CHAPTER 7

Financial Reporting and Changing Prices

Fluctuating currencies and changes in money prices of goods and services are integral features of international business. Chapter 6 focused on the former. This chapter dwells on the financial statement effects of changing prices.

The global economy is presently experiencing one of its most serious economic downturns since the 1930s. During times such as these, national governments are often tempted to adopt expansive fiscal stimulus and monetary measures designed to lift their economies out of recession. Disproportionate stimulus measures, however, are sure to stoke the flames of inflation as too much stimulus money chases the same goods and labor. It is too early to tell what path governments, affected by the current recession, will follow or how soon economic recovery will manifest itself. Recent reports, however, suggest that inflation worries are heating up.[1] Developing economies, some of which fought serious battles to tame inflation in the 1980s and 1990s, are especially worrisome. In several large emerging markets, such as India, Indonesia, the Philippines, Russia, Turkey, and South Africa, double digit inflation has already arrived. Given the distortive effects of changing prices on financial statements and their interpretation, it is important that financial statement readers understand what these effects are and how to cope with this reporting conundrum.

Grupo Modello S.A., the largest manufacturer of Corona beer in Mexico, operates in an environment where changing prices have been nontrivial in the recent past. To see how price changes have been reflected in the company's published accounts, examine Exhibit 7-1, which contains selected excerpts from Grupo Modello S.A.'s financial statements and related notes.[2]

[1] Mark Whitehouse, "Inflation is Tempting to Indebted Nations," *Wall Street Journal,* March 30, 2009.
[2] As the cumulative rate of inflation in Mexico no longer exceeds 28 percent, the country has discontinued for the moment, mandated inflation adjusted accounting.

EXHIBIT 7-1 Selected Excerpts from Grupo Modelo's Financial Accounts

Grupo Modelo S.A. de C.V. and Subsidiaries

Consolidated Income Statements
For the years ended December 31, 2007 and 2006
(Amounts expressed in thousands of pesos of December 31, 2007 purchasing power

	2007	2006
Operating profit	MXP20,587,851	MXP16,860,640
Other (expenses), net	(466,444)	(605,676)
Comprehensive financing income:		
Interest earned, net	1,442,608	1,287,970
Exchange profit(loss), net	87,591	115,807
Loss on monetary position	(868,786)	(958,700)
	661,413	445,077
Profit before provisions	20,782,820	16,700,041
Provisions for (Note 12)		
Income, asset and flat rate corporate tax 5,513,9814,962,626		
Consolidated net income for the year	MXP15,268,8395	MXP11,737,415

Consolidated Balance Sheets

As of December 31, 2007 and 2006 (Notes 1, 2, and 15)
(Amounts in thousands of pesos of December 31, 2007 purchasing power)

Assets	**2007**	**2006**
Current		
Cash and marketable securities	MXP20,716,601	MXP22,923,116
Accounts and notes receivable (Note 3)	5,413,848	3,724,554
Inventories (Note 4)	9,504,555	6,961,732
Prepaid expenses and other current items	2,632,200	2,213,179
Total current assets	38,267,204	35,822,581
Long-term accounts and notes receivable (Note 3)	1,724,593	1,437,690
Investment in shares of associated companies (Note 5)	4,177,386	3,360,961
Property, plant and equipment (Note 6)	79,031,553	76,171,558
Accumulated depreciation	(26,721,013)	(25,126,654)
Other assets (Note 7)	3,244,524	2,491,059
Total assets	MXP99,724,247	MXP94,157,195
Total liabilities	MXP17,712,993	MXP14,795,092
Stockholders' equity		
Common stock (Note 10)	16,377,411	16,377,411
Premium on share subscription	1,090,698	1,090,698
Earned surplus (Notes 11 and 12):		
Legal reserve	3,213,558	2,767,938
Reserve for acquisition of own shares	242,596	688,923

(continued)

Assets	2007	2006
Retained earnings	39,622,514	38,022,111
Net income	9,503,111	8,997,526
	52,581,779	50,476,498
Accumulated effect of deferred tax	(5,472,843)	(5,472,843)
Adjustment to capital for retirement obligations	(464,807)	(430,181)
Deficit in the restatement of stockholders' equity	(1,051,534)	(1,044,944)
Total majority stockholders' equity	MXP63,060,704	MXP60,966,640

Notes to the Consolidated Financial Statements

As of December 31, 2007 and 2006 (Amounts in thousands of pesos of December 31, 2007 purchasing power)

2. Accounting policies—The Group accounting policies used in preparing these consolidated financial statements comply with the requirements for reasonable presentation set forth by Mexican Financial Information Standards (NIF) and are expressed in pesos of December 31, 2007 purchasing power through application of National Consumer Price Index (NCPI) factors. Those standards require that the Group's Management make certain estimates and assumptions in determining the valuation of some items included in the consolidated financial statements.

Following is a summary of the most significant accounting policies, methods and criteria for recognizing the effects of inflation on the financial information:

d) Inventories and cost of sales—This item is originally recorded through the last-in first-out method and is subsequently restated to replacement cost. Values thus determined do not exceed market value.

f) Property, plant and equipment—These items are recorded at acquisition cost, restated by applying inflation factors derived from the NCPI according to the antiquity of the expenditure.

h) Depreciation—This item is calculated based on the restated values of property, plant and equipment, based on the probable useful life as determined by independent appraisers and the technical department of the group. Annual depreciation rates are shown in Note 6.

n) Stockholders' equity—The capital stock, legal reserve, contributions for future capital increases, and retained earnings represent the value of those items in terms of December 31, 2007 purchasing power and are restated by applying NCPI factors to historical amounts.

Deficit in the restatement of stockholders' equity—The balance of this account represents the sum of the items "Cumulative gain or loss from holding non-monetary assets" and "Cumulative monetary gain or loss," described below:

Cumulative gains or loss from holding non-monetary assets—This item represents the cumulative change in the value of non-monetary assets due to causes other than inflation. It is determined only when the specific cost method is used, since those costs are compared to restatements determined using the NCPI. If the specific costs are higher than the indexes, there is a gain from holding non-monetary assets; otherwise, there is a loss.

Cumulative monetary gain or loss—This item is the net effect arising on the initial restatement of the financial statement figures.

o) Gains or loss on monetary position—This account represents the effect of inflation on monetary assets and liabilities, even when they continue to have the same nominal value. When monetary assets exceed monetary liabilities, a monetary loss is generated, since assets maintain their

nominal value, they lose purchasing power. When liabilities are greater, a profit arises, since they are settled with money of lower purchasing power. These effects are charged or credited to the income statement and form part of comprehensive financing income.

6. Property, Plant, and Equipment—Net

a) The balance of this account is made up as follows:

		2007	2006	
Item	**Net historical cost**	**Net restatement**	**Net total value**	**Net total value**
Land	MXP 1,620,065	MXP 3,236,266	MXP 4,856,331	MXP5,032,597
Machinery and equipment	14,301,114	7,947,178	22,248,292	23,051,551
Transportation equipment	2,522,857	344,500	2,867,357	3,103,914
Building and other structures	6,875,008	6,730,890	13,605,898	14,543,722
Computer equipment	506,973	41,263	548,236	584,053
Furniture and other equipment	1,646,293	91,438	1,737,731	476,486
Antipollution equipment	538,773	317,032	855,805	902,937
Construction in progress	5,378,716	212,174	5,590,890	3,349,644
	MXP33,389,799	MXP18,920,741	MXP52,310,540	MXP51,044,904

A quick scan of Modello's income statement reveals an account labeled "Comprehensive Financing Income." Two of its components should be familiar to you. The first relates to interest on the firm's receivables and payables. The second, discussed in Chapter 6, is the translation gains or losses resulting from the currency translation process. The third component, "Loss from monetary position," is probably new to you and stems from Modello's attempts to reflect the effects of changing prices on its financial accounts. But what does this figure mean, and how is it derived?

Grupo Modello's balance sheet also introduces financial statement items that are unfamiliar to most statement readers. The first relates to its fixed assets. Footnote 6 suggests that the 2007 balance of MXP52,310,540 for Property, Plant, and Equipment, net of accumulated depreciation, consists of two components: one labeled "Net historical cost," the other, "Net restatement." While the former may be a familiar term, the latter probably is not. Another novel balance sheet account appears in Stockholders' Equity, labeled "Deficit in the Restatement of Stockholders' Equity."

Finally, the first paragraph of its accounting policy description states that all figures disclosed in Modello's comparative statements, and the notes thereto, are expressed in December 2007 purchasing power. What does "December 2007 purchasing power" mean, and what is its rationale? And, more important, do statement readers actually impound the foregoing information in their security pricing and managerial decisions?

Subsequent sections of this chapter are devoted to answering these and related questions. The managerial implications of changing prices are covered in Chapter 10. To make informed decisions, financial analysts must understand the contents of financial accounts that have been adjusted for changing prices. This is especially germane for those interested in emerging markets. Informed analysts must also have some facility for adjusting accounts for changing prices in those instances where (1) companies choose not to account for inflation or

(2) have recently stopped producing inflation-adjusted numbers so as to facilitate apple-to-apple comparisons over time and/or with companies that do. The International Accounting Standards Board's IAS 29 currently mandates that companies inflation adjust their accounts when the cumulative rate of inflation for the preceding three years exceeds 100 percent. Accordingly, companies subscribing to IASB standards (see Chapter 8) will stop adjusting their accounts for inflation when the inflation rate is less than this threshold and resume inflation accounting when annual inlfation rates exceed this benchmark.

Depreciation for the year amounted to MXP3,120,777 (MXP2,897,764 in 2006).

CHANGING PRICES DEFINED

To understand what *changing prices* means, we must distinguish between general and specific price movements, both of which are embraced by the term. A *general price level* change occurs when, on average, the prices of all goods and services in an economy change. The monetary unit gains or loses purchasing power. An overall increase in prices is called *inflation*; a decrease, *deflation*. What causes inflation? Evidence suggests that aggressive monetary and fiscal policies designed to achieve high economic growth targets, excessive spending associated with national elections, and the international transmission of inflation are causal explanations.[3] The issue, however, is complex.

A *specific price* change, on the other hand, refers to a change in the price of a specific good or service caused by changes in demand and supply. Thus, the annual rate of inflation in a country may average 5 percent, while the specific price of one-bedroom apartments may rise by 50 percent during the same period. Exhibit 7-2 defines additional terminology used in this chapter.

EXHIBIT 7-2 Glossary of Inflation Accounting Terms

attribute. The quantifiable characteristic of an item that is measured for accounting purposes. For example, historical cost and replacement cost are attributes of an asset.

current-cost adjustments. Adjusting asset values for changes in specific prices.

disposable wealth. The amount of a firm's net assets that could be withdrawn without reducing its beginning level of net assets.

gearing adjustment. The benefit to shareholders' purchasing power gain from debt financing and signals that the firm need not recognize the additional replacement cost of operating assets to the extent they are financed by debt. The U.S. expression for gearing is *leverage.*

general purchasing power equivalents. Currency amounts that have been adjusted for changes in the general level of prices.

general purchasing gains and losses. See **monetary gains and losses**.

historical cost-constant currency. See **general purchasing power equivalents**.

holding gain. Increase in the current cost of a nonmonetary asset.

hyperinflation. An excessive rate of inflation, as when the general level of prices in an economy increases by more than 25 percent per annum.

inflation. Increase in the general level of prices of all goods and services in an economy.

[3] John F. Boschen and Charles L. Weise, "What Starts Inflation: Evidence from the OECD Countries," *Journal of Money, Credit and Banking* **35** (June 2003): 323.

monetary asset. A claim to a fixed amount of currency in the future, like cash or accounts receivable.

monetary gains. Increases in general purchasing power that occur when monetary liabilities are held during a period of inflation.

monetary liability. An obligation to pay a fixed amount of currency in the future, such as an account payable or debt that bears a fixed rate of interest.

monetary losses. Decreases in general purchasing power that occur when monetary assets are held during a period of inflation.

monetary working capital adjustment. The effect of specific price changes on the total amount of working capital used by the business in its operation.

nominal amounts. Currency amounts that have not been adjusted for changing prices.

nonmonetary asset. An asset that does not represent a fixed claim to cash, such as inventory or plant and equipment.

nonmonetary liability. A debt that does not require the payment of a fixed sum of cash in the future, such as a customer advance. Here the obligation is to provide the customer a good or service whose value may change because of inflation.

parity adjustment. An adjustment that reflects the difference in inflation between the parent and host countries.

permanent assets. A Brazilian term for fixed assets, buildings, investments, deferred charges and their respective depreciation, and depletion or amortization amounts.

price index. A cost ratio where the numerator is the cost of a representative "basket" of goods and services in the current year and the denominator is the cost of the same basket of goods and services in a benchmark year.

purchasing power. The general ability of a monetary unit to command goods and services.

real profit. Net income that has been adjusted for changing prices.

replacement cost. The current cost of replacing the service potential of an asset in the normal course of business.

reporting currency. The currency in which an entity prepares its financial statements.

restate-translate method. Used when a parent company consolidates the accounts of a foreign subsidiary located in an inflationary environment. With this method, the subsidiary's accounts are first restated for local inflation and then translated to the parent currency.

specific price change. The change in the price of a specific commodity, such as inventory or equipment.

translate-restate method. A consolidation method that first translates a foreign subsidiary's accounts to parent currency and then restates the translated amounts for parent-country inflation.

As consumers, we are well aware of inflation's effects on our material standard of living. We immediately feel its impact in our pocketbooks when the price of oil or our favorite fast-food selection increases. The social and political devastation resulting from bouts of *hyperinflation* (e.g., when the inflation rate soars by more than 50 percent per month) can be extreme. Consider the following commentary offered by Steve H. Hanke, former economic adviser to the president and state counselor of the Republic of Montenegro.

> Voters in Montenegro recently turned out in record numbers to denounce their republic's loose union with Serbia. This action followed a bizarre history of monetary policy that wreaked havoc with people's lives. Following a 20-year period of double-digit inflation (annualized rates averaging 75%), the

> Serbian Parliament, controlled by Slobodan Milosevic, secretely ordered the Serbian National Bank (a regional central bank) to issue $1.4 billion in credits to Milosevic's friends and political allies. This illegal move doubled the quantity of money the National Bank of Yugoslavia had planned to create and fanned the flames of inflation. Beginning in 1992, Yugoslavia experienced one of the highest and longest periods of hyperinflation in history. When it peaked in 1994, prices had increased by 313,000,000% in one month! There were a total of 14 maxi-devaluations during the hyperinflation, completely wiping out the Yugoslav dinar's value. To appreciate the impact of this hyperinflation on the local population, first, assume you had the equivalent of $10,000 in the bank, next, move the decimal point of the dollar 22 places to the left, and finally, try to buy something to eat. Little wonder why stable prices are a national priority for much of the world. Businesses also feel inflation's effects when the prices of their factor inputs rise.[4]

While changing prices occur worldwide, their business and financial reporting effects vary from country to country. Europe and North America, for instance, have enjoyed relatively modest general price-level increases, averaging less than 3 percent per year during the last decade. By contrast, Eastern Europe, Latin America, and Africa have experienced much higher inflation rates. Annual rates of inflation have been as high as 106 percent in Turkey, 2,076 percent in Brazil, and, most recently, 231,000,000 percent in Zimbabwe![5]

Local inflation affects the exchange rates used to translate foreign currency balances to their domestic currency equivalents. As we shall see, it is hard to separate foreign currency translation from inflation when accounting for foreign operations.

WHY ARE FINANCIAL STATEMENTS POTENTIALLY MISLEADING DURING PERIODS OF CHANGING PRICES?

During a period of inflation, asset values recorded at their original acquisition costs seldom reflect the assets' current (higher) value. Understated asset values result in understated expenses and overstated income. From a managerial perspective, these measurement inaccuracies distort (1) financial projections based on unadjusted historical time series data, (2) budgets against which results are measured, and (3) performance data that fail to isolate the uncontrollable effects of inflation. Overstated earnings may, in turn, lead to:

- Increases in proportionate taxation
- Requests by shareholders for more dividends
- Demands for higher wages by workers
- Disadvantageous actions by host governments (e.g., imposition of excess profit taxes)

Should a firm distribute all of its overstated earnings (in the form of higher taxes, dividends, wages, and the like), it may not keep enough resources to replace specific assets whose prices have risen, such as inventories and plant and equipment.

---

[4] Steve H. Hanke, "Inflation Nation," *Wall Street Journal*, May 24, 2006, p. A14.
[5] Chris McGreal, "Zimbabwe's Inflation Rate Surges to 231,000,000%," guardian.co.uk, October 9, 2008.

Failure to adjust corporate financial data for changes in the purchasing power of the monetary unit also makes it hard for financial statement readers to interpret and compare reported operating performances of companies. In an inflationary period, revenues are typically expressed in currency with a lower general purchasing power (i.e., purchasing power of the current period) than applies to the related expenses. Expenses are expressed in currency with a higher general purchasing power because typically they reflect the consumption of resources that were acquired a while back (e.g., depreciating a factory purchased ten years ago) when the monetary unit had more purchasing power. Subtracting expenses based on historical purchasing power from revenues based on current purchasing power results in an inaccurate measure of income.

Conventional accounting procedures also ignore purchasing power gains and losses that arise from holding cash (or equivalents) during an inflationary period. If you held cash during a year in which the inflation rate was 100 percent, it would take twice as much cash at the end of the year to have the same purchasing power as your original cash balance. This further distorts business-performance comparisons for financial statement readers.

Therefore, it is useful to recognize inflation's effects explicitly for several reasons:

1. The effects of changing prices depend partially on the transactions and circumstances of the enterprise. Users do not have detailed information about these factors.
2. Managing the problems caused by changing prices depends on an accurate understanding of the problems. An accurate understanding requires that business performance be reported in terms that allow for the effects of changing prices.
3. Statements by managers about the problems caused by changing prices are easier to believe when businesses publish financial information that addresses the problems.[6]

Even when inflation rates slow, accounting for changing prices is useful because the cumulative effect of low inflation over time can be significant. As examples, the cumulative inflation rate during the last ten years was approximately 22 percent in highly industrialized countries like the Eurozone, Japan, the United Kingdom, and the United States, approximately 61 percent for emerging economies in Asia, 575 percent for Latin America, and 804 percent for Central and Eastern Europe.[7] The distorting effects of prior inflation can persist for many years, given the long lives of many assets. And, as mentioned earlier, specific price changes may be significant even when the gen()eral price level does not change much.

TYPES OF INFLATION ADJUSTMENTS

Statistical series that measure changes in both general and specific prices do not generally move in parallel.[8] Each type of price change has a different effect on measures of a firm's financial position and operating performance and is accounted for with different

---

[6] Financial Accounting Standards Board, *Financial Reporting and Changing Prices: Statement of Financial Accounting Standards No. 33* (Stamford, CT: FASB, September 1979).
[7] Bank for International Settlements 76th Annual Report (June 2006).
[8] Carlos Dabus, "Inflationary Regimes and Relative Price Variability: Evidence from Argentina," *Journal of Development Economics* 62 (2000): 535–547.

objectives in mind. Hereinafter, accounting for the financial statement effects of general price-level changes is called the *historical cost-constant purchasing power* model. Accounting for specific price changes is referred to as the *current-cost* model.

GENERAL PRICE-LEVEL ADJUSTMENTS

Currency amounts adjusted for general price-level (purchasing power) changes are called *historical cost-constant currency* or *general purchasing power equivalents.* Currency amounts that have not been so adjusted are called *nominal* amounts. For example, during a period of rising prices, a long-lived asset that is on the balance sheet at its original acquisition cost is expressed in nominal currency. When its historical cost is allocated to the current period's income (in the form of depreciation expense), revenues, which reflect current purchasing power, are matched with costs that reflect the (higher) purchasing power of the earlier period when the asset was bought. Therefore, nominal amounts must be adjusted for changes in the general purchasing power of money to match them appropriately with current transactions.

Price Indexes

General price-level changes are measured by a price-level index of the form $\sum p_1 q_1 / \sum p_0 q_0$, where p = the price of a given commodity and q = quantity consumed. A price index is a cost ratio. For example, if a family of four spends $20,000 to buy a representative basket of goods and services at the end of year 1 (the base year = start of year 2) and $22,000 to buy the same basket a year later (start of year 3), the year-end price index for year 2 is $22,000/$20,000, or 1.100. This figure implies a 10 percent rate of inflation during year 2. Similarly, if the basket in question costs our family of four $23,500 two years later (end of year 3), the general price-level index would be $23,500/$20,000, or 1.175, implying 17.5 percent inflation since the base year. The index for the base year is $20,000/$20,000, or 1.000.

Use of Price Indexes

Price index numbers are used to translate sums of money paid in past periods to their end-of-period purchasing power equivalents (i.e., historical cost-constant purchasing power). The method used is as follows:

$$\text{GPL}_c/\text{GPL}_{td} \times \text{Nominal amount}_{td} = \text{PPE}_c$$

where

GPL = general price index
c = current period
td = transaction date
PPE = general purchasing power equivalent

For example, suppose that $500 is spent at the end of the base year, and $700 one year later. To restate these expenditures at their year 3 purchasing power equivalents, using price index numbers from our example, we would do the following:

	Year 3		
End of:	Nominal Expenditure	Adjustment Factor	Purchasing Power Equivalent
Year 1	$500	1.175/1.000	$587.50
Year 2	$700	1.175/1.100	$747.73

It would take $587.50 at the end of year 3 to buy (in general) what $500 would have bought at the end of year 1. Similarly, it would take $747.73 at the end of year 3 to buy (in general) what $700 would have bought a year earlier. Alternatively, during a period of inflation, the nominal expenditures of $500 at the end of year 1, and $700 a year later, are not comparable unless they are expressed in terms of a common denominator, which is year 3 general purchasing power equivalents. This is why Grupo Modello, cited earlier in the chapter, restates all of its trend data to December 31, 2007, purchasing power.

Price-level adjusted figures do not represent the current cost of the items in question; they are still historical cost numbers. The historical cost numbers are merely restated in a new unit of measure: general purchasing power at the end of the period. When transactions occur uniformly throughout a period (such as revenues from the sale of goods or services), a shortcut price-level adjustment can be used. In expressing revenues as end-of-period purchasing power equivalents rather than price-level adjusting each day's revenues (365 calculations!), one could multiply total annual revenues by the ratio of the year-end index to the average general price-level index (such as a monthly weighted average) for the year. Thus:

$$GPL_c/GPL_{avg} \times \text{Total revenues} = PPE_c$$

Object of General Price-Level Adjustments

Let us briefly review the conventional notion of enterprise income. Traditionally, income (disposable wealth) is that portion of a firm's wealth (i.e., net assets) that the firm can withdraw during an accounting period without reducing its wealth beneath its original level. Assuming no additional owner investments or withdrawals during the period, if a firm's beginning net assets were 10,000 Russian rubles and its ending net assets increased to RUB25,000 due to profitable operations, its income would be RUB15,000. If it paid a dividend of RUB15,000, the firm's end-of-period wealth would be exactly what it was at the beginning. Hence, conventional accounting measures income as the maximum amount that can be withdrawn from the firm without reducing its original money capital.

If we cannot assume stable prices, the conventional measure of income may not accurately measure a firm's disposable wealth. Assume that the general price level rises by 21 percent during a year. To keep up with inflation, a firm that begins the year with RUB10,000 would want its original investment to grow to at least RUB12,100, because it would take that much at year's end to buy what RUB10,000 would have bought at the beginning. Suppose that, using conventional accounting, the firm earns RUB15,000 (after tax). Withdrawing RUB15,000 would reduce the firm's nominal end-of-period wealth to the original RUB10,000. But this is less than it needs to keep up with inflation (RUB12,100). The historical cost-constant purchasing power model takes this discrepancy into account by measuring income so that the firm could pay

out its entire income as dividends while having as much purchasing power at the end of the period as at the beginning.

As another illustration, suppose that an Argentine merchandiser begins the calendar year with ARS100,000 in cash (no debt), which is immediately converted into salable inventory (e.g., 10,000 compact discs of an Argentinian rock star at a unit cost of 10 pesos). The firm sells the entire inventory uniformly during the year at a 50 percent markup. Assuming no inflation, enterprise income would be ARS50,000, the difference between ending and beginning net assets ($150,000 – $100,000), or as revenue minus expenses (cost of CDs sold). Withdrawal of ARS50,000 would leave the firm with ARS100,000, as much money capital as at the start of the year, maintaining its original investment.

Suppose instead that the period had a 21 percent inflation rate, with the general price level (1.21 at year-end) averaging 1.10 during the year. Inflation-adjusted income would be measured (in thousands) as follows:

	Nominal Pesos	Adjustment Factor	Constant Pesos
Revenues	ARS150,000	1.21/1.10	ARS165,000
– Expenses	100,000	1.21/1.00	121,000
Operating income	ARS 50,000		ARS 44,000
– Monetary loss	=		15,000
Net income	ARS 50,000		ARS 29,000

In these calculations, sales took place at the same rate throughout the year, so they are adjusted by the ratio of the end-of-year index to the year's average price index. Because the inventory sold during the year was bought at the beginning of the year, cost of sales is adjusted by the ratio of the year-end index to the beginning-of-year index.

Where did the monetary loss come from? During inflation, firms will have changes in wealth that are unrelated to operating activities. These arise from monetary assets or liabilities—claims to, or obligations to pay, a fixed amount of currency in the future. Monetary assets include cash and accounts receivable, which generally lose purchasing power during periods of inflation. Monetary liabilities include most payables, which generally create purchasing power gains during inflation. In our example, the firm received and held cash during a period when cash lost purchasing power. As inventory was sold for cash, cash was received uniformly throughout the year. The firm's cash balance at the end of the year, if expressed in terms of year-end purchasing power, should be ARS165,000 (150,000×1.21/1.10). It is actually only ARS150,000, resulting in an ARS15,000 loss in general purchasing power (a monetary loss). This explains the Loss from monetary position figure in Grupo Modelo's income statement cited earlier. During 2006 and 2007, Modelo had more monetary assets on its books than monetary liabilities, giving rise to a purchasing power loss each year.

In contrast to conventional accounting, income using the historical cost-constant purchasing power model is only $29,000. However, withdrawing ARS29,000 makes the firm's end-of-period wealth ARS121,000 (ARS150,000 – AP 29,000), giving it as much purchasing power at the end of the period as at the beginning.

IAS 29 is consistent with this approach to accounting for changing prices. Reproduced in Exhibit 7-3 is a financial reporting example for VESTEL, a leader in the

Turkish and global markets for consumer electronics, white goods, and digital products. It is for the most recent year in which the company applied the tenets of IAS 29 as explained below:

VESTEL has price-level adjusted all revenues and expenses to December 31, 2005 purchasing power equivalents, using the year-end WPI over the relevant index that prevailed when each revenue and expense transaction occurred. The monetary loss of YTL9, 296,000 occurs because VESTEL held an excess of monetary assets over monetary losses during 2005. The company calculated this loss by multiplying the change in a general price-level index by the weighted average of the difference between monetary assets and liabilities for the year. The company wisely cautions

EXHIBIT 7-3 Inflation-Adjusted Income Statement of Vestel and Related Note

VESTEL ELEKTRONIK SANAYI VE TICARET A.S. GROUP OF COMPANIES
CONSOLIDATED INCOME STATEMENTS FOR THE YEARS ENDED 31 DECEMBER 2005 AND 2004
(Currency show in thousands of New Turkish Lira ("YTL") in equivalent purchasing power at 31.12.2005 unless otherwise indicated.)

	Note	01.01-31.12.2005	01.01-31.12.2004
Net sales		4.456.229	4.604.903
Cost of sales		(3.798.115)	(3.854.366)
Gross profit		658.114	750.537
Selling expenses		(337.763)	(318.197)
General and administrative expenses		(141.642)	(138.089)
Warranty expenses		(30.972)	(30.327)
Other income/(expenses), net	20	22.265	5.224
Income from operations		170.002	269.148
Financing income/(expense), net	21	(36.085)	(74.057)
Income before taxation		133.917	195.091
Taxation charge			
Current		(54.699)	(41.036)
Deferred		43.592	(2.428)
Taxation on income	15	(11.107)	(43.464)
Income before minority interest		122.810	151.627
Minority interest		(30.168)	(45.979)
Monetary loss	27	(9.296)	(18.710)
Net income for the year		83.346	86.938
Basic and fully diluted earnings per share (in full TL)	4	524	546
The accompanying notes are an integral part of these statements.			

EXHIBIT 7-3 Inflation-Adjusted Income Statement of Vestel and Related Note (Continued)

Vestel Elektronik Sanayi ve Ticaret Anonim Sirketi
Notes to Consolidated Financial Statements for the Year Ended 31, December 2008
2.1 Measurement currency and reporting currency

The financial statements have been prepared under the historical cost convention, other than financial assets which are stated at fair value.

The restatement for the changes in the general purchasing power of TL (Turkish lira) as of 31, December 2005 is based on IAS 29 ("Financial Reporting in Hyperinflationary Economies"). IAS 29 requires that financial statements prepared in the currency of a hyperinflationary economy be stated in terms of the measuring unit current at the balance sheet date and the corresponding figures for previous periods be restated in the same terms. One characteristic (but not limited to) that necessitates the application of IAS 29 is a cumulative three year inflation rate approaching or exceeding 100%. As of 31 December 2005, the three year cumulative rate was 36% (31 December 2004: 70% - 31 December 2003: 181%) based on the Turkish countrywide wholesale price index published by the State Institute of Statistics.

As from 1 January 2006 it has been decided to discontinue the adjustment of financial statements for inflation after taking into account that hyperinflation period has come to an end as indicated by existing objective criteria and that other signs indicating the continuance of hyperinflation have largely disappeared.

The effects of ending the adjustments for inflation on financial statements are summarized as follows:

The financial statements as of 31 December 2006, 2007 and 2008 have not been subjected to any inflation adjustment whereas the financial statements for previous periods have been adjusted for inflation on the basis of the measuring unit current at the preceding balance sheet date namely 31 December 2005.

the reader that its price-level-adjusted amounts do not reflect current costs. To quote VESTEL:

> Restatement of balance sheet and income statement items through the use of a general price index and relevant conversion factors does not necessarily mean that the Company could realize or settle the same values of assets and liabilities as indicated in the balance sheets. Similarly, it does not necessarily mean that the Company could returns or settle the same values of equity to its shareholders.

CURRENT-COST ADJUSTMENTS

The current-cost model differs from conventional accounting in two major respects. First, assets are valued at their current cost rather than their historical cost. As an asset is conceptually equal to the discounted present value of its future cash flows, current-cost advocates argue that current values provide statement readers with a better measure of a firm's future earnings and cash-flow potential. Second, income is defined as a firm's *disposable wealth*—the amount of resources the firm could distribute during a period (not counting tax considerations) while maintaining its productive capacity or

physical capital. One way to maintain capital is to adjust the firm's original net asset position (using appropriate specific price indexes or direct pricing, such as current invoice prices, supplier price lists, etc.) to reflect changes in the asset's current-cost equivalent during the period. Continuing our previous example, the transactions of our hypothetical merchandiser under the current-costing framework can be illustrated using the accounting equation as our analytical framework (figures given in thousands):

	Assets = Liabilities + Owners' Equity		
	Cash	Inventory	Capital
1.	100,000		100,000
2.	(100,000)	100,000	
3.	150,000		150,000 (revenue)
4.		40,000	40,000 OE reval.
5.		(140,000)	(140,000) exp.

Line 1 depicts the financial statement effects of the initial ARS100,000 investment into the firm. Line 2 depicts the exchange of cash for inventory. Assuming a 50 percent markup, line 3 shows the sale of inventory for cash, which increases owners' equity by the same amount. To reflect the current cost of the sale, the merchandiser increases the carrying value of inventories by 40 percent, as depicted in line 4. The offset to the 40 percent writeup of inventory is an ARS40,000 increase in the owners' equity revaluation account. This adjustment does two things. The owners' equity revaluation amount tells statement readers that the firm must keep an additional ARS40,000 in the business to enable it to replace inventories whose replacement costs have risen. The inventory revaluation, in turn, increases the cost of resources consumed (cost of sales), line 5. Thus, current revenues are matched against the current economic cost (not the historical cost) incurred to generate those revenues. In our example, current-cost-based net income is measured as ARS150,000 – (ARS100,000 × 140/100) = ARS10,000. The current-cost profit of ARS10,000 is the amount the firm could spend without reducing its business operations. Thus, the current-cost model attempts to preserve a firm's physical capital or productive capacity.

An example of current-cost reporting is provided by Infosys, the world-class information technology and consulting group headquartered in India. Its inflation-adjusted accounts appear in Exhibit 7-4.

In the commentary that precedes the finacial statements, Infosys explains the purpose of its current-cost information. That purpose is to maintain its operating capability. It also emphasizes that its current-cost disclosures account for the changes in specific prices as they affect the enterprise. This last statement provides the rationale for the "gearing adjustment" that Infosys includes in its income statement. The gearing adjustment will be explained in more detail on page 229 of this chapter. The current-cost reserve appearing in the equity section of Infosys' consolidated balance sheet represents an amount that is not available for dividends in order to provide for the replacement of assets whose specific prices have increased.

EXHIBIT 7-4 Current-Cost Financial Statements of Infosys

Current-cost-adjusted financial statements

Current Cost Accounting ("CCA") seeks to state the value of assets and liabilities in a balance sheet at their value, and measure the profit or loss of an enterprise by matching current costs against current revenues. CCA is based on the concept of "operating capability", which may be viewed as the amount of goods and services that an enterprise is capable of providing with the existing resources during a given period. In order to maintain its operating capability, an enterprise should remain in command of resources that form the basis of its acticities. Accordingly, it becomes necessary to take into account the rising cost of assets consumed in generating these revenues. CCA takes into account the changes in specific prices of assets as they affect the enterprise.

The consolidated balance sheet and profit and loss account of Infosys and its subsidiary companies for fiscal year 2007, prepared in substantial compliance with the current-cost basis, are presented below. The methodology prescribed by the Guidance Note on Accounting for Changing Prices issued by the Institute of Chartered Accontants of India is adopted in preparing the statements.

Consolidated balance sheet as of March 31, 2007

in Rs. crore

	2007	2006
ASSETS EMPLOYED		
Fixed assets		
Original cost	5,039	3,222
Accumulated depreciation	(2,082)	(1,519)
	2.957	1,703
Capital work-in-progress	965	571
Net fixed assets	3,922	2,274
Investments	25	755
Deferred tax assets	92	65
Current assets, loans and advances		
Cash and bank balances	5,871	3,429
Loans and advances	1,214	1,297
Monetary working capital	829	613
	7,914	5,339
Less: Other liabilities and provisions	(681)	(1,412)
Net current assets	7,233	3,927
	11,272	7,021
FINANCED BY:		
Share capital and reserves		
Share capital	286	138
Minority interest	4	68
Reserves:		
Capital reserve	5	54
Share premium	2,768	1,543
Current-cost reserve	178	165
General reserve	8,031	5,053
	10,982	6,815
	11,272	7,021

Current-cost-adjusted financial statements

Consolidated profit and loss account for the year ended March 31, 2007

		in Rs. crore
	2007	**2006**
Total income	13,893	9,521
Historic cost profit before tax	4,247	2,792
Add/Less: Current-cost operating adjustments	(111)	(43)
	4,136	2,749
Less: Gearing adjustment	–	–
Current-cost profit before tax, exceptional items and minority interest	4,136	2,749
Provision for taxation		
Previous years	–	–
Current year	(386)	(313)
Current-cost profit after tax, before exceptional items and minority interest	3,750	2,436
Exceptional item—Income from sale of investments (net of taxes)	6	–
Current-cost profit after tax and exceptional items, before minority interest	3,756	2,436
Minority interest	(11)	(21)
Current-cost profit after tax, exceptional items and minority interest	3,745	2,415
Appropriations		
Dividend		
Interim	278	177
Final (proposed)	371	234
Silver jubilee special dividend	–	827
Dividend tax	102	174
Amount transferred—general reserve	2,994	1,003
	3,745	2,415
Statement of retained profits / reserves		
Operating balance of reserves	5,217	4,206
Retained current-cost profit for the year	2,994	1,003
Movements in current-cost reserve during the year	(2)	8
	8,209	5,217

Note:

1. The cost of technology assets, like computer equipment, decreases over time. This is offset by an accelerated depreciation charge to the financial statements. Accordingly, such assets are not adjusted for changes in prices.

2. The above data is provided solely for information purpose. The Management accepts no responsibility for any direct, indirect, or consequential losses or damages suffered by any person relying on the same.

GENERAL PRICE-LEVEL ADJUSTED CURRENT COSTS

This third reporting option to account for changing prices combines features of the general price-level model and the current-cost framework discussed in the preceding paragraphs.[9] This measurement construct, referred to here as the *price-level-adjusted*

[9] For detailed guidance see, Financial Accounting Standards Board, "Financial Reporting and Changing Prices," *Statement of Financial Accounting Standards No. 89*, Stamford, CT: FASB, December 1986.

current-cost model, employs both general and specific price indexes. Consistent with the general price-level model, one of its objectives is to express a firm's earnings and net assets in terms of their end-of-period purchasing-power equivalents. The income statement would also include information on purchasing-power gains or losses on holding net monetary items. In keeping with the current-cost framework, another set of objectives is to report the firm's net assets in terms of their current cost and to report an earnings number that represents the firm's disposable wealth.

A distinctive feature of the price-level-adjusted current-cost framework is that it discloses the changes in the current costs of a firm's nonmonetary assets, net of inflation. The idea here is to show that portion of the change in a nonmonetary asset's value that exceeds or falls short of a change in the general purchasing power of monetary. To illustrate, assume that the current cost of a piece of machinery was $1,000 at the beginning of the year. Its current replacement cost at the end of the year rises to $1,250. The general price level over that same period rises from a level of 100 to 110; that is, it would take $110 dollars at the end of the year to command what $100 would at the beginning. In this example, the current cost of the machinery increased by $250($1,250 – $1,000). The portion of the increase that was due merely to a change in the purchasing power of money is determined by first restating the beginning current cost to end-of-period purchasing-power equivalents, $1,000 × 110/100 = $1,100. Thus, the change in the machinery's replacement cost that was simply due to a change in the purchasing power of money was $100 ($1,100 – $1,000), and the real change in the machinery's current cost was $250 – $100, or $150. As asset values are used by analysts to estimate a firm's future earnings and cash flows (e.g., multiplying asset values by past return on asset ratios), isolating the changes in asset values that are real as opposed to illusionary is important. These two disclosures that usually appear in stockholders' equity are usually interpreted as follows: The increase in nonmonetary assets due to general inflation is the amount that must be retained in the firm just to enable it to keep up with general inflation. The second component—for example, the increase in current costs that exceeds general inflation—is viewed by some as the unrealized real holding gain on nonmonetary assets. We argue that the latter is not a gain but an increase in the cost of doing business that should be retained in the business to allow the firm to preserve its productive capacity, à la our Infosys example.

The financial statements of Grupo Modello, highlighted at the beginning of this chapter, provide a good example of the price-level-adjusted current-cost model. Footnotes to those statements help explain that Modell's consolidated financial statements and notes thereto are stated consistently in Mexican pesos of December 31, 2005 purchasing power by applying factors derived from the National Consumer Price Index (NCPI).

The account *Loss from monetary position* appearing in the income statement section entitled "Comprehensive Financing Income" is the general purchasing loss from holding an excess of monetary assets over monetary losses during the year. The property, plant, and equipment schedule appearing in note 6 of Exhibit 7-1 and related expenses have been adjusted to their end-of-period general-price-level adjusted current costs. Ditto for inventories and cost of sales. Finally, the account "Deficit in the restatement of stockholders' equity" appearing in shareholders' equity consists of two parts: the gain in current costs that exceed or fall short of general inflation, and the change in the nonmonetary asset's carrying value that is due to general inflation. In this case, the change in the general price level exceeded the increase in the current costs

of Modello's nonmonetary assets. The portion of the change in current costs that fall short of the change in the general price level is viewed as an unrealized holding loss.

NATIONAL PERSPECTIVES ON INFLATION ACCOUNTING

Other countries have experimented with different inflation accounting approaches. Actual practices also reflect pragmatic considerations, such as the severity of national inflation and the views of those directly affected by inflation accounting numbers. Examining additional national approaches to inflation accounting is helpful in understanding current practice.

United States

In 1979, the FASB issued Statement of Financial Accounting Standards (SFAS) No. 33. Entitled "Financial Reporting and Changing Prices," this statement required U.S. enterprises with inventories and property, plant, and equipment (before deducting accumulated depreciation) of more than $125 million, or total assets of more than $1 billion (after deducting accumulated depreciation), to experiment for five years with disclosing both historical cost-constant purchasing power and current-cost constant purchasing power. These disclosures were to supplement rather than replace historical cost as the basic measurement framework for primary financial statements.[10]

Many users and preparers of financial information that complied with SFAS No. 33 found that (1) the dual disclosures required by the FASB were confusing, (2) the cost of preparing the dual disclosures was excessive, and (3) historical cost-constant purchasing power disclosures were less useful than current-cost data. Since then, the FASB has decided to encourage but no longer require U.S. reporting entities to disclose either historical cost-constant purchasing power or current-cost constant purchasing power information. The FASB published guidelines (SFAS 89) to assist enterprises that report the statement effects of changing prices and to be a starting point for any future inflation accounting standard.[11]

Reporting enterprises are encouraged to disclose the following information for each of the five most recent years:

- Net sales and other operating revenues
- Income from continuing operations on a current-cost basis
- Purchasing power (monetary) gains or losses on net monetary items
- Increases or decreases in the current cost or lower recoverable amount (i.e., the net amount of cash expected to be recoverable from use or sale) of inventory or property, plant, and equipment, net of inflation (general price-level changes)
- Any aggregate foreign currency translation adjustment, on a current-cost basis, that arises from the consolidation process
- Net assets at year-end on a current-cost basis
- Earnings per share (from continuing operations) on a current-cost basis

---

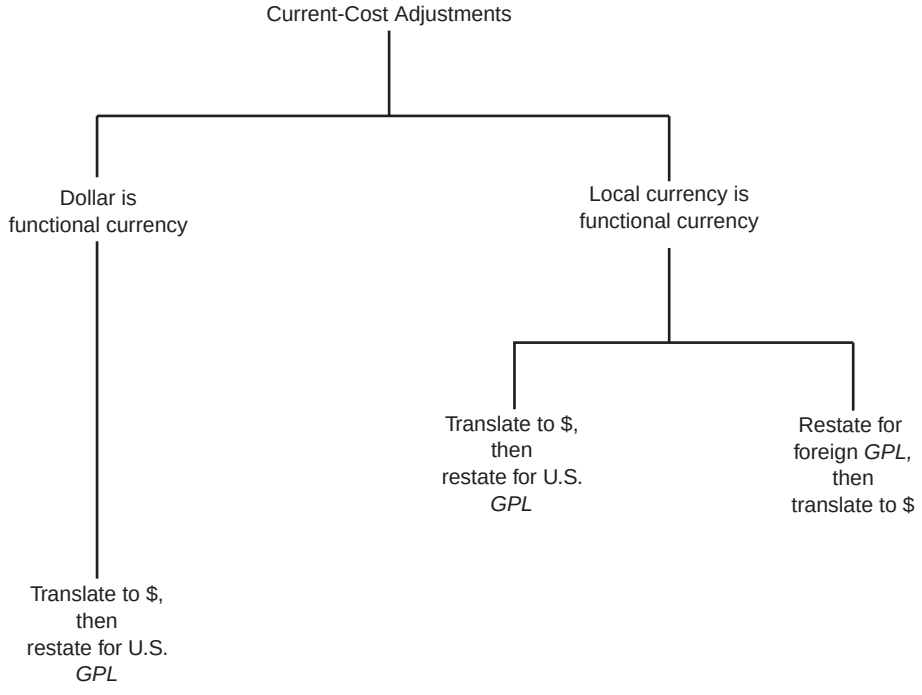
[10] Financial Accounting Standards Board, "Financial Reporting and Changing Prices," Statement of Financial Accounting Standards No. 33, Stamford, CT: FASB, 1979.
[11] Financial Accounting Standards Board, "Financial Reporting and Changing Prices," Statement of Financial Accounting Standards No. 89, Stamford, CT: FASB, December 1986.

- Dividends per share of common stock
- Year-end market price per share of common stock
- Level of the Consumer Price Index (CPI) used to measure income from continuing operations

To increase the comparability of these data, information may be presented either in (1) average (or year-end) purchasing-power equivalents, or (2) base period dollars used in calculating the CPI. Whenever income on a current-cost constant purchasing-power basis differs significantly from historical-cost income, firms are asked to provide more data.

The SFAS No. 89 disclosure guidelines also cover foreign operations included in the consolidated statements of U.S. parent companies. Enterprises that adopt the dollar as the functional currency for measuring their foreign operations view these operations from a parent-currency perspective. Accordingly, their accounts should be translated to dollars, then adjusted for U.S. inflation (the translate-restate method). Multinational enterprises adopting the local currency as functional for most of their foreign operations adopt a local-currency perspective. The FASB allows companies to either use the translate-restate method or adjust for foreign inflation and then translate to U.S. dollars (the restate-translate method). Accordingly, adjustments to current-cost data to reflect inflation may be based on either the U.S. or the foreign general-price-level index. Exhibit 7-5 summarizes these provisions.

EXHIBIT 7-5 Restatement Methodology for Foreign Operations



United Kingdom

The U.K. Accounting Standards Committee (ASC) issued Statement of Standard Accounting Practice No. 16 (SSAP No. 16), "Current-Cost Accounting," on a three-year experimental basis in March 1980. Although SSAP No. 16 was withdrawn in 1988, its methodology is recommended for companies that voluntarily produce inflation adjusted accounts.[12]

SSAP No. 16 differs from SFAS No. 33 in two major respects. First, whereas the U.S. standard required both constant dollar and current-cost accounting, SSAP No. 16 adopted only the current-cost method for external reporting. Second, whereas the U.S. inflation adjustment focused on the income statement, the U.K. current-cost statement required both a current-cost income statement and a balance sheet, with explanatory notes. The U.K. standard allowed three reporting options:

1. Presenting current-cost accounts as the basic statements with supplementary historical-cost accounts.
2. Presenting historical-cost accounts as the basic statements with supplementary current-cost accounts.
3. Presenting current-cost accounts as the only accounts accompanied by adequate historical-cost information.

In its treatment of gains and losses related to monetary items, FAS No. 33 required separate disclosure of a single figure. SSAP No. 16 required two figures, both reflecting the effects of specific price changes. The first, called a monetary working capital adjustment (MWCA), recognized the effect of specific price changes on the total amount of working capital used by businesses in their operations. Similar in nature to the monetary gain or loss figure required under the general price-level model, this adjustment acknowledges the fact that the baskets of goods and services that companies acquire are much more firm-specific in regard to supplies, inventories, and the like than those consumed by the general public. The second, called the gearing adjustment, allowed for the impact of specific price changes on a firm's nonmonetary assets (e.g., depreciation, cost of sales, and monetary working capital). As a formula, the gearing adjustment equals:

$$[(TL - CA) / (FA + I + MWC)] (CC\ Dep.\ Adj. + CC\ Sales\ Adj. + MWCA)$$

where

TL	=	total liabilities other than trade payables
CA	=	current assets other than trade receivables
FA	=	fixed assets including investments
I	=	inventory
MWC	=	monetary working capital
CC Dep. Adj.	=	current-cost depreciation adjustment
CC Sales Adj.	=	current cost of sales adjustment
MWCA	=	monetary working capital adjustment

[12] Accounting Standards Committee, *Handbook on Accounting for the Effects of Changing Prices* (London: Chartac Books, 1986).

The gearing adjustment acknowledges that such expenses as cost of goods sold and depreciation need not be inflated to recognize the higher replacement cost of these assets to the extent that they are financed by debt. The latter normally gives rise to "monetary gains" computed using specific as opposed to general price indexes.

Brazil

Inflation is often an accepted part of the business scene in Latin America, Eastern Europe, and Southeast Asia. Brazil's past experience with hyperinflation makes its inflation accounting initiatives informative.

Although no longer required, recommended inflation accounting in Brazil today reflects two sets of reporting options—Brazilian Corporate Law and the Brazil Securities and Exchange Commission.[13] Inflation adjustments complying with corporate law restate permanent assets and stockholders' equity accounts using a price index recognized by the federal government for measuring devaluation of the local currency. Permanent assets include fixed assets, buildings, investments, deferred charges and their respective depreciation, and amortization or depletion accounts (including any related provisions for losses).[14] Stockholders' equity accounts comprise capital, revenue reserves, revaluation reserves, retained earnings, and a capital reserves account used to record the price-level adjustment to capital. The latter results from revaluing fixed assets to their current replacement costs less a provision for technical and physical depreciation.

Inflation adjustments to permanent assets and stockholders' equity are netted, with the excess being disclosed separately in current earnings as a monetary correction gain or loss. Exhibit 7-6 and related commentary provide an illustration of this inflation accounting methodology and the rationale for the monetary correction account.

The price-level adjustment to stockholders' equity (BRL275) is the amount by which the shareholders' beginning-of-period investment must grow to keep up with inflation. A permanent asset adjustment that is less than the equity adjustment causes a purchasing power loss reflecting the firm's exposure on its net monetary assets (i.e., working capital). To illustrate, let:

M = monetary assets
N = nonmonetary assets
L = liabilities
E = equity
i = inflation rate

Then

$$M + N = L + E \tag{7.1}$$

[13] Financial analysts and Brazilian financial executives we have interviewed continue to adjust Brazilian accounts for changing prices to facilitate their analyses. Should significant inflation recur in Brazil, the inflation adjustments we describe will likely be reinstated.

[14] Permanent assets do not include inventories, which is a conceptual shortcoming of this inflation accounting model.

EXHIBIT 7-6 Inflation Adjustments, Brazilian Style

Inflation-Corrected Amounts

Historical Amounts			Assuming a 25% Rate of Inflation		
Balance Sheet	1/1/X7	12/31/X7			12/31/X7
Current assets	BRL 150	BRL 450	Current assets		BRL 450
Permanent assets	1,600	1,600	Permanent assets		2,000[a]
Provision for depreciation	(200)	(300)	Provision for depreciation		(300)
			Monetary correction	(75)[b]	
			Correction of historical charge to P&L	(25)[c]	(100)
Total	BRL1,550	BRL1,750	Total		BRL2,050
Current liabilities	BRL 50	BRL 50	Current liabilities		BRL 50
Long-term debt	400	400	Long-term debt		400
Equity:			Equity:		
Capital	800	800	Capital		800
			Capital reserve		200[d]
Reserves	300	300	Reserves		375[e]
Profit of period		200	Profit of period		225
Total	BRL1,550	BRL1,750	Total		BRL2,050
Income Statement					
Year Ended 12/31/X7			Year Ended 12/31/X7		
Operating profit		BRL 500	Operating profit		BRL 500
Depreciation of period (historical)		100	Depreciation of period	100	
			Correction of depreciation	25	
Trading profit		400	Trading profit Inflationary loss:		125
Inflationary loss on foreign debt		(100)	Exchange loss on foreign debt	(100)	375
Monetary correction on local debt		(100)	Monetary correction on local debt	(100)	
			Gain on correction of balance sheet	50[f]	(150)
Net profit		BRL 200	Net profit		BRL 225

[a] *Represents the original BRL1,600 plus a 25 percent (BRL400) adjustment.*
[b] *25 percent of the original BRL300.*
[c] *25 percent of the period's depreciation expense (typically based on the average value of fixed assets).*
[d] *25 percent of the original capital balance of BRL800.*
[e] *Represents the original R$300 plus a 25 percent (BRL75) adjustment.*
[f] *Gain on correction of the balance sheet:*

Correction of permanent assets	BRL400	
Correction of depreciation allowance	75	325
Correction of capital	200	
Correction of reserves	75	275
		50

Multiplying both sides of Equation (7.1) by $(1 + i)$ quantifies the impact of inflation on the firm's financial position. Thus

$$M(1 + i) + N(1 + i) = L(1 + i) + E(1 + i) \quad \textbf{(7.2)}$$

Equation (7.2) can be reexpressed as

$$M + Mi + N + Ni = L + Li + E + Ei \quad \textbf{(7.3)}$$

Regrouping Equation (7.3) as

$$M + \underbrace{N + Ni}_{\substack{\text{permanent}\\ \text{asset}\\ \text{adjustment}}} = L + \underbrace{E + Ei}_{\substack{\text{owner's}\\ \text{equity}\\ \text{adjustment}}} + \underbrace{(L - Mi)}_{\substack{\text{monetary}\\ \text{gain or loss}}} \quad \textbf{(7.4)}$$

Since $M + N = L + E$,

$$Ni = Ei + (L - Mi) \quad \textbf{(7.5)}$$

Or

$$\underbrace{Ni}_{\substack{\text{inflation}\\ \text{adjustment to}\\ \text{nonmonetary}\\ \text{(permanent)}\\ \text{assets}}} - \underbrace{Ei}_{\substack{\text{inflation}\\ \text{adjustment}\\ \text{to owners'}\\ \text{equity}}} = \underbrace{(L - Mi)}_{\substack{\text{monetary}\\ \text{gain or loss}}} \quad \textbf{(7.6)}$$

Conversely, a permanent asset adjustment greater than the equity adjustment produces a purchasing power gain, suggesting that some of the assets have been financed by borrowing. For example, suppose that a firm's financial position before monetary correction is

Permanent assets	1,000	Liabilities	500
		Owners' equity	500

With an annual inflation rate of 30 percent, a price-level adjusted balance sheet would show:

Permanent assets	1,300	Liabilities	500
		Capital	500
		Capital reserve	150
		Monetary gain	150[15]

[15]This analysis (monetary gain) assumes that liabilities are of the fixed-rate variety or are floating-rate obligations where the actual rate of inflation exceeds the expected rate that is incorporated into the terms of the original borrowing.

The Brazilian Securities Exchange Commission requires another inflation accounting method for publicly traded companies.[16] Listed companies must remeasure all transactions during the period using their functional currency. At the end of the period, the prevailing general price-level index converts units of general purchasing power into units of nominal local currency. Also,

- Inventory is included as a nonmonetary asset and is remeasured with the functional currency.
- Noninterest-bearing monetary items with maturities exceeding 90 days are discounted to their present values to allocate resulting inflationary gains and losses to appropriate accounting periods (the discount on trade receivables is treated as a reduction of sales, the discount on accounts payable reduces purchases, etc.).
- Balance sheet adjustments are similarly reclassified to appropriate line items in the income statement (e.g., the balance sheet adjustment to accounts receivable is reclassified as a reduction of sales).

To relieve Brazilian firms from having to present two sets of financial statements in their annual reports, the Securities Exchange Commission blended features of the corporate law methodology into its price-level accounting methodology.

INTERNATIONAL ACCOUNTING STANDARDS BOARD

The IASB has concluded that reports of financial position and operating performance in local currency are not meaningful in a hyperinflationary environment. IAS 29,[17] mentioned in conjunction with VESTEL's inflation-adjusted financial statements (see Exhibit 7-3) requires (rather than recommends) the restatement of primary financial statement information. Specifically, financial statements of an enterprise that reports in the currency of a hyperinflationary economy, whether based on a historical or current-cost valuation framework, should be reexpressed in terms of constant purchasing power as of the balance sheet date. This rule also applies to corresponding figures for the preceding period. Purchasing-power gains or losses related to a net monetary liability or asset position are to be included in current income. Reporting enterprises should also disclose

1. The fact that restatement for changes in the general purchasing power of the measuring unit has been made
2. The asset-valuation framework employed in the primary statements (i.e., historical or current-cost valuation)
3. The identity and level of the price index at the balance sheet date, together with its movement during the reporting period
4. The net monetary gain or loss during the period

---

[16] Coopers & Lybrand, *1993 International Accounting Summaries* (New York: John Wiley, 1993), B32–B33.
[17] International Accounting Standards Committee, "Financial Reporting in Hyperinflationary Economies," International Accounting Standard No. 29, London: IASC, 1989.

INFLATION ISSUES

Analysts must address the following issues when reading inflation-adjusted accounts: (1) whether constant dollars or current costs better measure the effects of inflation, (2) the accounting treatment of inflation gains and losses, (3) accounting for foreign inflation, and (4) the combined effects of inflation and foreign exchange rates. We discuss the first and third issues together.

Inflation Gains and Losses

Treatment of gains and losses on monetary items (i.e., cash, receivables, and payables) is controversial. Our survey of practices in various countries reveals important variations in this respect.

Gains or losses on monetary items in the United States are determined by restating, in constant dollars, the beginning and ending balances of, and transactions in, all monetary assets and liabilities (including long-term debt). The resulting figure is disclosed as a separate item. This treatment views gains and losses in monetary items as different in nature from other types of earnings.

In the United Kingdom, gains and losses on monetary items are partitioned into monetary working capital and a gearing adjustment. Both figures are determined in relation to specific (not general) price changes. The gearing adjustment indicates the benefit (or cost) to shareholders from debt financing during a period of changing prices. This figure is added (deducted) to (from) current-cost operating profit to yield a disposable wealth measure called "current-cost profit attributable to shareholders."

The Brazilian approach, no longer required, does not adjust current assets and liabilities explicitly, as these amounts are expressed in terms of realizable values. However, as Exhibit 7-6 shows, the adjustment from netting price-level adjusted permanent assets and owners' equity represents the general purchasing-power gain or loss in financing working capital from debt or equity. A permanent asset adjustment that exceeds an equity adjustment represents that portion of permanent assets being financed by debt, creating a purchasing-power gain. Conversely, an equity adjustment greater than the permanent asset adjustment denotes the portion of working capital financed by equity. A purchasing-power loss is recognized for this portion during an inflationary period.

SSAP No. 16 has great merit in dealing with the effects of inflation. Along with inventories and plant and equipment, an enterprise needs to increase its net nominal monetary working capital to maintain its operating capability with increasing prices. It also benefits from using debt during inflation. However, the magnitude of these phenomena should not be measured in general purchasing power terms because a firm rarely, if ever, invests in an economy's market basket. We believe that the purpose of inflation accounting is to measure the performance of an enterprise and enable anyone interested to assess the amounts, timing, and likelihood of future cash flows.

A firm can measure its command over specific goods and services by using an index to calculate its monetary gains and losses.[18] Because not all enterprises can construct firm-specific purchasing-power indexes, the British approach is a good

[18] Frederick D. S. Choi, "Foreign Inflation and Management Decisions," *Management Accounting* **58** (June 1977): 21–27.

practical alternative. However, rather than disclose the gearing adjustment (or some equivalent), we prefer to treat it as a reduction of the current-cost adjustments for depreciation, cost of sales, and monetary working capital. We think that current-cost charges from restating historical-cost income during inflation are offset by the reduced burden of servicing debt used to finance these operating items.

Holding Gains and Losses

Current value accounting divides total earnings into two parts: (1) operating income (the difference between current revenues and the current cost of resources consumed) and (2) unrealized gains that result from the possession of nonmonetary assets whose replacement value rises with inflation. The measurement of holding gains is straightforward, but their accounting treatment is not. Should portions of raw materials inventory gains be realized in periods when the respective inventories are turned into finished goods and sold? Are there ever unrealized adjustment gains or losses that should be deferred? Or should all such gains or losses be lumped together and disclosed in a special new section within stockholders' equity?

We think that increases in the replacement cost of operating assets (e.g., higher projected cash outflows to replace equipment) are not gains, realized or not. Whereas current-cost-based income measures a firm's approximate disposable wealth, changes in the current cost of inventory, plant, equipment, and other operating assets are revaluations of owners' equity, which is the portion of earnings that the business must keep to preserve its physical capital (or productive capacity). Assets held for speculation, such as vacant land or marketable securities, do not need to be replaced to maintain productive capacity. Hence, if current-cost adjustments include these items, increases or decreases in their current-cost (value) equivalents (up to their realizable values) should be stated directly in income.

Foreign Inflation

When consolidating the accounts of subsidiaries located in inflationary environments, should management first restate these accounts for foreign inflation, then translate to parent currency? Or should it first translate the unadjusted accounts to the parent currency, then restate them for parent-country inflation? In the United States, the FASB tried to cope with inflation by requiring large reporting entities to experiment with both historical cost-constant purchasing power and current-cost disclosures. FAS No. 89, which encourages (but no longer requires) companies to account for changing prices, leaves the issue unresolved at two levels. First, companies may continue to maintain the value of their nonmonetary assets at historical cost (restated for general price-level changes) or may restate them to their current-cost equivalents. Second, companies that elect to provide supplementary current-cost data for foreign operations have a choice of two methods for translating and restating foreign accounts in U.S. dollars. They can either restate for foreign ininflation, then translate to the parent currency (the restate-translate method), or they can translate to the parent currency, then restate for inflation (translate-restate). How do we choose between these two methods? We can choose with a decision-oriented framework.

Investors care about a firm's dividend-generating potential, because their investment's value ultimately depends on future dividends. A firm's dividend-generating

potential is directly related to its capacity to produce goods and services. Only when a firm preserves its productive capacity (and thus its earning power) will there be future dividends to consider.

Therefore, investors need specific, not general, price-level-adjusted statements. Why? Because specific price-level adjustments (our current-cost model) determine the maximum amount that the firm can pay as dividends (disposable wealth) without reducing its productive capacity.

This conclusion implies that the restate-translate and translate-restate methods are both deficient. They are both based on a valuation framework that has little to recommend it—historical cost. Neither method changes that framework. No matter how it is adjusted, the historical-cost model is still the historical-cost model!

We favor the following price-level adjustment procedure:

1. Restate the financial statements of all subsidiaries, both domestic and foreign, and the statements of the parent to reflect changes in specific prices (e.g., current costs).
2. Translate the accounts of all foreign subsidiaries into domestic currency equivalents using a constant (e.g., the current or a base-year foreign exchange rate).
3. Use specific price indexes that are relevant to what the firm consumes in calculating monetary gains or losses. A parent-company perspective requires domestic price indexes; a local-company perspective requires local price indexes.

Restating both foreign and domestic accounts to their specific current-price equivalents produces decision-relevant information. This information provides investors the greatest possible amount of information concerning future dividends. It would be much easier to compare and evaluate the consolidated results of all firms than it is now. This reporting philosophy was stated by Dewey R. Borst, comptroller of Inland Steel Company:

> Management seeks the best current information to monitor how they have done in the past, and to guide them in their current decision making. Outsiders value financial statements for the same general purpose of determining how the firm has done in the past and how it is likely to perform in the future. Therefore, there is no legitimate need to have two distinct sets of data and methods of presentation of financial information. The same data now available through the development of managerial accounting is also suitable for outsiders.[19]

Avoiding the Double-Dip

When restating foreign accounts for foreign inflation, firms sometimes double-count for the effects of inflation, the *double-dip*. This problem exists because local inflation directly affects the exchange rates used in translation. While economic theory 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

[19] Dewey R. Borst, "Accounting vs. Reality: How Wide Is the 'GAAP'?" *Week in Review* (July 13, 1982): 1.

the short run).[20] Accordingly, the size of the resulting adjustment to eliminate the double-dip will vary depending on the degree to which exchange rates and differential inflation are negatively correlated.

As noted before, inflation adjustments to cost of sale or depreciation expense are designed to reduce "as reported" earnings to avoid overstating income. However, due to the inverse relationship between local inflation and currency values, changes in the exchange rate between successive financial statements, generally caused by inflation (at least over a period of time), will make at least part of the impact of inflation (i.e., currency translation adjustments) affect a company's "as reported" results. Thus, to avoid adjusting for the effects of inflation twice, the inflation adjustment should take into account the translation loss already reflected in a firm's "as reported" results.

This adjustment is relevant to U.S.-based multinational corporations (MNCs) that have adopted the dollar as the functional currency for their foreign operations under FAS No. 52 and that translate inventories using the current exchange rate. It is also germane to non-U.S.-based MNCs that recognize translation gains and losses in current income. Absent any offsetting adjustments, such companies could reduce or increase earnings twice when accounting for foreign inflation.

The following inventory accounting example shows the relationship between inflation and foreign currency translation. The company in question uses the FIFO inventory costing method and translates inventory to dollars at the current exchange rate. We assume the following:

- Local country inflation was 20 percent in the year just ended. U.S. inflation was 6 percent during the year.
- The opening exchange rate on January 1 was LC1 = $1.00.
- The closing exchange rate on December 31 was LC1 = $0.88.
- Currency devaluation during the year to maintain purchasing power parity was 12 percent.
- Local currency inventory was LC200 on January 1 and LC240 on December 31.
- No change occurred in the physical quantity of inventory during the year.

The dollar equivalent of beginning and ending inventory is calculated 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 currency was devalued at year-end), the difference between translating LC240 inventory on December 31 at $0.88 versus $1.00.

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

[20] Michael Adler and Bernard Dumans, "International Portfolio and Corporation Finance: A Synthesis," *Journal of Finance* **38** (June 1983): 925–984.

If cost of sales was adjusted for inflation by the restate-translate method, the company might do as follows:

- Remove the year's 20 percent inflation from the December 31 local currency inventory (240/1.20), reducing it to LC 200—the same as it was on January 1 (before inflation).
- The local currency cost of sales adjustment would then be LC40, the amount required to change the December 31 inventory from LC240 to LC200.
- Translate the local currency cost of sales adjustment (LC40) to dollars at $1.00, making a $40 cost of sales adjustment (LC40 × $1.00 = $40).

Note that on an inflation-adjusted basis, the company has reduced earnings by a $29 translation loss and a $40 cost of sales inflation adjustment—a total of $69, or 34 percent of what began as $200 of inventory on January 1. Yet inflation was only 20 percent! Double-dipping caused this difference. The dollar calculations include a partial overlap between the currency devaluation loss, which results from inflation, and the cost of sales adjustment for inflation, which is a root cause of the currency devaluation. The restate-translate cost of sales inflation adjustment alone was enough. It would offset not only the U.S. inflation rate (6 percent in this example) but also the 12 percent inflation differential between the country's 20 percent rate and the U.S. 6 percent rate—which led to the 12 percent devaluation. We conclude that if cost of sales is adjusted to remove local country inflation, it is necessary to reverse any inventory translation loss that was reflected in "as reported" earnings. Appendix 7-1 provides a case analysis.

Appendix 7-1

Accounting for Foreign Inflation: A Case Analysis

The following case study highlights how a leading U.S.-based MNE, the General Electric Company (GE), accounts for foreign inflation. Most of our discussion will be limited to inventory and cost of sales, as well as monetary gains and losses. The procedures for inventories and cost of sales also apply to fixed assets and their related cost expirations when these accounts are translated using the current rate.[21]

GE uses the temporal method of foreign currency translation because the U.S. dollar is its functional currency for most of its foreign operations. Inventories are generally translated at the current rate to signal that they are exposed to exchange-rate risk. GE management believes that it needs the restate-translate method of accounting for inflation, using specific local price indexes for fixed assets and inventory, to properly measure its foreign operations on an inflation-adjusted basis. Accordingly, GE adjusts the local currency cost of foreign fixed assets and inventory for local specific price changes and then translates at the current exchange rate. Restatement of fixed assets, from which restated depreciation expense is derived, uses generally understood practices (i.e., restate for current cost and then translate to dollars) and is not repeated here. For inventory, however, the cost of sales inflation adjustment cannot be derived from the restated balance sheet inventory value. Therefore, we will explain these two inflation adjustments separately.

Current-Cost Inventory Adjustment

For FIFO inventories that are not material in amount or that turn over very frequently, GE assumes that current cost and FIFO book cost are essentially equivalent. Accordingly, the historical book cost is reported as current cost.

[21] The following discussion is excerpted from Frederick D. S. Choi, "Resolving the Inflation/Currency Translation Dilemma," *Management International Review* 27, no. 2 (1987): 28–33.

With LIFO inventories, and FIFO inventories not excluded by the previous criteria, GE restates ending inventories to their current-cost equivalents using local specific price indexes 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 during the inventory accumulation period. Thus, assuming a four-month accumulation period, an annual inflation rate of 30 percent, an ending inventory balance of LC1,000,000, and an ending exchange rate of LC1 = $0.40, the dollar FIFO inventory value restated to a current-cost basis would be:

$$[(2.5\% \text{ per mo.} \times 4 \text{ mos.})/2] \times \text{LC1,000,000} = \text{LC50,000}$$

$$\text{LC1,000,000} + \text{LC50,000} = \text{LC1,050,000} \times \$0.40 = \$420{,}000$$

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, the cost of sales is close to market. Therefore, no cost of sales inflation adjustment is made. For foreign operations that use FIFO accounting, GE's inflation adjustment simulates what would have been charged to cost of sales under LIFO accounting. However, to avoid the double-dip effect, the company also takes into account any inventory translation loss that is already reflected in "as reported" results. To illustrate, suppose that the December 31 FIFO inventory balance is LC5,000, that the year's inflation rate was 30 percent (January 1 = index 100, December 31 index = 130), and that the currency devalued by 20 percent from LC1 = $0.50 at January 1 to LC1 = $0.40 at December 31.

The following sequential analysis shows how the double-counting phenomenon is minimized. Steps 1 through 3 illustrate how the current cost of sales adjustment is derived in local currency. Step 4 expresses this inflation adjustment in the parent currency (i.e., U.S. dollars). Step 5 identifies the translation loss that has already been booked as a result of having translated inventories to dollars at a current rate that fell during the year. Finally, step 6 subtracts the translation loss already reflected in "as reported" results from the current cost of sales adjustment.

Usually, when inflation outpaces devaluation, the dollar current cost of sales adjustment will be positive (i.e., a deduction from "as reported"

1. December 31 FIFO inventory subject to simulated LIFO charge	LC5,000
2. Restate line 1 to January 1 cost level (LC5,000 × 100/130)	LC3,846
3. The 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 January 1 exchange rate (LC1 = $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 was already reflected in "as reported" results:	
a. Translate line 1 to January 1 exchange rate (LC5,000 × $0.50)	$2,500
b. Translate line 1 at December 31 exchange rate (LC5,000 × $0.40)	$2,000
c. The difference is the inventory translation loss already reflected in "as reported" results	$(500)
6. The net of lines 4 and 5c is the cost of sales 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 5c)	$(500)
c. The difference is the net dollar current cost of sales adjustment	$ 77

earnings). However, if devaluation outpaces inflation, the adjustment will 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

The final inflation adjustment described here relates to the fact that debtors typically gain during inflation because typically they repay fixed monetary obligations in currencies of reduced purchasing power. Accordingly, if a foreign affiliate has used debt to finance part of its fixed assets and inventory, its inflation-adjusted data include a monetary adjustment (i.e., a purchasing power gain). However, because GE limits its inflation adjustments to inventories, fixed assets, and their related cost expirations, it limits the monetary adjustment to that portion of liabilities used to finance fixed assets and inventories—hereinafter known as applied liabilities. As a debtor's gain, the monetary adjustment recognizes that the interest expense being paid on applied liabilities includes compensation to the lender for the eroding purchasing power of the funds loaned. It also partly offsets the income-reducing inflation adjustments for depreciation expense and cost of sales due to the impact of inflation on fixed assets and inventory replacement costs.

Calculation of the monetary adjustment involves two steps, because 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 partly or fully offset by a reversal of any translation gains (or losses) on these liabilities already reflected in "as reported" results. These gains result from having translated monetary liabilities by an exchange rate that fell during the period.

In the following illustration, assume that a foreign subsidiary's local currency cost of fixed assets and FIFO inventory add up to LC10,600, that its net worth is LC7,500, that differential inflation between the parent and host country is 30 percent, and that the local currency devalued by 20 percent from LC1 = $0.50 at January 1 to LC1 = $0.40 at December 31. The current-cost monetary adjustment is calculated as follows.

Steps 1 through 5 identify the portion of monetary liabilities employed to finance assets whose values have been adjusted for inflation. Steps 6 and 7 calculate the monetary gains on these applied liabilities in local currency. Step 8 reexpresses this gain in U.S. 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 subtracts the translation gain on the monetary liabilities from the purchasing power gain on the same accounts to yield (in this example) a net monetary gain from changing prices.

1. Local currency cost fixed assets at December 31	LC 5,600
2. FIFO inventory at December 31	LC 5,000
3. Total of lines 1 and 2	LC 10,600
4. Subtract net worth at December 31	LC (7,500)
5. The balance represents "applied liabilities"	LC 3,100
6. Restate December 31 applied liabilities to their January 1 purchasing power equivalent (i.e., multiply LC 3,100 by 100/130)	LC 2,385
7. The difference between lines 5 and 6 is the purchasing power gain on applied liabilities	LC 715
8. Translate line 7 to dollars at the January 1 exchange rate. The result is the debtor's gain from inflation in dollars (LC 715 × $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 (LC 3,100 × $0.50)	$1,550
b. Line 5 times December 31 exchange rate (LC 3,100 × $0.40)	$1,240

c. The difference is the translation gain	$310
d. The difference between line 8 and line 9c. is the dollar current-cost monetary adjustment	
10.	
a. Line 8 (debtor's gain from inflation)	$358
b. Less: translation gain already reflected in as reported results (from line 9.c.)	$(310)
c. The difference is the net purchasing power gain from the use of debt to finance nonmonetary assets.	$ 48

Discussion Questions

1. From a user's perspective, what is the inherent problem in attempting to analyze historical cost-based financial statements of a company domiciled in an inflationary, devaluation-prone country?
2. Examine the income statements of Modello, Vestel, and Infosys, referenced earlier in this chapter. Which earnings number do you feel provides the better earnings metric for an investment analyst, and why?
3. Consider the statement: "The object of accounting for changing prices is to ensure that a company is able to maintain its operating capability." How accurate is it?
4. Following are the remarks of a prominent member of the U.S. Congress. Explain why you agree or disagree.

> The plain fact of the matter is that inflation accounting is a premature, imprecise, and underdeveloped method of recording basic business facts. To insist that any system of inflation accounting can afford the accuracy and fairness needed for the efficient operation of our tax system is simply foolish. My years on the Ways and Means Committee have exposed me to the many appeals of business—from corporate tax "reform" to the need for capital formation—which have served as a guise for reducing the tax contributions of American business. In this respect, I see inflation accounting as another in a long line of attempts to minimize corporate taxation through backdoor gimmickry.

5. As more and more companies span the globe in terms of their operating, financing, and investing activities, they will increasingly turn to international financial reporting standards when communicating with domestic and non-domestic financial statement readers. What approaches to inflation accounting does IAS 29 sanction when a firm is domiciled or has major operations in a hyperinflationary environment? Why should analysts understand the requirements of this pronouncement?
6. Briefly describe the historical-cost-constant purchasing power and current-cost models. How are they similar? How do they differ?
7. As a potential investor in the shares of multinational enterprises, which inflation method, restate-translate or translate-restate, would give you consolidated information most relevant to your decision needs? Which information set is best from the viewpoint of the foreign subsidiary's shareholders?
8. What is a gearing adjustment, and on what ideas is it based?
9. How does accounting for foreign inflation differ from accounting for domestic inflation?
10. What does double-dipping mean in accounting for foreign inflation?

Exercises

1. Sobrero Corporation, a Mexican affiliate of a major U.S.-based hotel chain, starts the calendar year with 1 billion pesos (P) cash equity investment. It immediately acquires a refurbished hotel in Acapulco for P 900 million. Owing to a favorable tourist season, Sobrero Corporation's rental revenues were P 144 million for the year. Operating expenses of P 86,400,000 together with rental revenues were incurred uniformly throughout the year. The building, comprising 80 percent of the original purchase price (balance attributed to land), has an estimated useful life of 20 years and is being depreciated in straight-line fashion. By year-end, the Mexican consumer price index rose to 420 from an initial level of 263, averaging 340 during the year.

   Required:
   a. Prepare financial statements for Sobrero Corporation's first year of operations in terms of the historical-cost model and the historical-cost-constant dollar model.
   b. Compare and evaluate the information content of rate-of-return statistics computed using each of these models.

2. The comparative historical-cost balance sheets of Majikstan Enterprises for 2010 and 2011 are reproduced below. The accounts are expressed in 000's of renges (MJR's).

Balance Sheet	2010	2011
Cash	MJR 2,500	MJR 5,100
Equipment, net	4,000	3,500
Total assets	MJR 6,500	MJR 8,600
Current liabilities	MJR 1,000	MJR 1,200
Long-term debt	3,000	4,000
Owners' equity	2,500	3,400
Total	MJR 6,500	MJR 8,600

   Required: What was the change in Majikstan's net monetary asset or liability position?

3. Using the information provided in Exercise 2. Calculate Majikstan Enterprises' net monetary gain or loss in local currency for 2011 based on the following general price-level information.

12/31/10	30,000
Average	32,900
12/31/11	36,000

4. Revisit Sobrero Corporation in Exercise 1. In addition to the information provided there, assume that Mexico's construction cost index increased by 80 percent during the year, while the price of vacant land adjacent to Sobrero Corporation's hotel increased in value by 90 percent.

   Required: Use the new information to restate the value of Sobrero's nonmonetary assets. What would Sobrero Corporation's financial statements look like under the current-cost model?

5. Majikstan Enterprises has equipment on its books that it acquired at the start of 2009 . The equipment is being depreciated in straight-line fashion over a 10-year period and has no salvage value. The current cost of this equipment at the end of 2010 was MJR8,000,000,000. During 2011 , the specific price index for equipment increased from 100 to 137.5. General price-level index information for the period was as follows:

12/31/10	30,000
Average	32,900
12/31/11	36,000

   Required: Using this information, calculate the increse in the current cost of Majikstan Enterprise's equipment, net of inflation.

6. Now assume that Majikstan Enterprises is a foreign subsidiary of a U.S.-based multinational corporation and that its financial

statements are consolidated with those of its U.S. parent. Relevant exchange rate and general price-level information for the year are given here:

Exchange rate:		General Price Level Index:	
		Majikstan	U.S.
12/31/10	MJR 4,400 = $1	30,000	281.5
Average 2011	MJR 4,800 = $1	32,900	292.5
12/31/11	MJR 5,290 = $1	36,000	303.5

Required: What would be the increase in the current cost of Majikstan Enterprise's equipment, net of inflation, when expressed in U.S. dollars under the restate-translate methodology? Under the translate-restate method?

7. The balance sheet of Rackett & Ball plc., a U.K.-based sporting goods manufacturer, is presented here. Figures are stated in millions of pounds (£m). During the year, the producers' price index increased from 100 to 120, averaging 110.The aggregate current cost of sales, depreciation, and monetary working capital adjustment is assumed to be £216m.

Required: Assuming that changes in the producer's price index are a satisfactory measure of the change in R&B's purchasing power, calculate, as best as you can, R&B's monetary working capital adjustment and its gearing adjustment.

	£2010 m	£2011 m
Fixed Assets:		
Intangible assets	56	150
Tangible assets	260	318
Investments	4	5
	320	479
Current Assets:		
Inventory	175	220
Trade receivable	242	270
Marketable securities	30	50
Cash	25	25
	472	565
Current Liabilities:		
Trade payables	(170)	(160)
Net current assets	302	405
Total assets less current liabilities	622	884
Long-term liabilities	85	128
Total net assets	237	356
Owner's Equity:		
Common stock	42	42
Premium on common stock	87	87
Retained earnings	108	227
Total owner's equity	237	356

8. Ninsuvaan Corporation, a U.S. subsidiary in Bangkok, Thailand, begins and ends its calendar year with an inventory balance of BHT500 million. The dollar/baht exchange rate on January 1 was $0.02 = BHT1. During the year, the U.S. general price level advances from 180 to 198, while the Thai general price level doubles. The exchange rate on December 31 was $0.015 = BHT1.

Required:

a. Using the temporal method of translation, calculate the dollar equivalent of the inventory balance by first restating for Thai inflation, then translating to U.S. dollars.
b. Repeat part (a), but translate the nominal baht balances to dollars before restating for U.S. inflation.
c. Which dollar figure do you think provides the more useful information?
d. If you are dissatisfied with either result, suggest a method that would provide more useful information than those in parts (a) and (b).

9. Doosan Enterprises, a U.S. subsidiary domiciled in South Korea, accounts for its inventories on a FIFO basis. The company translates its inventories to dollars at the current rate. Year-end inventories are recorded at 10,920,000 won. During the year, the replacement cost of inventories increases by 20 percent. Inflation and exchange rate information are as follows:

January 1:	Specific price index = 100; $1 = KRW900
December 31:	Specific price index = 120; $1 = KRW1,170

Required: Based on this information, calculate the dollar current-cost adjustment for cost of sales while avoiding a double-charge for inflation.

10. The year-end balance sheet of Helsinki Corporation, a wholly owned British affiliate in Finland, is reproduced here. Relevant exchange rate and inflation information is also provided.

Balance Sheet Year Ended 2011			
Cash	EUR2,000	Short-term debt	EUR8,000
Inventory	8,000	Long-term debt	25,000
Plant & equipment, net	20,000		
Other assets	5,000	Owners' equity	2,000
Total	EUR35,000		EUR35,000

Exchange rate and price information:

January 1:	General price index = 300
	EUR1.5 = £1
December 31:	General price index = 390
	EUR1.95 = £1

Required: Using this information, calculate the monetary adjustment without double-counting for the effects of foreign inflation (assume that the U.K inflation rate is negligible).

CASES

Case 7-1

Kashmir Enterprises

Kashmir Enterprises, an Indian carpet manufacturer, begins the calendar year with the following Indian rupee (INR) balances:

Cash	920,000	Accounts payable	420,000
Inventory	640,000	Owners' equity	1,140,000
	$1,560,000		$1,560,000

During the first week in January, the company acquires additional manufacturing inventories costing INR 2,400,000 on account and a warehouse for INR3,200,000 paying INR800,000 down and signing a 20-year, 10 percent note for the balance. The warehouse (assume no salvage value) is depreciated straight-line over the period of the note. Cash sales were INR6,000,000 for the year; selling and administrative expenses, including office rent, were INR1,200,000. Payments on account totaled INR2,200,000, while inventory on hand at year-end was INR480,000. Except for interest expense paid on December 31, all other cash receipts and payments took place uniformly throughout the year.

On January 1, the U.S. dollar/rupee exchange rate was $.025 = INR 1; at year-end it was $.02 = INR 1. The average exchange rate during the year was $.022. The Indian consumer price index rose from 128 to 160 by December 31, averaging 144 during the year. At the new financial statement date, the cost to replace inventories had increased by 30 percent; the cost to rebuild a comparable warehouse (based on the construction cost index) was approximately INR4,480,000.

Required

1. Assuming beginning inventories were acquired when the general price index level was 128, prepare Kashmir Enterprises' financial statements (i.e., income statement and balance sheet) under the (a) conventional original transactions cost model, (b) historical-cost constant rupee model, and (c) current-cost model.
2. Comment on which financial statement set gives financial analysts the most useful performance and wealth measures.
3. Now assume that management at Kashmir Enterprises' U.S. headquarters wants to see the Indian rupee statements in U.S. dollars. Two price-level foreign currency translation procedures are requested. The first is to translate Kashmir's unadjusted rupee statements to dollars (use the current-rate method) and then restate the resulting dollar amounts accounting for U.S. inflation (the U.S. general price level at the financial statement date was 108, up 8 percent from the previous

year). The second is to restate the Indian rupee statements accounting for inflation (using the historical-cost constant rupee model), then translate the adjusted amounts to dollars using the current rate. Comment on which of the two resulting sets of dollar statements you prefer for use by American readers. (The U.S. general price level averaged 104 during the year.)

Case 7-2

Icelandic Enterprises, Inc.

In 1993 Icelandic Enterprises was incorporated in Reykjavik to manufacture and distribute women's cosmetics in Iceland. All of its outstanding stock was acquired at the beginning of 2001 by International Cosmetics, Ltd. (IC), a U.S.-based MNE headquartered in Shelton, Connecticut.

Competition with major cosmetics manufacturers both within and outside Iceland was very keen. As a result, Icelandic Enterprises (now a wholly-owned subsidiary of International Cosmetics) was under constant pressure to expand its product offerings. This required frequent investment in new equipment. Competition also affected the company's pricing flexibility. As the demand for cosmetics was price elastic, Icelandic lost market share every time it raised its prices. Accordingly, when Icelandic increased selling prices, it did so in small increments while increasing its advertising and promotional efforts to minimize the adverse effects of the price increase on sales volume.

International Cosmetics' financial policies with respect to Icelandic were dictated by two major considerations: the continued inflation and devaluation of the Icelandic krona (ISK). To counter these, headquarters management was eager to recoup its dollar investment in Icelandic Enterprises through dollar dividends. If dividends were not possible, subsidiary managers were instructed to preserve IC's original equity investment in Icelandic krona. Due to the unstable krona, all financial management analyses were made in dollars. International Cosmetics designated the dollar as Icelandic Enterprise's functional currency. Accordingly, it adopted the temporal method when translating Icelandic's krona accounts to their dollar equivalents. All monetary assets and liabilities were translated to dollars using the current exchange rate. All nonmonetary items, except those assets that were carried at current values, were translated using historical rates. Income and expense accounts were translated at the average exchange rates prevailing during the year, except depreciation and amortization charges related to assets translated at historical exchange rates. Translation gains and losses were taken directly to consolidated earnings.

Adjusting Icelandic's accounts for inflation was not attempted. Management believed that such restatements were too costly and subjective. IC's management also claimed that translating Icelandic's accounts to dollars automatically approximated the impact of inflation. The following is a comparative balance sheet and income statement for Icelandic Enterprises, along with relevant foreign exchange and general price-level indexes.

Required

1. Comment on International Cosmetics' policies on the basis of "as reported" earnings.
2. Is management correct in stating that by translating their financial reports into dollars they "automatically approximate the impact of inflation"?
3. What revised actions/policies would you recommend based on inflation-adjusted figures?

Balance Sheet	2001		2002	
(000's)	Dollars	Krona	Dollars	Krona
Cash	7,715	221,176	9,086	368,414
Accounts receivable	18,000	516,078	21,202	859,633
Inventory	118,706	2,949,017	154,988	4,912,187
PP&E, net[a]	283,252	1,221,237	265,706	3,057,000
Other assets	22,022	272,013	28,838	1,024,950
Total	449,695	5,179,521	479,820	8,172,284
Current liabilities	94,748	2,716,438	82,673	3,351,980
Due to parent	50,000	1,433,500	50,000	2,027,250
Capital stock[b]	98,758	713,430	98,758	713,430
Retained earnings	206,189	316,153	248,389	2,079,624
Total	449,695	5,179,521	479,820	8,172,284

Income Statement	2001		2002	
	Dollars	Krona	Dollars	Krona
Net sales	328,805	8,168,500	462,248	14,650,500
Cost of sales	150,012	3,726,750	199,874	6,334,800
Gross margin	178,793	4,441,750	262,354	8,315,700
Selling expenses	78,493	1,950,000	110,841	3,513,000
General and administrative expenses	28,680	712,500	49,647	1,573,500
Depreciation	44,056	122,124	47,002	305,700
Operating income	27,564	1,657,126	54,864	2,923,500
Interest expense	7,064	175,500	11,453	363,000
Income before taxes[c]	20,500	1,481,626	43,411	2,560,500

	1997	1998	1999	2000	2001	2002
National Inflation and Exchange Rates[d]						
Consumer price index:						
Iceland	63.1	100.0	150.6	224.7	418.2	547.0
United States	88.1	100.0	110.4	117.1	120.9	126.1
Krona per dollar:						
Year-end	3.949	6.239	8.173	16.625	28.670	40.545
Average	3.526	4.798	7.224	12.352	24.843	31.694

[a]Plant and equipment were acquired at the beginning of each period as follows: 1998, ISK 1,250,000; 1999, ISK 427,500; 2000, ISK 375,000; 2001, ISK 160,000; 2002, ISK 844,500. Depreciation is calculated at 10 percent per annum. A full year's depreciation is charged in the year of acquisition. Assume there were no disposals during any of the years.
[b]Common stock was acquired when the exchange rate was ISK 7.224 = $1.
[c]Inclusive of translation gains and losses.
[d]The inflation and exchange rate relationships used here are based on actual data for an earlier period.