) shows how to solve the apparent conflict between alternative approaches of pricing under inflation and accounting for changing prices (historical versus replacement cost). Allowing room for the coexistence, Anthony agrees with the need to adjust accounting practice according to pricing policy. He shows also that, given the difficulties arising in identifying specific companies' pricing practices, it is hard to prescribe the accounting standard to be adopted, which, nevertheless, ought to be based on the economy's general trends. The less orthodox position of an economist cannot, nonetheless, prescribe a unique, easy-to-follow (and less expensive) alternative method which is capable of handling every practical and immediate purpose. Thus, techniques that are more elaborate, however logical they may possibly seem, will generally lack the support of accounting committees and, especially, managerial personnel involved with the preparation and use of financial reports. Having that in mind, we will hereafter focus the discussion on more flexible concepts of income measurement, although keeping it inside the limits imposed by the accounting standards.

2.2 Problems of Accounting for Exchange Rate Fluctuation and Changing Prices

Although a persistent and high differential between domestic and foreign rates of change in price levels can cause an offsetting movement in exchange rates, as stated by the Purchasing Power Parity theorem[5], the difference between the rates of change in price levels are not the only factor affecting exchange rates. Several factors are well known to interfere, to some extent, with exchange rates. The demand for and the supply of foreign currency, the behavior of Balance of Payments accounts, and interest rates differentials, to cite just a few, are among them[6]. Accounting for multinational operations, which include trade, credit and investments (through branches and subsidiaries), necessarily involves the consideration of both issues. This is because changing prices affect and distort accounting relationships among variables on financial reports in local or operating currency, and consequently among their equivalent counterparts on translated foreign financial statements. For this reason, both problems are dealt with in the following sections.

Accounting for Changing Prices

Accounting for changes in price levels has been proposed for more than half a century. However, it had not attracted much attention until the early seventies, when inflation spread all over the occidental world and became a chronic disease. Until the beginning of the 90's, high inflation rates were the common feature of third-world countries and during the 70's and 80's several developed and industrialized nations experienced the effects of double-digit annual rates of inflation. Several undesired side effects are related simultaneously to both inflation and historical cost accounting, from a company's point of view. The bigger the time-lag between the ends of its production-distribution cycle, the worse those effects can be: recorded costs of raw materials will not reflect actual, replacement costs correctly; depreciation charges will not be enough to provide funds for future replacement of plant and equipment; revenues from credit sales will have been eroded by the time they are collected; recorded profits, because they fail to reflect the facts just mentioned, will be highly inflated and overestimated. Consequently, income taxation, by government, dividend demand, by shareholders, and wage disputes, by employees, none of which realistic, will tend to weaken the firm's operating strength.

There is general agreement regarding the need to protect firms, and ultimately their shareholders, against the effects of chronic inflation. Noke (1985) extensively discusses the various aspects and developments of accounting for changes in general price level and in the relative prices of specific goods, and, therefore, inflation. Issues range from the adoption of supplementary information, presented together with the more traditional historical accounting, to full current cost accounting, and as to whether these norms should apply equally to every firm. The discussion goes back to the physical versus financial capital maintenance dichotomy, then through replacement cost or current value accounting, present value of future cash-flow potentials, and the value-to-the-business, or deprival value concept. However, one may conclude, no consensus has been reached on how to deal with changing prices, in financial reports. The simplest procedure that has been proposed is the apportionment of current income or inappropriate retained earnings - that is, before the distribution of dividends - directly to reserves. Thus, distributable income becomes smaller and, hopefully, the company will be able to face the likely higher replacement costs of its assets. The main disadvantage of creating inflation reserves is the low information content of the resulting financial reports. Those documents will not show the separate effects of price changes either on the firm's assets and liabilities or on its operations. Apart from some radical proposals[7], all other alternative procedures for accounting for price changes involve the concepts of restatement and revaluation, and require the use of price level indices. Among the rules for net asset valuation listed by Shwayder (1969), there are some, which take into account historical values and restate them by means of price level indices. Price level models of accounting, however, can range from the restatement or revaluation of certain assets only, to comprehensive price level accounting systems, in which each item on the financial statements would undergo some kind of adjustment to reflect changes in its respective price.

On the one hand, price level indices suggested can be general as, for example, the Wholesale Price Index, which measures average price changes for a large sample of commodities traded in primary markets, in the United States. On the other hand, price indices can be specific, when they refer to a narrower class of goods or, more precisely, to a particular industry. The use of either a general or a specific price index is not a mater of choice, though. Different sets of objectives and even economic assumptions can be attached to each of those alternatives. In a sense, the use of a general price index is adequate to express the purchasing power of nominal money values which where actually

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[5] Purchasing power parity has been shown not to hold in the short term, and even though deviations tend to average to zero over long periods, there is no regular pattern as to the lengths of those periods. See Adler and Lehmann (1983), for a proposal on PPP deviations behavior.

[6] Giddy (1976) describes the theoretical relations linking inflation rates (real and expected), interest rates and exchange rates (spot and forward), implying a theoretical equilibrium in the global market which would exist in the absence of capital control and trade barriers.

[7] For example, see the brief discussion on deprival value presented in Harvey and Keer (1983). Some proposals get even into the intricacies of using a more stable, though artificial, currency. Canterbery and Madura (1982) propose the adoption of Special Drawing Rights (SDRs) as unit of account for use by American companies, for pricing of products and indexation of securities, at least. They assert that this practice would lower the variability of results making it easier to make forecasts.

disbursed in exchange for real assets or received from lenders, in the past, in terms of current purchasing power of money. Therefore, it has nothing to do, whatsoever, with revaluation of either real assets or liabilities. Obtaining current market, realizable values or replacement costs can only be approximated by means of specific price indices, and only in some very special circumstances. While the general price index model is concerned with preserving the general purchasing power of the capital originally invested in the company, thus disregarding the firm's peculiar operating structure, the specific price index model is concerned with preserving the firm's earnings-generating power, which is reflected in the way its capital has been distributed among net assets.

The general procedure of applying price level indices for restatement and revaluation of amounts, which represent historical costs, can be expressed by the following equation:

$$a_{it}^{*} = a_{it}\left(P_{it*}/P_{it}\right), \tag{2.9}$$

where both, a_{it} and a_{it}^{*} have already been introduced; P_{it} is the specific price level index related to asset i and referred to the time of its acquisition; and P_{it*} is the price level at the time of valuation $t*$. When using general price indices, P_{it} and P_{it*} would be replaced by P_{t} and P_{t*}, respectively. Notice that, under inflationary conditions, different classes of assets and liabilities are subject to different effects. For example, Cash in Hand and Accounts Receivable denominated in the inflated currency are not protected at all and holding losses are incurred. Liabilities that are denominated in the same inflated currency, present the reverse effect, that is, lead to gains. In this case, the creditor bears the losses. The examples given above are related to the so-called monetary items. Other kinds of assets, as inventories, have, to some extent, the characteristic of preserving real value, and generally lead to holding gains. However, attention should be paid to the fact that each of these gains and losses just mentioned are nominal gains and losses, in the sense that no provision has been made so far for capital maintenance. In addition, the structure of capital, as reflected in the net monetary asset position, is also of great importance for the existence or not of real gains and losses. To clarify these ideas, assume, for the hypothetical company of section 2.1, that it was established at time $t=0$, and that, until time $t=1$, it had not effected any transaction, although a general change in prices had occurred. At time $t=0$, the situation was such that:

$$\sum_{i} a_{i0} - \sum_{j} l_{j0} = c_{0}. \tag{2.10}$$

Assume also that all assets i , for i smaller than or equal to a given f , and all liabilities j , for j smaller than or equal to a given g , are monetary items. In that case, equation (2.10) can be re-written as:

$$\sum_{i\le f} a_{i0} - \sum_{j\le g} l_{j0} + \sum_{i>f} a_{i0} - \sum_{j>g} l_{j0} = c_{0}. \tag{2.11}$$

At time $t=1$, since no transaction has occurred, the balance sheet in historical costs would be such that:

$$\sum_{i\le f} a_{i1} - \sum_{j\le g} l_{j1} + \sum_{i>f} a_{i1} - \sum_{j>g} l_{j1} = c_{1}, \tag{2.12}$$

where:

$a_{i1} = a_{i0}$, for every i ;

$l_{j1} = l_{j0}$, for every j ; and

$c_{1} = c_{0}$.

Of course, equation (2.12) represents an accounting system which serves the purpose of protecting legal rights of shareholders, a function which Ijiri (1971) refers to as of "custodianship", and towards which a branch of Accounting, referred to as "equity accounting", has been developed. In the same article, Ijiri also mentions the branch of "operational accounting", to be oriented towards the information needs of decision-makers, regardless of whether they are insiders, that is, managers, or outsiders, that is, actual and prospective shareholders, or financial analysts, still. It seems clear that no single accounting system can satisfy both sets of requirements simultaneously. For example, equation (2.12), which represents the first branch of accounting just mentioned, can explain where historical amounts of money were allocated. However, it is completely inadequate to explain the effects of changing prices on the firm's operating power. Therefore, another system has to be devised in order to provide this kind of information. Suppose that a system for decision-making purposes, which included price change considerations, were to be built. Suppose, also, that historical costs were to provide the bases for valuation of financial statement items. Taking into account the procedure embedded in equation (2.9), and historical value from equation (2.11), so as to get a current-value balance sheet at time t=1, write:

$$\sum_{i\le f} a_{i0}\left(P_{i1}/P_{i0}\right)-\sum_{j\le g} l_{i0}\left(P_{j1}/P_{j0}\right)+\sum_{i>f} a_{i0}\left(P_{i1}/P_{i0}\right)-\sum_{j>g} l_{j0}\left(P_{j1}/P_{j0}\right)$$

$$= c_0+\sum_{i\le f} a_{i0}\left(P_{i1}/P_{i0}-1\right)-\sum_{j\le g} l_{j0}\left(P_{j1}/P_{j0}-1\right)$$

$$+\sum_{i>f} a_{i0}\left(P_{i1}/P_{i0}-1\right)-\sum_{j>g} l_{i0}\left(P_{j1}/P_{j0}-1\right). \qquad (2.13)$$

Since monetary assets and liabilities have constant denomination in currency, or nominal, value, then:

$P_{i1}=P_{i0}$, for $i\le f$, and (2.14)

$P_{j1}=P_{j0}$, for $j\le g$. (2.15)

Therefore, equation (2.13) becomes:

$$\sum_{i\le f} a_{i0}-\sum_{j\le g} l_{i0}+\sum_{i>f} a_{i0}\left(P_{i1}/P_{i0}\right)-\sum_{j>g} l_{j0}\left(P_{j1}/P_{j0}\right)$$

$$= c_0+\sum_{i>f} a_{i0}\left(P_{i1}/P_{i0}-1\right)-\sum_{j>g} l_{i0}\left(P_{j1}/P_{j0}-1\right). \qquad (2.16)$$

Equation (2.16) shows current valuation of non-monetary items, in terms of both the asset side and reserves, but it still does not say much about gains or losses, neither from the firm's operating structure point of view, nor from shareholders' purchasing power protection angle. According to the former, an appraisal of the new amounts to be allocated to monetary assets and liabilities, in terms of purchasing power of money at time $t=1$, is in order to keep the firm's productive capacity[8]. According to the latter, a rule for maintenance of capital, as required by shareholders, is needed, which would lead to a shareholder's concept of income.

A System for Shareholders

In order to meet shareholders' requirements of, for example, maintaining purchasing power of invested capital, as represented by a given general price level index, an operational accounting system might disclose a real gain or loss, from a shareholders' point of view, as shown in exhibit 2.1, below.

OPERATIONAL ACCOUNTING SYSTEM – SHAREHOLDERS' VIEW	
Invested Capital	c_0
plus	+
Required Maintenance	$c_0\left(P_1/P_0-1\right)$
plus	+
Real Gain (Loss)	$\sum_{i>f} a_{i0}\left(P_{i1}/P_{i0}-P_1/P_0\right)-\sum_{j>g} l_{j0}\left(P_{j1}/P_{j0}-P_1/P_0\right)$ $+\sum_{i\le f} a_{i0}\left(1-P_1/P_0\right)-\sum_{j\le g} l_{j0}\left(1-P_1/P_0\right)$
equals	=
Net Assets	$\sum_{i\le f} a_{i0}-\sum_{j\le g} l_{j0}+\sum_{i>f} a_{i0}\left(P_{i1}/P_{i0}\right)-\sum_{j>g} l_{j0}\left(P_{j1}/P_{j0}\right)$

Exhibit 2.1

Some points are worthwhile noting with regard to the proposed disclosure. Firstly, the amounts presented are comparable in the sense that the same unit of measurement, the monetary unit of purchasing power at time $t=1$, is being used. That is to say:

[8] A firm's productive capacity can be defined in many ways: equivalent physical units, equivalent revenue, and so on. In this study, we assumed the firm's manager has regarded one of these definitions.

a) The sum of the lines "Invested Capital" and "Required Maintenance" is the equivalent, in terms of monetary units of time $t=1$, to the amount invested at time $t=0$, i.e., c_0;

b) The line "Net Assets" was obtained by restating assets and liabilities, so it is denominated in purchasing power of money at time $t=1$;

c) Consequently, the line "Real Gain (Loss)" is also expressed in terms of current monetary units referred to time $t=1$.

Secondly, notice that the real gain (loss) presented is the net effect of the several component adjustments in assets and liabilities. Matching these items was not sufficient to offset their price changes completely and, simultaneously, to keep their values, at time $t=1$, equivalent to their values at time $t=0$, in terms of general purchasing power, that is, in accordance with shareholders' requirements. In order to get comparable values at time $t=1$, one may take historical values, as those which appear in equation (2.11), and use the procedure given by equation (2.9), suitably modified to disclose both the specific and the general price level index restatement. This is achieved by adding and subtracting both, the general price restatement factor, $\left(P_{t^*}/P_t\right)$, and the unity, (1), to equation (2.9), to get equation (2.17), below:

$$a_{it}^{*}=a_{it}\left[\left(P_{it^*}/P_{it}-P_{t^*}/P_t\right)+\left(P_{t^*}/P_t-1\right)+1\right], \tag{2.17}$$

which can be re-written as follows:

$$a_{it}^{*}=a_{it}\left(P_{it^*}/P_{it}-P_{t^*}/P_t\right)+a_{it}\left(P_{t^*}/P_t-1\right)+a_{it}\,. \tag{2.18}$$

Notice that the restated value should start, in general, from the historical value, the rightmost term on the right-hand side of equation (2.18). Additionally, it should contribute for maintenance of invested capital, as suggested by the penultimate term, where a general price index restatement is shown, and exhibits a deviation or departure in excess of that of the general price level change, as implied by the third term from the right. By extending the procedure to the whole of the balance sheet, ignoring by now the peculiarities of monetary assets and liabilities, and having in mind that only by coincidence the overall restatement of assets and liabilities, according to their specific price indices, might equal the general price index restatement of invested capital, one should get equation (2.19), below:

$$\begin{aligned}
&\sum_{i\le f}\left[a_{i0}\left(P_{i1}/P_{i0}-P_1/P_0\right)+a_{i0}\left(P_1/P_0-1\right)+a_{i0}\right]\\
&-\sum_{j\le g}\left[l_{j0}\left(P_{j1}/P_{j0}-P_1/P_0\right)+l_{j0}\left(P_1/P_0-1\right)+l_{j0}\right]\\
&+\sum_{i>f}\left[a_{i0}\left(P_{i1}/P_{i0}-P_1/P_0\right)+a_{i0}\left(P_1/P_0-1\right)+a_{i0}\right]\\
&-\sum_{j>g}\left[l_{j0}\left(P_{j1}/P_{j0}-P_1/P_0\right)+l_{j0}\left(P_1/P_0-1\right)+l_{j0}\right]\\
&=c_0+c_0\left(P_1/P_0-1\right)+\left(G/L\right),
\end{aligned} \tag{2.19}$$

where $\left(G/L\right)$ represents the net real gain (loss) due to price changes. Here, "real" means that the original value of invested capital, in terms of purchasing power, has been secured before any increase is accounted for as income. However, as in equation (2.16), above, monetary assets and liabilities are such that their restatement should have no effect on their nominal values. Therefore, equation (2.19) has to be modified to reflect this fact, producing equation (2.20):

$$\begin{aligned}
&\sum_{i\le f}a_{i0}-\sum_{j\le g}l_{j0}\\
&+\sum_{i>f}a_{i0}\left(P_{i1}/P_{i0}\right)-\sum_{j>g}l_{j0}\left(P_{j1}/P_{j0}\right)\\
&=c_0+c_0\left(P_1/P_0-1\right)+\left(G/L\right).
\end{aligned} \tag{2.20}$$

In equation (2.20), since a term for capital maintenance has been included, and the terms due to deviation of specific price changes of monetary items, both assets and liabilities, with reference to general price changes, are symmetrical in relation to the change in the general price level, the expression of the real net gain (loss) is, then:

$$(G/L) = \sum_{i \le f} a_{i0}\left(1 - P_1/P_0\right) - \sum_{j \le g} l_{j0}\left(1 - P_1/P_0\right)$$

$$+ \sum_{i > f} a_{i0}\left(P_{i1}/P_{i0} - P_1/P_0\right) - \sum_{j > g} l_{j0}\left(P_{j1}/P_{j0} - P_1/P_0\right). \qquad (2.21)$$

In equation (2.21), the terms between parentheses, in the first line, represent the real losses (gains) for each individual monetary asset (liability). In the second line, the terms in parentheses represent the gains (losses) incurred by holding non-monetary assets (liabilities). The right-hand side, taken as a whole, represents the overall net effect. Equations (2.20) and (2.21) may seem to be just the result of some fancy algebra but, most important, they constitute a by-product of the fundamental identity of Accounting. However, they serve the purpose of showing the passive or frictional side of business for a particular firm, where every aspect of changing prices have been captured and disclosed. Given that invested capital has to be allocated among different assets, according to specific business needs, equation (2.18) emphasizes the fact that, only by coincidence, the net effect of changing prices would be either nil or immaterial. The third important aspect to be noticed, as far as exhibit 2.1 is concerned, relates to the financing structure of the firm. From the expression for the real gain (loss), in exhibit 2.1, it can be seen that, under inflation, that is, persistently rising prices, for example, it is not necessarily true that a loss will be incurred. If the company has a negative net monetary asset position, the gain from this position may be large enough to offset the loss from holding non-monetary assets that are not able to keep a constant purchasing power, in terms of their net realizable, market value, for instance.

A System for Managers

From a managerial point of view, a firm's productive capacity in terms of its resources is what matters and is to be maintained, not shareholders' capital only. Therefore, after a change in prices, management will look at the resources that are available and compare them to what is actually needed to keep production at the required levels. Equation (2.16) provides current values for available resources, so let the valuation of required resources be made at current prices, as well. Since non-monetary assets have been revalued and, in fact, attend the requirements of management, only items in the monetary classification, both, assets and liabilities, are to be adjusted. Assume that for each monetary unit of asset i an additional α_i is required, and that for each monetary unit of liability j a further λ_j must be available. The additional amount required for maintenance of operations, m_1, from time $t = 1$ onwards, is given by:

$$\sum_{i \le f} a_{i0}\left(1 + \alpha_i\right) - \sum_{j \le g} l_{j0}\left(1 + \lambda_j\right) = m_1. \qquad (2.22)$$

The meaning of a positive m_1 is that the company had a loss in terms of its productive capacity, possibly including the trading aspect of it, and that management has to provide for the replenishment of those resources the company is now lacking. The new structure for the company, as represented by its balance sheet, can be obtained by adding equations (2.22) and (2.20) yielding:

$$\sum_{i \le f} a_{i0}\left(1 + \alpha_i\right) - \sum_{j \le g} l_{j0}\left(1 + \lambda_j\right) + \sum_{i > f} a_{i0}\left(P_{i1}/P_{i0}\right) - \sum_{j > g} l_{j0}\left(P_{j1}/P_{j0}\right)$$

$$= c_0 + c_0\left(P_1/P_0 - 1\right) + \left(G/L\right) + m_1. \qquad (2.23)$$

Given that the left-hand side of equation (2.23) represents the net amount of resources needed by management, no funds are available for distribution to shareholders, even if according to their point of view, as seen in exhibit 2.1, a real gain had taken place for the company, though not necessarily realized. Moreover, management has to find a source to finance the additional requirements. The source for it can be the gains to be generated by operations but, in the short-term, funds would more likely have to come from external sources, including new subscription by the shareholders themselves. From such conflicting situations, one can learn that no single accounting system can provide all sorts of information different classes of users might need. Thus, the whole problem of accounting for changing prices is not a matter of choosing one accounting model (historical cost restated, current replacement costs, current net realizable market value, and so on) and sticking to it. Instead, room must be left for the use of parallel systems, for this will provide the much-needed basis for multicriteria analysis of issues, which are, by their very nature, multidimensional. Needless to say, international experience is of paramount importance in establishing suitable standards for inflation accounting[9].

2.3 Accounting for Exchange Rate Fluctuation

[9] Woodward (1981) describes the development of methods of accounting for inflation in a few countries (US, UK, Canada, Australia, Germany and Netherlands) and the resulting proposed standards or recommendations. A description of each of the alternative methods is provided.

As soon as a company engages in international trade, be it as an occasional importer of a piece of equipment, or as a heavy exporter of mass produced goods, where these transactions are denominated in a foreign currency, it starts facing two different problems. The first is related to the recording, in its books, using its own operating currency, of a transaction that has been effected and initially recorded in a foreign currency. This is called the translation problem. The second is related to the final settlement of the transaction, where a physical exchange of one currency into another is actually required. This is the conversion problem. In a world of floating exchange rates, a third component is added. Since there may exist a lag between the date the transaction started and the date of its settlement, there is likely to be a difference between the exchange rates used in the transaction recording and in the conversion procedure. The third problem, therefore, is concerned with the need to recognize any gain (loss) arising from the differences between exchange rates, over time, and how to appropriate them. In the example just mentioned, since there was a final settlement when a real, physical exchange of one currency into another would have taken place, it is clear that either a gain or a loss might have occurred. However, such a conversion might have been delayed in a sense that interim reports might have to be prepared and, therefore, different exchange rates would possibly have to be used for translation, before the final settlement would have taken place.

Actually, one can think of many transactions that have no definite settlement date as such. For example, the investment in foreign subsidiaries does not contemplate any particular point in time for future disposal of shares. In such a circumstance, differences due to exchange movements are said to be "unrealized" and are called "translation" gains or losses, while those as in the previous example are said to be "realized" and are called "conversion" gains or losses. A transaction involving a foreign currency can be viewed in either of two possible ways. It can be considered a single transaction or it can be seen as a double transaction. According to the one-transaction approach, the transaction is considered as incomplete until final settlement takes place. Then, the characteristics of the specific transaction are adjusted to accommodate any exchange differences. In the two-transaction approach, the specific transaction is carried at the exchange rate prevailing at the date of the transaction, the conversion of currency necessary to settle the transaction being viewed as a separate transaction, even if it is ever not expected to be settled. Any exchange difference arising between that date and the settlement date is regarded as the result of taking the risk of holding assets or liabilities denominated in a foreign currency.

Already in the early 70's, a report by the Committee on International Accounting (1971), discussing the limitations of the translation process, clearly states that translation is necessary for a wide variety of reasons, irrespective of consolidation[10]. Evaluating profitability and general performance of foreign units are good examples of such needs. The Committee recognizes that the mere existence of several countries, which are different political units or entities, implies different price systems. Besides, that such different relative price equilibrium would preclude the possibility of using a unique translation methodology, which would preserve the original relationships between different items, in one currency, and which would still make sense after translation into another currency. The aspects concerning realization, risk of changes in exchange rates in foreign operations, and exchange rate changes that are likely to reverse, and as a consequence, the need for a treatment that is also reversible (deferral of unrealized exchange gains or losses), should reflect the fact that a decision has been made, by the manager or business owner, as to the exposure to exchange rate fluctuations. Hence, the "two transaction" approach should set the guidelines for disclosure of exchange rate change effects. However, the conclusion of the Committee is that the translation process should not attempt to deal with accounts on an individual basis. On the contrary, all balance sheet accounts ought to be translated at the exchange rate prevailing at the closing date, i. e. the current rate. Additionally, it makes it clear that adjustments should have been made for significant price level variations, that is, inflation as it has evolved in each local environment. Miller (1979) states that there are six general needs for the translation of foreign currencies: a) to record transactions that are measured or denominated in a foreign currency; b) to prepare consolidated statements which report on the economic entity as a whole; c) to evaluate the operations of a foreign business segment; d) to evaluate the performance of foreign management; e) to direct and control foreign operations; f) for the convenience of users.

Among the rules listed by Shwayder (1969), mentioned earlier in this chapter, some take into account historical costs and restate them by means of price level indices. In a sense, the rationale behind the use of price indices is that money values, which were disbursed in exchange for real assets or received from lenders in the past, should be expressed in terms of current value of money. It has nothing to do with revaluation, as it was pointed out earlier in this chapter, especially where general price indices are used. However, the procedure may offer a rough estimate for revaluation. Moreover, for external users of financial reports, it has proven useful, for they have no access to internal information at the required level of detail. In addition, translated financial statements have to portray a fair valuation of the application of funds in net assets, on the one hand, and to show the investment, in actual terms, on the other, to provide a suitable source of information on the income generating power of the company. Starting from historical

[10] Consolidation is not a matter of consensus. For instance, Pendlebury (1980) questions the usefulness of consolidation as far as the loss of informational content due to data aggregation is concerned. The author claims that users of group reports would like to be shown separate information on several features, of which he points out three, namely: profits before tax, turnover and capital employed. He proposes that the criterion for determining the number of subsidiaries to be disclosed be based on the measurement of the loss of informational content, combined with the materiality principle to fix the cut-off level.

values, rather than from market or replacement values, however, leads inevitably to the difficulty of choosing the appropriate exchange rate.

Before entering the discussion of the main different translation methods advocated in the past and those currently adopted by accounting standards committees, an assessment of the basic problem of translation will be made in the following paragraphs. Assume that the company firstly introduced in section 2.1 is, for the purpose of the example presented below, a whole-owned, foreign subsidiary of a domestic parent company, whose operating currencies are represented by FC$ and HC$, respectively, where C stands for Currency, F stands for Foreign, and H stands for Home. At time $t = 0$, when the company was set up, the exchange rate was X_0 (FC$/HC$). The purchase of asset i required an amount, in FC$, of a_{i0}, that is, a_{i0}/X_0, in HC$, i. e. home-currency terms. Now, let a time interval of length d elapse, during which a change in the exchange rate occurred, but no other transaction or economic events took place, except, possibly, a change in price levels. By time $t = d$, the exchange rate is X_d. Assume, initially, that no changes in price levels, either in the subsidiary' s operating currency or in the parent' s have occurred (this assumption will be relaxed later on). What, then, at time $t = d$, should a fair valuation for asset *i*, in terms of both the foreign and the domestic currency be? If one adopts a historical cost based valuation rule and allows for changes in price levels to be taken into account, a new monetary expression for asset i in FC$ would be given by:

$$a_{id}^{*} = a_{i0}\left(P_{id}^{f}/P_{i0}^{f}\right), \tag{2.24}$$

where P_{id}^{f} is the price level index, specific for the asset under consideration, for the foreign currency. If no change occurred in prices, as assumed, and this is a very reasonable assumption with regard to a single asset, and for a short period of time, then:

$$P_{id}^{f} = P_{i0}^{f}, \tag{2.25}$$

hence:

$$a_{id} = a_{i0}. \tag{2.26}$$

However, a change has occurred in the exchange rate. There are two possible expressions to represent the current amount, in domestic currency, which is equivalent to the amount originally spent on acquisition of asset i. A tilde (~) on top of already defined variables will be used to denote the result of translation into the domestic currency. Thus, in FC$, one would have either:

$$\tilde{a}_{id} = a_{i0}/X_0, \tag{2.27}$$

or:

$$\tilde{a}_{id} = a_{i0}/X_d. \tag{2.28}$$

For obvious reasons, equation (2.27) represents what is called historical rate translation, while equation (2.28) represents the so-called current rate translation. Equations (2.27) and (2.28) cannot be used interchangeably and some qualification has to be made before choosing either for translation of a particular assets value. Equation (2.27) states that asset i can be valued at time $t = d$, with regard to historical cost a_{i0} and the exchange rate at time of acquisition X_0 only. Therefore, it assumes implicitly that what matters is the current value in domestic currency, which is equivalent to the amount spent on the acquisition of asset i. More generally, if price level changes in the home country are to be taken into account as well, equation (2.27), according to equation (2.24), adapted for home versions of already defined variables, namely as for the h superscript, should read:

$$\tilde{a}_{id} = a_{i0}\left(P_{id}^{h}/P_{i0}^{h}\right)\Big/X_0. \tag{2.29}$$

If, according to the initial set of assumptions, no price level changes either occurred in the foreign or in the home country, P_{id}^{h} equals P_{i0}^{h}, and equation (2.29) reduces to equation (2.27). This approach is known as the translate-restate method, and it is argued that it is the one which suits shareholders' interests best, that is, the parent company' s. Similarly, equation (2.28) also involves a translation step and a restatement, but in a different order and way. If one combines equations (2.24) and (2.28), one gets:

$$\tilde{a}_{id} = a_{i0}\left(P_{id}^{f}/P_{i0}^{f}\right)\Big/X_d. \tag{2.30}$$

This view is known as the restate-translate method and is the one advocated by current cost accounting supporters[11]. In general, equations (2.29) and (2.30) do not render the same results for $\tilde{a}_{id}$, for, in opposition to what the Purchasing Power Parity (PPP) theorem states, both in its absolute form and in the relative one, exchange rates do not fluctuate just in order to offset the differential between foreign and home domestic price level changes in a given period. Therefore, the question remains of which approach, either translate-restate or restate-translate, to use. In addition to these aspects, there are those related to the differences among the specific assets and liabilities, to the extent that they are naturally protected against fluctuations in price levels and exchange rates. For example, a cash amount of foreign currency held by the subsidiary is protected against neither. Conversely, a piece of equipment, unless there is a sudden technological jump that renders it useless from one day to the next, generally keeps its real value when exposed to price level changes and exchange rate movements.

For the asset cash, it is clear that the restate-translate approach is the only acceptable one. Under foreign price level changes, foreign currency keeps its nominal denomination and, therefore, it has its purchasing power in real terms changed. For the piece of equipment, however, the question can be made even more complex, for instance, by the fact that the asset had to be imported by the foreign subsidiary, from the parent company' s home country or from a third country. In such case, replacement or market value considerations would have to take into account any fluctuations in exchange rates, which would not be necessary in the event of the piece of equipment being available (that is, manufactured) at that subsidiary' s host country, and being dependent on neither imported parts nor royaltiesBecause there are borders, governments and consequently barriers to free trade, besides possibly high transportation costs, an assumption might be made that the assets owned by a subsidiary would be tradable in that subsidiary' s host country only. This assumption does not restrict the disposal of a foreign asset to its sale to buyers inside the country, but offers a more realistic view of the facts. Quotations for the asset are unlikely to be influenced, in general, by movements in distant markets. Supporters of the net investment concept share this view. The net investment concept states that the exchange risk of a holding company in a semi-independent and self-financing foreign subsidiary is related to its share in the net investment in that subsidiary, taken as whole, and cannot be identified with any of its individual assets and liabilities. The concept provides the basis for SSAP 20, Foreign Currency Translation, Accounting Standards Committee (1983).

2.4 Translation of Foreign Financial Statements

One can get a feel of what the environment was like under the fixed parity system from Olstein and O'glove (1973). It shows the beginning of the discussion and choice between the current/non-current and the monetary/non-monetary methods. It describes the strategies adopted by a subsidiary located in a country where the local currency is strengthening against the dollar, which according to the authors included: "...hedging, using the dollar to buy foreign currencies; prepayment of local currency denominated payables, short and long-term debt as early as feasible; borrowing in the Eurodollar market, payable in US dollars; postponing dividend remittances; increasing credit terms for supplies of goods payable in US dollars; prepayment of expenses in US dollars; negotiating long-term contracts with suppliers in dollars and contracts with customers in foreign currency." One can conclude from the paper that, at that time, balance sheet hedge was seen as a good strategy and was well understood. Additionally, it makes it clear that the threat against the competitive position due to exchange rate changes was well understood too. Pakkala (1975) also focuses on the main differences between the two translation methods, the current/noncurrent and the monetary/nonmonetary method, that is, the treatment to be given to inventories and to long-term debt. It calls attention to the permanently intensified magnification effect on income of translating depreciation at historical rates for capital-intensive businesses, as much as for inventories, though temporary for the latter. Aggarwal and Baker (1975) pointed out the difficulties faced by multinational companies with regard to the reporting of their foreign operations for both external and managerial needs. Translated and consolidated statements, they say, are the means by which investors and other capital providers form their expectations for the corporation' s future performance, based on its past. Thus, they can influence both the amount of available funding and its cost. Internal decision-making, regarding control, evaluation and capital allocation related to foreign operations of multinationals, however, frequently needs to be further disaggregated, which proves translation methods unsuitable. Generally speaking, translation procedures that have been proposed and used over the last decades can be classified according to four main lines: a) the Current/Non-current method; b) the Monetary/Non-monetary method; c) the Temporal method; and d) the Current-rate method. These alternative procedures are briefly discussed in the following paragraphs.

The Current/Non-current method

Current assets and liabilities are translated at the exchange rate in effect at the balance sheet date, that is, the current rate. Non-current assets and liabilities are translated at the rates in effect when the assets and liabilities were first recorded in the subsidiary accounts, that is, the historical rate. Long-term debt would be translated at either rate (which might be chosen according to whether there is a link between such debt and fixed assets financed by this means). The

[11] A booklet published by Arthur Anderson & Co. demonstrates the warm welcome given by the Accounting Profession to SSAP 16, the British Standard on Current Cost Accounting. See Hinton and Westwick (1981).

Current/Non-current Method was developed in the United States, when the international share of American trade was not of a significant size and exchange rate movements were rare, small and not continually in one direction. The method was formally recommended in 1931 (AICPA Bulletin No 92) and confirmed in 1934 (AICPA Bulletin No 117). In 1939, its adoption received new support in the Accounting Research Bulletin (ARB No 34) and, again, in 1953 (ARB No 43)[12]. Gains and losses on non-current items were not recognized immediately because they were unrealized and could, at least in principle, revert in the future. Critics of the method claim that the emphasis on balance sheet accounts' categories is not supported by any conceptual justification and is not at all relevant for determining the rates to be used in the translation of any particular account. With the advent of flexible exchange rate systems and the greater volatility in currency movements, the Current/Non-current Method lost its popularity giving way to the Monetary/Non-monetary Method.

The Monetary/Non-monetary method

Monetary assets and liabilities are translated at the current rate, while non-monetary assets and liabilities are translated at the historical rate. Monetary assets and liabilities would be defined as those that are represented by a fixed number of foreign currency units. Non-monetary assets and liabilities would be those that would be represented by a variable number of foreign currency units. The Monetary/Non-monetary Method was presented in detail in 1956 and aimed at overcoming limitations of the Current/Non-current Method. It enjoyed some popularity because of its supposed consistency with historical cost accounting. Its broad acceptance led to its being recommended for translation in certain circumstances, as for long-term debt using current rates (APBO No 6, 1965), for example. However, after a few years, the Monetary/Non-monetary Method started suffering the same kind of criticism made about the Current/Non-current Method with regard to its dependency on the balance sheet classification of accounts and lack of conceptual foundation. Similarly, both methods produced questionable results when other than historical costs were used in the valuation of foreign accounts.

The Temporal method

This method states that receivables and payables should be translated at the rate ruling at the balance sheet date. Other assets and liabilities measured at historical cost should be translated at the exchange rates in effect when they were recorded. This method, the authors remark, is neutral in the sense that it is compatible with restatement procedures. The Temporal Method was introduced in 1972 and by 1975 a new standard had been issued, FASB No. 8, which was based entirely on it. Inventories had to be translated at historical rates where the common practice was the use of current rates, and, in the income statement, whereas costs of goods sold were to be translated at historical rates, sales revenues had to be translated at average rates, generating distorting effects. In addition, the standard required translation gains/losses to be included in current net income. The Temporal Method is severely criticized for taking unrealized gains/losses to current net income, ignoring the "yo-yo" effect, as the critics call it, resulting from the cyclicality of exchange rates and the likely reversal of sign in those gains/losses. The isolation with which each account is treated, ignoring the relationships between assets and resources (liabilities and equities) financing them, is also criticized. Bellamy (1989) reports on studies showing that the mandatory adoption of the Temporal Method as a standard led to changes in practices of risk management of foreign exchange by increased use of forward contracts, for example, specifically to cover accounting exposure. In addition, the author says, no evidence was reported of the standard adversely affecting the returns on shares of American based multinational companies. Generalized criticism led the FASB to establish a task force, in 1978, to review FAS No. 8 and evaluate proposed alternatives. The study concluded for the abandonment of the Temporal Method and the adoption of the Current Rate Method. This time, greater attention was given to the views of the business community, who rejected the preliminary proposal, and it was not before a new draft being submitted to the community that the new standard, FASB No. 52, was sanctioned in December 1981[13].

The Closing Rate method

According to this method, also known as the British method or the European method, every account should be translated at the current rate, unless the foreign currency is less stable than the domestic one. In case general price-level accounting is used, the current rate should also be the choice. In the United Kingdom, translation practices underwent a development process in which the Current Rate Method was favoured most of the time, with the Temporal Method being preferred occasionally, depending on the direction of the exchange rate movements. The definitive adoption of the Current Rate Method came with ED27, the exposure draft issued in 1980, which became the first British accounting standard on foreign currency translation in 1983, only, with the issuance of SSAP20. In the US, FASB No. 52 introduced the concept of functional currency, according to which either the Current Rate or the Temporal Method was

[12] The chronology presented here is based on Bellamy (1989).

[13] In December 1981, the Financial Accounting Standards Board issued SFAS No. 52, the new standard for foreign currency translation (FASB, 1981), which was to be adopted by US Corporations whose fiscal year ended on December 15, 1982.

to be used. Similar to the American standard, SSAP20 also recognizes the relevance of the degree of independence with which operations are carried out by the foreign unit, specifying the domestic currency, and the Temporal Method, when the foreign subsidiary is a mere extension of the parent company. In both cases, that is, for the Americans and the British alike, where the use of the Temporal Method is required, translation gains or losses are to be immediately recognized and written down to net income.

Kahn and Schiff (1985) trace circumstances in which the FASB departed from GAAP when defining income. The authors comments on the distinction of earnings - or realized income - and changes in the value of tangible assets that have not been finalized as transactions - or comprehensive income, as asserted explicitly in Statement of Financial Accounting Concepts (SFAC) no. 5, issued in 1984. The move in FASB 52, away from FASB 8 in conditioning the recognition in current income of changes in the carrying amounts of foreign assets due to exchange rate movements to certain circumstances, is among the examples cited. Immediate recognition of unrealized gains/losses is far from enjoying unanimity. Eddey (1985) presents a defense of the "defer and amortize" procedure for dealing with unrealized gains and losses on long-term monetary assets and liabilities denominated in fluctuating currencies, as opposed to immediate recognition, on the grounds of likely reversibility over the life-span of the item, and undesired greater volatility of reported earnings. In this report, it is also suggested that the restatement of long-term monetary items, with the use of current rates, produce better results as compared to settlement figures than historical amounts translated at historical rates would.

Zieha and Duangploy (1984) present a discussion on how to deal with gains/losses arising from translation from a foreign currency when it is the functional currency. The authors question the exclusion of unrealized translation gain/loss from the income statement and its inclusion in the equity section of the translated balance sheet. They state that the procedure is incompatible with the double-entry principle on which the whole of accounting theory rests. They show how the then recent standard, FASB No 52, affects financial ratios, especially the return-on-equity ratio, where the required data from the income statement and from the equity section have become incompatible. Comments are also made on the treatment of the translation adjustment in the statement of changes in financial position. A suggestion is presented that a sub-total for Capital Stock, Premium in Capital Stock, and Retained Earnings before Translation Adjustment for Foreign Currency Changes be produced and that it becomes the basis for use in ratio analysis. As seen, the Current Rate Method may require restatement of historical costs, more specifically, revaluation of fixed assets, which, after long periods suffering the effects of even moderate rates of inflation, may be undervalued. Critics of the Current Rate Method argue that restatement and translation yield nothing of value.

It is well known that exchange rate movements do not depend on inflation differentials only. Changes in the composition of international trade also influence the interaction between demand for and supply of foreign currencies and, therefore, their relative prices. And the fluctuations in domestic trade would have some influence on international trade and vice-versa. Additionally, it should be recognized that those forces are likely to change the balance in a more or less permanent way in the long run. Still according to the authors (Aggarwall and Baker), current translation methods reflected monetary changes but none of them reflected the trade effects. They suggested two reasons for such a problem. The historical basis of accounting, by which historical costs are restated via general price-level indexation, as if this procedure would render current costs and, therefore, could be translated at the current rate. The assumption is obviously too strong and must be qualified. The other reason was that the then current accounting practices would have been derived from simple import-export transactions and would carry a liquidation approach, which is not appropriate for more complex international accounting problems relating to international equity investments, whose main feature is the generation of an income flow over a length of time.

In order to overcome these alleged deficiencies, the authors devised a methodology for the evaluation of assets and liabilities that takes into account the likely changes in the cash flows associated with each particular asset or liability. They called the procedure "The Earning Power Principle". The conclusion is that the rate to be adopted for the translation of a particular asset or liability ought to be modified by the relationship between the equivalent perpetual cash flows (before and after the exchange rate change) associated with it. Even though difficulties related to the forecast of cash flows associated with particular assets and liabilities prevent the practical use of the method, the earning power principle provides the means for management to evaluate currently available translation procedures. This is carried out for suitability or to develop new procedures that suit the needs of particular companies, where standards are flexible or for managerial purposes. Barrett and Spero (1975) summarize the effects of the translation process highlighting the three relevant factors: the translation method; the composition of the firm' s balance sheet, particularly its working capital and capital structure; and the timing of the recognition of the resulting translation gain or loss. For example, they point out that, as for the Current/Non-current Method, the parent company will incur a translation loss from foreign currency devaluation as long as the foreign subsidiary is in a positive working capital position. They call attention to the fact that the continuing translation of depreciation at historical rates would bring increasing distortion. However, and they also take account of it, the same effects would be presented under translation according to the Monetary/Non-monetary Method, with regard to the dichotomy on which the method is based. As for what they call "the Modified Monetary Method", where inventories are allowed to be translated at the current rate, they give account of the reduced resulting exposure as compared to the standard monetary/non-monetary method.

The Temporal Method is virtually identical to the Monetary/Non-monetary Method. Differences arise when other bases for asset valuation are adopted, such as market value, replacement cost, for instance. The Current Rate Method is well considered in its apparent virtue of preserving financial relationships and ratios from local currency statements, a view which is not shared by all the analysts[14]. Tsui (1979) shows how to adjust for inflation using either the local, foreign or the home country inflation (the restate-translate versus translate-restate controversy). He proposes a mix of these procedures whereas the beginning-of-period foreign statements are translated and restated - according to historical exchange rates and home country currency inflation - and the end-of-period foreign statements are restated and translated - according to foreign country currency inflation and current exchange rates - thus providing for the measurement of holding gains and losses. Beaver and Wolfson (1984) emphasize the dependence of exchange rates on interest rates, that is, "earning rates on assets", as they put it. According to them - because high nominal interest rates would imply a weak currency and, in consequence, exchange rate losses - ignoring these facts in the analysis of earnings would be misleading. The discussion of whether translation gains/losses are income, under Statement No. 52, as compared with Statement No. 8, is addressed later.

The apparent discordance among seemingly different alternative methods for translation of foreign financial statements is likely to be resolved after deciding whether to restate local currency historical accounts. There should be no contention about using the current or the historical exchange rate where the object of the translation is the historical cost, for example. The use of the current exchange rate in such a circumstance is as good as adding apples with oranges expecting to get more than fruit salad. In a comprehensive article, Choi (1987) shows that the effects of foreign and local inflation must be taken into account simultaneously with the effects of exchange rate changes in order to avoid double-counting in translating foreign financial statements. He calls attention to the fact that exchange rate movements do not offset inflation differentials, at least in the short term, and that greater care should be exercised in the analysis of those effects. The implied conclusion seems to be that translation gains and losses due to the holding of assets and liabilities denominated in a foreign currency ought to be measured by deviations from PPP, which, given the inflation differential, dictates what the exchange rate change ought to have been. Rosenfield (1987) completely repudiates the translation of foreign financial statements, by making a clear distinction between a mere translation and an alternative, which should be a process of accounting for exchange rate fluctuations together with market value fluctuation of the items under scrutiny. The author suggests that the proposed method be called "current exchange amount of recoverable foreign money acquisition cost" or "current recoverable cost". It is a current cost accounting plus current rate translation perspective, in terms of results, though based on different grounds. Ross (1988) focuses on the differences between balance sheet translation (which may render gains and losses that affect the profit and loss statement) and foreign profit and loss account translation (which will be measured against the budgeted exchange rate change). It draws attention to the fact that unrealized translation gains/losses may affect consolidated net worth and, therefore, may affect the cost of funding. Translation of other financial statetements, besides the balance sheet and the income statement, has been studied as well. Huefner et al (1989) discuss the cash flow statement as the subject of translation. The authors show how to get the translated cash flow statement, which, is also shown, is the same regardless of the translation method used. It is an important feature that both the temporal method and the closing rate method can be reconciled with cash-based management.

Translation of Monetary Assets and Liabilities

In the previous discussion of accounting for changing prices, a dichotomy was made between monetary and non-monetary classes of assets and liabilities. However, no qualification was then made as to whether these (monetary) assets and liabilities were generators of nominal financial revenues or liable to incur financial expenses. Suppose that, at time $t = 0$, a capital C_0, in home currency, that is, HC$, is exchanged, at exchange rate X_0 (FC$/HC$), rendering the amount $C_0 X_0$, in the foreign currency, FC$. If the nominal foreign interest rate is i_f^n, for an arbitrary unit period, the amount accrued at the end of the period will be C_1^f, given by the following equation:

$$C_1^f = C_0 X_0 \left(1 + i_f^n\right). \tag{2.31}$$

The nominal interest rate, i_f^n, should reflect the expected foreign inflation, $\hat{\theta}_f$, and the desired foreign real interest rate, $\hat{i}_f^r$, so that:

$$\left(1 + i_f^n\right) = \left(1 + \hat{\theta}_f\right)\left(1 + \hat{i}_f^r\right). \tag{2.32}$$

Taking equation (2.32) into equation (2.31) would yield:

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[14] The supposedly desirable capability of preserving financial relationships and ratios is strongly criticized by Beaver and Wolfson (1984) with a well-structured argument based on the nominal return on assets. The authors argue that the maintenance of financial relationships is not a desirable feature to be found in a translated financial report.

$$C_1^f = C_0 X_0 \left(1+\hat{\theta}_f\right)\left(1+\hat{i}_f^r\right). \tag{2.33}$$

For the same amount of capital, C_0, to be equally well invested in the home country, and being i_h^n, $\hat{\theta}_h$ and $\hat{i}_h^r$ the nominal domestic interest rate, the expected domestic inflation rate and the desired domestic real interest rate, respectively, such capital ought to accrue to the amount C_1, given by equation (2.34):

$$C_1 = C_0 \left(1+\hat{\theta}_h\right)\left(1+\hat{i}_h^r\right) \tag{2.34}$$

and, being such that:

$$C_1 = \frac{C_1^f}{\hat{X}_1}, \tag{2.35}$$

where $\hat{X}_1$ is the exchange rate which would be prevailing at the end of the period. By substituting the results given by equations (2.33) and (2.34) in equation (2.35), one gets:

$$C_0 \left(1+\hat{\theta}_h\right)\left(1+\hat{i}_h^r\right) = C_0 \frac{X_0}{\hat{X}_1}\left(1+\hat{\theta_f}\right)\left(1+\hat{i_f}\right). \tag{2.36}$$

Simplifying and re-arranging equation (2.36) gives:

$$\hat{X}_1 = X_0 \frac{\left(1+\hat{\theta}_f\right)}{\left(1+\hat{\theta}_h\right)}\frac{\left(1+\hat{i}_f^r\right)}{\left(1+\hat{i}_h^r\right)}. \tag{2.37}$$

Recall that apart from X_0 all of these are ex-ante variables and one should not conclude that the exchange rate change $\hat{X}_1$ could be anticipated trough equation (2.37). This is just a pre-condition for one to take into account for the decision of investing either at home or abroad. Obviously, if the market did not believe these expectations to be the best ones, arbitrage would provide for the equilibrium, at time $t = 0$. Anyway, $\hat{X}_1$, calculated according to equation (2.37), is the so-called forward exchange rate for time $t = 1$. Its importance resides in the fact that it represents an effective way to hedge against unfavorable exchange rate movements. However, notice that, in general, the exchange rate, X_1, prevailing at time $t = 1$, will only by coincidence equal $\hat{X}_1$, that is:

$$X_1 \neq \hat{X}_1. \tag{2.38}$$

Now, assume that, after the unit period this discussion has been evolving, the actual rates of inflation would have been found to be θ_h and θ_f, leading to real domestic and foreign interest rates of i_h^r and i_f^r. Additionally, suppose that those investments belong to a domestic parent and its foreign subsidiary, respectively. How would a real gain or loss be reported, in both the home and foreign investments? Notice that equation (2.33) could be re-written as follows:

$$C_1^f = C_0 X_0 \left(1+\theta_f\right)\left(1+i_f^r\right). \tag{2.39}$$

Now, assume that the Purchasing Power Parity theorem holds. This is to say that:

$$X_1 = X_0 \frac{\left(1+\theta_f\right)}{\left(1+\theta_h\right)}. \tag{2.40}$$

Thus, if equation (2.39) were translated at the current rate then prevailing, that is, if it were divided by equation (2.40), one would get:

$$\frac{C_1^f}{X_1} = C_0 \left(1+\theta_h\right)\left(1+i_f^r\right). \tag{2.41}$$

Should one associate to the right-hand side of equation (2.41), above, a different meaning of that of the right-hand side of equation (2.42), below, which works out the real interest rate gained in the domestic investment?

$$C_1 = C_0\left(1+\theta_h\right)\left(1+i_h^r\right). \tag{2.42}$$

Now, consider equation (2.42), re-written in order to show capital maintenance and real income, separately:

$$C_1 = C_0 + C_0\theta_h + C_0\left(1+\theta_h\right)i_h^r. \tag{2.43}$$

Since PPP does not necessarily hold, can a similar reasoning be applied to the foreign investment? The answer is given by PPP itself. Modify equation (2.40) to reflect the deviation from PPP, introducing the real exchange movement δ, which resets the equality:

$$X_1 = X_0\frac{\left(1+\theta_f\right)}{\left(1+\theta_h\right)}\frac{1}{\left(1+\delta\right)}. \tag{2.44}$$

Recall that equation (2.39) was translated according to (i.e., by dividing it by) equation (2.40). Had the translation been effected according to equation (2.44), instead, one would have got:

$$\frac{C_1^f}{X_1} = C_0\left(1+\theta_h\right)\left(1+\delta\right)\left(1+i_f^r\right). \tag{2.45}$$

Again, as it was done with equation (2.42), re-write equation (2.45) to show capital maintenance, real exchange gain or loss, and real income:

$$\frac{C_1^f}{X_1} = C_0 + C_0\theta_h + C_0\left(1+\theta_h\right)\delta + C_0\left(1+\theta_h\right)\left(1+\delta\right)i_f^r. \tag{2.46}$$

Obviously, before one can think of distributable income, capital maintenance ought to be taken into account. But what about exchange movements? Does equation (2.46) answer this question? Are they to be regarded as part of the price movements? Are they necessarily incurred when entering foreign operations? Are they avoidable by means of hedging strategies and, as such, be taken directly to reserves? Are they not income?

3. Translation: Temporal and Closing Rate Methods

As seen, the Temporal Method and the Closing Rate Method have ended up as the complementary components of several accounting standards around the world: US, UK, Australia, Canada, as well as being recommended by the International Accounting Standards Committee. Next, the two methods are examined from the point of view of a few scholars and practitioners.

3.1 The Temporal Method

The Temporal Method has been prescribed in the circumstance in which the functional currency is the parent' s country-home currency. In that case, immediate recognition of translation gains and losses, in current income, is the norm. Rodriguez (1977) commented on the effects on earnings for the first set of financial statements presented under FASB 8. The author emphasizes the fact that, in the past, when exchange rates were mostly fixed, in practice, differences in translation methods did not matter much because exchange rate fluctuations were not large and did not happen every so often. Problems started arising when exchange rate systems became flexible, allowing for larger and more frequent exchange rate movements. The diversity of alternative translation procedures at the managers and accountants disposal, at the time, was giving them such a degree of freedom that was in no way adequate as for financial reporting fairness. Therefore, the adoption of a standard was necessary. The question, at first, was not whether the adoption of a single method, regardless of the circumstance, was correct. There was a concern with imposing some discipline. However, hard criticism came up fast. For example, translation of long-term debt at the current rate, regardless of the assets financed by it, and the immediate recognition of the gain/loss resulting from the translation, for example, were not well received by practitioners. Problems with translation of inventories were also identified. The author concluded that apart from the newly found method' s virtue- helping to disclose the smoothing effect that previous practices had on earnings - the differences between earnings translated according to the new standard and other methods were not significant. Nevertheless, Merjos (1977), in another study on the effects of the mandatory adoption of the temporal method as a standard, FASB No 8, among others, drew attention to the increased financing costs caused by higher earnings volatility due to the adoption of the Standard.

Adoption of the Temporal Method did not enjoy the same degree of acceptance among practitioners, and there was some evidence of diverging positions among accountants, on the one side, and financial managers, on the other, regarding the basis for the new standard. A study by Choi et al (1978) showed that, in general, CPAs were supportive of the rules contained in Standard No. 8, whereas financial executives, in their majority, were opposed to them. Interesting to be noticed are the contrasting views of accountants and financial executives regarding the different methods of translation: The Temporal Method got 28% of the accountants' preferences (Monetary/Nonmonetary, 20%,

Current/Noncurrent, 20%, Current Rate, 20%, Others, 12%), while the Monetary/Nonmonetary was voted for by 39% of the financial executives. Only 6% of them voted for the Temporal Method, but 33% were in favor of the Current/Noncurrent Method. Stanley and Block (1978) survey the impressions of financial managers in just over 100 multinational companies about FASB 8, of whom only 12% used the Temporal Method before its use became mandatory. The authors found that the major criticisms related to the treatment of inventories, long-term debt and the resulting increase in earnings volatility due to the immediate recognition of translation gains/losses in current net income. They also found that hedging operations to minimize exposure of some sort had increased. Reports were also received of effects on the attractiveness of companies due to the changes in accounting practice.

Teck (1978) directed criticism against the use of historical exchange rates for translation of inventories held by a foreign unit, because the implied assumption would have been that prices could be raised to offset a devaluation of the currency in which those inventories would have been recorded. He drew attention to the fact that this might not be possible due to legal restraints or to competition, for instance. The author showed concern with the future by emphasizing the effects of exchange rates fluctuation on future cash flows, which are necessarily denominated in foreign currencies and hence would require a permanent hedging policy. In some circumstances, these policies might be considered speculative, by the FASB standard No. 8. He then went on to question as to whether unrealized translation exposures should be protected. Several situations were listed in which managers would risk incurring costs to hedge translation exposures. Avoiding increased costs of capital that would result from higher volatility of earnings; rejection of attractive projects due to the higher hurdle rates implied by the higher costs of capital, and balance sheet exposure as a netting procedure to be used when the number of individual exposures is too large for them to be dealt with on an individual basis. It was also concluded that there was growing acceptance of FASB 8, as a standard per se, in spite of the fact that there was generalized criticism against its main feature, the temporal method, and suggested that that was perfectly compatible with the apparent trend towards the adoption of current cost accounting. It was also acknowledged that the standard had induced managers to change operational practices regarding currency denomination and credit terms and, more important of all, planning.

Already in 1978, expectations were being made public that the temporal method would end up replaced by some combination of current cost accounting and current rate translation. Smith (1978) makes such a statement and defends the restate-translate approach. In this article, a brief analysis is presented of changes in competitive strength of a foreign interest after a devaluation, under the various translation methods, which suggests the embryonic appearance of the strategic planning approach to managing foreign exchange risk. Criticism led to the issuance of Exposure Draft No 21, by the FASB, containing proposals for major changes in Standard No 8, and as early as 1978, Holmes (1978) foresaw that many British companies would have to change their policies of accounting for exchange gains/losses, if those proposals were to be implemented. Griffin (1979) summarized the effects of FASB 8 and was intended to help respondents analyze and answer the exposure draft (ED21) proposing changes to it. The author examined several studies and found that, because of adopting the standard, companies had changed their ways to control foreign exchange rate exposure. According to the report, among those changes were: investment strategy, dividend policy, currency denomination of debt, inventory valuation, flow of remittances to and from subsidiaries, hedging in foreign currency futures, average periods of collection of receivables and payment of payables denominated in foreign currencies, the time structure of foreign currency denominated debt, change in the amount kept in local currency as cash and marketable securities. Still according to the report, no evidence was found of significant changes in stock value of multinational companies. However, it was suggested that investors had moved from multinationals to companies of similar risk but with only minor international operations, during a period of a weakening dollar. Again, no evidence was found of losses being bigger at the multinationals than at other companies. The study concluded that, from the point of view of the multinationals themselves and of large portfolio management institutions, FASB No 8 caused some confusion by inserting the exchange gain/loss line in the income statement, whose interpretation was misleading for the market. Among companies that had adopted the standard earlier than required, it was found that, for the majority, the deviation from earnings, which would have been otherwise reported, would have been of less than 10%. The conclusion was that such results were due to a well-balanced diversification of investments among both strong and weak currencies. It is also reported that the findings of the studies surveyed were consistent with the market efficiency proposition and that the accounting changes were not misguiding investors. From a cash-flow perspective, no evidence was reported of either a net inflow or a net outflow due to the changed practices by multinationals, though the emphasis on cash flow management seemed to have increased. The report also welcomes the proposal of immediate recognition of losses and deferral of gains related to foreign operations.

Mathur (1980), surveying the new directions being taken by multinational managers, away from hedging and trading in foreign exchange markets, and closer to sales and investment diversification found that, among the factors pointed out by respondents, was the FASB No 8. However, it was also found, relatively low importance was given, to the standard, by the financial executives contacted. With regard to FASB No 8, Price (1980) openly criticized the deviation of focus from strictly managerial practices to cosmetic action designed to improve measures of (unrealized) performance supposedly affected by changes in accounting standards, independently of economic sense and, worse, at a significant cost. The author was in favor of the separate disclosure of translation gains and losses from transaction gains and losses and concentrated on the defense of a point of view according to which a standard should never have the objective of smoothing the proceeds of foreign operations, since these operations are permanently subject to exchange

fluctuations. Discrimination of transaction and exchange gains and losses and unrealized translation gains and losses is proposed in order to help different users of financial statements. However, not every one was against FASB No 8. Wiley (1981) makes a strong defense of FASB8 and heavily criticizes the changes to it proposed in the exposure draft "Foreign Currency Translation" issued in August 1980. Criticism is directed towards the elimination of the translation gains/losses line from the income statement, and against the treatment of inflation. The author also points out that the net investment concept is not compatible with the hypothesis on which consolidation is founded. In addition, the author argues that inventories valued at market should be translated at the current rate. Accordingly, the author defends the use of the historical rate for translation of long-term debt issued for the acquisition of fixed assets. The author then concludes that it would be better for the FASB to leave FABS8 alone.

The direction of exchange rate movements can also modify managerial opinions about translation methods and standards. If exchange movements, under a given method, produce favorable results, then it is very likely that financial executives would be willing to forget their complaints while these favorable conditions last. Curran (1981) highlighted the accounting effects of a stronger dollar on translated foreign financial statements due to the use of the Temporal Method embodied is SFAS No. 8. An article by Brown and Lowen (1982), also published during the optional adoption period, stated that under the then current conjuncture - a stronger dollar - many big corporations would rather postpone adoption of FASB-52 and keep using FASB-8, so far much criticized, just because in doing so they would be able to show much better results. In yet another study, Griffin (1982) found only limited evidence that companies were subjected to larger fluctuations in their pretax earnings because of the adoption of FASB 8. By comparing results of companies that answered positively and criticized FASB 8 with those of other multinationals, the author found, however, that the former presented higher variability in the ratio of exchange gains/losses to net earnings, for several different definitions of the ratio. Not surprisingly, size, degree of leverage and exposure to political risk were found to provide motivation for companies to participate in the making of changes in accounting standards.

Roof (1982) directs heavy criticism against changes in managerial practices, brought about by adoption of FASB 8, which put emphasis on strategies designed to mask, avoid or minimize the effects of the standard on earnings, in detriment to more significant economic actions. Additionally, a defense is made for the use of current cost accounting in conjunction with the current rate method of translation to get fair market value, which is, nevertheless, an arguable position. The author also suggests that unrealized gains/losses ought to be disclosed in accordance with the time they were expected to become effective. Rueschoff and Savoie (1982) comment on the revised exposure draft proposing alternative procedures to correct FASB 8 deficiencies. The authors concentrate on a very detailed discussion of the functional currency concept (which implies the choice of the currency base, identifying the type of operation, and selecting suitable translation and consolidation procedures) on which the new standard was expected to be built. In their article, they summarize the objectives of setting foreign currency translation standards as being, first, to present information which is compatible with the likely effects of exchange rate fluctuations on the cash flows and shareholders' equity, and, second, to generate consolidated statements which portray the financial strength of foreign business units as measured in their original operating currency. According to them, these proposals would result in translated statements in which accounting exposure would most closely reflect economic exposure. They finalize the study by suggesting that the Temporal Method ought to be kept as a complementary alternative to the Closing Rate Method in the new standard to come, FASB 52.

At the same time as the Americans were reviewing Standard No 8, the British were revolving around an exposure draft containing proposals for a standard on foreign exchange translation of their own: in October 1980, the Accounting Standards Committee issued Exposure Draft No 27 (ED 27) which essentially proposed the closing rate method and the temporal method in certain circumstances. In an article discussing related matters, Nobes (1981) questions the use of the current or closing rate together with historical cost. Questions are also raised about the apparent conflict between the net investment concept (according to which, the parent company' s interest in the foreign unit ought to be seen as a whole, not as individual assets and liabilities), and the concept of consolidation (from which a subsidiary would have been excluded on the ground of lack of control). The difficulty that involves the process of distinguishing whether the temporal method should be used instead of the closing rate method, according to the functional currency criterion, is another complication. Nevertheless, the author clearly states that, in his view, the combination of current cost accounting with the new standard, that is, the closing rate translation method should render reasonable results. Portington (1981) lists the differences between the proposed changes to FASB No 8 and those contained in ED27. He also points out that the FASB draft prescribes a very detailed disclosure of exchange gains and losses, whereas the British draft requires that only the net movement on reserves due to translation adjustments be disclosed. The author makes a defense of current cost accounting before translation, in which case, the temporal method and the closing rate method produce the same results. He also draws attention to the likelihood that borrowings in currencies, which are not matched by assets in the same currencies, will decrease, a change in managerial practice, due to the proposed standard' s requirements of immediate recognition, in income, of related gains/losses.

3.2 The Closing-Rate Method

The deficiencies of the Temporal Method led the FASB to propose alternative procedures, which were mostly based on the Closing-Rate method. After a long exposure period, which involved a re-issue of the original draft, the proposed changes were finally enforced. Since then, the Closing-Rate Method has established itself as the most

appropriate translation method for the situations prescribed, that is, specifically when the functional currency is the foreign currency and the foreign unit carries its operations in an independent way. When embodied in standards, translation gains and losses are usually required to be taken to reserves. By the end of 1980, Giannotti and Walker (1980) had already foreseen general acceptance, by practitioners, of the changes to be introduced by the FASB. Although an ideal solution was not expected - which, according to the authors, would only be reached if a combination of the all-current rate translation and inflation accounting were adopted - the authors welcomed the innovations as potential correctives for some of the distortions caused by SFAS 8. By 1982, dissatisfaction with FASB 8 was generalized. Overall, the article by Veazey and Kim (1982) reflects the then current thinking and can be summarized, as so many others, as against the two most controversial aspects of FASB N. 8, as seen above, and openly in favour of the changes introduced by FASB N. 52. Criticism against the new standard, FASB 52, however, did not take long to appear and, immediately after the results of its adoption became known, several articles were published in which some of the distortions caused by the Closing-Rate Method were disclosed. The article by Wojciechowski (1982) was designed to show how the current-rate method was misleading and failed to report losses due to exchange rate fluctuations. Translation of fixed assets at a significantly fluctuating current rate, is emphasized, does not help in measuring performance when return on investment is the elected criterion. Criticism was also directed to the recognition, in current net income, of transaction gains/losses on US$ denominated accounts when the foreign currency was chosen as the functional currency. These gains/losses had to be offset by translation adjustments made to the equity section of the translated statement, since they do not necessarily represent gains/losses for the American parent company. The author goes on to demonstrate how the accounting results obtained with the closing rate method do not reflect the economic reality. Ratcliffe and Muntner (1982) offer a more moderate view. Their conclusion, nevertheless, is that the new standard, FASB 52, although incompatible with the all-inclusive concept of income, is correct in its intent of reflecting economic events.

Regarding the earnings swings, due to exchange rate fluctuations under Rule No 8, which were expected to be reduced under the new standard, FASB 52, vis-à-vis the generalized practice of hedging accounting exposure, an opposing view was offered by Kemp (1982). According to the author, the effects that follow a movement in exchange rates are likely to either partly or completely offset each other in the long run. Consequently, companies should concentrate on counteracting short-term effects only. Again, one expects that fluctuating exchange rates will reverse and, only in the short-run, gains and losses will be realized as opposed to unrealized. Given this tendency to manage according to short-term, accounting exposure, Kemp proposes restricting the computation of economic exposure to the current-year planning cycle, combining the two approaches in an overall exposure indicator. The author also points out the number of possible combinations of price, volume and cost policies that a company can adopt after a change in exchange rates in order to adjust itself to the new conditions in a competitive way. The new standard's position of taking exchange rate effects to reserves was welcomed on the ground that it minimizes the previous emphasis given to accounting gains and losses. Graham (1983) received positively the changes introduced by the new standard, SFAS 52: firstly, the elimination of translation adjustments from income and, secondly, the use of a single exchange rate - though this is only partially true, for the Temporal Method shall still be used in certain circumstances. Although positive aspects were mentioned, criticism, however, was directed to several other aspects of SFAS 52: the functional currency concept would not be consistent with a common basis for performance measurement, which should be the dollar; the exclusion of adjustments from income is seen as a retrogression in financial disclosure; the translation method did not measure the effects of inflation, because it did not include a method of account for inflation; some critics even suggested that the current rate method should be used in tandem with current cost accounting; also criticized was the fact that the fluctuations in net income would persist for the companies which would be subject to the use of the Temporal Method, because their functional currency would still be the dollar; also, in several cases, the choice would still be in the hands of the multinational, which could then choose the translation method according to some particular set of criteria; and situations would exist in which a subsidiary would operate in several countries and in several functional currencies and would have to re-measure those operations in the functional currency chosen to report as for FASB 52.

Donaldson and Reinstein (1983) identified four major issues in the process of moving to the new standard, FASB-52. The first issue, timing and method of adoption, dealt with the need for restatement of previous years, which, although disclosing effects of currency movements otherwise unperceived, would serve no purpose because no managerial action would have been taken to compensate for them. The second issue related to the decision as to the functional currency of each foreign unit, which is not always easily and unequivocally determined. The third issue regarded the two-step process of re-measurement and translation, which apart from changes in the procedures, would require some changes in record keeping as well. The fourth issue, minimizing the impact of exchange gains and losses, dealt with the usage of hedging techniques to offset the exchange rate movements according to the new rules. With regard to the translate-restate vs. restate-translate controversy, the FASB issued FASB 70, in December 1982, to reconcile FASB 33 (on the disclosure requirements of current cost and constant dollar information, for large multinationals' foreign subsidiaries and branches) with FASB 52. Since the restate-translate procedure is likely to be more costly for many companies, especially those with several functional currencies, the FASB admitted the use of the translate-restate method, instead. Grossman et al. (1983) acknowledged the cheaper alternative as less attractive from a theoretical point of view. However, many other authors admitted that the new standard was consistent with the objectives of financial reporting, according to what had been established by the FASB itself, in helping users of

financial reports, namely shareholders and managers alike. This view was shared by Largay (1983) who acknowledged that FASB 52 provided for conformity of accounting exposure with economic exposure, and that, by taking translation gains and losses to reserves, it recognized the natural hedge that could be expected to act in the long-run and the reduced need to hedge the income statement, where the functional currency was other than the dollar. Rather explicitly, the author concludes that issuance of FASB 8 had been a mistake whose acknowledgement and correction was being made by FASB with the issuance of Statement No 52.

The discussion on the increased volatility of earnings under FASB No 8, due to the imposed immediate recognition, in the income statement, of exchange gains and losses whether realized or not, is revisited by Mauer (1983). He drew attention to the fact that previous practice involved the use of some kind of deferral in the majority of cases. As is well known, aggregation of information, specifically related to translation, makes it difficult for security analysts to evaluate financial reports produced by corporations operating multinationally. Therefore, it is suggested that the standard would have adversely affected share prices of multinationals. In addition, it was pointed out that hedging had became the norm in order to compensate for the accounting effects at a significant cost, though. This fact was regarded as a side effect of the standard. Among FASB No. 52 innovations, the author emphasized the acceptance of the so-called partial hedge, achieved through contracts denominated in a different currency, whose excess gain or loss over the gain or loss on the partially hedged net asset had to go through income from the date of the adoption of the new standard. The growing concern with exchange rate risk management, however, was not just with a view to getting protection from it. The study presented by Mathur (1982) implied that managers could and should also profit from it. The author identifies a need for centralizing the foreign exchange risk management function, because of inefficiencies due to indirect links that integrated markets, which was being achieved through the globalized action of corporations rather than the investors' efforts.

A study by Militello (1983) is centered on the changes in managerial practices due to the new environment provided by FASB No. 52, where, the foreign currency having been chosen as the functional one, every account becomes exposed to translation gains and losses. Operations and trading, is shown, became more important than hedging, at subsidiary level. Financing, even for support of subsidiary needs, also became more important at parent company level. Foreign exchange risk in billing and invoicing, for example, can be kept at the parent-company level and managed on a netted basis, what can be achieved by means of reinvoicing and rebilling companies. As the end of 1993 approached, the new standard seemed to have already become part of life and issues that are more practical were addressed. The article by Rayburn and Crooch (1983) was intended to show how to use a worksheet approach to prepare the consolidated statement of funds without the need to prepare separate, individual funds statements for each unit being consolidated, under FASB 52. According to it, when the parent company' s home country currency was not the subsidiary' s functional currencythe preparation of the funds statement would become relatively more costly. This surely had not been a matter for concern when questions that are more basic were being raised.

In Canada, the same trails were being walked on. Dunne and Rioux (1983) comment on the new Canadian rules of accounting for foreign currency - Canadian Institute of Chartered Accountants , CICA Handbook, Section 1650 - basically the same provisions as those contained in FASB-52, and practical issues arising in its adoption. However, in the US, the standard continued to undergo heavy criticism on the same aspects. Kochaneck and Noorgard (1985) went on to show how FASB 52 could produce results as bad as, or even worse than, those which would have been obtained under FASB 8. They commented on the appropriateness of the functional currency concept and reported that some companies had decided to keep the dollar as their functional currency regardless of the analysis designed to tell which currency was the functional one. They also criticized the long transition period, which, in their view, had made it more difficult to compare financial statements, and, in addition, left to managers the decision on when to make the move.

With regard to the accounting treatment of translation gains/losses, several authors discussed the change in the standard, for the recognition of translation gains/losses, from current net income, required by FASB 8, to reserves, under FASB 52. The article by Tompkins (1986), besides focusing on the subject, also offers the view that the early adoption of FASB 52, for some companies, had resulted from their perception of increased earnings under the new rules. The view is confirmed by studies that found companies that had preferred reporting under the previous standard just because they would show better earnings by doing so. For instance, a study by Benjamin et al (1986), on the impact of SFAS No. 52, concluded that those companies that would show favorable income and earnings per share adopted the standard early in the optional three-year period. However, the same study concluded that the relative ranking of the companies was not significantly affected by the new standard. Tompkins also emphasized the effects of translation on the capital structure of the firm and the magnification of the effect on return on equity due to leveraging of the effects on the return on assets. Another study on the likely impact of SFAS No. 52, conducted by Brown and Brandi (1986), was not conclusive either as to the differences in returns found in companies that had adopted the new standard early in the period of optional adoption and those which had not. The authors raised questions as to the investors' abilities to distinguish between economic changes, that is, those which would have occurred independently of the standard being adopted, and changes due to adoption of the new accounting practice. This view was contrary to the majority of investigations on accounting changes, which tend to conclude that the stock market is efficient and knows how to tell economic from accounting effects. Since a similar process was on its way in the UK, it was quite natural to expect that the same kind of discussion and criticism against SSAP20, the British standard for translation of foreign financial

statements, would have developed there. For example, Willot (1988) criticized the prescribed ways of dealing with long-term monetary assets (specifically of UK companies that have lent money to US companies, denominated in US$).

The general procedure of translating long-term items at the current rate, at each balance sheet date, taking the exchange gains/losses to net income, once again, is pointed out as the main problem, as had also been disclosed by Wojciechowski, above, for foreign subsidiaries of American parent companies which hold US$ denominated accounts and, therefore, were under similar conditions. Tompkins (1986) reached the conclusion that hedging was still necessary to minimize translation effects and uncertainty related to shareholders' income, capital structure and the planning function. An opposing view was proposed in a study conducted by Houston and Mueller (1988) which gives account of some surveys whose findings suggested that the change from FASB8 to FASB52 had actually decreased the need for hedging of accounting exposure. It had been found that companies that were no longer required to include all translation gains/losses arising from foreign operations in their income statements had either stopped or reduced hedging the related exposure. Evidence was also found that many companies had changed managerial practices regarding their foreign interests. These authors also reported that some questioning was being raised about the assumed permanent adequacy of accounting standards as economic changes were evolving continuously. The authors concluded that the FASB, through its accounting standards, was able to create observable economic consequences. However, on the ground of limited data, they could not conclude that FASB52 might have succeeded in reversing economic consequences generated by FASB8.

A supporting conclusion to Houston and Mueller's was reached in a survey carried out by Chen et al. (1990), which suggested that the adoption of FASB No 52 had actually decreased earnings expectations volatility, due to the reduction in the level of disagreement, thus lowering the risk to investors in multinational companies, as perceived by stock trade analysts. The conclusion was that changes in accounting practice could cause economic consequences, viz. the effective decline in the risk of multinationals. Another study, this one conducted by Garlicki et al. (1987), examined the impact of earnings reported under the new rules introduced by SFAS No. 52 on equity returns of US based multinationals, by direct comparison with SFAS No. 8. The authors concluded that no significant reaction was detected with regard to accounting changes due to the adoption of SFAS 52. According to them, the study confirmed the hypothesis that the stock market is efficient and that it can differentiate between real economic changes and accounting changes. There are conflicting views that accounting standards can affect stock prices. Research studies disagree as to the direction of the effects due to the adoption of translation methods established by SFAS 8 and SFAS 52, and as to whether or not there were any effects at all. Rezaee (1990) found that releases of exposure drafts, and of revised exposure drafts were more informative and, therefore, more likely to cause reactions, than the more foreseeable accounting standards issuances.

Foreign exchange accounting exposure, it seems, will continue to be a matter of concern and hedging will also continue to be among the alternatives a manager will want to have at hand, even if an entire strategic planning policy for risk management has been developed. The article by Palmer (1990) provides evidence of such behavior as it is intended to demonstrate how to deal with translation and transaction exposure in the FASB No. 52 environment. The emphasis is still on the measurement and coverage of foreign exchange accounting exposure, on a practical basis. Nevertheless, a comprehensive approach to risk management has been proposed by several authors, especially among those in the areas akin to strategic and long-term planning. Glaum (1990) emphasizes the need for a strategic approach to the management of foreign exchange related risks, since only immediate, short-term aspects of it have deserved the attention of academics and practitioners. Foreign Exchange Risk, in this context, is defined as the possibility of favorable and unfavorable effects on the home currency, of assets and liabilities caused by unexpected future exchange rate changes. Glaum stresses the inappropriateness of the accounting exposure concept and redirects the focus of interest to the analysis of cash-flow exposure. This is broken down into transaction exposure (which affects short and long-term receivables and payables including investments and loans) and economic exposure (which affects the competitive environment where the firm operates, i. e. where it gets its inputs and sells its products). The author points out that top management has to decide whether arbitrage and speculation activities in the foreign exchange market are to be regarded as parts of the business or not. This surely will dictate a different policy in either case. According to this line, foreign exchange risk management should be seen in the context of maximizing shareholder value, and not restricted to the financial management activity. The article by Ross (1991) questions the usefulness of hedging foreign exchange rate and interest rate risks, since no evidence could be found of a performance that is consistently above the market average, in the long run. It suggests, however, that risk reduction might offer enough motivation for the adoption of hedging strategies. It deals with the implications of hedging on a net, consolidated basis and tax related issues, from an accounting perspective.

Soenen and Madura (1991) go a little beyond by demonstrating the inadequacy of purely financial hedging techniques in protecting against long-term economic exposure. Again, emphasis is put on the need for a set of long-term strategies to deal with the problem. However, the proposals in this case are directed to the globalized multinational corporations that can fully exploit the flexibility of the portfolio features of international operations regarding sources of inputs, including financial funding, markets for outputs, baskets of currencies, and so on. Of course, the trend towards a generalized risk management strategy is part of the more comprehensive business policy where integrated planning for global maximization of shareholder value is not new. The question remains whether the translation methods that provide the basis for translation standards will have been able to fulfill those planning needs.

4. International Accounting Standards for Translation and Consolidation

The International Accounting Standards Committee was formed in 1973 as the result of concern with the observable lack of uniformity in accounting practice[15] and co-operation among the academic, professional and regulatory bodies from the countries that ended up as its members. In June 1976, the IASC issued its International Accounting Standard No 3, IAS3, Consolidated Financial Statements. In the very well structured analysis of IASC' s action, in general, and of its pronouncement IAS3, in particular, Walker (1978) found that there had been only limited acceptance of IASC rules by Country members. In those countries, where there existed local, more restrictive rules, these would have prevailed. The study also states that the already prevalent practice of consolidation, in the US and the UK, so as to avoid the deficiencies of reporting the holding company' s accounts only, was taken for granted by the IASC who recommended the procedure without much research on the potential users, their needs and how to satisfy them. After examining the propositions and report, the author concludes that the standard on consolidation of group accounts and its contribution to related matters were generally superficial, as far as the objectives set at the Committee's foundation were concerned. Given the difficulties in setting international financial reporting standards, mainly because of the lack of consensus, on the one hand, and lack of strength by the IASC, on the other, Sasseen (1984) pointed out that the market itself was showing the way out. According to this report, Multinational companies, based outside the US, and which had succeeded in terms of raising funds in the US, had had to issue supplementary information, in addition to their regular reports, in order to get closer to US accounting standards requirements.

The norm in Europe would seem that accounting practice was dictated by law rather than by the profession itself. Rundfelt (1985) recounted on the increased quality of financial reporting in European countries, in the years 1980 to 1985, due to regulation and harmonization. The author credits the improvement to the importance given to the European Economic Community directives. The Fourth Directive, which became effective in 1980, dealt with the presentation and content of annual accounts; The Seventh dealt with the preparation of consolidated statements. No translation methods were then prescribed, in the Directives, but it was provisioned that no unrealized profits were to be brought to the income statement. Other issues addressed were the deferral of income tax and inflation accounting. The author stresses the European trend towards a legislative approach with regard to accounting standards, and the dangers of such an approach as far as the difficulties in adapting resulting law to a fast changing economic environment is concerned. The article also criticizes the tendency shown by the Europeans, of general purpose reporting as opposed to the Americans, whose focus is centered on shareholders' information needs.

5. Translation and Performance Measurement

One of the stated objectives of foreign financial statement translation is to allow the measurement of performance, for comparative purposes, on a consistent basis. All sorts of financial reports users have used financial ratios such as return on total assets or total investment and return on equity, for their simplicity and ease of understanding. However, questions have been raised as to whether a single criterion such as the return on investment should be of any use given the complex environment in which a multinational concern carries out its operations. For instance, when it comes to the comparative analysis of distinct foreign business units, problems arise not just because of differences in the translation and consolidation procedures adopted, in addition to different local accounting practices, but also due to differences in the specific conditions where these units operate. Tse (1979) questioned the then generalized use of the rate of return on investment for performance evaluation of multinational companies. He argued about the construction of the ratio and the alternative ways of measuring investment, but was primarily concerned about the use of a single criterion where a number of objectives could be identified. For example, ethical aspects of the presence of a multinational in a country ought to be taken into account and a sensible performance evaluation system should focus in that direction as well. It was suggested that synergy also should be of concern as opposed to the exclusive individual evaluation of subsidiaries. The author also put emphasis on the problems related to the use of transfer prices in measuring performance of units, which were linked by intercompany transfers and warned as to the need of keeping a consistency between the performance evaluation system and the set of controllable performance variables. Taking the multi-objective nature of multinational companies' operations into account, Tse suggests the development of performance evaluation systems, which would be based on multiple performance criteria.

Gernon (1983), examining the effect of SFAS No. 8 on internal evaluation of performance of some US based multinational companies, concluded that there was a need for internal performance evaluation systems which should be independent of reporting standards. The conclusion was not surprising given the fact that a net profit in one currency might appear as a net loss in another and vice-versa, after the translation. On this ground, the author makes a defense of performance reports being required to be either presented in local currency or translated according to SFAS 52. Lessard and Sharp (1984) comment on the validity of the simpler approach of using either the beginning period forward exchange rate or a normalized exchange rate (based on purchasing power parity theory) to define managerial responsibility for real, rather than nominal, exchange rate movements. They point out that nowadays, globalized

[15] A comprehensive survey on major International Accounting issues can be found in Schoenfeld (1981), which provides a good view of the state of affairs at the beginning of the Eighties.

competition is far more complex than multi-domestic competition faced by multinationals in the Sixties and Seventies. According to them, competitiveness, and not just past currency effects, is a key factor to take account of in the measurement of managerial performance. Their proposal is to measure deviations from budgeted pre-tax net operating margin above those which were due to unexpected changes (contingent budgeting, a generalized form of flexible budgeting, contingent on the state of the world, allowing for the review of exchange rates). They also call attention to the fact that exchange rates influence competitiveness of a domestic unit that is not engaged in foreign operations but is threatened by imports, which became cheaper because of a strengthening of the home currency in the international context.

6. Conclusions

This paper was set out with the objective of studying the alternative approaches proposed in some areas of accounting for multinational operations to determine the medium- to long-term effects on groups of companies adopting them. Among the various classes of problem areas, we discussed accounting for changing prices and exchange rate fluctuations. Accounting for changing prices and for exchange rate fluctuations are, actually, two not one area. However, because they are so interwoven, they were examined together. For both areas, it seems that - despite the fact that consensus was never to be expected, in terms of structuring general standards and prescribing methods and conventions - some of the alternatives available have established themselves, through practice, and, for several years now, have become generally accepted. With regard to changing prices, General Price Level Accounting is the winner; As for exchange rate fluctuations, first prize goes to the Closing Rate Method; The Temporal Method gets silver, the order being owed to the greater relative importance of foreign operations which are carried out in an independent way, vis-à-vis those which are mere extensions of the parent company' s. Costs may also have played a part towards the choice. However, the main conclusion that can be drawn is that convenience of use, for both the accounting profession and report users, seems to have been the determinant factor.

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