Accounting for Translation of Foreign Currency :

19th Century Contributions to The Accounting Literature

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Abstract

The subject of accounting for the translation of foreign currency financial statements has been widely researched since 1965. Much of this research to date, both empirical and theoretical, has been motivated by a recognition of the effect of foreign exchange fluctuation and translation adjustment. Currently, the Situational Approach is accepted in the field of international accounting worldwide, though this approach may not always be suitable.

This paper reviews 19th century developments in methods of reporting the financial results of foreign business operations used by accountants in the UK. It shows that many of the methods of foreign currency translation which have been proposed by accounting regulators have a common origin in one method first developed in the 1890s. Moreover, while the methods proposed by accounting regulators have been applied to the translation of financial statements of foreign operations, the method from which they were derived was designed as a valuation technique. This technique was used for reporting the net monetary position of foreign operations, in order to identify the extent of profits available for distribution.

In conclusion, there is a need for research with historical perspectives to be considered when setting international accounting standards. Further, even if accounting standards are different, the disclosed translation adjustments should be mutually recognized.

INTRODUCTION

Problems of accounting for foreign operations are not new. This paper examines pre-regulatory developments in accounting for translation of foreign currency. It presents an account of the issues underlying the identification of a foreign currency accounting problem and the development of a solution to that problem by accountants in the UK between 1891 and 1904. It shows that foreign currency translation methods which are now treated as separate methods can be traced to one common method developed there in the latter part of the 19th century. It also traces the assimilation of that early solution and its various forms into accounting practice until it was replaced by other solutions in the 1960s.

It concludes that many of the criticisms which have been levelled at foreign currency translation methods are based on invalid assumptions about the role and purpose of those methods. These assumptions are invalid because the reasons now usually advanced for translating foreign currency financial accounts are different from those which originally prompted the development of those techniques.

This study examines two seminal articles on accounting for translation of foreign currency which were published in *The Accountant* (UK) by H. A. Plumb (1891a) and L. R. Dicksee (1904). Of the two articles, that by Plumb has been cited on two occasions (Hepworth, 1956; Nobes, 1980). No citing of the article by Dicksee was found. Other articles on this topic published in *The Accountant* include Meelboom (1898), Cutforth (1910) and Brumby (1920), however, these do not materially add to the development of methods of foreign currency accounting.

Plumb provides the earliest discussion of foreign currency corporate accounting (Editorial, The Accountant, 1891). He recognized the existence of a limited foreign currency accounting problem and sketched a solution to that problem. Dicksee developed that sketch into a comprehensive accounting solution to the problems of accounting for foreign operations and foreign currency transactions when exchange rates vary. Since these articles are based on lectures to accounting students, they can be taken as a guide to what accountants at the time regarded as preferred practice. They can also be taken as a guide to the level of technical understanding and expertise required from students undertaking professional society accreditation examinations. Consequently, they may be taken as indicative of the development of foreign currency translation methods and of the issues/responses to controversies of the time.

This paper is organised in four parts. Part one presents a brief summary of the major methods of foreign currency translation which have been adopted by regulators and reviews the main criticisms of those methods in the light of regulation policy issues. Part two identifies the issues underlying the development of the 19th century foreign currency accounting problem and presents an account of the seminal contribution of Plumb to its solution. It identifies his method, the floating-nonfloating method, as an early version of the current-noncurrent, monetary-nonmonetary and the temporal methods of foreign currency translation. Part three reviews the extension of Plumb's basic method by Dicksee and traces its adoption as a technique for accounting for foreign operations. Part four presents the conclusion.

Foreign currency translation : policy and procedures

The choice of any method for the translation of the financial statements of a foreign business operation involves two basic questions (Dukes, 1978, p. 10).

- (i) how shall foreign currency financial statements be translated——in particular what exchange rates are to be used for different assets/ liabilities/equity accounts?
- (ii) how and when shall foreign exchange gains or losses be recognized?

These two questions are based in turn on the assumption that financial statements can be used to identify the extent to which a multinational business is exposed to the prospect of gain and the possibility of loss from foreign exchange rate movements.

An answer to the first question involves an assessment of the risk of exposure to loss from specific asset and liability balances designated in foreign currency. The decision to re-translate asset and liability balances in the light of exchange rate movements assumes that movements in exchange rates are significant measures of the asset/liability balances of a foreign operation. Conversely, the decision not to translate asset/liability balances of a foreign business operation signifies that those balances are not considered to be subject to exposure or to risk of loss from foreign exchange movements.

The second question deals with the extent to which 'accounting exposure' is likely to result in actual business loss. The treatment of gains or losses (more properly described as exchange differences) has assumed a great deal of discussion in the accounting literature in the context of the various regulatory approved methods of foreign currency translation. Where a foreign exchange difference is included in profit and loss determination it affects the size of reported profit and hence funds distributable as dividends. Conversely, if the difference is transferred directly to a reserve, it does not affect periodic profit and will not affect the extent of profit distribution. However, the determination of an exchange gain or loss depends on which assets and liabilities are deemed to be at a risk of loss. The size and direction of any exchange difference depends entirely on choice of translation method. Its inclusion as either part of profit and loss or as a reserve is strictly independent of choice of translation method (Dukes, 1978, p. 13).

Since 1931, US Accounting Regulators have proposed a number of solutions to these

basic questions in accounting for foreign business operations. These solutions, each of which has involved different assumptions about the nature and significance of foreign currency accounting exposure are the current-noncurrent, monetary-nonmonetary, temporal and closing rate methods of foreign currency translation. The closing rate method involves conversion of financial statement items using the exchange rate in effect at the date of financial statement preparation. The closing rate method is equal to the current rate method. The temporal method requires the use of historical exchange rates for account balances measured at historical cost and current rates for account balances measured at current cost or present values. The current-noncurrent and monetarynonmonetary methods require the use of a mixture of closing and historical rates of exchange. A summary comparison of these methods is shown in Table 1. The main differences between these methods relate to

		Exchange Rate for	or Translation	
Item Method	Current-Noncurrent Method	Monetary-Nonmonetary Method	Temporal Method	Current Rate Method
Cash	С	С	С	С
Current receivables	С	C	С	С
Inventory (at cost)	С	Н	Н	С
Long-term receivables	Н	C	С	С
Long-term investments (cost)	Н	Н	Н	С
Property, plant, and equipment	Н	Н	Н	C
Intangible assets (long-term)	Н	Н	Н	C
Current liabilities	С	C	С	C
Long-term debt	Н	C	С	C
Paid-in capital	Н	H*	Н	Н
Retained earnings	В	В	В	В
Revenues	А	А	Α	A
Cost of goods sold	А	Н	Н	А
Depreciation expense	Н	Н	Н	A
Amortization expense	Н	Н	Н	A

A = Average exchange rate for the current periodC = Current exchange rate at balance sheet date

c = current exchange rate at balance sheet da

H = Historical exchange rate

B = Balancing (residual or plug) figure

* Assumes no nonconvertible preferred stock

Source: M.Zafar Iqbal, Trini U.Melcher, Amin A.Elmallah, International Accounting. US: South-Western College Publishing, 1997, p.181. assumptions about exposure to foreign exchange gains or losses from asset/liability balances held and denominated in foreign currency.

The current-noncurrent method assumes exposure to be confined to current assets and liabilities. Inventory holdings designated in foreign currency are assumed to be at risk of loss (or gain) while long-term debt is not assumed to be at risk. Conversely, the monetary-nonmonetary method assumes that all monetary balances (including longterm debt) are at risk of loss. The temporal method assumes that all account balances (with the exception of fixed assets and inventory recorded at cost) are exposed to the possibility of foreign exchange loss. The closing rate method assumes that all asset/ liability balances to be exposed to risk from exchange rate movements.

Demirag (1987) observed that theoretical arguments for and against different translation methods in general, and the treatment of exchange differences in particular, reflect two different perspectives from which to view a foreign business operation. These are the parent company perspective and that of the local business operation itself.

The parent company perspective portrays the affairs of the foreign business operation as if they were in fact part of the domestic business itself. Supporters of this perspective suggest that the translation process re-measures account balances. Lorensen (1972) who supported this view stated 'that the attribute of foreign money of most interest from the perspective of U.S. dollar financial statements is its command over U.S. dollars'. On this view exchange differences are treated as if realized and represent a gain or a loss thereby affecting reported profit.

By contrast, the local business perspective aims to depict foreign operations as if they are independent of the home business environment. This approach aims to arrive at some quantification of the financial consequences of operating in a foreign economic environment. Since, from the point of view of the foreign business operation, no currency gain or loss on translation will be recognizable, the exchange differences are appropriately charged directly to a reserve.

The problem with these perspectives is that they are mutually inconsistent. It is possible to depict a foreign operation as if it is a separate economic entity or as part of the home business operation but not both at the same time. The development of accounting regulations for reporting financial results from foreign business operations reflects continuing attempts to reconcile these two perspectives.

Foreign currency translation methods : development

The current-noncurrent method is the earliest method to have achieved the endorsement of accounting regulators. American Institute of Accountant Bulletin No. 92 (1931) dealt with foreign exchange losses. It was followed by American Institute of Accountant Bulletin No. 117 (1933) which dealt with foreign exchange gains. More important is Accounting Research Bulletin No. 4 (US-1939) which attempted to provide a comprehensive treatment of foreign currency translation. It requires current assets and current liabilities to be translated at the foreign exchange rate applicable on the date when financial statements are prepared. Noncurrent assets and liabilities are translated at exchange rates ruling when acquired or incurred.

In its final authoritative form as stated in Accounting Research Bulletin No. 4, application of the current-noncurrent method required exchange gains to be taken to a reserve and losses to be taken to profit and loss. Accounting Research Bulletin No. 4 also noted 'a sound procedure for American companies to follow is to show earnings from foreign operations in their own accounts only to the extent that funds have been received in the United States or unrestricted funds are available for transmission thereto'. It adopted a parent company perspective of translation.

A key limitation of the currentnoncurrent method was (and is) that selection of the appropriate exchange rate for translation depends on the classification of an item for balance sheet disclosure purposes. The choice of exchange rate for translation is dependent on the anticipated expiry of an item within 1 year for current items or after 1 year for noncurrent items (FASB, SFAS8, 1975, p. 59).

A method which attempted to avoid the

dependence on balance sheet classification criteria underlying the current-noncurrent method was the monetary-nonmonetary method. It was proposed as an alternative to the current-noncurrent method by Baxter & Yamey (1951) and Hepworth (1956). It received regulatory endorsement in 1965 with the issue of APB Opinion No. 6 (1965). Instead of classification in terms of timing and balance sheet presentation, it classified items as either monetary or nonmonetary. This method assumes that assets which are fixed in monetary terms are subject to revaluation when exchange rates vary. By contrast, assets and liabilities not fixed in monetary terms retain their purchasing power equivalence and hence, a constant real value.

The application of the monetarynonmonetary method required that monetary assets be translated using exchange rates applying at the date for preparation of financial statements. Nonmonetary assets and liabilities are to be translated at rates applying when they were acquired or incurred. Consequently, a balance sheet translated using this method will show the net monetary position of a foreign operation in terms of home country currency.

However, the monetary-nonmonetary method as stated in Accounting Principles Board Opinion No. 6 modified the earlier pronouncement in Accounting Research Bulletin No. 4 to require application of the closing rate of exchange to long-term debt. No argument was provided in support of this requirement. It is, therefore, subject to the same criticisms as the current-noncurrent method. Moreover, while the monetarynonmonetary method revalued debt, there was no revaluation of the assets securing that debt. It ignored economic hedges and so was considered to omit certain information which may be useful to financial statement users. An example of an economic hedge is where debt is incurred in a foreign currency and serviced from receipts from sales of goods in the same foreign currency. Consequently, fluctuations in the currency of the debt are the same as those on the receipts which are used for repayment.

The method which succeeded the monetary-nonmonetary method was the temporal method (Lorensen, 1972). It requires all financial statement items, irrespective of classification, to be translated using exchange rates prevailing when they were acquired/incurred. That general rule of translation applies subject to one qualification. If the item had been revalued then the exchange rate to be used was the one applicable at the date of revaluation.

When it was introduced, it was argued that the temporal method was consistent with a parent company perspective and the measurement principles underlying historical cost accounting (FASB, SFAS8, 1975, paragraphs 123–124). Assets and liabilities were translated in a manner which reflected currency conditions when they were acquired/incurred as though they had been acquired domestically. It also preserved the underlying basis of the accounting system in use in the business units for which financial statements were prepared—whether it was historical cost or some version of a current cost/current value system.

However, it was also argued that the temporal method gave rise to circumstances where local operation profits translated into home country losses (Shank, 1976, p. 48). The temporal method was not neutral in its impact on reported profits from foreign operations. Accordingly, like previous methods, it was considered misleading. The closing rate method as stated in SFAS52 replaced the requirement to apply the temporal method as specified in SFAS8. It adopted a local entity perspective. It is also the oldest of the four main methods (Nobes, 1980, p. 423). Versions of this method were used by British accountants in the 19th century. It requires that financial statement items be translated at the exchange rate ruling on the date on which the financial statements are prepared.

Several advantages are claimed for the closing rate over the temporal method. These are that it preserves existing financial statement relationships, it does not change foreign currency profits into home currency losses and it makes the use of ratio analysis for financial statement comparisons straightforward since ratios are not distorted by the application of different rates of exchange to different asset/liability balances.

There is one major problem with the closing rate method. Plumb (1891a, b) argued that it was misleading in that it did not take into account the possibility that the impact of fluctuating exchange rates might differ between short-term and long-term assets and liabilities. He proposed a method of accounting for foreign operations which was based on just such a possibility.

The method which was proposed in Plumb (1891a, b) was designed to identify the extent of funds realisable from a foreign operation at the date of preparing the balance sheet. It is the forerunner of the currentnoncurrent, monetary-nonmonetary and temporal methods of foreign currency translation. From the 1890s to the 1970s, in its various forms, it was considered to be superior to the closing rate method, which now enjoys regulatory approval. A summary comparison of these methods from historical perspective is shown in Table 2.

EARLY DEVELOPMENTS IN FOREIGN CURRENCY ACCOUNTING —— THE CONTRIBUTION OF H. A. PLUMB

The problem identified

Plumb proposed his method for converting foreign currency accounts at a time when the idea of fixed exchange rates and stability of currencies had been an article of business faith for business firms in the major European trading nations for some 20 years. That period, from about 1870 and which continued until 1914, has been described as 'the high summer of the gold standard' (Scammell, 1965, p. 32). The UK established a gold standard in 1816. France followed in 1850 and Germany in 1871. Other European countries followed suit. By 1878, gold was the basis of the international payments system. During that period, the currencies of the major European trading powers were officially fixed relative to one another by reference to a fixed quantity and quality of gold. Central banking authorities fixed the rate of exchange between circulating currency and gold. They also undertook to exchange gold for currency at that rate on demand.

However, on foreign exchange markets, daily exchange rates between currencies fluctuated depending on trade or fund flows. Stability of market exchange rates was maintained through an arbitrage process. Since central banks quoted fixed exchange rates, when market rates of exchange varied significantly from official rates, it was possible to arbitrage-buy (sell) in the market and sell (buy) at the relevant central bank to take advantage of and profit from the imbalance. In theory, that arbitrage process should have ensured that the official par rate represented the long run equilibrium rate of exchange around which the market rate would fluctuate.

Moreover, this economic view that market exchange rate movements were temporary and would settle back to an equilibrium was also held in the courts in the UK. There are two UK cases which deal in part with problems of foreign exchange in the period from the 1860s onwards. These cases are Stringer's Case (1869) and City of

Years Method	Floating-Nonfloating Method	Current-Noncurrent Method	Monetary-Nonmonetary Method	Temporal Method	Situational Approach (Current Rate: Method included)
1890's	H.A.Plumb (1891)		Standard System, "Floating	-Nonfloating".	
	F.N.Keen (1891)				
	Piggott (1891)				
	J.A.Meelboom (1898)	→ 2 types of Standard System.			
1900's	L.R.Dicksee (1904)	↓ "Current", Traditional Financial Analysis.	*US: from Bimetalism to	Gold Standard (1900).	
1910's	A.E.Cutforth(1910)	A.L.Dickinson (1913)	World War I (1914-191)	8), Uniform Accounting	(1917) .
1920's	H.A.Finney (1921)	C.S.Ashdown (1922)	→ Foundation of Curren ※Great Depression (1929		
1930's	₩UK: Departure from Gold Standard (1931.9) .+-	AIA, Bulletin #92 (1931)	※Foreign Currencies E → Foreign Exchange	•	
		A.E.Cutforth(1933)	→ "Scientific Accountin		Act of 1933. Exchange Act of 1934.
	*Edwin F.Chinlund distinguished between	AIA, Bulletin #117(1934)	→ Revised AIA Bulletin		
	"Conversion" and "Translation". (1936)	AIA, Accounting Research Bulletin #4 [ARB#4] (1939)	※ World War II (1939-19 → Effect of World War		
1940's	Remittance was more	AIA, Research (1940)	→ "Official Rate", Lim	ited Remittance, Regulated	l Foreign Exchange Rate.
	limited. Preparation of Consolidated F/S.	AIA, Research (1941)	∔ "Monetary".	*Bretton Woods Agreem	ent (1944.7), 1MF.
1950's	* £ Depreciation (1949). ←	AIA, Research (1950)	W.T.Baxter & B.S.Yamey (1951)	→ "Monetary-Nonmon	etary".
	J.A.Lindquist and \rightarrow P.Mason partially	AIA, Accounting Research Builetin #43 [ARB#43] Chap.12 (1953)			
	criticised ARB#43(1953).	*Crisis of £ (1957).	S.R.Hepworth (1956)	→ Monetary-Nonmonet Current-Noncurrent	ary Method criticised Method.
1960's		tial Management was Itinational Enterprise. 🕶	NAA, Research Report #36 (1960)		
		Modified ARB#43. ←	AICPA, APB Opinion #6 (1965)		
			AICPA, Accounting Research Study #7 [ARS#7] (1965)		↓ "Situational Approach". ↓ "Local_Perspective".
	*£ G	reat Depreciation (1967).	G.C.Watt (1968)	↓ "Parent Perspective". ↓ "Temporal Principle".	ICAEW,Recommendation #25 [N.25] (1968)
1970's		*US: Trade Loss (1971) Nixon Shock (1971.8.15)		ACPA.Accounting Research Study #12 [ARS#12] by L Lorensen(1972)	ICAS, Research Study (1970)
		*US\$ Depreciation (1971) Smithonian Agreement v	vas abolished.	L.Lorensen(1972)	CICA, Research Study by R.M.Parkinson (1972)
		Main countries: Full Flo %1st Oil Shock (1973.10)	ating Rate System (1973.2).	L.Lorensen(1973)	R.M.Parkinson (1973)
			"Situational Approach".+-	FASB,SFAS#8(1975)	ASC, ED#16 (1975)
				CICA, Exposure Draft (1977)	ASC, ED#21 (1977)
		*US: Visible Current Tra			ICAS, Draft #11 (1977)
		** US\$ Defense (1978.11.1) ** 2nd Oil Shock (1978.12)		CICA, ∫ 1650 (1978)	
1980's					ASC, ED#27 (1980)
		"Functional	Currency Approach", "Disc	ounted Present Value", "Future Cash Flow". ←	FASB,SFAS#52 (1981)
					1ASC, ED#23 (1982)
					ASC,SSAP#20(1983)
					CICA,New ∫ 1650(1983)
			Transaction: Abolition of Actual : (Adjustment to US\$ Appred		IASC, IAS#21 (1983)
		≪G7 (1986.5). ≪Leuvre Agreeme			OECD: Accounting Harmonization Series No.1 (1986)
		*Black Monday			

 TABLE 2
 Chronology of Accounting for Translation of Foreign Currency (1890's - 1980's)

Glasgow Bank v Mackinnon (1882). Both of these cases deal with attempts by liquidators to recover payments of dividends arising as a result of what were alleged to be overstated profits. These cases arose with UK companies which had encountered financial difficulties as a consequence of investments made in the USA during and after the American Civil War (1861–1865).

Among the issues in Stringer's Case (1869) was the appropriateness of balance sheet valuations of debts due to the company from the Confederate Government. In this case the actual amount of debt in Confederate currency was far less than its converted balance sheet equivalent in pounds sterling. The debt proved to be irrecoverable. Nevertheless, the court held that since the company was a blockade runner and in a highly speculative business, management could expect to take a 'sanguine view' of its assets and value the debt at the inflated official rate of exchange. The court held that there was no overstatement of profits and consequently there had been no attempt to deceive shareholders or creditors.

In City of Glasgow Bank v Mackinnon (1882) problems of foreign exchange fluctuation in accounts were considered in more detail. The bank held American dollar denominated debt which was translated in its financial reports at the par rate of exchange. It was contended by the liquidators of the bank that the materially different market rate of exchange of the American dollar to the pound sterling should have been used for translation. They sought the return of dividends which they argued had been incorrectly paid from profits which failed to take into account unrealized losses on that debt.

The court confirmed the view of the management of the bank that the debt should be translated at the par rate of exchange. The expectation that the exchange rate would return to its par value within a short time was considered reasonable even though the court noted that the 'short time' was about 11 years. It also noted, with agreement, the views of one of the bank's management who observed of exchange rate movements at the time 'would it not be best to make the transaction, and await the restoration of a legitimate mercantile exchange?' (Reid, 1986, p. 128).

The position of the courts in both of these cases was that the judgement of the management of the companies that foreign exchange fluctuations would reverse was justified. Exchange rate fluctuations did not have to be taken in account in preparing financial statements. In adopting that position, the courts were implicitly endorsing accounting practices which recognized the economic theory underlying the gold standard.

However, the judgement in each case dealt with transactions and balances translated from American dollars to pounds sterling. These two currencies were based on gold. For currencies on other metallic standards, relative stability of exchange rates also depended on stability of demand and supply of the metals which provided their basis. Changes in the relative supplies of silver and gold would be and were sufficient to upset official exchange rates. New discoveries of silver in the USA in the 1880s increased its availability and reduced its price. That movement in price affected exchange rates between currencies based on a silver standard and currencies based on a gold standard. The official rate of sterling exchange (gold) on the Indian rupee (silver) during much of the period was two shillings; the market rate varied between one shilling and fourpence and one shilling and sixpence (Keynes, 1913).

The assumption that long run exchange rates were fixed in all cases did not always work in practice. Accordingly, the question arose as to whether the use of the official par rate for conversion of accounts from one currency to another always made sense in all circumstances.

The choice of exchange rate

The usual method of incorporating foreign currency account balances into the accounts of UK companies in the 19th century appears to have been to take the relevant official or par rate of exchange and apply that rate to all foreign currency account balances (Plumb, 1891a, p. 259). The application of this method of translating accounts would prove satisfactory if the relevant rate of exchange of a particular currency was the same as its par rate of exchange or if it could be reasonably expected that any differences between the two would disappear in time. Moreover, the application of this approach was sanctioned by contemporary economic thinking and by the few legal cases to bear directly of the problem of foreign currency accounting.

H. A. Plumb was not satisfied that this one method was appropriate in dealing with all forms of foreign currency accounts. In an address to accounting students in 1891 (later published in the UK journal *The Accountant*) he registered dissatisfaction with this approach and nominated an alternative method. The reason he chose his topic of fluctuating currencies in accounts was that 'many accounts are prepared showing results which would not stand the test of a searching scrutiny' (p. 261). Consequently, many financial statements embodying foreign currency transactions and balances were 'simply misleading'.

Plumb identified three separate circumstances in which it would be necessary to convert foreign currency denominated asset/liability balances. These were:

- local branch and home office currency of account based on a gold standard;
- (2) local branch office currency of account based on a silver standard and home office currency of account based on a gold standard;
- (3) local branch office currency of account based on a currency regime permitting freely floating paper currency and home office currency of account based on a gold standard.

He stated that where the local branch and

home office currencies of account are based on a common gold standard (circumstance 1) there is no foreign currency accounting problem. The reason was that, in this case, currency fluctuations of continuing significance would not arise.

Contemporary accounting practice recognised that some fluctuations in currencies were to be expected. In general, those fluctuations would be due to accidental variations in the value of property owned but not traded. The introduction of the effect of such fluctuations into the results of trading, it was argued, would obscure the amount of funds available for distribution as dividends. The treatment of fluctuations in accounts is discussed at length in Dicksee (1910). He considered that such fluctuations should only be revealed in notes to financial statements and then only where the conditions giving rise to those fluctuations were expected to continue. See especially, Dicksee (1910), p. 196 and p. 215.

By contrast, exchange rate fluctuations of significance were those which affected trading and such fluctuations should not arise. The argument for this is based on relative purchasing power parity. Even though the purchasing power value of gold can change, the change will have no effect where both currencies are on a gold standard. Their relative values, set in terms of gold and expressed in terms of the official par value, will remain unchanged. Plumb concluded that 'The results shown by gold currency accounts converted on a par basis, may therefore usually be taken as sufficiently accurate for all practical purposes ... ' (p. 260) and consequently that there is no material problem in this first circumstance to justify a special accounting solution.

In the exposition of this first circumstance, Plumb adopts a position which is consistent with the theory of exchange rate determination based on metallic currencies. According to the theory of the gold standard, fluctuations or deviations in exchange rates should reverse. Consequently, reporting the financial effects of an exchange rate fluctuation which will reverse could be misleading since what amounted to short-term balance sheet revaluations will not be realizable.

However, there were recognizable circumstances when exchange rate fluctuations did not reverse and an actual and continuing variation in exchange rates was considered to arise. It is this situation to which he addresses a solution in the second of his identified circumstances. Plumb cites the Indian rupee, based on a silver standard, as an example of a fluctuating currency:

a very great error has been made by the adherence to the par rate at 2s for conversion without at the same time reserving the sum necessary to reduce the balance of the floating assets to their value measured by the rate of the day (p. 260).

The error of principle that arises where currencies are based on different standards is that exchange rate fluctuations need not reverse. Consequently, if one fixed exchange rate is used, some assets and liabilities would then be incorrectly valued in the accounts. Financial statements based on those accounts would be misleading to both management and other interested parties.

In order to avoid the presentation of misleading accounts, Plumb proposes the following currency conversion method:

- (a) of reducing all revenue transactions to their actual value in £ sterling measured by the average rate ruling;
- (b) of incorporating all floating assets and liabilities at their real value, measured by the rate of exchange ruling on the date of the balance sheet;
- (c) of reducing currency capital expenditure to its equivalent value in pounds sterling measured by the actual rate ruling at the time of expenditure (Plumb, 1891b, p. 462).

He provides an illustration of the effect on financial statements of using this method rather than applying a single official par rate of exchange. His illustration of a sterling balance sheet for a firm which is converted using the two methods, together with a summary comparison statement. These statements are shown in Table 3.

No attempt is made by Plumb to consolidate overseas and domestic assets and liabilities—they are listed separately in the balance sheets. The aim is to show the effect in terms of reduction in profit and loss and which were, in principle, available for distribution by the Home Office. In this case the overstatement is the difference between the amount receivable at the par rate and the amount receivable at the market rate on the date of preparation of accounts.

Plumb's approach to the valuation of foreign branch operations rests on the following basic premises:

- (i) failure to adjust revenue transactions by the actual rate ruling when they took place would result in an overstatement of profit. Here he introduces the idea of conservatism into revenue recognition transaction accounts may be affected by short-term fluctuations in exchange;
- (ii) floating assets (which approximate current assets) are to be reduced to a value approximating that which would be achieved if they were realized and converted into home country currency on the date of preparation of financial statements. They are revalued as a result of exchange rate fluctuations;
- (iii) capital—permanent or fixed assets should not be subject to short-term fluctuations, since it would not be realized in the short term. Consequently, there is no point in undertaking a revaluation which will require reversal in the future.

The next problem is that of the treatment of the gain or loss arising on conversion of the accounts. Plumb notes that:

... the profit and loss account has at some time or another benefited from one or other of the following causes:

(a) Overcredits to Profit and Loss account arising from the conversion of the rupee earnings at a rate higher than they subsequently realised on actual remittance.

- (b) Omission to provide for loss or difference in exchange on balance of revenue not remitted home.
- (c) Omission to provide for depreciation in value of the Net Floating Local Assets by reason of the fall, year by year, in the value of the rupee (p. 262).

Gains or losses from exchange movements should be charged to profit and loss since they arise in the first place as a consequence of changes between original cost and the latest estimate of the realizable value of the revenue stock. This is consistent with his position that net floating assets of the local operations represent a 'store' of

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		T	ABLE	3
A .	B .	С.	Banking C	o. of India

Comparative statement of balance sheet, 31 December, 18 • •

	Sundry asset India	Liabilities India	Reserve Fund	Profit and loss account
On par basis 2/- to the rupee At ruling rate 1/6 to the rupee	£ 2 067 000 1 550 000	£ 1 650 000 1 237 500	£ 95 000 1 250	£ 42 000 31 500
Difference overstated	516 750	412 500	93 750	10 500

revenue yet to be realized.

Moreover, that 'store' is the outcome of the investment of capital by the home office—if there has been a change in the realizable value of the revenue stock then the change should be recognized by writing down the investment to the amount that is likely to be realized. Again, realizability is strictly from the point of view of the Home Office investment. Accordingly, gains or losses are to be charged to profit and loss to remedy these omissions.

The 19th century accounting justification for foreign currency translation

Plumb justified his treatment of fluctuating currencies on two bases. The first was by reference to contemporary thinking on capital maintenance and profit determination and the second was a form of the purchasing power parity theory of exchange rate determination.

Plumb argued that profit or loss can only be determined after due allowance is made for the maintenance of contributed capital from the original investors in their home currency which in this case is pound sterling:

capital (i.e. contributed capital) money received in £ sterling and converted into rupees, or any other commodity, for the purpose of trading is practically the revenue stock loaned to it by capital; and if the £ value of the share capital is to remain intact, it can only be by revenue always having in hand the equivalent £ sterling value in any commodity you please, and this can only be done, by revenue at all times making good any depreciation in value that may from time to time occur (p. 263).

The first requirement of any business undertaking is to maintain the original contributed capital of investors and where there is any depreciation or loss in the value of the capital stock that loss must be made good.

In so reasoning, Plumb is grounding his argument in the views expressed in the UK courts as in, for example, the judgement in Dent v London Tramways Company (Ltd) (1881) (Reid, 1986, pp. 108–111) which had dealt with the problem of depreciating assets. That decision held that directors were bound by the terms of the Articles of Association of the company which required provision for repairs and maintenance before profit available for distribution.

Plumb also distinguished between fixed capital (usually represented by works and plant) and floating capital (usually stock in trade). Cooper (1888, p. 745) noted that for the purpose of preparing balance sheets, adjustments to the valuation of fixed assets 'would lead to confusion in the accounts and to misrepresentation of the trading profits'. In contrast, changes in the value of marketable assets should be included in profit and loss. He also observed that 'property ought to be subjected to valuation in sterling apart from the value of the currency. The value of land for instance, in a foreign country by no means necessarily, nor usually, follows the rise or fall of the currency' (p. 745).

Since it was considered to be necessary to make adjustments for the changes in the value of floating assets—stock in trade—in determining profits, Plumb then proceeded to examine the problem of valuing these floating assets. He justifies this valuation process by the application of relative purchasing parity:

... the correct method of valuing rupee floating assets and liabilities on any date must be based on the actual rate ruling at that date. It must be remembered that silver, in bullion or coin, is simply merchandise in a country which measures value by a gold standard, while gold is merely merchandise in a country measuring values by a silver standard. With these facts before us, it is clear that, to an English company whose capital is in \pounds sterling the value of silver rupees must be measured by the purchasing power in gold of those rupees (p. 262).

A change in the quantity of silver available relative to gold will change the reference point—the ratio of gold to silver which establishes the exchange parity of silver-based to gold-based currencies. That change in parity will alter the purchasing power equivalent of amounts in accounts expressed in a silver currency when converted to a gold currency. Consequently, the appropriate rate of exchange for translation is the market rate as it reflects actual purchasing power of a currency.

There appears to have been a substantial debate among accountants and in the courts concerning the extent to which dividends could be determined and paid on the basis of accrued profits which were not represented by equivalent cash balances. This had been a point of contention in City of Glasgow Bank Ltd v Mackinnon (1882) and was reconsidered in depth in Leeds Estate, Building and Investment Company v Shepherd (1887) (Reid, 1986, pp. 163–176). Plumb noted:

I have heard it gravely argued that the rate of exchange need only be considered in arriving at the sum necessary to cover loss on remittances for the payment of dividend and home charges, and that if sufficient provision be made for these items there is no necessity for making any further provision, as a rupee, until it is remitted home, is a rupee, no matter what the rate of exchange may be (p. 262).

He suggested that there was a body of opinion which considered that exchange movements only require recognition when realized in the form of remittances. However, against this position, he observed that 'dividends earned in India may be distributed in London without the necessity of any actual remittance being made' (p. 262).

Plumb drew a clear distinction between remittances and profits. Consequently, dividends as an allocation from profits should not be distributed on the basis of the standing of the remittance account of the branch in the head office. This is because the remittance account only records cash receipts. Instead, dividends should be distributed only as they can be justified on the basis of overall entity profits.

Flaws in the justification

Plumb proposed, presented and justified an alternative to the use of the official par rate of exchange when it was necessary to convert transactions and account balances expressed in fluctuating currencies for inclusion in financial statements.

His method is based on a number of fundamental assumptions concerning the impact of foreign exchange movements on the accounts of overseas business and the manner in which these foreign business accounts should be incorporated into Home Office accounts and financial statements.

He adopted the view that reported profit of a business could only be properly measured by taking into account changes in the actual values of foreign currency transactions and balances when expressed in Home Office currency of account. He did not consider it necessary to re-measure fixed assets. In so doing, he took the view that some asset/liability balances exposed a business enterprise to the risk of loss while other asset/liability balances did not.

His primary concern was with the valuation of accounts which were exposed to the risk of loss from foreign exchange for the purposes of profit measurement and identification of the extent of individuals payable to shareholders in the home country of the enterprise. His immediate aim was to translate foreign currency account balances in order to determine the net monetary position of a transnational business in terms of the Home Office domestic currency of account—implicitly a parent company view of a foreign business operation.

However, he left certain matters unclear. It is not evident from his exposition that conversion actually be undertaken in the accounting records of the firm or only in its financial statements. That is, should the revaluations resulting from the conversion process be effected in the accounts by journal entry (remeasurement) or limited to notes in working papers (a presentation issue)? Overseas assets and liabilities are shown separately on his balance sheet examples and no indication is given of the adjustments which would be required if conversion was to be actually incorporated in the accounts.

The conversion and incorporation of foreign currency denominated accounts of a foreign operation with those of its parent involves remeasurement. It quantifies the funds likely to be recoverable in home country currency by the Home Office. In contrast, the combination of account items for the purposes of preparing financial statements only facilitates presentation of consolidated accounts and Plumb was writing prior to the use of consolidated accounts in the UK or in fact anywhere (Walker, 1978).

His article never considered problems associated with long-term debt. However, this may not have been an issue for Plumb, since if long-term debt was raised by the Home Office it would have been raised in sterling and, therefore, would not require conversion. His use of the terms floating and circulating to describe some assets and liabilities also indicates that he may have in mind the measurement of exposure to loss from currency fluctuations affecting the value of short-term assets, such as receivables and stock in trade, which could be classified as current assets. This lack of definition means that his method has features in common with the currentnoncurrent, monetary-nonmonetary and temporal methods of translating foreign currency financial statements.

DEVELOPMENTS IN THEORY AND PRACTICE

Conversion/remeasurement of foreign branch accounts

The method outlined by Plumb was substantially refined in the ensuing years. But Plumb had outlined his method in a manner conforming to the prevailing economic theories of exchange rate determination and to the leading UK legal cases of his time. Dicksee attempted to clarify the questions raised in Plumb's earlier exposition, but in so doing he attempted to do so by grounding his argument in general principles of accounting theory.

Dicksee (1903b, p. 27) had expressed the view that:

the extent of the problem (of accounting for foreign branches) is that while profits are for the most part, earned in one currency, they have to be distributed among shareholders (or partners) in another; while the working capital of the undertaking (or the bulk of it) is, for the time being, invested in assets which are only realisable in the foreign currency.

In so doing, Dicksee also adopted a parent company perspective on foreign currency accounting. When he subsequently proceeded to develop his views on foreign currency accounting (in Dicksee, 1904), he attempted to work through the consequences of that perspective in detail.

Dicksee argued that foreign currency translation was a conversion process involving the remeasurement of account balances from one currency to another. He presented an example (Table 4) of that conversion process in the form of a trial balance. That trial balance clearly identified choice of exchange rates with specific accounts. Moreover, it illustrates the distinction between fixed and floating assets and liabilities which Plumb had left unclear in his exposition.

It shows account balances in the local currency (in this case rupees) and also converted into the Home Office currency (pounds sterling). Dicksee also provided additional columns showing the appropriate exchange rates to be used in the conversion process.

This trial balance extended the method proposed in Plumb (1891a, b) as follows:

 (i) instead of a capital account, a head office account is used and separate accounts are used for buildings, plant and equipment. These are converted at historical rates TABLE 4

Calcutta Trial Balance (Extended), 31 December 1903

					:										1
Rates of exchange	xchange		Rs.	а.	Р.	Rs.	a. p.	£		s.	ч.	¥	s.	Ч	.
1/4	1	Head office account	350	0	0	89 040	0 0		23	9	80 0	61	6 164 15	9	
1/4	I	Bad debts	50	0	0	1			3	9	×				
1/6	1/6	Business premises	22 080	0	0	1 104	0		1 656	0	0		82 16	0	~
1/6	•	Depreciation	1 494	0	0	I			112	1	0				
1/6	1/6	Plant	3 150	0	0	390	0 0		236	Ś	0		59	5	~
	1/41/8	Bank loan				50			1				m	2	~1
$1/4^{3/32}$	l	Stock-in-trade (31													
		December 1902)	41 620	0	0	I			2 789	-	Ś				
1/4	1	Purchases	137 970	0	0	1			9 198	0	0				
	1/4	Sales				212 950	0		1			141	96 1.	4	-+
		Remittances	0006	0	0	1530	0		602	14	œ	-	102	7 11	_
1/4		Rent. rates & taxes	1750	0	0	I			116	13	4				
1/4	I	Wares	52150	0	0	I			3 477	13	4				
1/41/8	I	" cash halances	340	0	0	I			22	16	10				
1 / 4		Ceneral evencer	2150			l			143	Y	¢				
	I	Coloriar Capellaco	2110			1			160		> ব				
+ + +		Salaries	1410	> <	> <					;;	+ •	•		2	
1/4	1/4	Discount	0555	> (0	3330	0 0		368		4 0	•	777	5	>
1/4	1	Carriage	2 040	0	0	1			136	C	0				
	1/41/8	Bills payable				9 420	0	_	1			Ť	632 18	~	
1/4	I	Commission and bonus	1410	0	0	I			94	0	0				
	$1/4/_{8}$	Outstanding accounts	1			1950	0	_	I				131	۲ 0	4
1/4		Petty cash	30	0	0	1			7	0	4				
1/4	I	Sold ledger account	62 130	0	0	I			4 174	~	2				
	$1/4^{1/8}$	Bought ledger account	1			32 870	0	_	1			5	2 208	6	
1/4	I	Bank balance	6980	0	0	1			468	19	4				
		Difference in exchange	1			1			1				13	3 8	8
)	352 634	0	0	352 634	0 0		£23 786 16	16	7	£23 786	786 16	9	
1/4	1	Stock (31 December 1903)	51 500	0	0	1			3 460 13	13					
															1
Foreign ex	ŝ	-for conversion (f to rupees):													
Current at 31/12/02 Current at 31/12/03		1/4% Average for year 1/4 Historical (for assers) 1/6													

Accounting for Translation of Foreign Currency : (Ido)

applying when a liability was incurred or the investment made;

- (ii) depreciation of buildings and equipment is also separately specified. Dicksee smphasizes that he departs from usual accounting practice of the time and recommends its inclusion in the branch trial balance (and in the profit determination process); the justification and methodology of depreciation was treated at length by Dicksee in a monograph (Dicksee, 1903a). In general, depreciation was regarded as a form of devaluation of assets and was effected in accounts in an ad hoc, nonsystematic manner.
- (iii) revenue and expense accounts are converted at average exchange rates for the relevant accounting period and include an account to provide for bad debts. An exception is made for depreciation. It is included as an expense but is converted using historical exchange rates. Dicksee states that the purpose of this transaction is to achieve bookkeeping consistency with the relevant asset accounts which are translated at historical exchange rates;
- (iv) the distinction between floating and fixed assets and liabilities is clarified. Floating assets and liabilities consist of cash, inventories and a bank loan. Fixed assets comprise buildings, plant and equipment. These items represent part of the result of local management's use of the head office investment which is now called the head office account instead of the capital account.

Moreover, the method of treating

fluctuating currencies has been clarified as a remeasurement rather than a presentation issue (this was not altogether clear from Plumb's account). Dicksee comments that:

with regard to the fixed assets, business premises and plant, because these are (emphasis in original) fixed assets, there is no occasion for them to be revalued from year to year so long as due provision is made in the books for their depreciation. They may properly be regarded as independent of fluctuations in exchange (p. 288).

Dicksee's argument, like that of Plumb, is based on purchasing power parity. It depends on the idea that monetary assets and liabilities change in home country purchasing power equivalent when exchange rates alter. By contrast, other assets, which are not so denominated would retain their home country purchasing power equivalent.

Similarly, the concept of depreciation which Dicksee used is based on diminution in value. He referred elsewhere to: 'provision for bad debts which merely represent depreciation of book debts'. For Dicksee and his contemporaries, depreciation meant the decline in aggregate value of receivables as short-term assets as well as in fixed or long-term assets. It was a valuation concept; it was not a cost allocation concept. In addition to the discussion in Dicksee (1903), this matter is also treated in Dicksee (1910). That textbook on auditing, which went into eight editions, was a popular and influential work in accounting practices.

Both Dicksee and Plumb viewed the process of converting the accounts of foreign operations into head office currency as a revaluation process which involves purchasing power equivalents. Where they differed, apart from terminological variations, was that Dicksee developed a general solution to the problem of foreign currency accounting, identifying it clearly as a remeasurement problem.

Dicksee (1904) also explicitly introduced depreciation into the trial balance and into profit determination. While he introduces it as a revaluation account, the idea that there should be made some allowance for deterioration (implicitly the contribution of long-term assets to business operations) is novel for the time.

More importantly, Dicksee (1904) drew a sharp distinction between profits and remittances. He justified the application of foreign currency conversion methods to profits on the basis that remittances were only funds received and need bear little or no relation to profits earned and available for distribution.

Diffusion of a method

The treatment of fluctuating currencies in accounts first proposed by Plumb was rapidly assimilated into accounting textbooks. However, it was to remain as an alternative for use in what was viewed as the exceptional case where currencies fluctuated, rather than the standard method (using the par rate of exchange) where currencies were assumed to be fixed, until at least the 1940s.

It is treated as an alternative method from the 2nd (1910) edition to the 6th (1924) edition of Spicer and Pegler's *Bookkeeping and Accounts* in the UK. In the Australasian editions of *Advanced Accounting* edited by R. N. Carter, the treatment of fluctuating currencies remains unchanged from at least the 2nd edition (n.d. but 1936?) to the 7th edition (1948).

In the USA, in Kester's *Advanced Accounting* (3rd edition) of 1933 it is treated as a special problem although, in contrast to UK practice, it is presented in a manner closely approximating the currentnoncurrent method. The difference in terminology reflects differences between US and UK accounting practices. In 1939, American regulators had ratified the distinction between current and noncurrent assets and liabilities as the basis for foreign currency translation in ARB4 which proposed the use of the current-noncurrent method.

However, even in the USA, the distinction between current and noncurrent assets, which formed the basis of the currentnoncurrent method of translation, was not universally accepted. Gilman (1944) questioned its use in published corporate reports. Indeed, the method which became known as the current-noncurrent method appears to have become the required treatment elsewhere only after World War II.

In Australia, Yorston, Smyth & Brown

nominated the translation method as originally outlined in Plumb (1891a, b) as the only treatment in their *Advanced Accounting* in 1947. Fitzgerald's *Accounting* (4th ed.) also nominated it as late as 1963. The method originally proposed in Plumb (1891) had a lifespan of over 70 years.

Fluctuating currencies in accounts ' and the return to the gold standard in 1926

One of the reasons Plumb's treatment remained as an alternative for so long was the endurance of the idea of fixed metallic standards for currencies as an article of economic faith, if nothing else. The UK, after departing from the gold standard in 1914, restored it in 1926, and remained there until 1931 (Moggridge, 1969). Many other countries followed suit, pegging their currencies to either the pound sterling or to the American dollar.

In an economic environment where major currencies were officially fixed, the problem of accounting for fluctuating currencies could continue to be treated as a specialist problem, if not ignored:

In the accounts, the discrepancy between Australian and English currencies has been dealt with in various ways, such as by ignoring the difference in the balance sheet itself and merely referring to it in a footnote or by the transfer of round numbers to earmarked reserves (Editorial, *Australian Accountant*, 1937, p. 139).

Elsewhere in the same article:

Probably the strongest deterrent to the application of the accounting principles relating to foreign exchanges to Anglo-Australian accounts has been the widely held belief that the substantial departure from parity with sterling in 1931 was a temporary phenomenon.

For the most part, accountants concentrated on fixed rates of foreign exchange for recording most routine business transactions and continued to ignore currency fluctuations.

CONCLUSION

The method originally proposed by Plumb is the progenitor of the currentnoncurrent and monetary-nonmonetary methods of foreign currency translation. It was developed for use in converting foreign branch accounts into home currency accounts where one or other of the currencies in which the accounts were maintained was a fluctuating currency.

It was based on a few fundamental premises:

- (i) that some asset/liability balances denominated in foreign currency exposed a business to the risk of loss when exchange rates varied;
- (ii) that the purpose of converting foreign currency account balances into home country currency was to re-measure accounts which were at risk of loss in order to identify accurately the extent to which profits would be available for distribution in the home currency.

The perspective adopted was that of the

parent company. The need to assess the economic performance of the foreign business as a discrete entity in its own right was not considered by Plumb or his contemporaries to be relevant to the account conversion process. In so doing, Plumb's method provided clear if narrow answers to the policy questions which reappeared in the foreign translation debate of the 1960s and 1970s.

Plumb's method was regarded as an improvement on the use of one fixed rate of exchange for converting all account balances because it provided a guide to the net monetary position of foreign business operation and hence governed the extent to which dividends could be paid in a home currency. It did not require conversion of fixed asset accounts because fixed assets were not held for the purpose of realization and, in any event were not deemed to affect the profit determination process at the time. Implicitly, remeasurement of fixed assets was unnecessary.

Between 1891 and 1939 there were extensions and changes to that basic method. Dicksee presented a detailed account of the bookkeeping procedure for Plumb's method. He left no doubt that he viewed it as a remeasurement method or that he was concerned with the problem of profit determination. He considered the purpose of conversion as one of revaluing account balances to identify not only realized but also realizable funds from foreign operations.

Dicksee's treatment continued to concentrate on floating, or what he termed movable, assets and liabilities. The question of those items also being classified as current or monetary assets and liabilities was one which he did not consider.

In 1891, Plumb's method had been described as the 'method for treatment of fluctuating currencies in foreign branch accounts'. That description, with minor variations, was used by writers of accounting textbooks and articles in the UK until the 1950s. If its early acceptance by textbook writers is any indication, Plumb's method was regarded as satisfactory-as a valuation method. That basic method remained in accounting textbooks long after accounting regulators and other interested parties were debating its variants. Along the way the purpose of that method seems to have been forgotten. It remained in the literature, as an alternative, probably because writers did not bother to remove it.

NOTES (for TABLE 2)

- AIA : American Institute of Accountants (-1957)
- AICPA : American Institute of Certified Public Accountants (1957-)
- APB : Accounting Principles Board Opinions, by AICPA
- ARB : Accounting Research Board Bulletin, by CAP
- ARS : Accounting Research Study, by AICPA
- ASC : Accounting Standards Committee

- CAP : Committee on Accounting Procedures, AIA (1939–1957), AICPA (1957–)
- CICA : Canadian Institute of Chartered Accountants
- FASB : Financial Accounting Standards Board (1973-)
- IASC : International Accounting Standards Committee
- ICAEW : Institute of Chartered Accountants in England and Wales
- ICAS : Institute of Chartered Accountants in Scotland
- NAA : National Association of Accountants
- SSAP : Statements of Standard Accounting Practice, by ASC

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