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**TRANSLATING THE FINANCIAL STATEMENTS OF
SUBSIDIARIES OPERATING IN TURKEY:
CURRENT/PURCHASING POWER PARITY METHOD
(PhD Thesis)**

42021

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ÖZET

Günümüzde uluslararası ticaret, birçok cazip nedenden dolayı hızla gelişmektedir. Uluslararası ticaretin gelişmesi, çokuluslu şirketlerin ortaya çıkmasını ve yayılmasını sağlamıştır. Bugün ülkemizde birçok çokuluslu şirket ve bağlı şirketleri çok değişik ve çeşitli sektörlerde faaliyet göstermektedirler.

Çokuluslu şirketlerin ve bunların bağlı şirketlerinin artması, uluslararası muhasebenin gerekliliğini ve önemini ortaya çıkarmıştır. Uluslararası muhasebenin önemli konularından birisi hiç kuşkusuz mali tabloların dönüştürülmesidir. Mali tabloların dönüştürülmesi, çokuluslu şirketlerin doğru konsolide mali tablolarına ulaşabilmeleri açısından çok önemlidir. Çokuluslu şirketlerin hiperenflasyonist ülkelerde faaliyet gösteren ve o ülkenin para biriminden mali tablolarını hazırlayan bağlı şirketleri olduğunda, mali tabloların anaşirketin faaliyet gösterdiği ülkenin para birimine dönüştürülmesi, anaşirketin doğru konsolide mali tablolarına ulaşabilmesi açısından daha da önem kazanır.

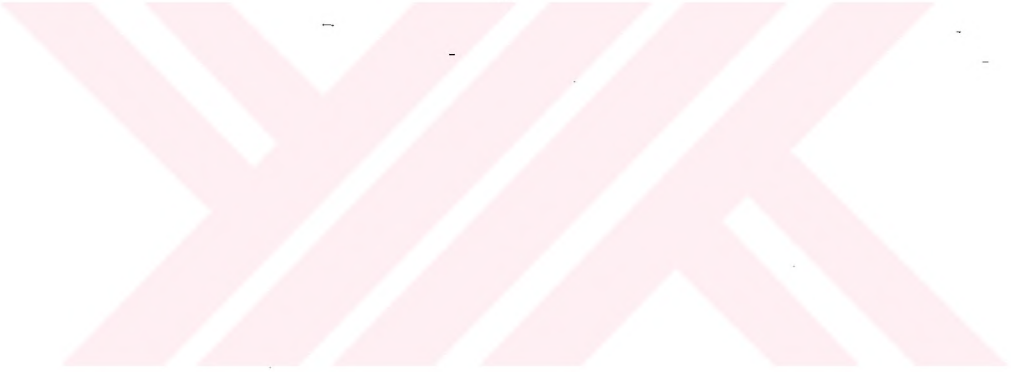
Bu çalışmanın amacı, Türkiye'de faaliyetlerini sürdüren yabancı bağlı şirketlerin mali tablolarını dönüştürürken, kur ve/veya yöntem seçimlerine yardımcı olmaktır.

Birinci bölümde; uluslararası ticaretin gelişmesi, bu gelişmeyle birlikte çokuluslu şirketlerin ortaya çıkışı ve çokuluslu şirketlerin uluslararası muhasebenin önemini ortaya koyuşu anlatılmıştır.

İkinci bölümde; bugüne kadar zaman zaman kullanılmış ve kullanılmakta olan genel kabul görmüş dönüştürme yöntemlerinden ve bu yöntemlerin tarihsel gelişimlerinden bahsedilmiştir. Yine bu bölümde, mevcut dönüştürme yöntemlerinin hiperenflasyonist ortamda faaliyet gösteren bağlı şirketlerin tablolarının dönüştürülmesinde kullanılmasının doğru olmayacağı tartışılmış ve alternatif yöntem önerilerinden bahsedilmiştir.

Üçüncü bölümde; hiperenflasyonist ortamda faaliyet gösteren bağlı şirketlerin mali tablolarının dönüştürülmesinde kullanılması önerilen Cari/Alım Gücü Paritesi yöntemi anlatılmıştır.

Dördüncü ve son bölümde ise; üçüncü bölümde bahsedilen yöntemin Türkiye'de uygulanabilirliği test edilmiş ve bir uygulama yapılmıştır. Yine bu bölümde, bu çalışmanın sonuçlarından bahsedilmiştir.



ABSTRACT

Recently, international business is rapidly growing because of many attractive reasons. This improvement of international business caused multinational companies appear and widely spread. Today, there are lots of multinational companies and foreign subsidiaries operating in different and various sectors of Turkey.

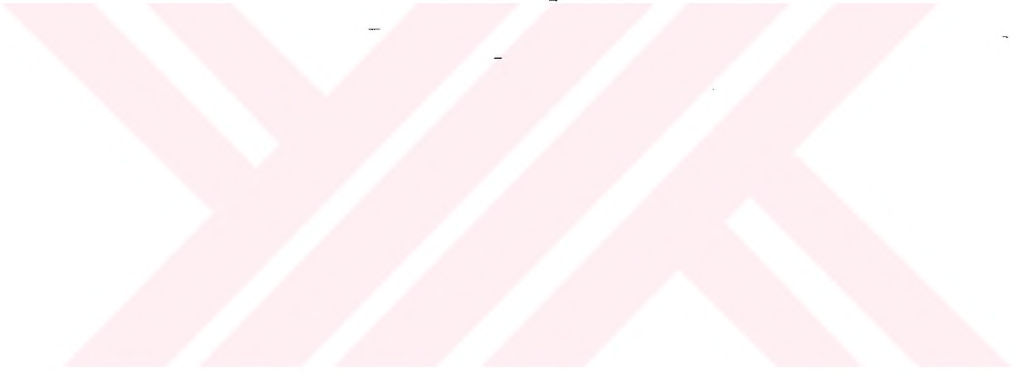
The increase in multinational companies and foreign subsidiaries brought the necessity and importance of international accounting out. One of the important subjects of international accounting is no doubt the translation of financial statements. Translation of financial statements is important in order to be able to come up with the correct consolidated financial statements from multinational companies' point of view. When a multinational company has a subsidiary, operating in hyper inflationary country and preparing its financial statements in terms of that country's currency, translation of subsidiary's financial statements into home country's currency becomes more important in order to come up with correct consolidated financial statements.

The aim of this study is to help the foreign subsidiaries, operating in Turkey, while choosing an exchange rate and/or a method in translating their financial statements into home currency.

In the first chapter; generally accepted translation methodologies, which were used up to now and still being used in the world, and their historical developments were explained. Again in this chapter, it's discussed that using current translation methodologies for the financial statements of subsidiaries operating in hyper inflationary environments would not be efficient, and alternative method proposals were explained.

In the third chapter; Current/Purchasing Power Parity method which is proposed to be used in translating the financial statements of subsidiaries operating in hyper inflationary environments is explained.

In the fourth and the last chapter; the applicability of the method explained in the third chapter was tested for Turkey and an example was exhibited. And, the conclusion of the study was written.



CHAPTER 1

1. INTERNATIONAL BUSINESS ENVIRONMENT

1.1. International Business

International business includes all business transactions that involve two or more countries. These transactions can be conducted exclusively in the private sector, or they can also involve the public sector.¹

Companies get involved in international business for a variety of reasons. The major reason is to expand sales, perhaps has excess capacity and does not have additional sales opportunities at home. Thus it needs to sell products abroad in order to utilize its capacity more efficiently. International sales can also be profitable.

A second reason to get involved in international business is to gain access to raw materials or other factors of production.

A third incentive for international activity is to gain access to knowledge. Learning about new technology quickly can make a big difference in a firm's ability to compete in global markets. New technology is being developed worldwide, so firms cannot rely on their domestic market to keep abreast of new developments.

When companies first began to expand beyond domestic markets, especially the market seekers, they usually get involved in exports and imports. Merchandise exports are goods sent out of a country, and merchandise imports are goods brought into a country. Exports and imports can also involve services as well as goods.

¹Lee Radebaugh, Sidney J. Gray, "International Accounting and Multinational Enterprises", John Wiley & Sons Inc., 3rd Edition, p.19

Another form of international business is a turnkey operation, which is generally the result of engineering services that flow from contracts for constructing and operating facilities. Some hotel chains enter into management contracts, which allows them to receive a fee for managing a hotel facility owned by local investors.

Firms that own a specialized asset (such as production process, trademark, patent, copyright, etc.) may license that asset to someone abroad and earn a royalty from the use of the asset. A more comprehensive form of licensing agreement is franchise. In a franchise agreement, the franchisor allows the franchisee to use its name and expertise to sell a product that it has developed.

Besides the export of goods and services, firms can also get involved in investment. A direct investment occurs when a firm assumes some degree of control over a foreign operation in order to influence management decisions.

If two or more firms involved in establishing a venture, the operation is known as a joint venture. If one of the partners is a government, the venture is called a mixed venture. Joint ventures often occur because the investor lacks financial or managerial expertise, or because the investor needs to rely on the local knowledge of the partner in the venture.

1.2. Multinational Enterprises (MNE)

1.2.1. Definition

There are a variety of terms used to describe firms involved in international business. The most frequently used term is multinational enterprise (MNE), which refers to firms that have a worldwide view of production, of the sourcing of raw materials and components, and of final markets.² There is no consensus as to how much of a firm's sales, assets, earnings, and employees must be abroad for the firm to be considered an MNE, but anything less than 10 percent of the above indicators would probably disqualify a firm from the elite group of MNE's.

One important attribute of the multinational firm is the attitude of its management. Although a firm can be large in size, with worldwide operations, unless the management takes a worldwide view of the firm and its operations, it may not be a true multinational. The different attitudes of management toward international operations can be organized into three categories: (1) an emphasis on their own nation, a home country orientation; (2) an emphasis on the foreign country, a host country orientation; and (3) an emphasis on the world view, a world orientation. The management of the multinational should adopt the "geocentric" world-oriented view of their firm and its operations.³

1.2.2. Organization of the Multinational

The organization structure of a firm doing business internationally is a vital determinant of success. The organization structure must provide an effective decision-making process and a smooth flow of communications between various parts of the enterprise.⁴ The

²Lee H. Radebaugh, Sidney J. Gray, *ibid*, p.21

³Thomas G. Evans, Martin E. Taylor, Oscar Holzmann, "International Accounting and Reporting", PWS-KENT Publishing Comp., 1988, p.6

⁴Stefan H. Robock, Kenneth Simmonds, "International Business and Multinational Enterprises", 3rd Edition, Homewood Ill.: R.D. Irwin 1983, p.370

international enterprise encompasses two distinct but interwoven component structures: the statutory, and the managerial organization.

The statutory organization defines the legal and ownership structure that links the parent company with its various units. Each unit may have a different statutory status - branch, subsidiary, holding company, and so forth - depending in part on the legal requirements of the jurisdiction in which it is established.

The managerial organization may cut right across the statutory structure and is concerned with the authority and responsibility of each executive and their lines of communication. It is also concerned with the information that flows along these lines of communication and procedures for channeling and processing the information.

The statutory and managerial structures must be considered as separate entities. The lawyers and tax experts will be primarily responsible for designing the statutory structure. The international manager will be involved mainly in the design and function of the managerial structure.

1.2.3. Evolutionary Stages of Multinational Organization

As international operations change from exporting to a mix of exporting, licensing, and foreign production, and as international sales become of more than incidental importance to the firm, conflicts of interest arise between international units of the firm that are not easily handled by an export development type of organization. Where a need has emerged to establish production facilities in areas served by exports, the export department may fail to recognize the need. Or it may prefer to continue with exports because foreign production may mean a loss export sales attributed to the department. The usual organizational response to such conflicting interests has been to create a full international division.

The establishment of an international division normally results from four factors. First is the matter of size. The international commitment of the firm has reached an absolute size

and a relative importance within the enterprise to justify an organizational unit headed by a senior manager. Second, the complexity of international operations requires a single organization unit that can resolve within it such conflicts as the best means for entering foreign areas on the basis of a broad view of the firm's international opportunities.

Third, the firm has recognized the need for an internal group of specialists to deal with the special features of international operations. And finally, the enterprise wants to develop an affirmative capability for scanning the global horizon for opportunities or competitive threats than simply responding to situations that are presented to the company.

By the mid-1960s, a growing number of firms had abandoned their international divisions in favor of a global organizational structure. At global stage, responsibility for both foreign and domestic business is moved to the top echelons and new subdivisions are specified either on a functional, regional, or product basis.

A simple global structure is not the final in the development of organizational structures capable of providing effective administration for a multinational enterprise. Simple global structures are based on the management principle of unity of command: one man having sole responsibility for a specified part of the business, either subdivided by function, product, or geographic areas, and accountable to a single superior officer. But the conflicting need for coordinating function, product, and geographic areas can still remain a serious problem. Some firms adopted more complex structures in which managers have dual or multiple reporting relationships and where area, function, and product responsibilities overlap.

Firms typically evolve into multinationals, and this process is shown in Table 1.1. The normal progression that can be broken into various numbers of steps. At first, the firm starts off as a purely domestic firm that manufactures and sells in one country.

The second step occurs when this firm receives an unexpected order from a customer in a foreign country. The order was not expected, but it is not unwelcome. At this stage, the international business aspect of its operations is casual. But if this side of the firm continues to experience growth and becomes a large part of the firm, it moves to the next

step in which the firm actively solicits foreign customers and perhaps obtains its materials from foreign suppliers.

TABLE 1.1. Evolution of the Multinational

Step 1: Strictly domestic

- . No international business

Step 2: Casual international business

- . Passive, unsolicited, unexpected
- . Not welcome

Step 3: Initial international business

- . Active, solicited, expected
- . Very limited scale initially

Step 4: Essentially international

- . Internationalized management
- . Internationalized organization chart
- . Domestic potentially superior

Step 5: Multinational (global) corporation

- . International as coequal
- . Firm deals in global markets for products and input factors
- . Firm's capital needs met in world markets

Source: Thomas G. Evans, Martin E Taylor, Oscar Holzmann, "International Accounting and Reporting", PWS-KENT Publishing Comp., 1988 p.7

When the firm's international side has become significant, in revenues, profits, and assets, the next stage has been reached: the firm is essentially international. That is, it has foreign operations that are reasonably independent; its organization chart is internationalized; and its management team is international. However, the domestic business may still dominate the firm and be larger than the international business.

But when the international side dominates the domestic, then the final stage has been reached, and the firm has become a multinational or global corporation. At this stage it deals in world markets for both materials and products; its management team is international; and it raises its capital in world capital markets. The management team holds a "geocentric view" of the firm.⁵

⁵Thomas G. Evans, Martin E Taylor, Oscar Holzmann, "International Accounting and Reporting", PWS-KENT Publishing Comp., 1988 p.7-8

1.2.4. Multidomestic versus Global

Given that the MNE has decided to internalize its advantages and pursue foreign direct investment as one of its strategies, there are two strategies to consider: the multidomestic and the global strategies.⁶ The multidomestic strategy allows each subsidiary abroad to operate relatively independently of other subsidiaries around the world. Thus, the MNE operates on a domestic-by-domestic market basis. The major reasons for the multidomestic strategy are that "these businesses have products that differ greatly among country markets and have high transportation costs, or their industries lack sufficient scale economies to yield the global competitors a significant competitive edge."⁷

Another possibility is to develop a global strategy where the MNE positions itself against its competitors on a global rather than market-by-market basis. The potential for success with a global strategy "is greatest when significant benefits are gained from worldwide volume - in terms of either reduced unit costs or superior reputation or service - and are greater than the additional costs of serving that volume."⁸ The global strategy considers more than just the home country as a source of raw materials and components, manufacturing and assembly, and final distribution and sale. The attempt is to integrate global activities to benefit the company as a whole rather than allow each subsidiary to pursue an independent strategy.

1.2.5. The Accounting Dimension of Global Strategy

As we move from global strategy to accounting, what are some of the accounting dimensions of this drive for globalization? A MNE must develop financial statements in each of the countries where it has operating subsidiaries according to the laws of those countries, and it must also prepare a set of financial statements consistent with

⁶Lee H. Radebaugh, Sidney J. Gray, "International Accounting and Multinational Enterprises", John Wiley & Sons Inc., 3rd Edition, p.34

⁷Lee H. Radebaugh, Sidney J. Gray, *ibid.*, p.34

⁸Lee H. Radebaugh, Sidney J. Gray, *ibid.* p.99

accounting standards and practices of home country for consolidation purposes. It must deal in export and import transaction denominated in different currencies and report them all in home country currency.

Its management control systems must reflect different situations in each of the countries where it operates. The systems must be appropriate for the need and sophistication of the individual countries, and they must also satisfy the need of the corporation as a whole.

It must pay taxes in each of the countries where it earns income, and it must also deal with the tax laws in the home country for income earned abroad.

Thus, there are potentially many situations that may require some understanding of international accounting. As the world's economies become increasingly interdependent, the frequency and importance of these occasions will also increase. So, virtually everyone who prepares, audits, or uses financial statements of companies with international operations will need to know more and more about international accounting, hence the importance of it.

1.3. International Accounting

1.3.1. Definition of International Accounting

International accounting includes both the financial and managerial accounting and is defined as "accounting for international transactions, the operations of international firms and comparisons of accounting principles and practices found in foreign lands and procedures by which they are established."⁹ International accounting is a well-established area of specialty within accounting and has two major dimensions:

1. **Comparative**: examining how and why accounting principles differ from country to country.

2. **Pragmatic**: accounting for the operational problems and issues encountered by individuals and firms in international business.

The comparative dimension of international accounting is oriented toward accounting, and the pragmatic one tends to be managerial.

The following outline organizes the most important international accounting topics into financial and managerial categories:

ACCOUNTING FOR THE MULTINATIONAL ENTERPRISE

Financial accounting topics: translation, consolidation, segment reporting, inflation accounting, disclosure, auditing, taxation.

Managerial accounting topics: foreign exchange risk management, investment analysis, information systems, transfer pricing, budgeting, performance evaluation, control, operational auditing.

⁹Thomas G. Evans, Martin E. Taylor, Oscar Holzmann, "International Accounting and Reporting", PWS-KENT Publishing Comp., 1988, p.2

Comparative accounting: financial accounting principles and practices in foreign nations and how these are established.

One of the tasks associated with the accounting for the multinational corporation is preparing worldwide consolidated financial statements. These statements require the combination of financial statements for all of the firm's subsidiaries, domestic and foreign. Additionally, the multinational's control system must cover its foreign operations, and because many national and international agencies issue accounting standards that affect the multinational, someone in the controller's office must monitor and evaluate these rules and proposals.

Each stage in the evolution of the multinational will have implications for international accounting, which are shown in Table 1.2.

TABLE 1.2. Evolution of the Multinational: International Accounting Implications

Step 1: Strictly domestic	No international accounting
Step 2: Casually international	Accounting for exports
Step 3: Initially international	Accounting for exports and imports and foreign direct investment
Step 4: Essentially international	Exports, imports, foreign direct investment, currency translation, and worldwide consolidation
Step 5: Multinational	All the above plus Foreign Corrupt Practices Act and international accounting standards

Source: Thomas G. Evans, Martin E Taylor, Oscar Holzmann, "International Accounting and Reporting", PWS-KENT Publishing Comp., 1988, p.12

1.3.2. Requirements of International Accounting

An accounting system for multinational enterprises must provide sufficient and satisfactory information to fulfill several requirements simultaneously.¹⁰ First, it must provide financial data for information and decision purposes that is understandable and useful to the local management of the particular unit. At the enterprise level, the system must provide internal statements that can be used for comparison, and on which decisions involving more than one country can be based. The system must also provide financial statements that can be consolidated on an enterprise-wide basis. Finally, the accounting for the total enterprise and the individual subunits of the firm must respond to external reporting requirements, particularly those of the different countries in which the firm operates.

Managers need to be familiar with national and international standards if they are to interpret successfully the messages contained in a multinational's accounts. They should also understand how accounts based on different accounting standards and expressed in different currencies are restated onto a consistent basis for consolidation and then translated into a common currency.

1.3.2.1. Subsidiary Reporting Requirements

National accounting standards and procedures, prescribed either by law or by local professional organizations, must be followed in order that financial reports can be understood by tax and other government officials. Adherence to national accounting standards permits each local manager to manage on the basis of familiar data and concepts, to compare performance with that of local competitors, and to evaluate results against local rather than parent-company standards. Furthermore, many managerial decisions are dependent on local conditions and have to be based on relevant local data. For example, local inflationary conditions may require price-level adjustments for

¹⁰Stefan H. Robock, Kenneth Simmonds, "International Business and Multinational Enterprises", 3rd Edition, Homewood Ill.: R.D. Irwin 1983, p.478

company expenses or sales for different time periods, even though such accounting practices are not typical in the country of the parent.

Given the multiple purposes that must be served by financial reporting, the national operating units often find it necessary to prepare three or four sets of financial statements. One set is prepared on the basis of nationally accepted accounting principles. A second set of financial statements is prepared that complies with the accounting principles and the translation methods that are accepted in the country of the home office. Still another set may be prepared to comply with the regulations of the various tax authorities involved. And, finally, separate financial statements may be prepared that present a picture of the enterprise for management.

1.3.2.2. Corporate Reporting Requirements

At the headquarters of the multinational, comparability between accounts of subsidiaries is likely to be an important requirement. Allocation of resources and management attention is frequently based on comparative performance. The central accounting staff must also produce parent company financial statements that meet the requirements of the jurisdiction in which the parent is incorporated, the requirements of regulatory bodies and their own external audit requirements.

Where shareholdings are multinational, and a single set of financial statements could cause communication difficulties, the Accountants International Study Group (AISG) has recommended "secondary" financial statements.¹¹ Some multinationals report both according to their own home accounting principles and also on the basis of United States principles with statements in English.

Another important trend has been growing demand and expectation that business firms act in a socially responsible fashion.¹² It may be further in the future, but there is a strong

¹¹Stefan H. Robock, Keneth Simmonds, *ibid.*, p.480

¹²Stefan H. Robock, Keneth Simmonds, *ibid.* p.482

probability that multinational firms may have to publish a social audit and report on their relationship to the social environment and the effects of this relationship.

1.3.2.3. Consolidation Requirements

The accounting treatment for consolidated financial statements recommended by the International Accounting Standard No.3 and adopted in the United States and other countries is as follows:

Foreign subsidiaries: Financial statements must be consolidated **line-by-line** with the parent company and other subsidiaries.

Foreign associates: Not consolidated but recorded under the **equity method** in the parent company books. The equity method requires that the value of the investment in the parent company's books be increased or decreased to recognize the parent's share of profits or losses after the acquisition. To calculate this profit or loss, though, a foreign associate's financial statements must be translated into parent company's currency with the translation profit or loss specified.

Investments: Recorded under the **cost method**. They are retained at cost on the parent company's books and income is recognized only to the extent that dividends are paid from profits rising after the date of acquisition.

Subsidiaries are entities over which the parent exercises control. Control is indicated by ownership of a majority of the equity capital, or control of the board. But control may even occur below 51% ownership.

Associates are companies in which the investment interest is substantial and over which the investor has the power to exercise significant influence. Power to exercise significant influence, however, is not presumed to exist below a holding 20% voting power.

Investments are all equity holdings not in subsidiaries or associates.

Another set of consolidation requirements of multinational is in the process of being formed within the EEC. The proposals are contained in the "Proposal for a Seventh Directive" published by the EEC Commission in April 1976. Article 6 of the proposal requires preparation of consolidated EEC accounts for every "dominant undertaking," that is, a company controlling another, with its registered office in the EEC wherever its subsidiaries are located. There is no exemption if this undertaking is itself a subsidiary of a foreign multinational preparing consolidated accounts. Even further, there is a requirement to consolidate separate "dependent undertakings" within the EEC.



1.4. International Business Combinations and Consolidations

The financial performance and future prospects of the MNE as an economic entity is of interest to a wide range of groups including investors, bankers, employees, and managers.

While there is a recognized need for information about MNE operations on a worldwide basis, it is a matter of some controversy as to how best to report this. Consolidations is currently accepted in practice as the best means of accounting for groups and business combinations internationally. Consolidated reports are relevant not only to external users, notably investors, but also to managers as a basis for overall control and evaluation of performance.

Consolidation involves aggregating, on a "line-by-line" basis, information about the assets, liabilities, revenues, and expenses of MNE's many individual legal entities into income, financial position, and funds cash-flow statements relating to a single economic entity.¹³

At the same time, it is increasingly recognized that the complexity of MNE operations is such that consolidations are likely to be less than revealing without some disaggregation of the information accumulated. Hence the corresponding demand for segmental (disaggregated) information by lines of business and geographical markets. Consolidated and segmental statements are thus complementary forms of reporting - each appears to be necessary for an informed appraisal of MNE operations. Paradoxically, just as consolidations are now becoming accepted in practice as appropriate for groups operating in the international environment, so are their limitations becoming apparent in terms of revealing any significant differences in the risks and returns applicable to the various operations of the MNE.

¹³Lee Radebaugh, Sidney J. Gray, "International Accounting and Multinational Enterprises", John Wiley & Sons Inc., 3rd Edition, p.209

An alternative to full consolidation on a "line-by-line" basis is proportional consolidation where only the ownership share of assets and liabilities are consolidated on a pro-rata or proportional basis. This is typically considered appropriate for joint ventures.

With respect to associated or affiliated corporations, where there is a significant influence but not controlling interest, the majority of MNEs use the equity method, whereby a share of profits are consolidated on a "one-line" basis according to the equity owned by the MNE. The assets and liabilities of the associates are not consolidated. Instead, the investment amount is adjusted to reflect the MNE's share in equity. The more conservative cost method.- whereby only dividends received and receivable are included in the results for the year - is widely used.

Exhibit 1.1. shows how the different consolidation methods impact on the balance sheet and income statement in a simplified example of 50% owned foreign company. It can be seen that the balance sheet under full consolidation includes all of the assets of the foreign company with the majority interests in them shown separately under equities. Under proportional consolidation, 50% of the assets are brought in, compared to the equity method, which restates the investment in the foreign company from \$ M75 to \$ M80 to reflect the new share of equity. In the income statement, net income is the same under each method but presented differently. Under full consolidation, the minority interest share is deducted from gross income, whereas under proportional consolidation, the share of income is incorporated in the proportionate revenues and expenses included in the income statement.¹⁴

The equity approach, on the other hand, is to subsequently add the share of income of the associated company to the parent company's net income. This example excludes issues relating to foreign currency translation.

¹⁴Lee Radebaugh, Sidney J. Gray, *ibid.*, p.214

EXHIBIT 1.1. MNE Consolidation Alternatives
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Consolidation Method
Balance Sheet as of 31 December 199X

	MNE Parent \$ M	Foreign Company \$ M	Full consolidation \$ M	Proportional consolidation \$ M	Equity Method \$ M
Fixed Assets	250	130	380	315	250
Investment in foreign com- pany (50%)	75	-	-	-	80
Inventory	50	30	80	65	50
	375	160	460	380	380
Share Capital	350	150	350	350	350
Net Inc. 1993	25	10	30	30	30
Shareholders' Equity	375	160	380	380	380
Minority Interests	-	-	80	-	-
	375	160	460	380	380
Income Statement for 199X					
Revenues	50	20	70	60	50
Expenses	25	10	35	30	25
Income from foreign asso- ciate company	-	-	-	-	5
	25	10	35	30	30
Minority Interests	-	-	5	-	-
Net Income	25	10	30	30	30

CHAPTER 2

2. TRANSLATION OF FOREIGN CURRENCY FINANCIAL STATEMENTS

2.1. Introduction

Perhaps the most significant aspect of international accounting is the translation of foreign financial statements.

The process of translation implies that one currency is expressed or restated in terms of another currency.¹⁵

Accounting is based on a single currency idea, in order to facilitate the grouping of like financial data. Because the nature of accounting and its reliance on the principles of mathematics, the accounting records of a given firm must be kept in a single currency, or the component parts cannot be added together to provide meaningful sums on the financial reports.

Because of "accounting nationalism," each nation has its own accounting principles for firms legally established within its borders. When one firm owns firms in another country, these foreign operations (subsidiaries, branches, or joint ventures) will account for their activities in accordance with that country's accounting rules and will keep their accounting records in that nation's currency. If the country of the parent corporation has an accounting requirement for group or consolidated financial statements, then the foreign statements, if included in the consolidated statements, must be translated in three areas before they can be consolidated: (1) language, (2) accounting concepts, and (3) currency.

¹⁵Lee Radebaugh, Sidney J. Gray, *ibid.*, p.339

Why should translation occur in the first place? Sometimes financial statements are restated or translated from one currency into another to assist the reader of financial statements. The management of a multinational enterprise may wish to see the results of a foreign operation stated in the parent currency in order to facilitate cross-national comparisons. *If a multinational enterprise is to prepare consolidated financial statements, it must express the statements of its different operations in a common currency before combination or consolidation can occur.*

Several terms important to the discussion of translation are: functional currency, reporting currency, foreign currency, and local currency.

The **functional currency** is the currency of the primary economic environment in which the firm operates. The **reporting currency** is the currency in which the parent company prepares its financial statements. The **foreign currency** is any currency other than the reporting currency. The **local currency** is the currency in the country where the foreign firm is operating; it is also the foreign currency to parent company. The functional currency could be either the reporting currency or the foreign (local) currency.

To illustrate these terms, let's assume that a US.-based multinational enterprise has an operating subsidiary in Turkey that does some importing from Germany. The functional currency of the subsidiary would be Turkish Lira, assuming that the company is relatively autonomous from the parent company and that most of its cash flows are in Turkish Liras. The local currency would also be the Turkish Lira, the German Deutsche Mark would be a foreign currency to the Turkish subsidiary, and the US. Dollar would be the reporting currency of the consolidated enterprise. Both Turkish Lira and the German Deutsche Mark would be foreign currencies to the parent company in the United States. If the Turkish operation were an extension of the parent company and relatively dependent on the parent company for inventory, cash flows, etc., the functional currency might be considered the reporting currency.

2.2. Translation Methodologies

The translation of foreign financial statements requires a translation method, which has two working parts.¹⁶ One part specifies what exchange rates should be used to translate each line of the foreign financial statements into the local currency. There are three alternatives: (1) The exchange rate in effect between the currencies as of the date of the translation, called the **current rate**; (2) the rate in effect when the underlying transaction took place, called **historical rate**; and (3) the rate in effect during a given time period called the **average rate**. A currency translation method will have rules governing which of these three rates to use for each element of the foreign financial statements.

A second working part of the currency translation method must prescribe the treatment for imbalance, a situation resulting from elements in the financial statements translated at the current rate. If currency values change, then foreign exchange translation gains or losses may result. Assets and liabilities that are translated at the current (post change) exchange rate are considered to be exposed, while those translated at a historic (pre change) exchange rate will maintain their historic values and, hence, are regarded as not exposed. **Translation exposure** is just the difference between exposed assets and exposed liabilities.¹⁷ The controversies among accountants concern which assets and liabilities are exposed and when accounting-derived foreign exchange gains and losses should be recognized. A crucial point to realize in setting these controversies in perspective is that such gains and losses are of an accounting nature; i.e., no cash flows are necessarily involved.

In the process of translation, all local currency balance sheet and income statement accounts are restated in terms of the reporting currency by multiplying the local currency amount times the appropriate exchange rate.¹⁸ The four major ways that have been used over the years in translation process are the current-noncurrent, the monetary-nonmonetary, the temporal, and the current rate methods. No single method is used

¹⁶Thomas G. Evans, Martin E. Taylor, Oscar Holzmann, "International Accounting and Reporting", PWS-KENT Publishing Comp., 1988, p.167

¹⁷Alan C. Shapiro, "Multinational Financial Management", Boston: Allyn and Bacon, 1982, p.112

¹⁸Jeffrey S. Arpan, Lee H. Radebaugh, "International Accounting and Multinational Enterprises", John Wiley & Sons Inc., 2nd Edition, p.126-127

universally and all have been used in one or more countries around the world at one time.

2.2.1. Current-Noncurrent Method

Under the current-noncurrent method, current assets and liabilities are translated at current exchange rates and noncurrent assets and liabilities and stockholders' equity are translated at historical exchange rates.¹⁹ Hence, a foreign subsidiary with positive local currency working capital will give rise to a translation loss (gain) from a devaluation (revaluation) with the current-noncurrent method and vice versa if working capital negative.

The income statement is translated at the average exchange rate of the period, except for those revenues and expense items associated with noncurrent assets or liabilities. The latter items, such as depreciation expense, are translated at the same rates as the corresponding balance sheet items. Thus it is possible to see different revenue and expense items with similar maturities being translated at different rates.²⁰

The current-noncurrent method is based on the assumption that accounts should be grouped according to the maturity. Anything due to mature in one year or less or within the normal business cycle should be translated at the current rate, whereas everything else should be carried at the rate in effect when the transaction was originally recorded.

2.2.2. Monetary-Nonmonetary Method

The monetary-nonmonetary model focuses on the financial character of the foreign financial statement element to determine which rate to use to translate into the home

¹⁹Lee Radebaugh, Sidney J. Gray, "International Accounting and Multinational Enterprises", John Wiley & Sons Inc., 3rd Edition, p.140

²⁰Alan C. Shapiro, "Multinational Financial Management", Boston: Allyn and Bacon, 1982, p.112

currency.²¹ The monetary-nonmonetary method differentiates between monetary assets and liabilities, those items that represent a claim to receive, or an obligation to pay, a fixed amount of foreign currency units, and nonmonetary, or physical, assets and liabilities.²² Monetary items (e.g., cash, accounts payable and receivable, and long-term debt) are translated at the current rate; nonmonetary items (e.g., inventory, fixed assets, and long-term investments) are translated at historic rates.²³

Income statement items are translated at the average exchange rate during the period, except for the revenue and expense items related to nonmonetary assets and liabilities. The latter items, primarily depreciation expense and cost of goods sold, are translated at the same rate as the corresponding balance sheet items. This can lead to a situation in which the cost of goods sold is translated at a rate different from that used to translate sales.

The philosophy behind this approach is that monetary or financial assets and liabilities have similar attributes in that their value represents a fixed amount of money whose reporting currency equivalent changes each time the exchange rate changes.²⁴ Those accounts should therefore be translated at the current exchange rate. In the current-noncurrent method some current assets are monetary (such as cash) and some are nonmonetary (such as inventory carried at cost), and yet all are translated at the current exchange rate. The proponents of the monetary-nonmonetary method consider it more meaningful to translate assets and liabilities on the basis of attributes instead of time.

The main differences between the current-noncurrent and the monetary-nonmonetary methods are the translation rates used for noncurrent receivables and payables and inventory and prepaid items.²⁵ Under the current-noncurrent method, all noncurrent items are to be translated at the historic rates whereas all current assets are to be translated at the current rate. However, under the monetary-nonmonetary method,

²¹Thomas G. Evans, Martin E. Taylor, Oscar Holzmann, "International Accounting and Reporting", PWS-KENT Publishing Comp., 1988, p.169

²²Alan C. Shapiro, "Multinational Financial Management", Boston: Allyn and Bacon, 1982, p.112

²³Alan C. Shapiro, *ibid.*, p.112

²⁴Lee Radebaugh, Sidney J. Gray, "International Accounting and Multinational Enterprises", John Wiley & Sons Inc., 1988, p.341

²⁵Thomas G. Evans, Martin E. Taylor, Oscar Holzmann, "International Accounting and Reporting", PWS-KENT Publishing Comp., 1988, p.169

current and noncurrent receivables and payables, if monetary, are to be translated at the current rate, and the current assets, such as inventory and prepaid items as monetary items, are to be translated at their historical rate. Under the monetary-nonmonetary method, the cost of goods sold is to be translated at the historical rates as they flowed through the income statement, and depreciation expense is to be translated at the appropriate historical rate.²⁶

2.2.3. Temporal Method

According to temporal method, cash, receivables, and payables (both current and noncurrent) are translated at the current rate . Other assets and liabilities may be translated at current or historical rates, depending on their characteristics. Assets and liabilities carried at past exchange prices are translated at historical rates. For example, a fixed asset carried at the foreign currency price at which it was purchased would be translated into the reporting currency at the exchange rate in effect when the asset was purchased. Assets and liabilities carried at current purchase or sales exchange prices, or future exchange prices would be translated at current rates. For example, inventory carried at market would be translated at the current rather than the historical rate.²⁷

This method appears to be a modified version of the monetary-nonmonetary method, the only difference being that, under the monetary-nonmonetary method, inventory is always translated at the historical rate. Under the temporal method, inventory is normally translated at the historical rate, but it could be translated at the current rate if the inventory is shown on the balance sheet at market values; e.g., in the case of LIFO accounting. Despite the similarities, however, the theoretical basis of each method is different. Whereas the choice of exchange rate for translation is based on the type of asset or liability in the monetary-nonmonetary method, it is based on the underlying approach to evaluating cost (historic versus market) in the temporal method.²⁸

²⁶Thomas G. Evans, Martin E. Taylor, Oscar Holzmann, *ibid.*, p.169

²⁷Lee Radebaugh, Sidney J. Gray, "International Accounting and Multinational Enterprises", John Wiley & Sons Inc., 3rd Editon, p.341-342

²⁸Alan C. Shapiro, "Multinational Financial Management", Boston:Allyn and Bacon, 1982, p.112-113

The temporal model concentrates on the measurement base underlying the element on the balance sheet. Foreign balance sheet items are measured according to three different bases:²⁹ past exchange prices (historical cost), current exchange prices (current value), and future value. The underlying measurement base is accepted as the primary criterion to determine which exchange rate to use. If the balance sheet is stated at the current or future exchange prices, then the current rate is used, but if the underlying measurement base is past exchange prices, then the historical rate should be used. As usual, stockholders' equity, except for retained earnings, is translated at the historical rate. Under the temporal model, on the income statement, the cost of goods sold and the depreciation expense are translated at their historical rates.³⁰ The advantage of this method is that it gives the best indication of real performance in the translated currency when assets are valued on a mixed basis of historical cost and market price.³¹

The attractiveness of the temporal approach lies in its flexibility.³² If a country were to change from historical cost accounting to current value accounting, the temporal method would automatically translate all assets and liabilities at current rates.

2.2.4. Current Rate Method

The fourth method is called the current rate method, the closing-rate method, or sometimes the net-assets method. The current rate method is the easiest to apply because it requires that all assets and liabilities be translated at the current exchange rate.³³ Only net worth would be translated at the historical rate. All assets -current, noncurrent, monetary, nonmonetary - and all liabilities are translated at the current rate. This approach is easier to use than the others because a firm would not have to keep track of various historical exchange rates. On the income statement in the purest form of the

²⁹Thomas G. Evans, Martin E. Taylor, Oscar Holzmann, "International Accounting and Reporting", PWS-KENT Publishing Comp., 1988, p.169-170

³⁰Thomas G. Evans, Martin E. Taylor, Oscar Holzmann, *ibid.*, p.169-170

³¹Stefan H. Robock, Kenneth Simmonds, "International Business and Multinational Enterprises", 3rd Edition, Homewood, Ill.:R.D.Irwin, 1983, p.495

³²Lee Radebaugh, Sidney J. Gray, "International Accounting and Multinational Enterprises", John Wiley & Sons Inc., 3rd Edition, p.342

³³Lee Radebaugh, Sidney J. Gray, *ibid.*, p.342

model, both the cost of goods sold and the depreciation expense are translated at the current rate as well, but they may be translated at an average rate, too.³⁴

TABLE 2.1. The Comparison of Translation Models for Balance Sheet and Income Statement

Balance Sheet Item	Translation Rate Used			
	C-NC	M-NM	T	CR
Cash	C	C	C	C
Current Receivables	C	C	C	C
Merchandise Inventory (cost)	C	H	H	C
Prepaid Items	C	H	H	C
Plant, Property, Equipment	H	H	H	C
long-term Intangible Assets	H	H	H	C
Current Payables	C	C	C	C
Long-term Debt	H	C	C	C
Contributed Capital	H	H	H	H
Retained Earnings	X	X	X	X
Income Statement Item				
Cost of Goods Sold	C	H	H	C or A
Depreciation Expense	H	H	H	C or A

Where, C=current rate, H=historical rate, A=average rate, X=not translated

Source: Thomas G. Evans, Martin E. Taylor, Oscar Holzmann, "International Accounting and Reporting", PWS-KENT Publishing Comp., 1988, p.170

³⁴Thomas G. Evans, Martin E. Taylor, Oscar Holzmann, "International Accounting and Reporting", PWS-KENT Publishing Comp., 1988, p.170

The current rate approach results in translated statements that retain the same ratios and relationships that exist in the local currency.³⁵

The use of the current rate throughout ignores the idea that there will be appreciation in assets to offset currency devaluation, or depreciation to offset revaluation. Under this method, if a firm's foreign currency denominated assets exceed its foreign currency denominated liabilities, a devaluation must result in a loss and a revaluation in a gain. One variation is to translate all assets and liabilities except net fixed assets at the current rate.

Table 2.1. shows the main differences among the four translation models for balance sheet and income statement items. As can be seen, both the monetary-nonmonetary and the temporal methods are quite close, but the current-noncurrent and the current rate methods stand apart, both from each other and from the other two methods.

³⁵Lee Radebaugh, Sidney J. Gray, "International Accounting and Multinational Enterprises", John Wiley & Sons Inc., 3rd Edition, p.343

2.3. Historical Development of Translation Methods

The first currency translation model adopted in the United States was the current-noncurrent method.³⁶ It was established in 1939 by American Institute of Certified Public Accountants' (AICPA) Committee on Accounting Procedure and presented in its Accounting Research Bulletin 4, "Foreign Operations and Foreign Exchange." The current-noncurrent method is not based on any international theory.

It was in this era of increasingly importance associated with international operations that the monetary-nonmonetary method became prominent. Based on a stronger conceptual base, support for this method grew, and it was formally recognized by the Accounting Principles Board (APB) in 1965 as part of APB Opinion 6. Paragraph 18 of this opinion concerned currency translation and allowed, under circumstances never defined, the translation of noncurrent receivables and payables at the current rate. This was widely interpreted as permitting the adoption of the monetary-nonmonetary model, but this is not strictly correct. If a firm followed the current-noncurrent model and adjusted it to translate noncurrent receivables and payables at the current rate, the result would be a hybrid translation model, not the monetary-nonmonetary model. At issue are both inventories and prepaid items. Under the current-noncurrent model, both, as current assets, are translated at the current rate; however, under the monetary-nonmonetary model, both are nonmonetary assets and should be translated at the historical rate. Firms that adopted the provision of APB Opinion 6, although believing that they were using the monetary-nonmonetary model were, in fact, not. Some firms actually adopted the monetary-nonmonetary model at this time, although this was not sanctioned by the APB.

The APB was dissolved in 1973 to be replaced by Financial Accounting Standards Board (FASB). In its last years, the APB focused attention on currency translation but could do nothing in the time remaining and passed on this important issue to the FASB. The last official act of the APB regarding currency translation was the publication in 1972 of Accounting Research Study 12 in which the temporal model was unveiled. These research studies were meant by the APB to precede the issuance of an opinion, but the

³⁶Thomas G. Evans, Martin E. Taylor, Oscar Holzmann, "International Accounting and Reporting", PWS-KENT Publishing Comp., 1988, p.171-178

APB had passed out of existence by the time it could issue an opinion on currency translation. Thus, the stage was set for the action of the FASB.

When FASB took over from APB, it faced a wide variety of translation models in practice. The FASB put the topic of currency translation on its technical agenda but knew that its due process procedure would take time to address the many associated issues.

2.3.1. FINANCIAL ACCOUNTING STANDARDS BOARD - FASB 8

In early 1973, the FASB assembled a project team to consider a new standard for currency translation. This team issued a discussion memorandum on the topic in early 1974 and by year-end submitted an exposure draft of a new accounting standard for public comment and reaction. This process concluded with the issuance of the new standard, FASB 8,³⁷ "Accounting for the Translation of Foreign Currency Transactions and Foreign Currency Financial Statements," in October 1975.

As its title implies, FASB 8 was the first comprehensive American accounting standard dealing with foreign operations of American-based multinationals. It established the accounting principles for three areas of international operations:

1. International transactions, such as importing, exporting, foreign borrowing, and lending.
2. Translation of foreign affiliate financial statements for the equity method and consolidations.
3. Accounting for forward contracts.

The provisions of FASB 8 for the currency translation of foreign affiliate financial statements are as follows:

³⁷Financial Accounting Standards Board, "Statement of Financial Accounting Accounting Standard No.8: Accounting for the Translation of Foreign Currency Transactions and Foreign Currency Financial Statements", October 1975

1. Foreign statements must first be adjusted to conform generally accepted accounting principles;
2. Foreign balance sheet and income statements must be translated into reporting currency, using the temporal method, which uses a "money-time" approach to translation. The underlying measurement base of the foreign financial statement element determines rate to use:
 - a. Past exchange (historical cost): use historical rate.
 - b. Current exchange (replacement cost): use current rate.
 - c. Current sale exchange (market price): use current rate.
3. Exchange gains and losses from translation are included in the current net income.

The new FASB standard adopted the temporal model for translation. Under the generally accepted accounting principles, the temporal method contained in FASB 8 was exactly like monetary-nonmonetary method. But FASB 8 did still have important effects on the translation practices. In particular, the requirement of FASB 8 that inventory be translated at historical rates affected many firms.

Under FASB 8, sales revenues were translated at average rates and the cost of goods sold, at historical rates. If an exchange rate changed during a period, the sales revenue from the sale of inventory would be translated at a different rate than would the cost of goods sold.

Another problem was created by the disparity of translation rules for inventory and accounts payable, often viewed as the financing offset to inventory. Under FASB 8, inventory was translated at the historical rate, whereas accounts payable, often created acquisition of the inventory, was translated at the current rate.

Another important feature is that FASB 8 required that gains and losses from foreign currency transactions and the translation of foreign currency financial statements had to be taken directly to the income statement.³⁸ That meant that translated earnings were fluctuating widely depending on what was happening to the exchange rate, independent

³⁸Lee H. Radebaugh, Sidney J. Gray, "International Accounting and Multinational Enterprises", John Wiley & Sons Inc., 3rd Edition, p.344

of the operation of the firm. This area became a source of real contention in the corporate world and was one of the major factors that led to the downfall of FASB 8.

FASB 8 Translation Example

The following example illustrates the translation approach of FASB 8. It concerns translation of a single, 100 percent, owned subsidiary. The income statement and balance sheet are to be translated into dollars under the provisions of FASB 8.

EXHIBIT 2.1. FASB 8 Translation Example: Income Statement

	Local Currency	Exchange Rate	\$
Sales	8,000	0.44	3,520
Cost of Goods Sold	6,500	0.47	3,055
Operating Expenses			
General and Administrative	700	0.44	308
Depreciation	100	0.55	55
Interest	180	0.44	79.2
Earnings Before Tax	520		22.8
Tax-Current	200	0.44	88
Tax-Deferred	10	0.44	4.4
Translation Gain (Loss)			466.4
Earnings After Tax	310		396.8
Retained Earnings (1.1.199X)	1,300		550
Dividends Paid (30.6.199X)	<u>300</u>	0.41	<u>123</u>
Retained Earnings (31.12.199X)	1,310		823.8

Source: Thomas G. Evans, Martin E. Taylor, Oscar Holzmann, "International Accounting and Reporting", PWS-KENT Publishing Comp., 1988, p.175

The income statement shows an operating profit in local currency. The revenues and operating expenses, except for cost of goods sold and depreciation, are translated into dollars at the average rate for the year, \$ 0.44. The cost of goods sold is translated at the historical rate associated with the acquisition of the merchandise \$ 0.47 (on a FIFO basis). Depreciation expense is translated at the historical rate associated with the acquisition of the fixed assets. Both liabilities for taxes, current and deferred, are translated at the average rate. In the retained earnings section, a dividend paid is translated into dollars at the spot rate on that date.

The last column is in dollars. The calculated after-tax operating profit in dollars (before considering the translation gain) is a loss of \$ 69.6 thousand. The translation gain offsets the loss and results in a profit for this subsidiary.

Calculation of Exchange Gain in Dollars:

$$\begin{array}{r r r r r} \text{Earnings After Tax} & + & \text{Beginning R. E.} & - & \text{Dividends Paid} & = & \text{Ending R.E.} \\ (\$ 69.6) & + & \$ 550 & - & \$ 123 & = & \$ 357.4 \end{array}$$

Earnings after tax are calculated before the translation gain or loss:

$$\$ 22.8 - \$ 88 - \$ 4.4 = (\$ 69.6)$$

Ending R.E from balance sheet:

$$\begin{array}{r r r r r} \text{Assets} & - & \text{Liabilities} & - & \text{Capital Stock} & = & \text{Ending R.E} \\ \$ 2,615 & - & \$ 1,431.2 & - & \$ 360 & = & \$ 823.8 \end{array}$$

Comparison of two ending R.E. figures produces translation gain:

$$\$ 823.8 - \$ 357.4 = \$ 466.4$$

The monetary assets and monetary liabilities are translated into dollars at the year-end rate of \$ 0.40. Nonmonetary assets (inventory, prepaids, and fixed assets) and deferred taxes all are translated at their respective historical rates, as is the contributed capital (capital stock and paid in capital) element in the stockholders' equity.

EXHIBIT 2.2. FASB 8 Translation Example: Balance Sheet
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	Local Currency	Exchange Rate	\$
Current Assets:			
Cash	300	0.40	120
Accounts Receivable	1,200	0.40	480
Merchandise inventory	1,500	0.41	615
Prepaid Insurance	20	0.50	10
Subtotal	3,020		1,225
Fixed Assets:			
Land	300	0.55	165
Building	1,200	0.55	660
Equipment	1,100	0.55	605
Accumulated Depreciation	(400)	0.55	(220)
Subtotal	2,200		1,210
Long-term Notes Receivable	450	0.40	180
TOTAL ASSETS	5,670		2,615
Current Liabilities:			
Accounts Payable	900	0.40	360
Taxes Payable	200	0.40	80
Current Long-term Debt	400	0.40	160
Subtotal	1,500		600
Long-term Debt	2,000	0.40	800
Deferred Taxes	60	0.52	31.2
Subtotal	2,060		831.2
Stockholders' Equity:			
Common Stock and Paid in Capital	800	0.45	360
Retained Earnings	1,310		823.8
TOTAL LIABILITIES	5,670		2,615

Source: Thomas G. Evans, Martin E. Taylor, Oscar Holzmann, "International Accounting and Reporting", PWS-KENT Publishing Company, 1988, p.177.

Calculation of Translation Gain and Ending Balance in Retained Earnings:

In this example, in dollars and before the translation gain, the subsidiary produced a loss of \$ 69.6 thousand, though the translation gain offset this loss.

The dollar net income of the subsidiary was determined on an after-tax-but-before-translation-gains-or-losses basis: $\$ 22.8 - \$ 88 - \$ 4.4 = \$ 69.6$ loss. This loss was added to the beginning balance in retained earnings in dollars (\$ 550), and the dollar value of the dividend was subtracted (\$ 123). This produced an ending balance for retained earnings before considering the translation gain or loss of \$ 357.4. But the translation of the balance sheet elements, except for retained earnings shows that the ending balance of retained earnings necessary to balance the balance sheet must be \$ 823.8, and this figure would include the translation gain or loss. The difference between two ending retained earnings balances is the translation gain or loss. In this example, it is a translation gain of \$ 466.4. This figure is then included on the income statement, and the figure for the ending retained earnings balance is then shown on the balance sheet. Although this approach produces the correct figure for the accounting statements, a firm's management would need more detail on the components of the translation gain, and this would be provided in an internal analysis report.

MAJOR CRITICISMS of FASB 8

1. Most multinationals had a net liability accounting exposure under FASB 8. And when the dollar increased on world currency markets and foreign currencies decreased, they showed a translation gain. But, if foreign currencies decrease, firms in the future may realize an economic loss from their foreign operations. FASB 8 was not "directionally sympathetic" to the economic impact of currency movements.
2. The translation of merchandise inventory at historical exchange rate and accounts payable at the current rate was inconsistent. Many firms complained about carrying

inventory at historical rates for two reasons.³⁹ The first reason was simply cost-benefit. The feeling was that if inventory were turning over relatively rapidly and approximating current rates then it would be a lot easier to compute inventory values if the current rate could be used instead of having to keep track of the old historical exchange rates. The other was one of timing. Managers complained that because inventory was being translated at the historical rate, it was possible for an exchange rate change in one quarter to impact earnings in a subsequent quarter when inventory flowed through the cost of goods sold. They felt that this was distorting the operating performance of each quarter. In other words the translation of cost of goods sold at the historical rate associated with the inventory and sales at the average rate distorted the gross margins.

3. The recognition in current income of translation gains and losses was inappropriate, as these gains and losses were unrealized. Because currency movements often reversed themselves in later quarters, this recognition also created unrealistic fluctuations in the reported earnings of multinational, a "roller coaster" effect.

4. FASB 8 adopted very strict rules concerning what constituted hedges of currency exposure .

5. The final criticism related to the disposition of the gain or loss on long-term debt. FASB 8 required that firms translate long-term debt at current rates. Since most of the foreign currency long-term debt was in currencies that were strengthening, firms were recognizing sizable losses. Many firms felt that since the foreign currency debt was generally being liquidated by foreign earnings, there were really no exposure. They also argued that the fixed assets purchased by the debt were a natural hedge or protection against loss since they were constantly generating earnings.

As a result of these and other criticisms, the Board decided to add to its agenda a project to consider all or parts of Statement 8. In 1980, an exposure draft issued as "Foreign Currency Translation." This exposure draft proposed some radical changes for FASB 8. It proposed abandoning the temporal method of translation in favor of the current rate method. This was partly caused by the board's increased emphasis on international

³⁹Lee Radebaugh, Sidney J. Gray, *ibid.*, p.344

harmonization. And because this method was widely used in other countries, the FASB decided both to improve FASB 8 and to achieve more harmony with other nation's currency translation principles. The exposure draft also proposed some radical changes in handling translation gains and losses and in accounting for forward contracts and hedges of accounting exposure.

In June 1981, the board issued a revised exposure draft, "Foreign Currency Translation." In this document, the board responded to the major concern about the 1980 exposure draft, the inflation-currency rate problem, and the idea of a functional currency. In regard to the first issue, the board proposed that local financial statements be adjusted for local inflation before being translated into reporting currency. This treatment was required in nations whose latest three-year inflation rate (cumulative) was 100 percent. Firms were given the option of a local inflation adjustment for subsidiaries in nations whose latest three-year cumulative inflation rate was greater than that in the parent company's country. The approach of the revised exposure draft was characterized as "restate-translate." In this approach, the statements are first restated for inflation and then translated. This was in contrast with the approach taken in the FASB's standard inflation accounting, FASB 33, which required the translate-restate approach for firms with multinational operations.

2.3.2. FINANCIAL ACCOUNTING STANDARDS BOARD - FASB 52

The new rule on currency translation had twin goals:⁴⁰ (1) to give results that were directionally sympathetic to the real economic effects of exchange rate movements and (2) to preserve financial results and relationships in the foreign financial statements through the translation process. FASB 52⁴¹ relied heavily on the current method to achieve these objectives. First, under current rate method, all the assets and liabilities are translated at the current rate, and the accounting exposure (to translate gains and losses)

⁴⁰Thomas G. Evans, Martin E. Taylor, Oscar Holzmann, "International Accounting and Reporting", PWS-KENT Publishing Comp., 1988, p.180-181

⁴¹Financial Accounting Standards Board, "Statement of Financial Accounting Standard No.52: Foreign Currency Translation", December 1982

is equal to the net worth (total assets minus total liabilities) and is an asset exposure. With the new asset exposure position under the current rate method, if a foreign currency rose against the reporting currency, it would produce a translation gain under the current rate method, instead of a loss for the method of FASB 8. In the second case, because all assets and liabilities are simply translated at the current rate, they all are multiplied by a constant, and thus underlying relationships (such as current ratio) are preserved.

On the income statement, the current rate method employed in FASB 52 required that all revenues and expenses be translated into reporting currency at the average rate for the period. Thus, gross margin percentages in the local currency were preserved through the translation process. Thus the current rate method does achieve the twin objectives as stated in FASB 52. In addition, the current rate method has two other advantages: it is simple to use and it is in harmony with other translation methods of other countries and thus contributes toward worldwide harmony in translation methods.

The most important aspect of the new standard is that, unlike the case with FASB, most FASB 52 translation gains and losses bypass the income statement and are accumulated in a separate equity account on the parent's balance sheet. This account is usually called something like "cumulative translation adjustment."

Selection of Functional Currencies

In FASB 52, a new concept was introduced and linked to the current rate translation method: the functional currency. This concept is used to differentiate between two types of foreign operations: those that are self-contained and integrated with the local economic environment and those that are really an extension of the parent and integrated with it. For the first kind of foreign operation, FASB 52 requires that the foreign financial statements be first expressed in their functional currency and translated into reporting currency, using the current rate method. For operations in the second category, the reporting currency is taken as the functional currency, and "remeasurement" is applied. This remeasurement process uses translation procedures of FASB 8, that the temporal method. Thus, FASB 52 did not abandon the translation method of FASB 8 in

favor of the current rate method; it simply mandated the current rate method for most cases. Additionally, there is one other situation in which the reporting currency and remeasurement are used instead of the current rate method under FASB 52: for those operations in a hyper-inflationary environment. This feature of FASB 52 was adopted to counter the "disappearing plant" problem. That is, countries with very high inflation rates also have a steadily declining currency. Using that declining exchange rate to translate even a constant investment in plant, property and equipment into reporting currency would eventually reduce to zero that investment in reporting currency. Thus, to avoid this problem, the FASB required, at their historical exchange rates, the translation of the plant, property and equipment of highly inflationary operations.

Conceptually, it is possible for a foreign operation to have more than one functional currency.⁴² For example, the operation could sell and distribute products manufactured by the parent company so that the functional currency might be that of the parent. However, it might also be manufacturing and selling products locally, in which case the functional currency for those functions would be the local currency. Once the functional currency of the operation has been selected, it is possible to begin the translation process. It is important to remember that the functional currency is selected on the basis of operating criteria established by management. If the firm wishes to change the functional currency, it can do so only because the operating criteria used in the initial selection have changed. This is designed so that firms will not change functional currencies capriciously in order to take advantage of the differences in the financial statements that result from the different translation methods.

TABLE 2.2. Determining the Functional Currency
--

a. Cash flow indicators

(1) Foreign Currency - Cash flows related to the foreign entity's individual assets and liabilities are primarily in the foreign currency and do not directly impact the parent company's cash flows.

⁴²Jeffrey S. Arpan, Lee H. Radebaugh, "International Accounting and Multinational Enterprises", John Wiley & Sons Inc., 2nd Edition, p.133

(2) Parent's Currency - Cash flows related to the foreign entity's individual assets and liabilities directly impact the parent's cash flows on a current basis and are readily available for remittance to the parent company.

b. Sales price indicators

(1) Foreign Currency - Sales prices for the foreign entity's products are not primarily responsive on a short-term basis to changes in exchange rates but are determined more by local competition or local government regulation.

(2) Parent's Currency - Sales Prices for the foreign entity's products are primarily responsive on a short-term basis to changes in exchange rates; for example, sales prices are determined more by worldwide competition or by international prices.

c. Sales market indicators

(1) Foreign Currency - There is an active local sales market for the foreign entity's products, although there might be significant amounts of exports.

(2) Parent's Currency - The sales market is mostly in the country or sales contracts are denominated in the parent's currency.

d. Expense indicators

(1) Foreign Currency - Labor, materials, and other costs for the foreign entity's products or services are primarily local costs, even though there also might be imports from other countries.

(2) Parent's Currency - Labor, materials, and other costs for the foreign entity's products or services, on a continuing basis, are primarily costs for components are obtained from the country in which the parent company is located.

e. Financing indicators

(1) Foreign Currency - Financing is primarily denominated in foreign currency, and funds generated by the foreign entity's operations are sufficient to service existing and normally excepted debt obligations.

(2) Parent's Currency - Financing is primarily from the parent obligations, or funds generated by the foreign entity's operations are not sufficient to service existing and normally excepted debt obligations without the infusion of additional funds from the parent company. Infusion of additional funds from the parent company for expansion is not a factor, provided funds generated by the foreign entity's expanded operations are expected to be sufficient to service that additional financing.

f. Intercompany transactions and arrangement indicators

(1) Foreign Currency - There is a low volume of intercompany transactions and there is not an extensive interrelationship between the operations of the foreign entity and the parent company. However, the foreign entity's operations may rely on the parent's or affiliates' competitive advantages such as patents and trademarks.

(2) Parent's Currency - There is a high volume of intercompany transactions and there is an extensive interrelationship between the operations of the foreign entity and the parent company. Additionally, the parent's currency generally would be the functional currency if the foreign entity is a device or shell corporation for holding investments, obligations, intangible assets, etc. that could readily be carried on the parent's or affiliates books.

Source: Financial Accounting "Standards Board, Statement of Financial Accounting Standards No.52, Foreign Currency Translation " (Stamford, CT:FASB, December 1981), p.26-27

FASB 52 requires that financial statements of a foreign unit first be states in the functional currency using generally accepted accounting principles. At each balance sheet date, any assets and liabilities denominated in a currency other than the functional currency of the recording entity must be adjusted to reflect the current exchange rate on that date. Transaction gains and losses resulting from adjusting assets and liabilities denominated in a currency other than the functional currency, or from settling such items, generally must appear on the foreign unit's income statement. The only permitted exceptions to the general requirement to include transaction gains and losses in income as they arise are listed as follows:

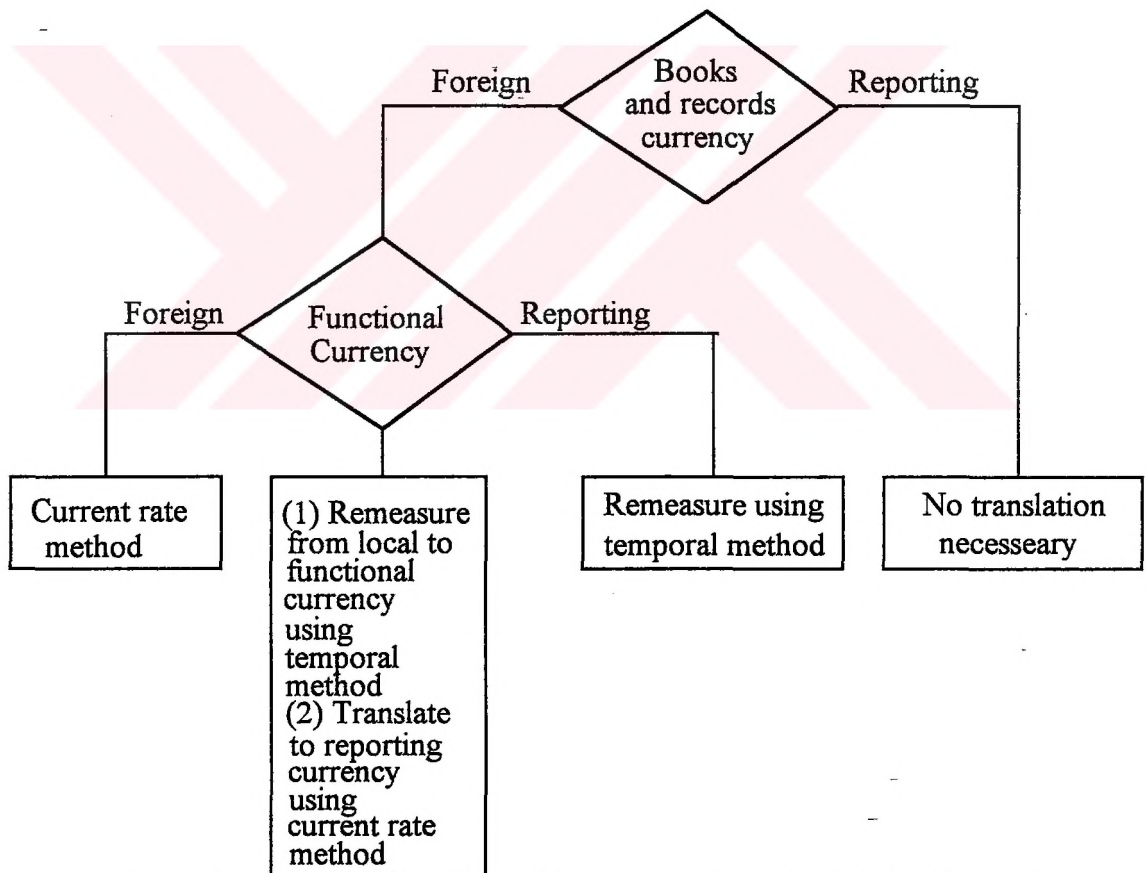
1. Gains and losses attributable to a foreign currency transaction that is designated as an economic hedge of a net investment in a foreign entity must be included in the separate component of shareholders' equity in which adjustment arising from translating foreign currency financial statement are accumulated.

2. Gains and losses attributable to intercompany foreign currency transactions that are of a long-term investment nature must be included in the separate component of shareholders' equity when the parties to the transaction are accounted for by the equity method in the reporting entity's financial statements.

3. Gains and losses attributable to foreign currency transactions that hedge identifiable foreign currency commitments are to be deferred and included in the measurement of the basis of the related foreign transactions.

After all financial statements have been converted into the functional currency, the functional currency statements are then translated into reporting currency, with translation gains and losses flowing directly into the parent's foreign exchange equity account.

TABLE 2.3. Translation or Remeasurement of Foreign Currency Financial Statements into the Reporting Currency



Source: Lee Radebaugh, Sidney J. Gray, "International Accounting and Multinational Enterprises", John Wiley & Sons Inc., 3rd Edition, p.348

If the functional currency is the reporting currency, the unit's local currency financial statements must be remeasured in reporting currency. The objective of the remeasurement process is to produce the same results that would have been reported if the accounting records had been kept in reporting currency rather than the local currency. Translation of the local currency accounts into reporting currency takes place according to the temporal method previously required by FASB 8; thus the resulting translation gains and losses must be included in the income statement.

The Board was concerned about using the current rate method to translate financial statements of highly inflationary countries because there is a tendency for the exchange rate of those countries to depreciate relative to the reporting currency in approximately the same rate as the inflation differential.⁴³ Fixed assets carried at historical cost in the local currency would rapidly lose reporting currency value to the point where they became insignificant on the financial statements. The Board considered permitting inflation adjustments of the primary financial statements before translation using the current rate method, but rejected that approach since inflation adjustments are not accepted in primary reporting financial statements. Thus the best approach was to define the functional currency as the reporting currency and require remeasurement of the financial statements from the local currency to the reporting currency using the temporal method. That method requires that nonmonetary assets be translated at the historical rather than the current exchange rate. That method partially insulates the foreign entity from the impact of inflation on nonmonetary assets. Thus, even though the functional currency might be the local currency from an operational standpoint, the reporting currency is considered the functional currency from a translation standpoint.

⁴³Lee H. Radebaugh, Sidney J. Gray, "International Accounting and Multinational Enterprises", John Wiley & Sons Inc., 3rd Edition, p.347

The following is a list of the steps that must be followed to apply the translation principles of FASB 52:⁴⁴

1. Adjust foreign financial statements for material differences in generally accepted accounting principles.
2. Select the functional currency for each subsidiary.
3. If necessary, remeasure, following the translation practices of FASB 8 the financial statements into the functional currency.
4. Remeasure the financial statements of operations in hyper inflationary countries.
5. Translate into reporting currency using current rate method.

⁴⁴Thomas G. Evans, Martin E. Taylor, Oscar Holzmann, "International Accounting and Reporting", PWS-KENT Publishing Comp., 1988, p.182

FASB 52 Translation Example

To illustrate the workings of translation principles of FASB 52, the example of FASB 8 is presented in Exhibit 2.3.

	Local Currency	Exchange Rate	\$
Sales	8,000	0.44*	3,520
Cost of Goods Sold	6,500	0.44	2,860
Operating Expenses			
General and Administrative	700	0.44	308
Depreciation	100	0.44	44
Interest	180	0.44	79.2
Earnings Before Tax	520	0.44	228.8
Tax-current	200	0.44	88
Tax-deferred	10	0.44	4.4
Translation Gain (Loss)			
Earnings After Tax	310		136.4
Retained Earnings (1.1.199X)	1,300	Historical Rate	550
Dividends Paid (30.6.199X)	300	0.41 [#]	123
Retained Earnings (31.12.199X)	1,310		563.4

* Average for year, # Spot rate on dividend date

Source: Thomas G. Evans, Martin E. Taylor, Oscar Holzmann, "International Accounting and Reporting", PWS-KENT Publishing Comp., 1988, p.184

Under FASB 52, all elements of revenue and expense in the income statement are translated into dollars at the average rate in effect for the period. The only element on this income statement that is translated at its historical rate is the dividend paid in midyear.

EXHIBIT 2.4. Translation Example: Balance Sheet

	Local Currency	@ 0.40	\$
Current Assets:			
Cash	300		120
Accounts Receivable	1,200		480
Merchandise Inventory	1,500		600
Prepaid Insurance	20		8
Subtotal	3,020		1,208
Fixed Assets:			
Land	300		120
Building	1,200		480
Equipment	1,100		440
Accumulated Depreciation	(400)		(160)
Subtotal	2,200		880
Long-term Notes Receivable	450		180
TOTAL ASSETS	5,670		2,268
Current Liabilities:			
Accounts Payable	900		360
Taxes Payable	200		80
Current Long-term Debt	400		160
Subtotal	1,500		600
Long-term Debt	2,000		800
Deferred Taxes	60		24
Subtotal	2,060		824
Stockholders' Equity:			
Common Stock and Paid in Capital	800	@ 0.45	360
Retained Earnings	1,310	(from exhibit 2.3)	563.4
Translated Adjustments			(79.4)
TOTAL LIABILITIES	5,670		2,268

Source: Thomas G. Evans, Martin E. Taylor, Oscar Holzmann, "International Accounting and Reporting", PWS-KENT Publishing Comp., 1988, p.185.

In the year-end balance sheet for the subsidiary, all assets and liabilities are translated into dollars at the current year-end rate of \$ 0.40; common stock and paid in capital are still translated into dollars at their historical rate; the figure for retained earnings comes directly from the income statement; and the final figure to make the balance sheet balance is the ending balance of the translation adjustment account.

The disclosure requirements for FASB 52 were as follows: firms must disclose the total transaction gain or loss in net income and changes in the cumulative translation adjustment account in the stockholders' equity. The latter information may be provided in a separate financial statement, the notes to the financial statements, or in the statement of changes in stockholders' equity and must include details on the beginning balance in the account, the current period translation adjustment amount, and the ending balance.

In their article "Foreign Currency Translation and Analyst Forecast Dispersion; Examining the Effects of Statement of Financial Accounting Standards No.52," Chen-Comiskey-Mulford (1990)⁴⁵ said that: "The current rate method, the key new feature of SFAS No.52, requires to exclude from income the effects of currency movements on the translated financial statements of most foreign entities. The effects of these foreign exchange movements are, instead, accumulated and reported as a single component of shareholders' equity. They are taken into income only upon sale (partial or complete) or an impairment in the value of the investment in the foreign entity. This current-rate method is employed in most financial statement translation situations. It is inapplicable only in cases in which the local, foreign currency is not the functional currency, either because the foreign subsidiary's finances and/or operations lack autonomy, or because of high inflation. In these latter cases, the temporal (i.e., monetary/nonmonetary) method continues to apply and translation gains and losses are included in income. With the adoption of SFAS No.52, the FASB removed the conditions that led to the apparent economic consequences of SFAS No.8. That is, the SFAS No.52 removed most translation adjustments from the income statement, thereby reducing earnings volatility. Consequently, the need to use foreign currency hedging to stabilize reported earnings was reduced. As noted in Houston and Mueller: However, it appears that translation

⁴⁵Chen, Al Y. S., Comiskey Eugene E., Mulford Charles W., "Foreign Currency Translation and Analyst Forecast Dispersion: Examining the Effects of Statement of Financial Accounting Standard No.52", Journal of Accounting and Public Policy, Vol.9, No.4, Year 1990

exposure hedging was reduced subsequent to adoption of the new financial accounting standard (SFAS No.52). In particular, firms which must no longer include all translation gains (losses) arising from their foreign operations in their income statements are more likely to have stopped or reduced hedging translation exposure (1988, p.52)."

2.3.3. STATEMENT OF STANDARD ACCOUNTING PRACTICE - SSAP 20

The new British accounting standard on foreign currency translation, SSAP 20⁴⁶ (statement of standard accounting practice), appeared in April 1983. The new standard is quite similar to the original exposure draft (ED 27) and to FASB 52. The main translation provisions of the new standard are as follows:⁴⁷

1. The assets and liabilities of foreign subsidiaries should normally be translated at the current (closing) exchange rate for consolidation purposes, and any foreign exchange gains and losses from translation will be taken to balance sheet reserves;
2. Foreign exchange gains and losses from translating foreign borrowings or debt used to finance or to hedge foreign currency net investments will be taken to balance sheet reserves.

When a firm operates abroad through foreign subsidiaries, the new SSAP focuses on the operational relationship between the parent and the subsidiaries to determine which translation method to employ for consolidation purposes. If the foreign subsidiary is independent of the parent and the parent anticipates receiving a stream of dividend from the subsidiary, then the closing rate method will be considered appropriate.

Under the new standard, for most foreign subsidiaries, the appropriate translation method is the current rate method, based on the net worth (net investments) concept. In effect,

⁴⁶Statement of Standard Accounting Practice: "SSAP 20: Foreign Currency Translation", April 1983

⁴⁷Thomas G. Evans, Martin E. Taylor, Oscar Holzmann, International Accounting and Reporting, PWS-KENT Publishing Comp., 1988, p.195-96

the assets and liabilities in the foreign balance sheet are to be translated into reporting currency at the closing exchange rate. Any translation differences arising from this will be taken to reserves in the stockholders' equity section of the balance sheet.

However, if the foreign subsidiary is really an extension of the parent and is interlinked with the investing firm, then the temporal translation method will be considered appropriate. The treatment of exchange gains or losses on short term monetary items (assets and liabilities) are to be recognized in current net income. The support for this is that these items will soon be converted into cash flows. The normal treatment for translation gains and losses on long-term monetary items is the same; however, the statement cites "prudence" as support for a provision that would restrict the recognition of translation gains and losses on these long-term monetary assets and liabilities in certain circumstances.

For the income statement, although the new standard permits the use of average rates for translation for the year, it shows a preference for the current rate for the income statement as well, as this will be better achieve the objectives of translation set forth in the new SSAP.

When the foreign subsidiary operates in a country with high inflation rates, the local currency financial statements may be inflation adjusted to reflect local current price levels before translation into reporting currency. This procedure is considered appropriate when it is impossible for the unadjusted, historical cost statements to present fairly through translation the firm's financial position.

The new standard also recognizes that an investing firm may take out foreign currency loans to finance its foreign operations or to act as hedges for its foreign investments. Because these loans normally match the underlying investment, the new standard avoids the potential inconsistency of recognizing foreign exchange gains and losses on the debt in net income and translation gains and losses on the related investments in reserves. When certain criteria are met, the foreign exchange gains and losses on translation of the loans may also be taken to reserves on the balance sheet.

Firms must also disclose the method used for translation and the treatment used for foreign exchange gains and losses and also provide details on the gains and losses in net income and the movements in reserves.

2.3.4. INTERNATIONAL ACCOUNTING STANDARD - IAS 21

In 1982, the International Accounting Standards Committee - IASC published an exposure draft, International Exposure Draft - IED 23, "Accounting for the Effects of Changes in Foreign Exchange Rates," in which proposed an approach similar to that FASB 52. In IED 23, the translation method to be used depends on certain operational and financial characteristics of the firm's foreign operations.⁴⁸

Some foreign operations are viewed as separate from the firm. For these foreign operations, called foreign entities in the draft, changes in the exchange rates between that country's currency and the parent country's currency would not affect the parent's cash flows. In these operations, the parent is mainly concerned with its net investments in the foreign-based operation. In this case, the correct translation method to be used is the monetary-nonmonetary method (although that name is not used in the document). In this method, monetary items are translated at the current rate, and nonmonetary items are translated at the historical rate. The income statement items are to be translated at the rates that correspond to the dates of transactions, but practically, these can be approximated with the use of average rates. The goal of this translation procedure is to approximate the effect as if all the transactions of the foreign-based operation had been entered into by the parent itself.

The IASC issued a new standard, IAS 21⁴⁹, "Accounting for the Effects of Changes in Foreign Exchange Rates," in July 1983. The new rule was quite close to its exposure draft (IED 23).

⁴⁸Thomas G. Evans, Martin E. Taylor, Oscar Holzmann, *ibid.* p.197

⁴⁹International Accounting Standards Committee: "International Accounting Standard No.21: Accounting for the Effects of Changes in Foreign Exchange Rates"

In regard to the translation for independent foreign entities, the new standard required use of the current rate or the average rate method for the income statement, with translation differences (gains and losses) from both the income statement and balance sheet. If the foreign subsidiary operates in a hyper inflationary country, then either the foreign financial statements may be adjusted for local inflation before translation or a variation of the temporal method may be used to translate the unadjusted statements.

The standard requires disclosure of the method to translate the balance sheet the income statement, the amount of the foreign exchange gains and loss in net income, and the amount taken to balance sheet reserves.



2.4. Applicability of Generally Accepted Translation Methodologies in Hyper-inflationary Environment

At the previous sections, I have reviewed the current translation methodologies. There were basically 4 translation methodologies - current-noncurrent, monetary-nonmonetary, temporal and current rate method. Each method suggests different exchange rates to be used in translating each balance sheet and income statement items. A summary table which shows the translating rates for each basic balance sheet and income statement items is available in section 2.2.

In this section, I will mention the criticisms about current translation methodologies under an environment where there are general price level changes. I will also mention the alternative methodology proposals of different foreign authors for inflationary environment.

2.4.1. Objections to Current-Noncurrent and Monetary-Nonmonetary Methods

In their article "Accounting Measures of Foreign Exchange Exposure: The Long and Short of It" Aliber and Stickney (1975)⁵⁰ discussed the inconsistency of current-noncurrent and monetary-nonmonetary methods regarding exposure to exchange losses. This article was written before FASB issued 8th and 52nd statements. That is why the temporal method adopted by 8th statement and the current rate method adopted by 52nd statement were not discussed by the authors.

According to these authors; the decision as to whether the historical exchange rate or the current exchange rate will be used in translation is often based on whether the asset or liability is a monetary or nonmonetary item. Monetary items, those receivable or payable in terms of a fixed number of foreign currency units, are translated at the current

⁵⁰Aliber, Robert Z., Stickney, Clyde P., "Accounting Measures of Foreign Exchange Exposure: The Long and Short of It", *Accounting Review*, 1975, p.44-57

exchange rate. Nonmonetary items primarily land, building, and equipment are translated at the historical exchange rate.

Consider first the nonmonetary items. Use of the historical exchange rate rests on the assumption that the exchange gain or loss that would be reported if the current rate were used is approximately offset by a change in the local currency price of asset. The use of historical exchange rate is a convenience and rests on the belief that exchange losses and changes in the local currency prices of these assets are largely offsetting. Thus, if the foreign currency decreases in value by 20%, the increase in the foreign currency price of nonmonetary assets should not deviate greatly from 20%. Those who advise that historical rates be used to measure exchange exposure of nonmonetary assets implicitly believe that the Purchasing Power Parity (PPP) theory is valid. This theory concerns the relationship between the commodity price levels in two countries and the equilibrium exchange rate between their currencies; the theory states that changes in the equilibrium exchange rate from one date to another are proportional to changes in the ratio of the prices of similar representative market baskets of goods available in two countries. If the PPP theory holds perfectly for all commodities, exchange losses and changes in local prices of nonmonetary assets are offsetting and thereby not exposed.

Consider now the monetary items. Use of the current rate implies that these items are exposed to the risk of exchange losses.

Those who advise using the current exchange rate to measure the exchange exposure of a firm's monetary assets and liabilities reject the proposition that changes in exchange rates are reflected in the relative differential in interest rates on similar assets denominated in the several currencies - a relationship which Economists call the Fisher Effect. The proposition is that interest rates on assets denominated in currencies expected to depreciate are higher than those on assets denominated in currencies expected to depreciate less or to appreciate in value and conversely. If the Fisher Effect holds cumulative interest revenue (expense) over the maturity of the financial asset includes an amount equal to the exchange loss (gain) from changes in the exchange rate. If this offset is exact, the net result is that the effective foreign interest rate is equivalent to the domestic interest rate. In this case, monetary items are not exposed to losses from exchange rate changes.

Thus the current methodology for translating foreign assets and liabilities into reporting currency assumes that the Purchasing Power Parity Theory holds while Fisher Effect does not. Nonmonetary items are not considered exposed to exchange losses while monetary items are exposed to such losses.

This distinction is not logically consistent. If the prices are stable within each country, exchange rates should remain unchanged. The money interest rates in each country should be approximately equal as a result of arbitrage. If one country then follows inflationary monetary policies, its currency will depreciate in the exchange market in proportion to increases in its prices relative to those in other countries. Interest rates or securities denominated in its currency will increase to reflect the anticipated change in the exchange rate. The increase in its price level and in its interest rate should equal, in terms of percentage points, the expected change in the exchange rate, unless expectations and realization differ significantly. Thus:

Purchasing Power Parity Theory		Fisher Effect	
Changes in Relative Prices	= Experienced Changes in Exchange Rates	Anticipated Changes in Exchange Rates	= Relative Difference in Interest Rates

If foreign and domestic price levels change at the same rate, the exchange rate should remain unchanged. If the foreign price level increases at a faster rate than the domestic price level, the number of foreign currency units required to buy one domestic currency unit should increase (i.e. the foreign currency depreciates). Conversely, if the foreign price level increases less rapidly than the domestic price level, the foreign currency should appreciate in value.

If exchange rates remain unchanged, the foreign and domestic interest rates should be the same. If a foreign currency depreciates in value, interest rates on assets denominated in that currency should be higher than the rate on comparable assets denominated in the domestic currency. Conversely, if a foreign currency appreciates in value, interest rates

on assets denominated in that currency should be less than rates on domestic currency-denominated assets.

In their article Aliber and Stickney computed the annual percentage deviations from the PPP theory for 48 countries (including Turkey) for the period 1960 to 1971. They also computed percentage deviations from the Fisher Effect for 7 developed countries for the period 1960 to 1971 and for 6 developing countries for the period 1966-1971. These results are shown in Table 2.4.

TABLE 2.4. Percentage Deviations from the Purchasing Power Parity Theory

Country	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	Average Annual
Argentina	11.8	-21.7	23.9	5.9	1.4	-2.6	-11.2	11.6	2.1	-6.2	3.2	1.7
Australia	1.6	-1.8	-0.8	0.8	2.8	-0.5	1.0	-2.4	-1.7	-2.1	8.6	0.5
Austria	2.7	3.7	1.6	2.4	3.7	-1.3	1.2	-1.3	-2.2	-1.4	9.5	1.7
Belgium	-0.4	0.4	0.8	3.3	2.4	0.2	1.0	-2.3	-0.7	-1.9	11.0	1.3
Bolivia	6.4	4.7	-1.9	8.7	1.4	3.8	8.1	1.3	-2.9	-1.9	-0.7	2.4
Brazil	-3.0	6.4	13.9	-18.5	10.3	21.1	3.0	-15.5	3.0	-1.2	2.0	2.0
Canada	-4.7	-3.2	0.2	1.1	0.9	-0.2	1.0	0.7	-0.9	3.8	-0.7	-0.2
Chile	5.8	-28.4	9.3	14.8	-1.4	-5.3	-13.3	-8.3	-4.7	2.1	-10.9	-3.7
Colombia	7.6	-24.6	30.5	16.1	-32.1	16.3	-10.2	-5.2	-1.2	-5.6	-4.7	-1.2
Costa Rica	-13.6	1.6	1.7	1.9	-2.2	-2.9	-1.5	0.0	-2.6	-1.2	-1.2	-1.8
Denmark	2.7	5.8	4.7	1.7	4.3	3.5	-2.6	3.2	-1.7	0.7	7.6	2.7
Dominican R.	-5.0	8.0	7.2	0.8	-3.4	-2.8	-1.4	-4.0	-4.2	-2.0	-0.7	-0.7
Ecuador	-14.2	1.8	4.6	2.1	1.5	1.1	1.0	0.2	0.9	-28.5	3.7	-2.4
El Salvador	-3.9	-0.8	0.2	0.3	-0.9	-4.1	-1.3	-2.9	-5.3	-2.9	-3.8	-2.3
Finland	0.6	1.9	4.1	8.6	3.8	0.3	-21.1	4.4	-3.0	-2.5	2.6	-0.0
France	1.3	4.0	3.8	1.8	1.1	-1.4	0.8	-0.4	-10.4	0.6	7.0	0.8
Germany	8.3	-0.8	2.2	1.1	0.7	1.3	-1.6	-2.5	5.6	-1.0	12.6	2.4
Greece	0.6	-1.4	1.7	-0.5	1.4	2.0	-1.2	-3.6	-2.8	-2.7	-1.3	-0.7
Guatemala	-1.6	1.0	-1.1	-1.5	-2.4	-2.3	-2.3	-2.1	-3.2	-3.3	-4.6	-2.1
Haiti	2.6	-1.8	3.1	7.9	0.7	5.0	-5.6	-2.8	-3.8	-4.3	5.0	0.6

Honduras	0.4	0.1	1.7	3.2	1.6	-2.9	-1.6	-1.5	-3.5	-2.8	-2.2	-0.0
Iceland	-9.1	10.2	12.3	17.4	5.1	7.7	-24.0	-29.8	15.7	7.0	3.0	1.0
India	0.1	1.8	1.7	12.4	7.5	-32.0	10.3	-2.6	-4.2	-0.6	2.8	-0.0
Iran	2.0	-0.5	-0.8	2.5	0.7	-3.5	-1.2	-4.0	-0.9	-4.0	-0.2	-0.0
Ireland	1.7	2.9	1.1	5.0	3.9	-0.5	-13.5	-0.3	2.63	1.9	11.3	1.0
Israel	5.5	-35.1	5.4	3.9	6.0	4.7	-15.3	-1.8	-2.9	1.5	-10.6	-3.0
Italy	0.9	3.5	6.0	4.2	2.8	-0.6	0.9	-2.6	-2.9	-0.5	5.4	1.0
Japan	3.1	6.6	5.5	3.8	4.8	1.2	1.4	2.6	0.2	1.3	15.7	4.0
Korea	-46.5	5.4	18.3	-35.7	5.4	9.1	6.1	4.2	-3.5	2.5	-8.7	-4.0
Malaysia	-0.1	-1.3	1.9	-2.0	-1.3	-2.3	1.6	-2.9	-5.0	-3.6	3.5	-1.0
Malta	1.3	-1.0	0.6	0.1	0.0	-2.6	-16.1	-1.9	-2.8	-2.1	9.1	-1.0
Mexico	0.6	0.0	-0.6	1.0	2.0	1.2	0.2	-1.7	-2.2	-1.2	-1.2	-0.0
Netherlands	5.2	0.8	2.6	4.3	1.9	3.7	1.1	-0.7	1.4	-1.4	13.9	3.0
New Zeland	0.8	1.3	0.6	1.9	2.3	-0.8	-16.4	-0.8	0.2	0.2	13.3	0.0
Norway	1.5	4.1	1.1	4.4	2.8	0.0	1.7	-0.6	-2.2	4.5	8.5	2.0
Panama	-0.5	-0.4	-0.7	1.0	-1.0	-2.9	-1.5	-2.3	-3.4	8.3	-12.6	-1.0
Paraguay	17.2	0.2	1.0	0.1	2.1	-0.2	-1.4	-3.6	-3.0	-6.3	0.6	0.0
Peru	5.5	5.2	5.1	9.1	15.1	6.1	-26.0	14.9	0.2	-0.6	2.4	3.0
Philippines	0.6	-46.1	4.4	6.9	1.0	2.5	2.6	-1.6	-3.6	-33.8	9.5	-5.0
Portugal	0.6	1.4	0.6	1.9	2.3	1.3	3.1	2.2	3.8	0.0	11.9	2.0
South Africa	1.2	0.0	-2.9	1.1	2.8	0.1	1.2	-2.9	-1.5	-2.1	-5.1	-0.0
Spain	-0.1	5.6	7.5	5.6	11.4	3.0	-11.0	0.7	-3.4	0.3	9.6	2.0
Sweden	0.9	3.2	1.5	2.8	3.5	3.3	1.7	-2.7	-2.5	1.1	9.5	2.0
Switzerland	0.5	3.1	2.3	1.7	1.9	1.3	1.3	-1.2	-3.1	-2.1	12.6	1.0
Turkey	1.5	3.2	5.2	-0.5	2.9	5.5	11.0	1.7	-0.4	-38.8	21.0	1.0
United King.	2.4	2.9	0.5	1.7	3.6	0.4	-14.0	-0.4	0.7	0.1	11.9	0.0
Uruguay	20.5	9.5	-19.3	22.1	-51.9	32.6	-29.8	72.9	14.2	10.7	-19.9	5.0
Venezuela	-3.7	-1.5	-0.1	-29.3	0.3	-1.5	-2.7	-2.6	-2.7	-3.3	1.2	-4.0

Source: Aliber, Robert Z., Stickney Clyde P.: "Accounting Measures of Foreign Exchange Exposure: The Long and Short of It", Accounting Review, 1975, p.56

Percentage Deviations from the Fisher Effect

Country	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	Average Annual
Belgium	0.3	-0.6	-1.0	0.2	-0.8	-0.5	1.7	-2.3	1.4	1.4	11.1	1.0
Canada	-5.1	-2.1	0.1	0.8	-0.1	-0.7	0.5	1.7	0.5	5.7	0.1	0.2
France	1.3	0.8	0.8	1.2	0.2	-1.1	1.3	0.1	-9.3	2.9	7.0	0.5
Germany	5.4	-0.2	0.4	-0.3	-0.6	0.5	-1.7	-2.6	5.9	1.4	11.3	1.8
Netherlands	4.2	-0.9	-1.2	0.1	-0.6	-0.2	0.7	-1.2	-1.63	0.3	16.0	0.8
Switzerland	-1.5	-1.5	-1.3	-1.2	-1.4	-1.9	-1.6	-2.6	-3.8	-3.1	8.3	-1.1
United King.	2.9	1.2	0.6	0.8	2.4	0.8	-13.3	0.8	1.6	0.3	7.7	0.5
Argentina						-21.7	-32.0	9.0	8.0	-8.8	-17.0	-10.4
Brazil						-10.9	-3.8	-23.1	3.4	-3.1	-0.6	-6.4
Chile						-13.8	-26.0	-19.7	-18.3	-8.1	-17.2	-17.2
Colombia						6.5	-10.7	-0.1	1.2	-1.4	-1.5	-1.0
Mexico						6.5	6.5	6.0	5.0	3.5	6.0	5.6
Venezuela						2.5	3.0	2.5	0.5	1.5	6.3	2.7

Source: Aliber, Robert Z., Stickney Clyde P.: "Accounting Measures of Foreign Exchange Exposure: The Long and Short of It", Accounting Review, 1975, p.56

Their principal conclusion is that "the current translation methodology does not appear to be appropriate when measuring exposure to exchange losses. The empirical data suggest that the classification of the assets and liabilities used by accountants (monetary-nonmonetary, current-noncurrent) is not critical variable in measuring exposure. Instead, the firm's planning horizon is of critical importance. Over relatively short horizons (two to three years), all assets and liabilities tend to be exposed. Over longer periods, the increased validity of the Purchasing Power Parity and Fisher theories indicates that most assets and liabilities are not exposed to exchange gains and losses. Since the anticipated holding period of land, building, equipment, and long-term receivables and payables extends over several years, it seems reasonable to assume that these items are not exposed to exchange losses. Assets held in developing countries tend to be more exposed to exchange losses than assets located in developed countries. The holding period for current assets and liabilities, on the other hand, is much shorter so that these items tend

to be to exchange losses over periods of two to three years. Such a measurement horizon may be too short, however, for purposes of estimating exchange exposure. A long-term investment may be viewed as a linked series of short-term investments. If the firm's holdings of current assets and liabilities are reasonably constant, its investment in these items might be viewed as essentially long-term in nature and thus not exposed over more extended time periods."⁵¹

2.4.2. Objections to Statement of Financial Standards Board (SFAS) No. 52

The financial statements of MNCs are intended to provide one source of information regarding the effects of exposure to exchange risk. However, the accounting requirements of SFAS No.52 fail to disclose fully exposure to exchange risk. This occurs since the implied assumptions inherent, in the required accounting practices, regarding the comovements of exchange rates price level changes are not met in many hyper-inflationary economies.

David A. Ziebart (1985) issued an article as "Exchange Rates and Purchasing Power Parity: Evidence Regarding the Failure of SFAS No.52 to Consider Exchange Risk in Hyper-inflationary Countries."⁵² This study empirically investigated the implicit assumptions of SFAS No.52 in situations of hyper-inflation. The assumption that balance sheet items translated at the historical exchange rate are not exposed to exchange gains or losses empirically shown to be false through application of purchasing power parity (PPP) theorem. The empirical evidence supports the concept that most hyper-inflationary countries systematically experience exchange risk exposure.

Ziebart states that in instances in which hyper-inflation exists, the nonmonetary items are carried at the original cost and the original historical exchange rate. In essence, it is assumed that nonmonetary items are not exposed to exchange gains or losses since any

⁵¹Aliber, Robert Z., Stickney Clyde P.: "Accounting Measures of Foreign Exchange Exposure: The Long and Short of It", *Accounting Review*, 1975, p.44-57

⁵²Ziebart, David A.: "Exchange Rates and Purchasing Power Parity: Evidence Regarding the Failure of SFAS No.52 to Consider Exchange Risk in Hyper-Inflationary Countries", *International Journal of Accounting*, Fall, 1985, p.39-51

exchange gain or loss would be offset by a change in the local currency price of the asset. This failure to consider the potential exchange risk for nonmonetary items presumes that the PPP theory does hold.

The purchasing power parity theory ties the change in the foreign exchange rate between two countries to the change price levels for the two countries. Changes in the equilibrium exchange rate are proportional to changes in the ratio of foreign to domestic prices.

Intuitively, one might expect to observe larger deviations between actual exchange rates and the theoretically determined parity exchange rates in countries with extremely high rates of inflation. These countries may undertake practices to keep their exchange rates higher than the purchasing power parity implied exchange rate or lower than parity if it is their self-interest to do so. If this does occur, one would expect to find the purchasing power parity theory to be less valid in these hyper-inflationary countries and, therefore, the required use of historical cost and historical exchange rates to be inappropriate. In addition, systematic favorable long-term exchange risk exposure will result in countries which keep their exchange rates lower than parity. Systematic unfavorable exchange risk exposure will occur when countries allow their exchange rate to rise higher than the implied parity rate.

The PPP exchange rate is computed based on the relative changes in inflation and the previous year's actual ending exchange rate. The PPP exchange rate is computed as;

$$E_t = E_{t-1} \times (1+I_f) / (1+I_d)$$

where, E_{t-1} is the current year consumer price level change for the foreign country, and I_d is the current year consumer price level change in the parent country. The computed parity error is the actual end of the current year exchange rate less the implied purchasing power parity exchange rate. Table 2.5. provides summary information regarding the number of years in which the error is positive or negative, the total error over the period of analysis, the average error, the cumulative percentage error, and the average percentage error. This evidence seems to support the concept that the PPP theorem holds in the long-run and that there is little systematic exchange risk exposure.

TABLE 2.5. Summary of Computed Parity Errors

Country	Years of Analysis	Parity Error*		Parity Error (%)	
		Cumulative	Average	Cumulative	Average
Argentina	1956-1982	31797.1	1135.6	-231	-8.1
Bangladesh	1973-1983	8.2	0.7	6	0.1
Bolivia	1956-1983	-88.2	-3.1	-63	-2.1
Brazil	1956-1983	421.7	15.1	51	1.0
Chile	1965-1983	4.7	0.2	34	1.0
Costa Rica	1956-1983	-5.5	-0.2	10	0.1
Ghana	1956-1983	17.7	0.6	-304	-10.0
Iceland	1956-1983	7.7	0.3	37	1.0
Israel	1956-1983	22.2	0.8	66	2.0
Mexico	1956-1983	-13.9	0.5	-9	-0.1
Nicaragua	1974-1983	-6.9	-0.7	-68	-6.0
Peru	1956-1983	335.5	11.9	10	0.1
Sierra Leone	1956-1983	0.2	0.0	-10	-3.0
Somalia	1956-1983	4.9	0.2	-64	-2.0
Turkey	1956-1983	117.9	4.2	77	2.0
Uruguay	1961-1983	18.4	0.8	-88	-3.0
Yugoslavia	1956-1983	51.7	1.8	-2	-0.1
Zaire	1956-1983	19.8	0.7	24	0.1

* Foreign currency unit per US dollar

Source: Ziebart, David A.: "Exchange Rates and Purchasing Power Parity: Evidence Regarding the Failure of SFAS No.52 to Consider Exchange Risk in Hyper-Inflationary Countries", International Journal of Accounting, Fall, 1985, p.47

The parity error is recomputed for all eighteen countries using the cumulative parity approach. The results of this analysis, provided in Table 2.6., differ considerably from the previous findings.

In most of the hyper-inflationary countries, a significant difference is observed (both yearly and on a cumulative basis) between the actual exchange rate the parity exchange

rate. Of the eighteen countries, fifteen experience an average percentage parity error greater than 10%. The countries in which the average percentage parity error is greater than 10% include Turkey. These results indicate that the PPP theory is much less valid when cumulative inflation effects are considered.

TABLE 2.6. Summary of Computed Parity Errors Based on a Cumulative Parity Adjustment

Country	Years of Analysis	Parity Error*		Parity Error (%)	
		Cumulative	Average	Cumulative	Average
Argentina	1956-1982	-37095.1	-1324.8	-4507	-116.0
Bangladesh	1973-1983	0.1	0.0	-97	-8.0
Bolivia	1956-1983	974.5	34.3	2403	85.0
Brazil	1956-1983	859.6	30.7	618	22.0
Chile	1965-1983	229.2	12.1	827	43.0
Costa Rica	1956-1983	102.6	3.7	550	19.0
Ghana	1956-1983	-146.3	-5.2	-4261	-152.0
Iceland	1956-1983	38.6	1.4	916	32.0
Israel	1956-1983	86.3	3.1	565	20.0
Mexico	1956-1983	-29.0	-1.0	-545	-19.0
Nicaragua	1974-1983	-15.9	-1.6	-158	-15.0
Peru	1956-1983	824.1	29.4	-258	-9.0
Sierra Leone	1956-1983	-1.1	-0.0	-129	-4.0
Somalia	1956-1983	-95.7	-3.4	1294	-46.0
Turkey	1956-1983	584.9	20.9	1177	42.0
Uruguay	1961-1983	-40.6	-1.8	-517	-22.0
Yugoslavia	1956-1983	-163.6	-5.8	-1031	-36.0
Zaire	1956-1983	36.5	1.3	1354	48.0

* Foreign currency unit per US dollar.

Source: Ziebart, David A.: "Exchange Rates and Purchasing Power Parity: Evidence Regarding the Failure of SFAS No.52 to Consider Exchange Risk in Hyper-Inflationary Countries", International Journal of Accounting, Fall, 1985, p.47

In addition, many of the countries experience a systematic favorable or unfavorable long-run exchange risk exposure over the analysis period. Of the fifteen countries in which a significant average percentage parity error is observed seven experience a negative systematic parity error. This situation (negative parity errors) occurs when the actual exchange rate for the domestic currency to the parent country's currency is less than the implied purchasing power exchange rate. This leads to a favorable exchange risk exposure situation, assuming that the price level in the foreign country of the fixed asset rises at the inflation rate. The relative price level of the asset rises faster the exchange rate, and the MNC actually prospers from the situation.

Eight of the countries have a systematically positive parity error over the period of analysis. In these countries, the actual exchange rate of the foreign currency for parent country's currency is greater than that implied by the PPP theorem. The actual exchange rate increases more rapidly than the relative price level. In this case, the multinational corporation is exposed to unfavorable exchange risk. The countries in which the evidence indicates systematic unfavorable exchange risk include Turkey.

Countries in which the long-run cumulative validity of the PPP theorem is suspect are not accurately portraying economic reality in their balance sheets. Through valuation of a foreign subsidiary's fixed assets at the historical cost and historical exchange rate, exposure to exchange risk is completely ignored, and the asset's value may be systematically overstated or understated.

According to the conclusions of Ziebart "this paper provides evidence which does not support the concept that fixed assets of subsidiaries operating in hyper-inflationary countries are not exposed to exchange risk. For most hyper-inflationary countries, there is a large deviation between the actual exchange rate and an implied exchange rate that considers previous level changes. Exposure to exchange risk exists for fifteen of the eighteen countries which meet the hyper-inflation criterion of SFAS No.52.

These results contradict the findings of Aliber and Stickney and imply that the reporting requirements of SFAS No.52 fail to consider exchange risk exposure in hyper-inflationary countries. To the extent that exchange risk exposure exist in non-hyper-inflationary countries, the results of this study are generalizable to other foreign (non-

hyper-inflationary) countries. The use of historical costs and historical exchange rates in financial reporting of fixed assets ignores exchange risk exposure and leads to misvaluation of nonmonetary items on the statement of financial position."⁵³

⁵³Ziebart, David A.: "Exchange Rates and Purchasing Power Parity: Evidence Regarding the Failure of SFAS No.52 to Consider Exchange Risk in Hyper-Inflationary Countries", *International Journal of Accounting*, Fall, 1985, p.39-51

2.4.3. Alternative Methodology Proposal by Choi

2.4.3.1. Restate- Translate Method

Frederick D.S. Choi (1975) issued an article named "Price-level Adjustments and Foreign Currency Translation: Are They Compatible?".⁵⁴ In his article, he criticized the traditional translation methods. He stated that in the face of rising price levels worldwide, traditional financial statements have been challenged increasingly as inappropriate and even misleading. Coupled with the problem of accounting for changing price level is the need to express the results of foreign operations in terms of a single currency. Since consolidated statements can be presented only in terms of a single currency translation procedures are called for that transform foreign currency into domestic currency statements.

Traditional translation techniques assume that foreign inflation is offset exactly by depreciation in the value of that country's currency. Thus, if a long-lived asset were transferred from a US. parent to one of its foreign subsidiaries at a cost of \$ 100; with a foreign exchange rate at \$ 1 to 2 units of foreign currency (FC 2), the asset would be recorded on the subsidiary's books at FC 200. If the general price level of the foreign country should rise 100 %, traditional translation methods assume that the foreign exchange rate would depreciate, proportionately, to \$ 1 to FC 4. Thus, a restated asset of FC 400 still would retain its original dollar valuation of \$ 100. Empirical evidence, however, suggests that inflation and devaluation are not perfectly negatively correlated. The direct implication of this findings is that the financial position statements of foreign affiliates, translated in conformity with traditional methods of translation, may be subject to significant distortion.

Traditional translation techniques produce distortions on the income statement as well. It has been demonstrated, for example, that inventories -held by a foreign subsidiary during

⁵⁴Choi, Frederick D. S.: "Price-Level Adjustments and Foreign Currency Translation: Are They Compatible?", *The International Journal of Accounting*, Fall 1975, p.121-143

an accounting period in which the foreign currency depreciates relative to the US. dollar and which is resold during a subsequent period- will result usually in an understatement of first-period profits and an overstatement of profits reported in the subsequent period.

Choi discussed two proposals in order to remedy these shortcomings. First proposal is restate-translate proposal which proposed by Zenoff and Zwick. According to this proposal financial accounts of foreign subsidiaries be restated, first to reflect changes in the purchasing power of the foreign currency unit then translated into their reporting equivalent, using a single foreign currency exchange rate - the rate of exchange in effect at the financial statement date.

The purported advantage of the restate-translate proposal are that it:

- a. Enables statement readers to assess ordinary operating results in terms of local currency as well as the effect of foreign inflation on these results.
- b. Enables management to better gauge the performance of a subsidiary after providing for "maintenance" of affiliate assets.
- c. Enables management to evaluate the performance of a subsidiary in terms of the environment in which the subsidiary's assets are domiciled.
- d. Enables management to ascertain the effect of currency devaluation on a subsidiary's operating results if devaluation occurs.⁵⁵

The restate-translate proposal was challenged first in an article by Rosenfield and more recently in an article co-authored by Lorensen & Rosenfield. They argued that the restate-translate method results in a unit of measure that reflects multiple standards in terms of the general purchasing power - that is, translating restated accounts of foreign affiliates domiciled in a number of different countries results in reporting currency of mixed foreign purchasing power. This, in turn, results not only in information that is ambiguous, but unintelligible and noncomperable as well. One reason for this is due purportedly to the fact that goods and services generally purchased by a unit of money in one country, are seldom the same as those generally purchased by a unit of money in

⁵⁵Choi, Frederick D. S.: "Price-Level Adjustments and Foreign Currency Translation: Are They Compatible?", The International Journal of Accounting, Fall 1975, p.126

another (the type of goods and services and the quantities purchased differ in each country).

The second proposal called the translate-restate proposal, originally recommended in APB (Accounting Principles Board) Statement 3. Statement 3 advocates that the financial accounts of a foreign subsidiaries should be translated first into reporting currency, then restated to parent country's purchasing power equivalents, using the index of changes in the general price level in the parent country. The merit of the proposal is that it not only reveals the financial statement effects of changes in foreign currency exchange rates but discloses the effect of parent country inflation on the prospective returns to parent country investors. In short, consolidated accounts, prepared accordingly to the prescription of APB Statement 3 would be expressed in terms of a single standard of measure.

Before the discussion of two proposal, the author had found it necessary to clarify the distinction between general and specific price-level changes since the term inflation often is applied indiscriminately to both. A general price-level changes occur when the prices of all goods and services in the economy move on the average, that is, the purchasing power of the monetary unit changes in terms of its ability to command goods and services in general.

A specific price-level change, on the other hand, refers to a change in the price of a specific commodity. In the context of a business enterprise, it refers to changes in the specific prices of a firm's economic resources.

Accounting adjustments for general price-level changes is referred to as the general price-level model and accounting for specific price changes is referred to as the current cost model.

The general price-level model measures income such that it represents the amounts of resources a firm could distribute to various income claimants during a given period of time leaving the firm able to command as many goods and services (in general) at the end of the period as it could at the beginning. To achieve this result, net assets at the

beginning and end of a given accounting period are adjusted to their end-of-period purchasing power equivalents using a general price-level index.

The current cost model, on the other hand, holds that income is the amount of resources a firm can distribute during a given period while maintaining its capability of replacing physical capital, for example, inventories and plant and equipment, which it uses to produce goods and services for sale to the consuming public. This may be achieved by adjusting a firm's beginning and ending net asset position (usually via appropriate specific price indexes) to reflect changes in specific price levels during the period. Thus, while the general price-level model strives to preserve the general purchasing power of the enterprise's original money capital, the current cost model seeks to preserve the firm's physical capital or operating capability.

The implications that Choi drew from the above discussion is that " investors are primarily interested in the financial statement effects of specific price changes on the operating performance of a firm. This provides a measure of the firm's operating performance which, in turn, enables investors to formulate realistic expectations regarding cash flows that interest them. The main purpose of consolidated financial statements is to apprise investors of the achievements of the parent company and its foreign subsidiaries as a whole. Viewed from this perspective the translate-restate, restate-translate competing constructs dilemma becomes trivial. Both models essentially reflect a historical cost orientation. Neither restatement for general price-level changes abroad and translation to reporting currency, nor translation to reporting currency and restatement for parent country inflation, changes the valuation framework. A historical cost model, adjusted for changes in the general purchasing power of the monetary unit (whether it be foreign general purchasing power) is still a historical cost model."⁵⁶

The price-level adjustment procedure which Choi recommended may be outlined as follows:

⁵⁶Choi, Frederick D. S.: "Price-Level Adjustments and Foreign Currency Translation: Are They Compatible?", *The International Journal of Accounting*, Fall 1975, p.131

- a. First restate the financial statements of all subsidiaries, as well as the statements of the parent, to reflect changes in specific price levels.
- b. Translate the accounts of all foreign subsidiaries into reporting currency using a constant - the current foreign currency exchange rate.

The proposed framework should enable headquarters management to better evaluate the relative performance of its subsidiaries since enterprise would be comparable nationally as well as internationally. To the extent that the current cost reporting framework is universally adopted, local management decisions should be improved as intracountry comparisons of enterprise performance would also be facilitated. As managers were said to be concerned with the maintenance of physical capacity, the proposal should also facilitate more equitable resource allocations within the corporate system - especially when general and specific price levels do not move in parallel fashion.

2.4.3.2. Revision of Restate-Translate Method

Frederick D. S. Choi issued an article named "Resolving the Inflation/Currency Translation Dilemma"⁵⁷ in 1987. According to Choi while inflation accounting is important in its own right, one cannot separate the issue of inflation from the issue of foreign currency translation when accounting for multinational operations. The two processes are necessarily intertwined. Accordingly, this article demonstrates the need to isolate foreign exchange gains and losses from price-level adjustments when consolidating the results of foreign operations. In the absence of such adjustments, financial executives of multinational companies may end up double-counting for the effects of foreign inflation.

The FASB considered the problem of consolidating the accounts of foreign subsidiaries domiciled in inflationary environments. At the time of its deliberations Statement 8,

⁵⁷Choi, Frederick D. S.: "Resolving the Inflation/Currency Translation Dilemma", *Management International Review*, Volume 27, Number 2, Year 1987, p.26-34

advocating the temporal method of currency translation, was in effect. On this basis, it concluded that the preferred method for achieving constant dollar measurements is first to translate foreign currency historical amounts into US dollar in accordance with US GAAP and then to restate the translated amounts for US inflation. Current cost measurement were to be translated to US dollars at the current rate. These disclosure provisions are depicted schematically in Table 2.7.

TABLE 2.7. Restatement Methodology for Foreign Operations

FAS No.8	FAS No.33
Historical Cost/ Constant Dollar Disclosures	Current Cost Disclosures
Translate to Dollars then Restate for US general inflation	Restate for Current Cost then Translate to (constant) dollars

Source:Choi, Frederick D. S.: "Resolving the Inflation/Currency Translation Dilemma", Management International Review, Volume 27, Number 2, Year 1987, p.27

In December 1981, the FASB issued its new foreign currency translation pronouncement, FASB No.52. In contrast to Statement 8 which adopted a parent company perspective when consolidating foreign accounts, Statement 52 sanctioned a local currency perspective by permitting use of the current rate method of translation. To accommodate this expanded reporting framework, the FASB modified Statement 33's reporting provision to accommodate a local as well as a parent company reporting perspective. These modifications are contained in FASB Statement No.70 (FASB, 1982).

Statement No.70⁵⁸ does not affect the reporting of supplementary inflation disclosures by enterprises adopting the US dollar as functional (i.e., the primary currency in which an entity conducts its operations and generates and expends cash) for its foreign operations. For these enterprises, the original provisions of Statement No.33 continue to apply. Firms measuring a significant part of their operations in functional currencies other than the dollar are exempted from presenting historical cost information measured in units of constant purchasing power. Current cost adjustments are to be measured in functional currencies (i.e., the foreign currency) while adjustments to current cost data to reflect the effects of general inflation may be based on either the US or foreign general price level index. These provisions are summarized in Table 2.8.

In its more recent inflation accounting pronouncement, FASB No.82, the US Financial Accounting Standards Board eliminated the requirement for supplementary disclosure of historical cost/constant dollar information. Reasons underlying the decision include (a) elimination of confusion on the part of statement readers, (b) elimination of complexity, (c) reduction in the cost of compliance, and (d) the greater decision utility of current cost/constant purchasing power information (FASB, 1984).

In consolidating the results of operations domiciled in inflationary environments, care must be taken to avoid double-counting for the effects of foreign inflation. This phenomenon arises from the fact that local inflation directly impacts exchange rates that are used in the translation process. While economists generally assumes an inverse relationship between a country's internal rate of inflation and the external value of its currency, evidence suggests that this relationship seldom holds, at least in the short run (Aliber and Stickney, 1975). Accordingly, the size of the resulting adjustment to eliminate the double-counting phenomenon will vary depending on the degree to which exchange rates and differential inflation are negatively correlated.

⁵⁸Financial Accounting Standards Board: "Statement of Financial Accounting Standard No.70: Financial Reporting and Changing Prices: Foreign Currency Translation"

TABLE 2.8. Restatement Methodology for Foreign Operations

FAS No.52		FAS No.70
Dollar is the functional currency		Local currency is functional
Same as under FAS No.8 + FAS No.33	Historical cost/constant dollar disclosures Firms are exempted from disclosure	Current Cost disclosure Restate for local current cost
	Translate to dollars then restate for US general price-level (Translate-restore option)	Restate for foreign general inflation then Translate to dollars (Restate-translate option)

Source:Choi, Frederick D. S.: "Resolving the Inflation/Currency Translation Dilemma", Management International Review, Volume 27, Number 2, Year 1987, p.28

To elaborate, inflation adjustments, which restate historical cost expirations (e.g., cost of sales and depreciation expense) to their current cost or general purchasing power

equivalents are designed to penalize "as reported" earnings to avoid the overstatement of income. The resultant performance measures have, as their ultimate objective, the preservation of a firm's productive capacity (current cost adjustments) or, at the very least, preservation of the general purchasing power of an entity's original money capital (general price-level adjustments). However, owing to the inverse relationship between local inflation and currency values, changes in the exchange rate between successive financial statements, generally attributable to inflation (at least over a period of time), will have caused a company to reflect at least part of the inflation impact (i.e., currency translation adjustments) in its "as reported" results. Thus, to avoid penalizing itself twice for the effects of inflation, the translation loss already reflected in a firm's as reported results should be taken into account as part of the inflation adjustment.

While many companies reported currency translation gains and losses in balance sheet reserves, a significant number reflected such gains and losses directly in current earnings. In the absence of any offsetting adjustments alluded to earlier, such companies could end up penalizing or rewarding earnings twice when accounting for foreign inflation. Even in those instances where translation adjustments are taken reserves. the "double dipping" effect could distort reported debt to equity and other financial ratios, a less than desired state of affairs.

The following inventory accounting example demonstrates the relationship between inflation and foreign currency translation. The company in question employs the first-in, first-out inventory costing method, and translates inventory to dollars at the current exchange rate.

- * Local country inflation was 20% in the year just ended
- * US inflation was 6% during the year
- * The opening exchange rate on January 1 was LC1=\$1
- * The closing exchange rate on December 31 was LC1=\$0.88
- * Currency devaluation during the year to maintain purchasing power parity was 12%
- * Local currency inventory was LC200 on January 1 and LC240 at December 31
- * There was no change in the physical quantity of inventory during the year

Accordingly, the dollar equivalent of beginning and ending inventory is derived as follows:

	LC Amount	Exchange Rate	\$ Amount
Jan. 1 FIFO inventory	200	LC=\$1.00	\$200
Dec. 31 FIFO inventory	240	LC=\$0.88	\$211

"As reported" income will reflect a translation loss of \$29, assuming that the devaluation occurred at year end, which represents the difference between translating LC240 inventory on Dec.31 at \$0.88 vs. \$1.00.

During the ensuing inventory turnover period "as reported" cost of sales therefore be LC240 in local currency \$211 in dollars.

If cost of sales were to be adjusted for inflation under the restate-translate method this company might proceed as follows:

* Remove the year's 20% inflation from Dec.31 local currency inventory (240/1.20), which reduces it to LC200 - the same as it had been on Jan.1 before inflation.

* The local currency cost of sales adjustment would then become LC40, the amount required to restate Dec.31 inventory from LC240 to LC200.

* The local currency cost of sales adjustment (LC40) would next be translated to dollars at \$1.00, making a \$40 cost of sales adjustment (LC40 x \$1.00 = \$40).

It should be noted that, on an inflation adjusted basis, this company has penalized earnings for a \$29 translation loss and a \$40 cost of sales inflation adjustment - total \$69, or 34% what started out as a \$200 Jan.1 inventory. Yet inflation was only 20%! This anomaly was caused by "double-dipping." Within the foregoing dollar calculations there has been a partial duplication as between the currency devaluation loss, which is a *result* of inflation, and the cost of sales adjustment for inflation, which is a root *cause* of currency devaluation. The restate-translate cost of sales inflation adjustment by itself

would have been enough. In a single stroke it offsets both the US inflation rate (6% in this example), as well as the 12% inflation differential between this country's 20% rate and the US 6% rate - which differential led to the 12% devaluation experienced here."

Choi's conclusion is that if cost of sales is adjusted to remove local inflation it is necessary to reverse any inventory translation loss that had been previously reflected in "as reported" earnings.

In his article Choi presented a case analysis of a US base multinational about accounting for foreign inflation. He stated that "the procedures for inventories and cost of sales are also applicable to fixed assets and their related cost expirations when these accounts are translated using the current rate.

The local currency cost of foreign fixed assets and inventory is adjusted for local price changes of these assets, and is then translated at the current exchange rate. In the case of inventory, however, the cost of sales inflation adjustment cannot be derived from the restated balance sheet inventory value. Hence, these two inflation adjustments will be explained separately.

Current Cost Inventory Adjustments

For FIFO inventories that are not material in amount or which turn over very frequently, current cost and FIFO book cost are assumed to be essentially equivalent. Accordingly, the historic book cost is reported as current cost.

In the case of LIFO inventories, ending inventories are restated to their current cost equivalents using local specific price indices before translation to dollars at the current rate. If the inventory input rate is relatively constant, the current cost inventory adjustment is approximated by applying one-half of the local inflation rate experienced during the inventory accumulation period.

If the foreign subsidiary carries its inventories on a LIFO basis, its restated FIFO value is calculated in the same manner, using its LIFO cost index as the inflation rate.

Current Cost of Sales Adjustment - Simulated LIFO

When a foreign operation uses LIFO accounting for its "as reported" results, cost of sales are pretty close to market. Therefore, no cost of sales inflation adjustment is made. For foreign operations that are on FIFO accounting, inflation adjustment simulates what would have been charged to cost of sales under LIFO accounting. To avoid penalizing itself twice for inflation, the company also takes into account any inventory translation loss that has already been reflected in "as reported" results. To illustrate, assume that the December 31 FIFO inventory balance is LC5,000, that the year's inflation rate was 30% (Jan.1 index 100, Dec.31 index 130) and that the currency devalued by 20% from LC1=\$0.50 at January 1 to LC1=\$0.40 at December 31.

The following sequential analysis demonstrates how the double counting phenomenon is minimized. Specifically, steps 1-3 illustrate how the current cost of sales adjustment is derived in local currency. Step 4 expresses this inflation adjustment in parent currency. Step 5 identifies the translation loss that has already been booked as a result of having translated inventories to dollars at a current rate which depreciated during the year. Finally, step 6 backs out the translation loss already reflected in as reported results from the current cost of sales adjustment.

1. Dec.31 FIFO inventory subject to simulated LIFO charge	LC5,000
2. Restate line 1 to Jan.1 cost level (LC5,000x 100/130)	LC3,846
3. Difference between line 1 and line 2 inventory values represents current year local currency FIFO inventory inflation	LC1,154
4. Translate line 3 to dollars at the Jan.1 exchange rate (LC1.154x\$0.50). The result is simulated dollar LIFO expense for the current year	\$577
5. Calculate the translation loss on FIFO inventory (line 1) that has already been reflected in "as reported" results:	
a) Translate line 1 at Jan.1 exchange rate (LC5,000x\$0.50)	\$2,500
b) Translate line 1 at Dec.31 exchange rate (LC5,000x\$0.40)	\$2,000
c) The difference is inventory translation loss already reflected in as reported results	\$(500)

6. The net of lines 4 and 5 (c) is the cost of adjustment in dollars:	
a) Simulated dollar LIFO expense from line 4	\$577
b) Less: Inventory translation loss already reflected in "as reported" results (from line 5 (c))	\$(500)
c) The difference is the net dollar current cost of sales adjustment	\$77

In the most instances, when inflation outpaces devaluation, the dollar current cost of sales adjustment will be positive (i.e., a deduction from "as reported" earnings). However, should the devaluation percentage exceed the local rate of inflation, the adjustment would be negative (i.e., the dollar cost of sales adjustment would be subtracted from, rather than added to "as reported" dollar cost of sales).

Current Cost Monetary Adjustment

Calculation of the monetary adjustment involves two steps. This again includes recognition that local inflation impacts exchange rates used to translate local currency liabilities to their dollar equivalents. Thus, the purchasing power gain on local currency liabilities used to finance fixed assets and inventories during an inflationary period is partially or fully offset by a reversal of any translation gains (or losses) on these liabilities already reflected in "as reported" results. These gains are the result of having translated monetary liabilities by an exchange rate that depreciate during the period.

In the following illustration, assume that a foreign subsidiary's local currency of fixed assets and FIFO inventory sum to LC10,600, that its net worth amounts to LC7,500, that the differential inflation rate between the parent and host country is 30% and that the currency devaluated by 20% from LC1=\$0.50 at January 1 to LC1=\$0.40 at December 31. Like the cost of sales adjustment, calculation of the current cost monetary adjustment would proceed as follows. Steps 1 through 5 identify the portion of monetary liabilities employed to finance assets whose values have adjusted for inflation. Steps 6 and 7 calculate the monetary gains on these applied liabilities in local currency. Step 8 re-expresses this gain in US dollars. Step 9 identifies the translation gain resulting from having translated monetary liabilities to dollars by an exchange rate (the current rate) that depreciated during the year. Finally, step 10 backs out the translation gain of the

monetary liabilities from the purchased power gain on the same accounts to yield, in this example, a net monetary gain from changing prices.

1. Local currency cost of fixed assets at December 31	LC5,600
2. FIFO inventory at December 31	LC5,000
3. Total of lines 1 and 2	LC10,600
4. Subtract net worth at December 31	LC(7,500)
5. The balance represents "applied liabilities"	LC3,100
6. Restate December 31 applied liabilities to their January 1 purchasing power equivalents (i.e., multiplying LC3,100 by 100/130)	LC2,385
7. The difference between lines 5 and 6 is the purchasing power gain on applied liabilities	LC715
8. Translate line 7 to dollars at the January 1 exchange rate. The result is the debtor's gain from inflation in dollars (LC715x\$0.50)	\$358
9. Calculate the year's translation gain (loss) on applied LC liabilities already reflected in "as reported" results	
a) Line 5 times January 1 exchange rate (LC3,100x\$0.50)	\$1,550
b) Line 5 times December 31 exchange rate (LC3,100x\$0.40)	\$1,240
c) The difference is the translation gain	\$310
10. The difference between line 8 and line 9 (c) is the dollar current cost monetary adjustment:	
a) Line 8 (debtor's gain from inflation)	(cr.) \$358
b) If the line 9(c) is a translation gain, show it as a debit to reverse it and, conversely	(dr.) \$(310)
c) Add lines 10 (a) and 10 (b). If the sum is a credit, treat it as an addition to "as reported" income and, conversely	\$48

The issue of accounting for foreign inflation cannot be separated from the issue of foreign currency translation. The two processes are necessarily intertwined as foreign exchange rates used to translate foreign currency balances are directly impacted by inflation rates in those foreign countries. This article demonstrates that the restatement of foreign currency accounts for local inflation, followed by translation to dollars, can give rise to what amounts to a double charge for the effects of inflation. This reporting

dilemma can be avoided by backing out any recorded translation gain or loss from the related inflation adjustment."⁵⁹



⁵⁹Source:Choi, Frederick D. S.: "Resolving the Inflation/Currency Translation Dilemma", Management International Review, Volume 27, Number 2, Year 1987, p.33

CHAPTER 3

3. CURRENT / PURCHASING POWER PARITY METHOD

According to Ruland and Douppnik in their article "Foreign Currency Translation and the Behavior of Exchange Rates"⁶⁰ issued in 1988 that two major controversies exist in the translation of foreign currency financial statements: (1) which translation method should be used, and (2) how should the resulting translation gains and losses be reported. That is, the first controversy is which method provides the most reasonable measure of the foreign entity's exposure to movements in exchange rates. The second controversy is whether translation gains and losses should be reported in the income statement or whether they should be deferred and shown in the stockholders' equity section of the balance sheet. Ruland and Douppnik's article proposed two criteria for settling these questions.

The functional currency approach required in FAS 52 has two possible shortcomings. First, the assumption of exchange risk exposure for all assets when the functional currency is foreign is questionable. It will be demonstrated below that for some assets, exchange risk is a function of the purchasing power parity between the US dollar and the foreign currency. Second, as the FASB acknowledges in FAS 52, not all subsidiaries can be neatly classified as having a foreign or a domestic functional currency. When this is the case, management must subjectively determine which is more appropriate.

⁶⁰Ruland, Robert G., Douppnik Timothy S.: "Foreign Currency Translation and the Behavior of Exchange Rates", *Journal of International Business Studies*, Volume 19, Number 3, Year 1988, p.461-476

3.1. Nonmonetary Assets

The major difference between the current rate and temporal methods is the exchange rate used to translate nonmonetary assets (primarily inventory and fixed assets). The temporal method translates these assets using the historical exchange rate, thereby assuming that they are not exposed exchange risk. Use of the current rate method implies that nonmonetary assets are exposed to exchange risk.

In economic terms, nonmonetary assets are exposed to exchange risk to the extent that their current value in local currency does not adjust by the change in exchange rates. For example, assume a fixed assets in Country X has a current value of 100,000 foreign currency units (FCU) when the exchange rate is \$0.50/FCU. The dollar current value of this asset is \$50,000. If the exchange rate should change to \$0.40/FCU, and the current value of FCU100,000 remains unchanged, there will be an economic loss due to the exchange rate change of \$10,000 (FCU100,000x\$0.40=\$40,000).

On the other hand, the dollar value of this asset would be maintained if the asset were to increase in value to FCU125,000 (FCU125,000x\$0.40=\$50,000). The exposure to exchange risk would be exactly offset if the asset's local currency value increases by 25%, the same percentage by which the FCU has decreased in value. If it can be assumed that, on average, the local currency value of nonmonetary assets in an economy increase by the rate of inflation, then when the change in exchange rates is proportional to the rate of inflation, nonmonetary assets are not exposed to exchange risk.

The purchasing power parity theory (PPP) asserts that a change in relative price levels between two countries results in a proportional change in exchange rates. In mathematical form:

$$E_t = E_{t-1} \times (P_{d,t} / P_{f,t})$$

where; E_t , E_{t-1} = exchange rates at times t and t-1 denominated in number of domestic currency units per foreign currency unit

$P_{d,t}$ = domestic price level at time t

$P_{f,t}$ = foreign price level at time t

If PPP holds, the value in constant dollars of foreign nonmonetary assets is maintained. Continuing with the previous example, assume the following:

	General Price Level	
<u>Time</u>	<u>US</u>	<u>Country X</u>
t-1	100	100
t	110	137.5

The current value of \$50,000 in t-1 dollars equals \$55,000 in t dollars (\$50,000x110/100). According to PPP, E_t should equal \$0.40/FCU:

$$E_t = \$0.50 \times (110/137.5) = \$0.40$$

If the FCU value of the fixed asset increases by the rate of general price increase in Country X to FCU 137,500, the dollar value would be \$55,000 (FCU137,500x\$0.40). Thus, if PPP holds, the value in constant dollars is maintained and no economic gain or loss results: that is, foreign nonmonetary assets are not exposed to exchange risk. If PPP holds, an appropriate translation method will reflect no risk exposure for foreign nonmonetary assets. The temporal method accomplishes this objective.

If PPP does not hold, then nonmonetary assets are exposed to exchange risk and the gain or loss associated with this risk is a function of the degree to which the change in exchange rates deviates from the change predicted by PPP. The temporal method reflects no gain or loss, and is no longer appropriate when PPP does not hold.

Use of the current rate method results in a gain or loss that is a function of the actual change in exchange rates during the period. However, nonmonetary assets need be adjusted through translation only for the deviation between actual exchange rate changes and the exchange rate changes predicted by PPP. A variation of the current rate method would need to be developed and applied to correct for this deficiency. This method will be referred hereafter as the **Current/PPP Method**.

For example, suppose that the exchange rate for country X at time t was \$0.44/FCU instead of the \$0.40/FCU implied by PPP. The deviation from PPP of \$0.40/FCU yields an economic gain of \$4,000 ($FCU100,000 \times \0.40) on the fixed asset. Under the Current/PPP method, the asset would be recorded at \$54,000 (its historical value plus the \$4,000 gain) and the gain would be recognized in income. Use of the current rate method would result in a loss of \$6,000 [$\$50,000 - (FCU100,000 \times \$0.44)$] and use of the temporal method would result in no gain or loss. Thus, only the Current/PPP method produces accounting which is consistent with economic reality.

Whether PPP holds is proposed as the criterion for choosing a method of translation of nonmonetary assets. The criterion can be put into practice by examining the relationship between inflation and exchange rates for individual countries. If PPP deviations fall below a materiality threshold (the level of which should be specified by accounting policymakers), PPP would be said to hold and the temporal method would be used. If PPP deviations exceed the threshold, the Current/PPP method would be applied. Application of the Current/PPP method would be on an item-by-item basis.

3.2. Monetary Assets and Liabilities

There is no dispute that monetary items should be translated using current exchange rates. Both the temporal and current rate methods require that monetary assets and liabilities be translated at current exchange rates. The only issue is whether the gain and losses resulting from the current rate translations should be taken to income.

The appropriate disposition of translation gains and losses on monetary items is that; if a translation gain or loss is permanent (i.e., if it is not likely that the change in exchange rate will reverse in the future), it should be included in income. If a translation gain or loss is temporary (i.e., if it is likely that the change in exchange rate will reverse in the future), it should be shown in equity.

Since PPP deviations have economic meaning for nonmonetary assets, their values should be adjusted for the deviations, and gains and losses recognized in income when PPP is violated. This is consistent with the proposed disposition of gains and losses on

monetary items in that PPP deviations exceeding the threshold are indicative of a trend in the deviations. Trends in exchange rates are less meaningful for nonmonetary assets than are trends in PPP deviations since the former may in part be indicative of trends in relative inflation rates which will be reflected in nominal assets values. In other words, exchange rate trends may partially reflect PPP and only deviations from PPP have economic meaning for nonmonetary assets.

FIGURE 3.1

		TREND	
		Exists	Does Not Exist
PPP	Holds	A	C
	Does Not Hold	B	D

Source:Ruland, Robert G., Doupnik Timothy S.: "Foreign Currency Translation and the Behavior of Exchange Rates", Journal of International Business Studies, Volume 19, Number 3, Year 1988, p.467

Based upon the method used and the manner in which the translation gain or loss is disposed of, four possible combinations exist as shown in Figure 3.1.

According to the criteria proposed above, each cell in Figure 3.1. suggests translation policy as follows:

Translation Method	Disposition of Gains and Losses
A Temporal Method	Gains and losses from monetary items taken to income; no gains and losses from nonmonetary assets
B Current/PPP Method	Gains and losses from monetary items and from PPP deviations on nonmonetary assets taken to income
C Current/PPP Method	Gains and losses from monetary items taken to equity; and gains and losses from PPP deviations on nonmonetary assets taken to income
D Temporal Method	Gains and losses from monetary items taken to equity; no gains and losses from nonmonetary assets

Each country in which US firms have operations can be placed in one of the four cells A, B, C, or D based on the behavior of its exchange rates.

There are two primary advantages of the proposed criteria. First, the proposed criteria directly address the objective of producing translation gains and losses that are economically meaningful. Second, the proposed criteria provide a practical means of determining whether these exchange gains and losses are likely to be permanent or temporary in nature.

Purchasing power parity deviations for the period 1973 to 1986 (second quarter except as noted) appear in the top panel of Table 3.1. Also included in the table (in parentheses) are average inflation rates. Using the 5% compounded annual deviations as an indicator, PPP is violated in six of thirty-seven countries during this time period. It is interesting to note that all of these countries had average annual inflation rates exceeding 26% over the period under study. Under FAS 52, these countries would have been considered highly inflationary and the temporal method would have been mandated. In contrast, of the thirty-one countries for which PPP holds, only four had average inflation rates exceeding 26% per year.

To demonstrate the potential impact of a shorter time horizon on accounting policy, PPP deviations were calculated for the six-and-one-half-year period from 1979 to second quarter. The deviations and average inflation rates for the period are reported in the lower panel of Table 3.1.

The results from these tests indicate two important characteristics of exchange rate behavior which have implications for accounting. First, PPP held much more often when the longer time period was studied. This is consistent with previous research that has shown that PPP is more valid in the long run than in the short run. Second, PPP is less likely to hold in countries with inflation rates of 26% or higher than in countries with inflation rates below 26%. This calls to question the FASB's requirement that countries with three-year cumulative inflation rates of 100% or greater translate nonmonetary assets using historical exchange rates.

TABLE 3.1. Results of Purchasing Power Parity Tests

1973 to 1986 (second quarter)

Country	Mean Annual PPP Deviation	Country	Mean Annual PPP Deviation
Argentina (249%)	0.08*	Mexico (40%)	0.05*
Australia (10%)	0.04	New Zeland (13%)	0.04
Austria (5%)	0.01	Netherlands (6%)	0.01
Belgium (7%)	0.02	Nigeria (18%) **	0.03
Brazil (97%)	0.06*	Norway (9%)	0.02
Canada (8%)	0.03	Peru (67%)	0.04
Chile (139%)	0.16*	Philippines (17%)	0.02
Colombia (23%)	0.03	Portugal (22%)	0.02
Denmark (9%)	0.01	South Africa (13%)	0.04
Finland (11%)	0.00	Singapore (6%)	0.02
France (10%)	0.02	Spain (15%)	0.01
Greece (20%)	0.02	Sweden (9%)	0.03
Iceland (45%)	0.00	Switzerland (4%)	0.00
India (9%)	0.04	Turkey (40%)	0.06*

Ireland (14%)	0.04	United Kingdom (12%)	0.03
Israel (113%)	0.23*	Uruguay (59%)	0.03
Italy (16%)	0.02	West Germany (4%)	0.02
Japan (7%)	-0.01	Yugoslavia (32%)**	0.04
Malaysia (6%)	0.03		

1979 to 1986 (second quarter)

Country	Mean Annual PPP Deviation	Country	Mean Annual PPP Deviation
Argentina (269%)	0.08*	Mexico (59%)	0.08*
Australia (9%)	0.06*	New Zeland (12%)	0.08*
Austria (5%)	0.05*	Netherlands (4%)	0.07*
Belgium (6%)	0.08*	Nigeria (9%) **	0.16*
Brazil (146%)	0.11*	Norway (9%)	0.04
Canada (7%)	0.01	Peru (94%)	0.00
Chile (23%)	0.10*	Philippines (17%)	0.04
Colombia (23%)	0.08*	Portugal (21%)	0.04
Denmark (8%)	0.06*	South Africa (14%)	0.09*
Finland (8%)	0.03	Singapore (3%)	0.04*
France (19%)	0.06*	Spain (12%)	0.05*
Greece (22%)	0.06*	Sweden (9%)	0.06*
Iceland (47%)	0.03	Switzerland (4%)	0.05*
India (10%)	0.04	Turkey (47%)	0.14*
Ireland (12%)	0.07*	United Kingdom (8%)	0.04
Israel (168%)	0.49*	Uruguay (52%)	0.06*
Italy (14%)	0.01	West Germany (4%)	0.06*
Japan (3%)	0.01	Yugoslavia (57%)**	0.12*
Malaysia (4%)	0.06*		

* Deviation greater than or equal to 0.05, ** Due to unavailability of data, the period studied for Nigeria ended with the fourth quarter 1985 and the period studied for Yugoslavia ended with the first quarter 1986.

Source: Ruland, Robert G., Douppnik Timothy S.: "Foreign Currency Translation and the Behavior of Exchange Rates", Journal of International Business Studies, Volume 19, Number 3, Year 1988, p.470

The top panel in Table 3.2. contains results of t-tests to determine if trends exist in the thirty-seven countries under study over the period 1973 to 1986 (second quarter). Significant trends were found for nineteen countries. The lower panel of Table 3.2. contains the results of trend analysis for the shorter time period. Significant trends were found for eighteen of the thirty-seven countries. The results are very similar to those found when the longer time period was used. Of the eighteen countries, sixteen also had significant exchange rate trends over the longer time period. Only three which had trends over the longer time period did not have trends in the second test. Over these two time periods at least, the trends are robust.

TABLE 3.2. Results of Trend Analysis

1973 to 1986 (second quarter)					
Country	<i>t</i> -statistic	Country	<i>t</i> -statistic	Country	<i>t</i> -statistic
Argentina	1.80	India	2.44*	Portugal	3.35
Australia	-2.08*	Ireland	-1.55	South Africa	-2.32
Austria	-0.67	Israel	2.30*	Singapore	-0.67
Belgium	0.25	Italy	2.00*	Spain	2.03
Brazil	2.82*	Japan	-1.04	Sweden	1.18
Canada	2.23*	Malaysia	0.29	Switzerland	-1.21
Chile	4.49*	Mexico	3.30*	Turkey	5.10
Colombia	5.70*	New Zealand	-1.89	United Kingdom	-1.31
Denmark	0.62	Netherlands	-0.44	Uruguay	3.76
Finland	0.84	Nigeria	-1.66	West Germany	-0.57
France	0.93	Norway	0.70	Yugoslavia	3.77
Greece	3.66*	Peru	2.85*		
Iceland	3.61*	Philippines	2.44*		

1979 to 1986 (second quarter)

Argentina	1.84	India	3.33*	Portugal	2.92
Australia	-1.86	Ireland	-1.45	South Africa	-2.51
Austria	0.50	Israel	2.39*	Singapore	0.11
Belgium	1.02	Italy	1.66	Spain	2.16
Brazil	3.02*	Japan	-0.72	Sweden	1.61
Canada	1.68	Malaysia	1.51	Switzerland	0.31
Chile	3.82*	Mexico	3.56*	Turkey	6.47
Colombia	6.24*	New Zealand	-2.09*	United Kingdom	-1.21
Denmark	1.11	Netherlands	0.58	Uruguay	3.99
Finland	1.11	Nigeria	-2.71*	West Germany	0.51
France	1.21	Norway	1.43	Yugoslavia	4.32
Greece	3.84*	Peru	3.00*		
Iceland	3.67*	Philippines	2.44*		

* Significant at the 0.05 level.

Source: Ruland, Robert G., Dougnik Timothy S.: "Foreign Currency Translation and the Behavior of Exchange Rates", *Journal of International Business Studies*, Volume 19, Number 3, Year 1988, p.472

Table 3.3. shows the countries classified according to the proposed criteria given the empirical results. The five countries for which PPP was supported and which there was a trend in exchange rates comprise Group A. Under the proposed criteria, US corporations with operations in these countries would be required to use the temporal method with gains and losses taken to income. Group B is comprised of the thirteen countries for which PPP was rejected and a trend in exchange rates existed. For these countries, disposition of gains and losses on the income statement would be required but a modified current rate method (to reflect only the deviation from PPP) would be used. Group C contains the twelve countries in which PPP was rejected and no trend was found. The modified current rate method with gains and losses from PPP deviations on nonmonetary assets only taken to income would be required for these countries. The seven countries for which PPP was supported and for which no trend in exchange rates was found

comprise Group D. For investments in these countries, the temporal method would be required with all gains and losses taken to stockholders' equity."⁶¹

TABLE 3.3. Classification of the Countries (average inflation rate are in parentheses)

Group A (PPP, trend)		Group D (PPP, no trend)	
Iceland	(47%)	Canada	(7%)
India	(10%)	Finland	(8%)
Peru	(87%)	Italy	(14%)
Philippines	(17%)	Japan	(3%)
Portugal	(21%)	Norway	(9%)
		Singapore	(3%)
		United Kingdom	(8%)
Group B (no PPP, trend)		Group C (no PPP, no trend)	
Brazil	(146%)	Argentina	(269%)
Chile	(23%)	Australia	(9%)
Colombia	(23%)	Austria	(5%)
Greece	(22%)	Belgium	(6%)
Israel	(168%)	Denmark	(8%)
Mexico	(59%)	France	(9%)
New Zeland	(12%)	Ireland	(12%)
Nigeria	(9%)	Malaysia	(4%)
South Africa	(12%)	Netherlands	(4%)
Spain	(12%)	Sweden	(9%)
Turkey	(47%)	Switzerland	(4%)
Uruguay	(52%)	West Germany	(4%)
Yugoslavia	(57%)		

Source: Ruland, Robert G., Doupnik Timothy S.: "Foreign Currency Translation and the Behavior of Exchange Rates", *Journal of International Business Studies*, Volume 19, Number 3, Year 1988, p.472

⁶¹Ruland, Robert G., Doupnik Timothy S., *ibid.*, p.474

CHAPTER 4

4. TRANSLATING THE FINANCIAL STATEMENTS OF SUBSIDIARIES OPERATING IN TURKEY

4.1. Application of Current/PPP Method

As noted in previous chapters, there are basically four ways of currency translation; current-noncurrent, monetary-nonmonetary, temporal and current rate methods. There is no international consensus about the method(s) to be used in translating foreign financial statements.

Companies were advised to use temporal method in translating foreign financial statements by the issuance of 8th standard by FASB in 1975. According to temporal method, balance sheet items are translated into reporting currency depending on their underlying measurement base. That is, the items valued at historical cost in balance sheet translated at historic exchange rates, and the items valued at current market and future values translated at current exchange rate. In income statement translation, cost of goods sold and depreciation expense translated at historic exchange rate, the rest at average rate. And the exchange rate gains and losses included in current net income.

Because of some criticisms - discussed in Chapter 2 - FASB studied on another standard and issued 52nd standard in 1981. With this standard, current rate method was advised to be used in foreign currency statements' translation. In the current rate method, all balance sheet items - except owners' equity - will be translated at current rate and income statement items at current or average rate. The other difference between FASB 8 and FASB 52 is that the translation gains and losses will be shown directly under owners' equity caption according to FASB 52 while it appeared in income statement according to FASB 8. By the issuance of FASB 52 another concept became important; that is the functional currency. Especially for the subsidiaries which operate in highly inflationary countries, the financial statements prepared by foreign currency required to be

remeasured from local currency to functional currency using temporal method and translate to reporting currency using current rate method.

When we compare the traditional translation methods, we see that selection of a rate which will be used in translating inventory and fixed assets becomes important. Or more generally we may say that the translation of nonmonetary items is in question in highly inflationary environments. For monetary items both current and noncurrent, there is almost a consensus about the exchange rate that will be used in translation process - the current rate. For example, if we talk about receivables and payables in both current and noncurrent, their appearance in balance sheet show the amount of inflow and outflow of assets at the balance sheet date respectively. According to the definition of the balance sheet, the items in balance sheet should reflect the actual financial position of the company. And also balance sheet is prepared as of a point of time. That is, when we take monetary items in a balance sheet either current or noncurrent into consideration, the values related with, for example, receivables and payables in both current and noncurrent base, should be the values that reflect the company's exact receivables and payables at that point of time. So, the current rate will be the most appropriate rate in translating monetary items.

The problem related with nonmonetary items - inventory and fixed assets - comes from the fluctuations of exchange rates. According to GAAP, inventories and fixed assets are shown in balance sheet at their historical or acquisition costs. In highly inflationary environments, the exchange rates fluctuate very rapidly and by the big amounts. That is to say, the exchange rate at the beginning of an accounting period will be very smaller than the exchange rate at the end of the same accounting period. Consider a nonmonetary asset acquired at the beginning of an accounting period. In the balance sheet prepared and translated as of the acquisition date of that nonmonetary asset, we will see a figure related with this asset which reflect the real position of company. Because at the acquisition date the historical exchange rate is equal to current rate. But if we want to prepare and translate a balance sheet at the end of that accounting period, we have two rates to be used in translation process, historic rate or current rate. This is the part of the question that we try to find an answer. Other part of the question is about translation gain or loss; how to calculate and where to show.

In section 2.4., several important articles were summarized. In these articles, the authors tried to disprove the traditional translation methods and/or tried to prove their uselessness in an environment where exchange rates fluctuate, from their own point of view. And some authors proposed alternative ways of translation.

When we look at these articles, we can easily see that they all have a common opinion about using historic and current rates in translating nonmonetary assets - especially inventories and fixed assets. According to their opinion, using historic rate will give a wrong result. That is; the ones who support using historic rate in translating inventories and fixed assets assume strictly that PPP holds. They say that the exchange gain or loss that would be reported if the current rate were used is approximately offset by the change in the local currency price of the asset. The assumption of the people who support to use current rate in translating inventories and fixed assets is not different. So they all assume that the nonmonetary assets translated at current and historic rate are not exposed to exchange rate risk.

Most of the authors have again a common opinion about translating monetary assets. That is the most appropriate rate to use for monetary assets is their current rate. One author mentioned that the necessity of adjusting monetary assets by inflation differential between home and foreign countries and the other mentioned the importance of Fisher Effect.

In Turkey, monetary balance sheet items, that is receivables and payables both current and noncurrent are shown in balance sheet at their maturity values. For example if a company has some current payables, the figure includes the principal plus the interest. Since Turkey has to work with hyper-inflation, even for one month, two months etc., some amount of interest charged on payables as well as on receivables. My opinion about translating monetary items is that to use the current exchange rate.

At the point of translation, all monetary items should be discounted to present. By doing so, in terms of local currency, company comes up with its exact amount of monetary assets and liabilities as of balance sheet date. After bringing all monetary items to present, all monetary items should be translated by using current exchange rate, that is the rate valid at the point of translation. Since the historic rate is very smaller than the current

rate, the monetary items will be exposed. The resulting translation gain or loss should be shown directly in the income statement. Another important point related with the monetary items is that they show cash inflows and cash outflows and cash itself. So it is impossible to make inflation adjustment related with monetary items.

So, like the above authors, my concern in this thesis is to find a support to a rate or to a methodology that will be used in translating nonmonetary assets which is appropriate in Turkey - a hyper inflationary environment.

The importance of trying to find out the most appropriate translation methodology is that the result will effect the purchasing power of owners' equity. Underestimating or overestimating will cause decrease or increase in purchasing power of owners' equity respectively.

That is why, I give importance to **Purchasing Power Parity Theorem**.

When we look at the previous chapters, we see the studies of some authors related with PPP theorem and PPP deviations. In those studies domestic currency takes as USD (\$), domestic inflation (consumer price changes) taken as inflation in USA. Foreign currencies and foreign inflations are the currencies of several hyper inflationary countries' currencies and inflation rates including Turkey.

We see from Table 2.4. that annual percentage deviations from the PPP Theory for the years from 1961 to 1971. The average annual deviation for Turkey is 1.12. From Table 2.5. and 2.6. again we see the average parity errors and average parity errors based on a cumulative parity adjustment for the years from 1956 to 1983 as 2.0 and 42.0 respectively. In Table 3.1. we have again average PPP deviation for the years from 1973 to 1986 for Turkey as 0.14.

The PPP deviations carrying plus sign show that the exchange rate was above than it should be.

Now, I will make an extension of the studies about PPP deviation for Turkey for the years from 1985 to 1994. My methodology of calculating PPP deviations is the same as

the Ziebart's⁶² and Ruland & Doupnik's⁶³ methodologies. Depending on the time period analyzed, the PPP implied exchange rate at the end of the period is calculated by adjusting the beginning of the period exchange rate for relative price level changes. The difference between the implied and actual end-of-period exchange rates is the cumulative PPP deviation. For example, to calculate the cumulative PPP deviation from the beginning of 1985 to the end of 1994, the implied end-of-period exchange rate would be calculated by adjusting the beginning 1985 exchange rate for the relative price-level changes in the two countries during the 1985-1994 period. The only data needed to make this calculation would be price-level and exchange rate information for the beginning and end of the period. PPP deviations will be calculated relative to USD (\$) in order to keep the consistency with above studies.

TABLE 4.1. Results of Purchasing Power Parity Tests

Years	Actual Beginning Exchange Rate	Actual Ending Exchange Rate	Yearly Inflation Rate in Turkey (%)	Yearly Inflation Rate in USA (%)	PPP Exchange Rate (End.)	Parity Error Nominal	Parity Error %
1985	448.74	579.71	43.2	3.6	620.27	-40.56	-6.54
1986	579.71	759.68	35.6	1.9	771.43	-11.75	-1.52
1987	759.68	1023.44	44.9	3.6	1062.53	-39.09	-3.68
1988	1023.44	1816.65	77.0	4.1	1740.14	76.51	4.39
1989	1816.65	2316.00	71.0	4.8	2964.19	-648.19	-21.87
1990	2316.00	2933.00	65.3	5.4	3632.21	-699.21	-19.25
1991	2933.00	5085.00	67.9	4.2	4726.01	358.99	7.59
1992	5098.00	8573.00	73.5	3.0	8587.41	-14.41	-0.17
1993	8602.00	14487.00	75.6	3.0	14665.16	-178.16	-1.21
1994	14538.00	38765.00	125.0	3.0	31757.77	7007.23	22.06

⁶²Ziebart, David A.: "Exchange Rates and Purchasing Power Parity: Evidence Regarding the Failure of SFAS No.52 to Consider Exchange Risk in Hyper-Inflationary Countries", International Journal of Accounting, Fall, 1985, p.39-51

⁶³Ruland, Robert G., Doupnik Timothy S.: "Foreign Currency Translation and the Behavior of Exchange Rates", Journal of International Business Studies, Volume 19, Number 3, Year 1988, p.461-476

		excluding 1994
Cumulative Deviation (nominal)	5,811.36	- 1,195.87
Average Deviation (nominal)	581.14	- 132.87
Cumulative Deviation (%)	- 20.20%	- 42.26%
Average Deviation (%)	- 2.02%	- 4.69%

This method of computing the implied purchasing power parity exchange rate treats every year as independent since the computation assumes that the beginning exchange rate (last year's end-of-the-year rate) has been appropriately adjusted for changes in price level that occurred in the preceding year, the parity error is based only on results for a single year, and the error does not consider any uncorrected parity errors from previous periods. The average percentage error is somewhat biased (understates the deviation from parity) when it is used to determine the existence of exchange risk on a long-term basis. It portrays the *average yearly* exchange risk exposure, not the *yearly average* exchange risk exposure.

So, the parity exchange rate to be used in the evaluation of long-term exchange risk exposure should be computed as:

$$E_t = E^*_{t-1} \times (1+I_f) / (1+I_d)$$

where E^*_{t-1} is the implied parity exchange rate at the end of the previous year. The parity error computation provides a measure of the cumulative long-term error that exists throughout the period of analysis. Failure of the exchange rate to adjust completely in one year (for the price level changes in that year) is carried through multiple years until a catch-up adjustment may occur. If no catch-up adjustment occurs, the parity errors of previous periods remain in the error computation, and the measure is appropriate for the analysis of long-run exchange risk exposure.

TABLE 4.2. Results of Purchasing Power Parity Tests

Years	Actual Beginning Exchange Rate	Actual Ending Exchange Rate	PPP Exchange Rate (End.)	Parity Error Nominal	Parity Error (%)
1985	448.74	579.71	620.27	-40.56	-6.54
1986	579.71	759.68	825.40	-65.72	-7.96
1987	759.68	1023.44	1154.45	-131.01	-11.35
1988	1023.44	1816.65	1962.90	-146.25	-7.45
1989	1816.65	2316.00	3202.82	-886.82	-27.69
1990	2316.00	2933.00	5023.01	-2090.01	-41.61
1991	2933.00	5085.00	8093.70	-3008.70	-37.17
1992	5098.00	8573.00	13633.56	-5060.56	-37.12
1993	8602.00	14487.00	23243.24	-8756.24	-37.67
1994	14538.00	38765.00	50774.67	-12009.67	-23.65

Cumulative Deviation (nominal)	- 32,195.54
Average Deviation (nominal)	- 3,219.55
Cumulative Deviation (%)	- 238.21%
Average Deviation (%)	- 23.82%

When we look at the result of analysis, we can easily see that from 1985 to 1994, PPP does not hold in Turkey relative to USD (\$). In other words, the change in exchange rate of Turkish Lira to USD (\$) from the beginning of a period to the end of the period is not equal to the relative price changes of two countries - Turkey & USA. During the period of analysis, we can also see that Turkey was suffering hyper-inflation - that is the total of inflation rates each of each three consecutive years exceeding 100%. By looking at the previous analysis of different authors and my current analysis, we can say that;

"PPP does not hold in Turkey in the case of hyper-inflation".

At the same analysis, it is very obvious that not only for Turkey, but for all other hyper-inflationary countries, PPP does not hold. For those countries more or less there are some amount of PPP deviations.

As noted in previous chapters, the current translation methodologies are based on the assumption that PPP does hold.

Since the PPP does not hold in hyper-inflationary countries - like Turkey - current translation methodologies in translating nonmonetary items are useless.

Monetary-nonmonetary method is useless: according to this method, nonmonetary balance sheet items translated at historical exchange rate rests on the assumption that the exchange gain or loss that would be reported if the current rate were used is approximately offset by a change in the local currency price of asset. In other words, PPP theorem assumed to be held.

Current-noncurrent method is useless: according to this method, as nonmonetary items, inventory and prepaid expenses translated at current rate while fixed assets translated at the historical rate. The difference between monetary-nonmonetary and current-noncurrent methods is the rate used in translating inventory and prepaids from nonmonetary items point of view. Using current rate in translating inventory and prepaids will cause them to be exposed by exchange rate risk. The translation exposure will be underestimated or overestimated according to PPP deviations carrying plus or minus sign respectively.

Temporal method is useless: because of the same reason mentioned in monetary-nonmonetary method.

Current rate method is useless: because of the same reason mentioned in current - noncurrent method.

So, the necessity to improve a methodology in translating nonmonetary items of the subsidiaries which operate in a hyper-inflationary environment - in Turkey - is obvious in order to keep the financial position of the subsidiary not distorted because of translation mistakes.

There are two methodology proposals for translation of nonmonetary items by Choi⁶⁴ and by Ruland and Doupnik⁶⁵. These proposals were improved for the hyper-inflationary environments and for the conditions where PPP does not hold. These are the cases which are valid for Turkey.

When we take the Choi's proposal into consideration, we can see that Choi proposes to use restate-translate method. That is, the nonmonetary items first will be restated by the local inflation and then translated into reporting currency. Choi⁶⁶ drew our attention to double-counting possibility in computing translation gain or loss especially when PPP does not hold.

While proposing a methodology of currency translation for Turkey, I have to consider the current conditions of subsidiaries operating in Turkey. Not only for subsidiaries, but for the most other companies, it is very difficult to talk about inflation accounting. First of all, our tax procedural code implies some restrictions - restrictions in using LIFO inventory accounting, in using some depreciation methods, etc. Other than these restrictions, inflation adjustments are not widely spread.

So, if a subsidiary is not making inflation adjustment, it won't be logical to propose restate-translate methodology.

The method proposed should also be easy and practical to apply. It should not cause lots of efforts. That is why, I propose the method improved by Ruland & Doupnik which is called as **Current/PPP Method**.

⁶⁴Choi, Frederick D. S.: "Price-Level Adjustments and Foreign Currency Translation: Are They Compatible?", *The International Journal of Accounting*, Fall 1975, p.121-143

⁶⁵Ruland, Robert G., Doupnik Timothy S.: "Foreign Currency Translation and the Behavior of Exchange Rates", *Journal of International Business Studies*, Volume 19, Number 3, Year 1988, p.461-476

⁶⁶Choi, Frederick D. S.: "Resolving the Inflation/Currency Translation Dilemma", *Management International Review*, Volume 27, Number 2, Year 1987, p.26-34

This method was expressed in Chapter 3. Under this method, the nonmonetary asset would be translated by the historical rate. Then, according to PPP deviation, whether favorable or unfavorable, the parity error multiplied by historical cost of nonmonetary asset in foreign currency units would be added or subtracted to historical cost of nonmonetary asset in reporting currency respectively. And the gain or loss would be translated to income statement.

The extra effort necessary in applying this method is to calculate parity error for each year and to keep a record of historical costs and the historical exchange rates for nonmonetary assets.

An example may show how the Current/PPP method works. Let's take a hypothetical balance sheet and income statement of a subsidiary operating in Turkey.

Let's assume that below balance sheet is the foundation balance sheet of the subsidiary. The exchange rate of \$1 as of 01.01.199X is 8,500 TL. This rate is both the current and historical rate as of the opening day. So while translating the balance sheet all items will be divided by 8,500 .

For the sake of simplicity, let's assume that during the current year only one sale realized, that is the half of the inventory sold, and inventory was not repurchased. And no other change realized. Depreciation rate is 5% and double-declining balance method used for fixed assets. The exchange rate as of 31.12.199X is 14,000 TL per USD (\$). And the annual inflation in Turkey is 75% while 3% in USA. First, calculate PPP implied exchange rate;

$$E_t = 8,500 \times [(1 + 0.75) / (1 + 0.03)]$$

$$E_t = 14,400 \text{ TL per } \$$$

PPP does not hold, and there is a favorable parity error. That is, exchange rate is less than it should be.

EXHIBIT 4.1. Balance Sheet as of 01.01.199X

	(000,000 TL)	exch. rate	\$
Current Assets			
Cash	200	8,500	23,530
Receivables	3,800	8,500	447,060
Inventory	4,000	8,500	470,590
Fixed Assets			
Fixed Assets	5,000	8,500	588,235
TOTAL ASSETS	13,000		1,529,415
Current Liabilities			
Accounts Payables	7,500	8,500	882,355
Long-Term Liabilities			
Long-term Payables	1,000	8,500	117,650
Owners' Equity			
Capital	4,500	8,500	529,410
TOTAL LIAB. + O.E.	13,000		1,529,415

Translation of nonmonetary assets;

- translate at historical rate
- adjust by PPP error

Inventory:

$$\begin{aligned} & - 2,000,000,000 / 8,500 && = \$ 235,294 \\ & - 2,000,000,000 / 14,000 = 142,857 \\ & - 2,000,000,000 / 14,440 = 138,504 \\ & - 142,857 - 138,504 && = \$ 4,353 \end{aligned}$$

\$ 239,647

Fixed Asset:

$$\begin{aligned} & - 5,000,000,000 / 8,500 && = \$ 588,235 \\ & - 5,000,000,000 / 14,000 = 357,143 \\ & - 5,000,000,000 / 14,440 = 346,260 \\ & - 357,143 - 346,260 && = \$ 10,883 \end{aligned}$$

\$ 599,118

Cost of Goods Sold:

$$\begin{aligned} & - 2,000,000,000 / 8,500 && = \$ 235,294 \\ & - 2,000,000,000 / 14,000 = 142,857 \\ & - 2,000,000,000 / 14,440 = 138,504 \\ & - 142,857 - 138,504 && = \$ 4,353 \end{aligned}$$

\$ 239,647

Depreciation Expense:

Translated figure of Fixed Asset is equal to \$ 599,118

Depreciation Rate is equal to 5% and Double-Declining Balance Method is used

Take 10% of translated figure of fixed asset

$$- \$ 599,118 \times 10\% = \underline{\underline{\$ 59,912}}$$

EXHIBIT 4.2. Balance Sheet as of 31.12.199X

	(000,000 TL)	exchange rate	\$
Current Assets			
Cash	4,200	14,000	300,000
Receivables	3,800	14,000	271,430
Inventory	2,000		239,647
Fixed Assets			
Fixed Assets	5,000		599,118
Accum. Depreci.	(500)		(59,912)
TOTAL ASSETS	14,500		1,350,283
Current Liabilities			
Accounts Payable	7,500	14,000	535,715
Long-Term Liabilities			
Long-term Pay.	1,000	14,000	71,430
Owners' Equity			
Capital	4,500	8,500*	529,410
Period Profit	1,500		213,728
TOTAL LIAB.+ O.E.	14,500		1,350,283

* historical rate

EXHIBIT 4.3. Income Statement (01.01.199X - 31.12.199X)

	(000,000 TL)	exchange rate	\$
Sales	5,000	11,250*	444,450
Cost of Goods Sold	(2,000)		(239,647)
Gross Profit	3,000		204,803
Operating Expenses			
Gen.&Adm. Exp.	(1,000)	11,250	(88,890)
Depreciation Exp.	(500)		(59,912)
Profit Before Tax	1,500		56,001
Translation Gain or Loss	-		157,727
Period Profit	1,500		213,728

* average exchange rate

4.2. Conclusion

In international accounting, translation takes a very important place. The purpose of translating the foreign financial statements of foreign subsidiaries is to come up with financial statements in terms of home country's currency so that consolidated financial statements could be prepared, from parent company's point of view.

The real and correct consolidated financial statements can be prepared by using, no doubt, the real and correct financial statements of foreign subsidiaries. The foreign subsidiaries are obliged to use their own home currency in keeping accounting record. So the financial statements of subsidiaries would appear in terms of their own home currency. These statements should be translated to parent company's home currency.

In order to be able to come up with real and correct translated financial statements, the translation method used should be the right one. There are basically four translation methods; current-noncurrent, monetary-nonmonetary, temporal and current rate methods.

The reason why there are more than one method improved by different people in different times is that the exchange rates fluctuate and the financial statements (balance sheet and income statement) composed of items with different characteristics, either current-noncurrent or monetary-nonmonetary. Scientists tried to find the right exchange rate (historic, current, or average) applicable to right financial statement item (current-noncurrent or monetary-nonmonetary).

When we talk about hyper-inflation -like in Turkey-, the problem becomes bigger. Because the exchange rate fluctuations are bigger and frequent. Choosing the appropriate rate will be more difficult.

In this thesis, I tried to investigate the applicability of above mentioned translation methodologies to the financial statements of subsidiaries operating in Turkey -where hyper-inflation exists. And also, I tried to find a support to a method appropriate for Turkey's conditions. What I found is;

First, the basic assumption underlying in all four of the traditional translation methods is that PPP (purchasing power parity) holds.

Second, in order to test the applicability of traditional methods in Turkey, I tested whether PPP holds or not in Turkey using the data from 1985 to 1994 in addition to studies made by different authors for the years from 1959 to 1983, and I found that PPP does not hold in Turkey.

Since PPP does not hold in Turkey, it's meaningless to use the traditional translation methods. Besides, it causes wrong results.

But, there should be a method appropriate for Turkey's conditions. According to my investigations, I found a method proposed by Ruland and Doupnik⁶⁷ in 1988. The method is called as Current/PPP Method. This method is applicable where PPP does not hold and there is a trend in exchange rate fluctuations. These conditions fit to Turkey's conditions.

In this method, nonmonetary assets taken into consideration. According to this method, nonmonetary assets should be translated by using the historic rate and than adjusted by the PPP deviation (error). By doing so, the purchasing power of the owners' equity is protected. The resulting translation gain or loss should directly be transferred to income statement.

⁶⁷Ruland, Robert G., Doupnik Timothy S.: "Foreign Currency Translation and the Behavior of Exchange Rates", *Journal of International Business Studies*, Volume 19, Number 3, Year 1988, p.461-476

Abbreviations

AICPA: American Institute of Certified Public Accountants

AISG: Accountants International Study Group

APB: Accounting Principles Board

EEC: European Economic Community

FAS: Financial Accounting Standard

FASB: Financial Accounting Standards Board

FC: Foreign Currency

FCU: Foreign Currency Unit

FIFO: First In First Out

GAAP: Generally Accepted Accounting Principles

IAS: International Accounting Standard

IASC: International Accounting Standards Committee

IED: International Exposure Draft

LC: Local Currency

LIFO: Last In First Out

MNC: Multinational Company

MNE: Multinational Enterprises

PPP: Purchasing Power Parity

SFAS: Statement of Financial Accounting Standards

SSAP: Statement of Standard Accounting Practice

TL: Turkish Lira

US: United States

USA: United States of America

USD: United States Dollar

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