

INFLATION AND FINANCIAL

REPORTING SYSTEMS:

A CASE APPROACH

by

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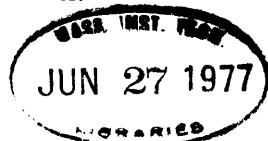
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Submitted in partial fulfillment of the requirements for the degree of Master of Science at the Massachusetts Institute of Technology, May 1977.

ABSTRACT

Existing studies of inflation impacts on financial figures concentrate on theoretical mechanisms quite well understood now and on proposals for comprehensive accounting reforms purportedly aimed at offsetting all distortions at once.

The objective of this dissertation is to survey a series of real cases showing how some 'pioneer' companies have actually dealt with these distortions, the effectiveness (or failure) of their approach and the practical difficulties involved in setting up inflation adjustment systems.

Thesis Supervisor: Geoffrey P. CLARKSON

Title: Professor of Management

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The second major contribution to this thesis is due to William CURLEY, Akiba HERMANN and Tom LAKE from ARTHUR ANDERSEN & Co.'s Boston office. They enabled me to have access to the actual data I needed and share the fruits of their wide experience.

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## TABLE OF CONTENT

	<u>page</u>
INTRODUCTION	5
PART I : General Background	
Chapter I : Inflation Distortions and Compensating Methods	10
A) Inflation distortions	10
B) 'Compensating' methods for attenuating inflation impacts on businesses	16
C) Proposals for new accounting methods	17
PART II: Case Analyses	
Chapter II : Estate Company	20
Chapter III : Brenton Hospital	32
Chapter IV : Investa Company	40
Chapter V : First Trust & Savings Bank	49
Chapter VI : Shell Oil Company	59
Chapter VII : Lorentz Newspapers	68
Chapter VIII: Barber-Ellis Company	75
Chapter IX : Indiana Telephone Corporation	83
CONCLUSION	92
SELECTIVE BIBLIOGRAPHY	95

## INTRODUCTION

Studies about the influence of inflation on the meaning of figures published by companies in their financial reports are a rather recent occurrence dating back to the late fifties - early sixties when the current inflation plague started to undermine western economies. These studies are of two kinds:

- the first type deals with a general, theoretical evaluation of how financial data are distorted by inflation. The earlier ones essentially focused on profit distortion and taxation problems. Newer and more extensive ones also stress issues related to monetary items, especially the sensitive problem of taking into account inflation gains on long-term debt.
- the second type uses these general results in order to evaluate new accounting methods proposed -- and, in a few cases -- implemented in a near past to remedy these deficiencies. Most of the discussion therefore is about comparing these methods and giving opinions as to the one considered best.

On the other hand, very little is published about the ways companies have been actually dealing with these problems

during this difficult period. Moreover, the studies mentioned above give the impression that only academic or accounting enlightened circles are aware of them and that companies are still in the dark ages of total deception by the inflation evil. The common argument for such an assertion can be bluntly summarized as follows:

- 1) As in most cases taking price-level adjustments into account decreases profits and rates of return.
- 2) And a manager does not want to present his shareholders such unpleasant results.
- 3) Therefore a manager prefers to let his shareholders' capital erode rather than risk being the only one to leave the bandwagon of phony profit growth.

While this argument has been -- and perhaps still is -- valid for an important percentage of companies, it appears that the situation is changing rapidly. Not only more and more businesses are aware of these issues, but more and more have started to implement adjustment systems that enable them -- and outside investors -- to better assess their true performance. Usually these sorts of adjustments are of limited scope and very much related to the particular type of industry or business they are in; in this sense, it is right that very few have put

into operation very general adjustment methods like the ones proposed by the accounting literature (General Price Level Accounting and Current Value Accounting essentially), at least in the United States. The objective of this dissertation is to take a practical approach to these inflation-related problems in financial statements and assess how, through the experience of some actual cases (the "pioneers"), some complementary insights can be added to the general studies. Possibly, the evidence presented, though having the drawback of being necessarily limited, will be helpful in order to have a better idea of the reactions of companies to the proposed general accounting changes and the best ways to implement them.

This evaluation will be conducted as follows:

In part I the current situation is briefly reviewed as far as 'theory' is concerned. It consists of an analysis of the various distortions brought about by inflation and their consequences, drawing mainly on existing works; we then describe what we call the 'compensating methods' for attenuating inflation effects: these are permitted accounting devices that have been designed for various purposes (mostly investment incentives) but are often considered as also alleviating the inflation burden on companies; we finally summarize the general accounting changes proposed in the U.S. (GPLA and CVA).

Having these general consideration in mind, we will turn in

Part II to the specific examples of actual companies that have started action to cope with inflation distortions. Eight cases are proposed and analyzed: their study has been made possible by the assistance of Arthur Andersen & Co. whose wide experience in this domain was made available to me by their Boston office. Most of the information contained in these cases being of confidential nature, the actual names of the companies have been disguised and some data modified without endangering the relevance and analytical usefulness of the information content. As one of our objectives is to show that general studies bypass that different companies have different and specific inflation adjustment needs, the spectrum of our "sample" was taken as wide as possible and ranges from utilities to investment trusts while covering a real estate company or a newspaper.

We eventually propose some tentative conclusions from this study.



PART I

GENERAL BACKGROUND

CHAPTER I  
INFLATION DISTORTIONS AND  
COMPENSATING METHODS

A) Inflation distortions.

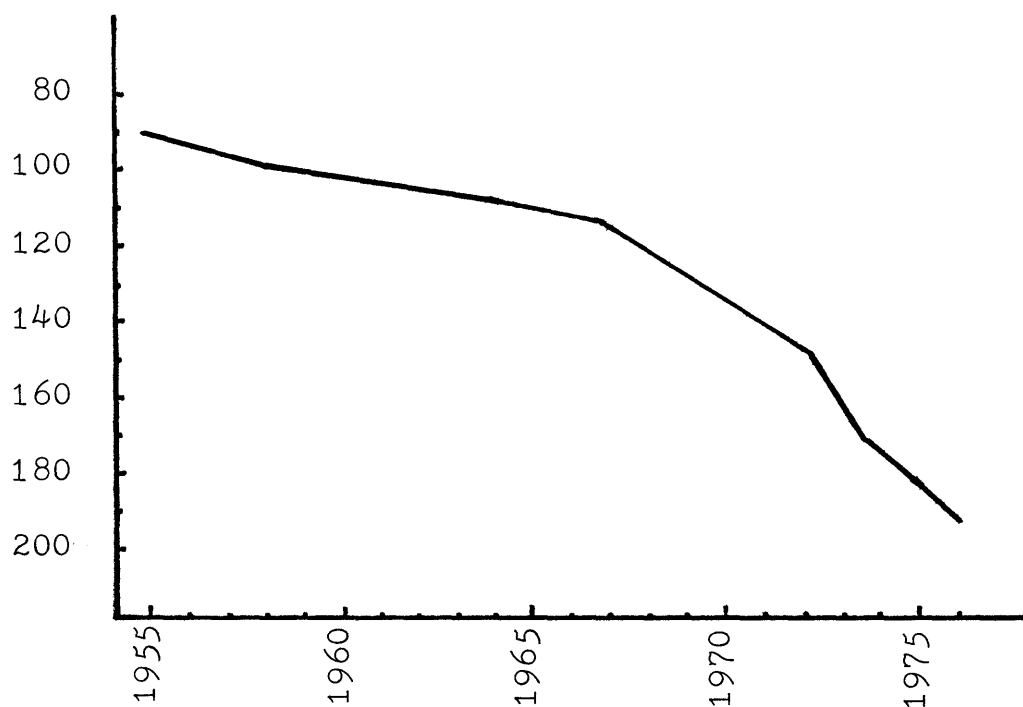


Figure 1. GNP deflator, 1955-76

In an era of inflation, the real value of the monetary unit called 'dollar' decreases over time. This has been the case for at least the past 25 years (see figure 1 above); moreover, as now most economists and policy-makers consider a 4% rate as the threshold at which the economy has to be boosted rather than slowed down, inflation can be considered as some constant occurrence even if the rates might be lower in the future.

However the ways financial figures are currently defined and computed by no means takes into account this gradual shift of the value of the monetary unit. Namely they are based on two principles that inherently assume a stable dollar:

-- the historical value principle, which states that the value of assets is based on their cost at the time of acquisition. This principle includes two assumptions: first the current dollar figure expressing historical cost actually reflects this historical cost; second the value of a similar new asset now is the same as its value at the time of acquisition. Clearly, in a period of inflation, both these assumptions are untrue: general inflation has changed the value of the dollar, and specific price changes can have affected the value of the particular asset considered.

-- the matching principle, which states that the cost of resources is charged to revenues (expensed) only when these revenues occur. The consequence of this is that revenues and associated expenses are expressed in dollars having different values. In other terms, apples are subtracted from oranges.

Therefore, both stock and flow data in financial reports are affected by the changing value of the monetary unit. Let us look more closely at this distortion in three categories: inventory valuation and cost of goods sold, fixed assets

valuation and depreciation, monetary items (assets and liabilities).

1) Inventory valuation and cost of goods sold:

According to the historical cost principle, the value of inventory is equal to the historical cost incurred in its production (or purchase). Similarly, according to the matching principle, the cost of inventory sold is expensed only at the time of its sale (time of corresponding revenue); this expense is "the cost of goods sold".

Consequently, the distortions brought about by inflation are of two sorts:

-- flow distortion; the dollars used to measure revenues from sale are not the same as the dollars used to measure the cost of the goods sold, as these goods were produced (purchased) at a prior time when a dollar had a higher worth.

-- stock distortion: the figures representing the 'value' of any inventory (currently held as shown in the Balance Sheet) have little to do with its real value for the company (namely its current cost for current inventory).

Only the fact that it is physically impossible to distinguish among similar goods produced at different times when they are sold allows some freedom in interpreting the matching

principle: it is now permitted (under certain conditions) to consider that the most recent inventory items are sold first (LIFO method) rather than the oldest ones (FIFO method). The LIFO method as a way of compensating for inflation effects will be discussed in a later section in this chapter, but it must be already noted that it does not get rid of the two distortions mentioned above. It is simply a way of making the first one more bearable by unnoticeably rejuvenating the item taken off the shelf before selling it. However it makes things worse as far as the second principle is concerned, as current inventory is considered as consisting of the oldest items and is correspondingly valued at the oldest historical costs.

2) Fixed assets valuation and depreciation expense:

The distortion brought about by inflation on fixed assets is similar to the one described for inventory; however, as the time during which these assets are kept is much longer than for inventory, the impact on financial figures is such that there is often no relationship between the figures supposedly representing the 'value' of fixed assets on a balance sheet and their real value. More precisely, three sets of distortions are to be considered:

-- the data representing the historical cost is carried in dollars of the time of acquisition. The purchasing power of these dollars is usually very different

from the purchasing power of current dollars.

-- depreciation expense is charged as a fraction of historical cost. Consequently it does not represent 'the cost of using a resource', as often claimed: at best it would correspond to this cost if nothing had happened to the dollar value since the time of acquisition.

-- the value of a particular asset can have been affected by specific inflation trends. This does not refer to a change in the monetary unit value (as the two first impacts) but to a change in real value per se. Such a distortion becomes most relevant when it is considered that depreciation charges should be related not only to historical value but also to the current cost of replacing the asset being considered.

### 3) Monetary items:

Monetary items are mostly affected by the first type of distortion (change in the dollar value) as their 'value' is clearly stated as what is printed on the document that represents them (an argument could be made about bonds, whose value varies with the interest rate, but this impact is relatively marginal).

The impact of inflation is usually stated globally in terms of gains (or loss) on net monetary assets: when liabilities are higher than monetary assets, a purchasing power gain results;

when liabilities are lower than monetary assets, a purchasing power loss results. An issue often discussed in accounting circles at the present time concerns the question of taking into account gains on long-term debt as current income or not. This issue is examined further in Chapter IX, INDIANA TELEPHONE COMPANY.

4) Consequences:

The consequences of these distortions concern three particularly sensitive financial information: profits, dividends and taxes. More generally it is the issue of hidden capital erosion due to a wrong interpretation of financial statements by stockholders and governments.

a) profits:

While it is theoretically possible that inflation adjustments result in higher profits than before adjustment (if there is a very important gain on long-term debt for example), the usual case is a substantial decline of reported income, due to higher depreciation expenses and cost of goods sold essentially. Parallel decreases affect return on stockholders' equity or other profitability measurements.

b) dividends:

As adjusted profits are lower than unadjusted profits, the dividend pay-out ratio (or fraction of income distributed as dividends) can jump substantially. In some cases it can even

reach more than 100%, which means that such a company would be in fact returning capital back to its stockholders.

c) taxation:

Likewise, tax payments represent a bigger portion of adjusted profits than before adjustment. It is said that the 'effective tax rate' is bigger than the nominal tax rate. In some cases, adjusted income can turn to a loss and taxation results in giving away capital to the government. This issue is considered as the most sensitive one in that sense that (1) it represents the true incentive for companies to seek for adjustment systems accepted by tax authorities (2) it is not simply a number distortion: it ends up in a situation that is really deceiving for everybody and eventually unfair.

B) 'Compensating' methods for attenuating inflation impacts on businesses:

Some relatively recent accounting methods have been designed which, while being consistent with the principles we mentioned before, attenuate the effects of inflation distortions on profits:

a) Accelerated depreciation:

The monetary unit effect could be conceivably totally wiped out (as far as fixed assets are concerned) if businesses were allowed to expense investment costs when incurred. This is of



course not permitted, but methods of depreciation which allow to expense most of investment costs in the earliest years of use are now common practice. They are called accelerated depreciation methods. It is clear however that they do not solve the problem of valuation on the balance sheet.

b) LIFO (Last In First Out):

By better approximating the current cost of an item sold, this method results in a cost of goods sold less distorted by price-level changes. However, as we mentioned before, its drawback is to understate inventory value in the balance sheet.

C) Proposals for new accounting methods:

Two different approaches have been considered for proposing new accounting methods resulting in financial information less biased by inflation effects. We only give a short summary of these approaches here, more details can be found in an extensive literature on this matter.

a) General Price-Level Accounting (GPLA):

This method attempts to convert all financial information into a single unit of purchasing power by using a general price index (often the GNP deflator) representing the shift of the value of the dollar over time.

b) Current Value Accounting (CVA):

This method attempts to adjust financial reports to reflect

current market prices of specific assets and liabilities. This notion of current value can take either of three forms: present economic value (present value of future cash flows), replacement cost or liquidation value. Unfortunately there is a little agreement among theoreticians about the ways this current value should be arrived at for different types of financial items.

Having summarized the general background of this study, we now turn in Part II to the study of eight cases showing the ways some actual companies have dealt with these various problems.

PART II  
CASE ANALYSES

CHAPTER II  
THE ESTATE COMPANY

Our first example of the ways some pioneer companies have dealt with the problems caused by price-changes is the ESTATE COMPANY a real estate operator headquartered in Maryland. It is especially interesting to study how they have understood the pressures of an inflationary environment on their particular line of business and what remedies they have proposed -- and actually implemented -- in order to have these pressures influence their financial reports as little as possible. From this viewpoint the ESTATE COMPANY has a very substantial experience in the practical issues involved in dealing with inflation impact on financial figures in its field and this experience provides a conclusive insight on the difficulty, cost and time involved in solving these practical issues, even when -- as is the case here -- the adjustment system used is very limited and only concerns a very tiny portion of financial statements.

1) Company background:

The ESTATE COMPANY is a real estate operator which owns and operates 24 retail centers in the U.S. and Canada, nine office

buildings and a 64-acre community within the city of Baltimore (these assets being referenced as their "operating properties"). They also run a mortgage banking division and a consulting subsidiary. Being in this type of business, inflation affects their financial statement two ways:

a) fixed assets represent the bulk of their balance sheet (at least 80%). This type of assets is particularly affected by inflation and a report on cost basis does not take this impact into account.

b) more importantly, the business of a real estate operator is to increase the market value of its properties: as they state in a Special Report sent to shareholders in 1976, "It is a fundamental purpose of our business to create values in our properties in excess of cost and to increase those values (...) through effective management." Consequently, only reporting cost and depreciation figures would totally leave out what the management of this company believes is an important indicator of their performance.

## 2) The approach used:

As we said above, the management of ESTATE has not developed a comprehensive price-level adjustment system but only attempted to provide themselves and outside investors with estimates of the 'current value' of their operating properties in order to

make possible an assessment of their performance. In particular, if we refer to the general analysis of Part I, we can make the following remarks.

-- They do not consider the influence of changes in the monetary unit on figures other than properties; especially they leave out any adjustment (gain or other) on debt (which represents 91% of their balance sheet on cost basis) or other monetary items.

-- As far as properties are concerned, their objective is not to take into account the impact of general inflation on them but very specifically to find out their true value at a certain point in time. In this sense, they do not make the split between the holding gains and operating gains pointed out by the Current Value Accounting (CVA) method nor do they plan to restate past statements in current dollars in order to make comparisons possible. In addition to this, the ESTATE COMPANY has not yet decided to apply their current value approach to their Income Statement and Statement of Changes in Financial Position (as of 1976 fiscal year). Although this move can be expected in the future, it points out how, even for companies like ESTATE that have a long experience of price-level adjustments in their financial figures for internal management purposes, this kind of evolution is slow, gradual and extremely resource- and time-consuming.

a) Operating properties:

Let us now shift to the method used to obtain the current value of their operating properties\* :

This method would satisfy the more demanding financial analyst: the current value of a property is equal to the present value of the future net cash flow expected from it, discounted at a capitalization rate specific to each property. The process goes as follows for each operating property:

(i) analysis and five-year projections of operating income and expenses as well as debt costs and partner participations.

(ii) as to retail centers, analysis of possible future changes in market share during next five years and impact on sales; tenant by tenant analysis of lease terms and five year projections of rent payments and cost reimbursements.

(iii) determination of net expected pre-tax cash-flows for next five years.

(iv) determination of the net present value of these cash-flows.

Different discount rates were used according to the degree of income producing maturity of the property considered; the average pre-tax was in the neighborhood of 13%.

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\* Construction and development in progress are not included in this revaluation. They are carried at cost on the adjusted balance sheet, although ESTATE recognizes their value also is substantially higher than their cost.

(see numerical data in Exhibit 2-1 below)

b) Other furniture, fixtures and equipment:

As far as this other asset item is concerned, ESTATE uses a different approach: the current value of other furniture, fixtures and equipment is equal to their replacement cost. This cost has been determined by taking into consideration recent prices of similar equipment and the current cost of duplicating them; then a depreciation allowance is charged to this gross replacement cost (see numerical data in Exhibit 2-1 below).

c) Other assets:

Another adjustment is made on notes receivable held by the mortgage banking division. These notes are usually purchased from developers (this represents their cost) and resold to long-term investors (this represents their market value). Summarily, ESTATE has set up an adjustment system that uses different methods according to the type of assets involved. Current value is defined as

- market value for mortgage notes receivable
- replacement cost for furniture, fixtures and  
other equipment
- net present value of future cash-flows for  
operating properties.

These adjustments come out as follows in the 1976 financial reports:



## EXHIBIT 2-1

## ASSETS VALUES ('000)

Type of Asset	Current Value Basis	Cost Value Basis	Adjustment
<u>Operating properties</u>			
Current Value	372,105		
Cost		314,205	
Less Acc. Depreciation		(54,230)	
	<u>372,105</u>	<u>259,975</u>	112,130
<u>Other furniture, fixtures and equipment</u>			
Current Value (gross)	5,856	4,915	
Less Depreciation	(1,397)	(1,181)	
	<u>4,459</u>	<u>3,734</u>	725
<u>Notes receivable</u>	15,760	15,742	<u>18</u>
Total adjustments			112,873
Book Value of equity			<u>16,022</u>
Revalued equity value			<u><u>128,895</u></u>

Not surprisingly, the highest adjustment (in absolute and relative value) concerns the operating properties that do represent the income-producing part of ESTATE's business. It is therefore very sound that a sophisticated adjustment system has been developed for this category of assets and not applied to other. Considering the nature and functions of the other assets in ESTATE's activities, it is perfectly logical they simply used replacement cost and market value as the best estimates of their current values: it was easy and feasible.

3) Testing of the proposed figures:

A first illustration of the actuality of the need for revised financial figure is provided by the proceeds from sales of operating properties. Two such sales occurred in fiscal 1975 and fiscal 1976 with the following related figures:

Net book cost	37,414,000
Related Mortgage debt	<u>40,374,000</u>
Equity value of sold interests	( 2,960,000)
Cash proceeds (above mortgage debt) from sales	<u>24,050,000</u>
Surplus added to Net Worth <sup>1</sup>	<u>22,289,000</u>

<sup>1</sup> after legal and selling costs; and after deferral of a portion of the gain (totalling 3,133,000)

This shows the ESTATE received \$24,050,000 for assets that were carried on books at a negative book value. It clearly justifies their approach of considering historical costs as totally irrelevant.

A second problem is the accuracy of the figures they obtain from their analysis. Such a test was performed by an outside appraiser, PRAISE ASSOCIATES, on a request made by the accounting firm in charge of auditing ESTATE's financial statements.

PRAISE's estimates did concur with ESTATE's with a variation of less than 10% which was considered as reasonable. Consequently the current value balance sheet was endorsed by the auditor and disclosed in the financial report to shareholders. Both factors can be assumed as a good indication of the relevance and fairness of the methods and results of ESTATE price level adjustment system.

4) Related lessons and issues:

The lessons to be drawn from ESTATE's experience concern the specificity of the impact price changes have on their type of business and the important amount of resources that have to be devoted to an adjustment system, even if it is limited.

a) Specificity of inflationary impact:

As we pointed out earlier the main inflation-related problem for a real estate business is not the general depreciation of the dollar as a monetary unit but the change in value of their operating properties, as such change is an integral part of their performance (incidentally this would not be true for a manufacturing business, for which increase in value of, say, their office building is not a component of their performance). Consequently, the aim of their adjustment system is not to reflect the historical cost of their properties in current dollars (GPLA-type of adjustment) but to arrive at the current

value of these properties, this term being in their case synonymous of economic value, that is the present value of future net cash-flows.

Having reached this conclusion, ESTATE did implement the only sound alternative, although it was the most difficult and uncertain one: design a system arriving at the present economic value of every property of theirs. As a test of the effectiveness of this method, the double-check they requested from an independent appraisal consulting firm (PRAISE ASS.) using the same methods is a good indication they have been quite successful in their undertaking.

b) Resources devoted to the adjustment system:

The evidence provided by the ESTATE case shows that current value adjustments are extremely costly, time-consuming and require a very careful planning.

It must be remembered that ESTATE's adjustment system is not a comprehensive one dealing with all financial figures of their reports: they only adjust some asset data and they have not published yet an Income Statement or Statement of Change in Financial Position on current-value basis. In spite of this, the cost has been very high. PRAISE discloses the cost of a full appraisal for every property of a \$400 million portfolio at about \$500,000 the first year, around \$200,000 subsequently. Concurrence appraisals (as it was requested by ESTATE) cost about \$200,000 the first year, \$120,000 subsequently. However,

this assumes that an in-house evaluation is made (as ESTATE did) and the total cost is not far from the full appraisal figure. In addition to the cost involved (cash and time), this type of analysis requires a high level of skills from the executives involved in this process for getting data, projections and making conclusions on value. This ability was surely a major factor of ESTATE's success: as PRAISE points out, "The capacity of ESTATE to gather all the essential data and the skills of their key executives demonstrated in their valuations were a tribute to their professionalism. But the review process seems to work well for companies like ESTATE."

While solving some technical and operating valuation problems, the ESTATE example also raises some important issues:

a) The problem of deferred taxes on current value write-ups. The issue is as follows: should a real estate company provide for eventual taxes on gains on sales (in case the property is sold in the future) when it writes up its properties for current value adjustment purposes; this tax would be carried as a deferred tax liability on the balance sheet and therefore would somewhat decrease the equity write-up. ESTATE has decided not to do so, stressing that most of their properties is intended to operate for an "extended, indefinite future time period" (they do not have any intention to sell them); consequently the only tax liability to consider would be

Income Tax on operations and they claim it is undeterminable. Such an approach could be argued as it fails to recognize that an asset that carries a future tax deductibility is worth more than a similar asset carrying no future tax benefit.

b) The interrelationship between public auditor, appraiser and company:

This is a very important issue for getting effective results in this process of analyzing current values. Most of the decisions to be taken are judgemental (what will be the future market share of a shopping center?) and they require a great deal of independence and honesty. Some related problems are:

-- How to get a real estate company not to inflate the current value of its properties? ESTATE's auditor's answer was the hiring of an independent review consultant. Some would argue it is not sufficient.

-- Should the public auditor also assume the responsibility for the current values presented in the reports, although they relied on outsiders to assess them? ESTATE's public auditing firm did so; other auditing firms insist it is better they keep full independence and the appraisal firm be hired by the company rather than by the auditor.

c) The relation with SEC requirements:  
SEC's ASR n<sup>o</sup> 190 requires certain companies to provide data about the replacement cost of their assets. Although ESTATE's data and approach are much more comprehensive than required by

ASR n<sup>o</sup> 190, they have been considered as not meeting SEC requirements by the SEC Replacement Cost Advisory Committee. This raises the often pointed out issue of broad regulations that are not flexible enough and end up not answering the real needs of companies and investors.

CHAPTER III  
BRENTON HOSPITAL

This case provides an example of a simple, early (1960 to 1966) attempt to introduce some inflation related adjustments in financial statements in a very specific business environment: namely, a non-profit organization called THE BRENTON HOSPITAL SOCIETY, that consists of two hospitals (the BRENTON division and the Eastern division), one psychiatric care facility (Sayne Division) and a medical school. In addition to characteristic insights about the ways inflation affects such a type of organization, this example shows how a price-level adjustment system can only be successfully implemented when there is a strong motivation from the part of management.

1) BRENTON HOSPITAL environmental factors:

a) Financial Reports in medical care management:

As any business organization, the BRENTON HOSPITAL SOCIETY has to issue every year a Balance Sheet and an Income Statement. However, the users of this information have significantly different perspectives from the ones of investors or shareholders analyzing Financial Statements of industrial firms. These users are essentially:

-- government: some public funding is regularly



devoted to medical care services. These funds are not considered as investments by governments but rather as a way of having the community share the burden of operating medical care facilities, if there is a burden. Consequently, the amount of public funds a federal or state agency will put into a private hospital is only negatively sensitive to its financial situation: by this we mean that it is very unlikely that a hospital showing an operating profit or even some minor losses will get any funding; on the other hand the threat of a financial disaster is an extremely powerful incentive for public funds to pour into such an organization.

What is the implication of this as far as inflation distortions are concerned? As in most cases inflation brings about an overstatement of profits (or understatement of losses), we can expect that not taking inflation into account could give the phony impression of financial health, whose consequence could be not simply some reduction in public funding, but more abruptly a total cut-off.

-- unions: nursing and labor services represent an expense more than half the patients' care revenues. Therefore, the financial situation of this hospital heavily depends on containing these labor costs in reasonable limits. This can only be achieved if unions or other labor representatives have a clear and accurate picture of the true current costs involved in running such an organization.

-- insurance companies: the calculation of reimbursement rates by insurance companies takes as basis hospitalization costs as disclosed by hospitals. If hospitals do not recognize the real cost of their operations and do not make inflation adjustments, there is no reason for insurers to do so when they compute their reimbursement rates.

The focus on these three types of users shows that, although organizations like the BRENTON HOSPITAL SOCIETY is a non-profit one, there are some good reasons for trying to eliminate inflation effects from its financial statements.

b) Financial characteristics:

The financial reports of a medical care organization are distinguished from the ones of industrial business not only by the types of users, but also by the type of financial data they contain. Here also we will examine the inflation related issues. The relevant financial information can be found in Exhibit B-1 at the end of this chapter.

The first relevant point is that the HOSPITAL SOCIETY does not have the problem of inventory valuation and cost of goods sold understatement as in other businesses: their \$1.5 million inventory only represents one fortieth of their assets and carrying it at cost does not bring about too big a distortion. On the other hand two other components of their assets, namely securities (\$30 million at cost) and plant and property (\$21 million) are much influenced by inflation effects:

-- securities: they represent 53% of the Society's assets. The price-changes effect on them is quite clear and demonstrated by the difference between cost and market prices (in this sense we are referring to the current value problem rather than to monetary unit problems as described in Part I). As these securities are held to produce revenues, the purpose of an adjustment system should be to carry them at current value, that is at market prices (or some average or recent market prices to avoid the consequence of price volatility). As we will see in Paragraph 2, the HOSPITAL SOCIETY did not consider such an adjustment.

-- fixed assets: they represent 37% of the Society's assets. The inflation related problems are the ones we described in Part I, Chapter I, "Distortions"; consequently depreciation expenses should be adjusted (either by considering the current value of assets or by simply taking the general value loss of the dollar into account) to reflect the 'true' cost of operating these facilities. As the problem of proper value is not as important as the problem of proper cost (hospital buildings are not considered as income producing (cf. opposite case of the ESTATE Company, real estate operator studied in Chapter II) it is logical to consider only general price-level types of adjustments. Let us however note that some people would argue that buildings depreciation -- and a fortiori price-level adjusted depreciation -- is not a proper charge

against hospital operations, as these buildings will be replaced by endowment or contributions. This type of peculiar attitude can be considered as a factor contributing to the failure of implementing a price-level adjustment system at the HOSPITAL SOCIETY, as we will mention later.

2) Approach and methods used:

The Society of the BRENTON HOSPITAL began to be aware of the distortions inflation brought about in their results when -- in 1960 -- they asked their auditors to recommend them a system of price-level depreciation adjustment. The proposed adjustments were very straightforward, although relatively new at the time: the fraction of historical cost to be depreciated in a given year was simply to be converted according to changes in the Consumer Price Index, therefore reflecting the real cost of using a resource in terms of purchasing power. In 1959 financial statements, the corresponding effect was to charge an 'extra' depreciation for \$378,900 above the \$593,117 historical cost depreciation, essentially on buildings of the BRENTON HOSPITAL and the Eastern Division, as shown in the following schedule:

	<u>BRENTON HOSPITAL</u>	<u>Sayne Division</u>	<u>Eastern Division</u>	<u>Total</u>
Buildings	198,500	28,500	103,000	330,000
Fixtures	15,500	700	2,400	18,600
Equipment	<u>23,100</u>	<u>1,900</u>	<u>5,300</u>	<u>30,300</u>
	237,100	31,100	110,700	378,900

The effect was to increase the depreciation expense by 64% and to worsen the deficit from approximately \$2.7 millions to \$3.1 millions.

The management of the HOSPITAL SOCIETY looked at these figures, thanked the auditing company for their recommendations and decided to defer action "until the matter became more urgent". In addition to this, it refused to consider any adjustment for the increasing value of the security holdings, arguing that such an approach was unfavorable and not conservative. In 1966 the HOSPITAL SOCIETY again reconsidered the eventuality of including price-level adjusted depreciation in their statements, only to again defer action, pretexting they had "first to permit the various programs concerned with Medicare to become established." Altogether, it results that, after having had a sound and relatively pioneering approach to these types of inflation problems, they decided to drop any implementation because of a lack of commitment.

3) Some reasons for this failure:

In spite of the benefits mentioned in Paragraph 1, the idea of inflation adjustments was abandoned. The following factors can explain it:

-- the change was too small: after all to go from a deficit of 2.7 millions to a deficit of 3.1 millions does not

strike as a big revelation, even if it better reflects the true financial situation of the hospital. We can expect the attitude would have been totally different if they had passed from a profit situation to a deficit situation: hospital management have good reasons to be deficit-seeking as we pointed out earlier. The attitude would also have been different if the restatement had covered all financial items, not only depreciation.

-- there was no outside pressure to do so. In the sixties, inflation distortions were not the fad they are in the seventies (actually, inflation rates were much less alarming). Consequently, managers who did not have strong reasons related to their own organization for implementing such changes were not induced to undertake this type of reform at all. Summarily, the BRENTON HOSPITAL SOCIETY is a good example showing that organizations will not feel the need for inflation-related accounting reforms unless strong evidence motivates their management that inflation distortions are so high and deceiving that they become unbearable.

## EXHIBIT 3-1

Here is a summary of the Society's balance sheet and Income Statement, after inflation-related adjustments (see Paragraph 2)

BALANCE SHEETASSETS

Cash		1,032,907
Accounts receivable		2,817,159
Inventories		1,561,852
Securities, reserved (market price \$4,600,000)		3,418,836
Investments		
Securities		26,699,428
Real Estate		841,149
Plant and Property		
BRENTON & Eastern Divisions	37,099,660	
Less Accumulated Depreciation	(17,442,282)	19,657,378
Sayne Psychiatric Divisions	3,077,705	
Less Accumulated Depreciation	(1,621,071)	<u>1,456,634</u>
		57,477,343

LIABILITIES AND CAPITAL

Accounts Payable and Accruals		2,026,807
Reserve for Employees' Retirement Plan		4,584,598
Capital		<u>50,865,938</u>
		57,477,343

STATEMENT OF INCOME

	Cost basis	Price-level basis
Operating Revenues	16,345,559	16,345,559
Operating Expenses		
Medical Care	19,843,861	19,843,861
Depreciation of Fixtures & Equity	269,577	318,477
Depreciation of Buildings	<u>323,540</u>	<u>653,540</u>
Total Operating Expenses	<u>20,436,978</u>	<u>20,815,878</u>
Net Operating Loss	4,091,419	4,479,919
Other Income	<u>1,412,140</u>	<u>1,412,140</u>
Net Loss	<u><u>2,679,279</u></u>	<u><u>3,067,779</u></u>

CHAPTER IV  
INVESTA COMPANY

Another problem related to inflation effects on financial information concerns the interpretation and use of reports issued by the subsidiaries a company can have in foreign countries that have high rates of inflation and, consequently, a continuous depreciation of their currency, ineluctably followed by devaluations at regular intervals. In this sense, we concentrate in this chapter more on the issue of the significance of data expressed in 'soft' currencies from the viewpoint of a company established in a hard currency country. (However it is clear that all the other questions about valuation and matching of revenues with expenses are still valid, although not treated in this particular case.) To illustrate this problem, we are considering the INVESTA COMPANY, whose business is to invest American funds in Latin American operations. For legal and tax purposes this company is established in Luxembourg, but we will consider it here as American for the sake of simplicity.

INVESTA insists that a sound understanding of the real meaning of financial data and the real risks and potential losses hidden behind their illusory objectivity is the key to a good management of operations in such countries. In order to achieve such an awareness on the part of the managers of their



subsidiaries, they have issued a set of guidelines that very precisely defines the policies to be undertaken as functions of "currency exposures" very precisely defined. We describe and comment upon these guidelines in this chapter.

1) General considerations:

A general guideline set up by INVESTA is that little attention should be paid to statements expressed in local currency, but these should be always translated into dollars. Moreover, any projected statement should take into consideration the future depreciation of the local currency and the likelihood of a devaluation; this applies in particular to financial information relevant to prospective earnings from possible investment, for which the following procedure must be followed:

- i) forecast of size and estimated timing of the currency depreciation and devaluation
- ii) preparation of projected balance sheet, income statement and cash flow statement taking these projections into account
- iii) evaluation of the availability and cost of protective measures in the light of the magnitude of likely currency losses

These guidelines require a constant monitoring of macro-economic data (interest rates, price indexes, budgetary deficit,

balance of payments) that has to be incorporated in this system of financial management aimed at accurate and meaningful information. INVESTA stresses that the cost can be high; however, the subsidiaries must devote some part of their earnings to this type of protective measures and consider it as a kind of 'insurance premium' against inflation losses (as emphasized by INVESTA, these losses are real losses for the investor because of the inflation-related depreciation of the local currency versus the dollar).

## 2) Notion of conversion/exchange exposure and losses:

In order to incorporate a picture of the risks related to different financial figures of currency depreciation, INVESTA requires its subsidiaries to add to its balance sheets a breakdown of two types of exposures: the 'conversion exposure' and the 'exchange exposure'. An illustration of this type of analysis is given in Exhibit 4-1 at the end of this chapter.

### a) Conversion exposure:

The conversion exposure "attempts to measure local currency net assets which would be affected by a change in the value of the local currency". All monetary items in local currency and inventory items (for reasons described further) are considered to be conversion exposed. If conversion exposed assets are more than conversion exposed liabilities the net resulting

exposure to conversion losses is positive, as it is the case in the exhibit joined to this case (it concerns an Argentine company wholly owned by INVESTA): the conversion exposure amounts to \$568,000. This means that, if the exchange rate shifts from 210 pesos for \$1 to 250 pesos for \$1, the corresponding conversion loss will be

$$\$568,000 \times \left( 1 - \frac{210}{250} \right) = \$91,000$$

b) Exchange exposure:

The exchange exposure "attempts to measure the excess of hard currency liabilities over hard currency assets and losses resulting from it in terms of local currency". All monetary items in hard currency (dollars) and fixed assets (for reasons described further) are considered to be exchange exposed. If exchange exposed liabilities are more than exchange exposed assets, the net exposure to exchange losses is positive, as it is the case in the example in the exhibit: the exchange exposure amounts to \$193,000. That means, under the same assumptions as in paragraph a) above, that the corresponding conversion loss would be

$$\$193,000 \times ( 250 - 210 ) = 7,720,000 \text{ pesos.}$$

It must be emphasized that this exposure is essentially relevant from the viewpoint of local management: it is not a direct loss for the investors, as the conversion loss is. However,

INVESTA insists this type of exposure not be ignored from the financial management viewpoint because hard currency obligations require increasing amounts of local currency when the latter depreciates due to inflation and this can have a major influence of the company cash-flow, liquidity or local currency borrowing program.

Having defined these two types of exposures, INVESTA wants the management of its subsidiaries to consider them as integral part of the financial statements and monitor their evolution very carefully, having in mind the "ideal" balance sheet: the one where the conversion exposure is zero and the exchange exposure negative (this happens when local currency assets equal local currency liabilities and net worth equal to hard currency net assets plus fixed assets). This ideal being unattainable, the objective is to minimize both conversion and exchange exposure, with more emphasis on conversion exposure.

### 3) Treatment of inventory and fixed assets:

While there is not much difficulty in deciding what type of exposure affects monetary items (local currency items are conversion exposed, hard currency items are exchange exposed), it is not the same as far as inventory and fixed assets are concerned. The position adopted by INVESTA is to consider inventory as only conversion exposed and fixed assets as only

exchange exposed. This argument goes as follows:

a) Inventory:

One could assume that, when inflation develops and a currency loses its value versus the dollar, inventory real value would stay the same (and consequently its value in local currency would increase). INVESTA states in its guidelines that such an assumption is risky and would lead to a wrong interpretation of financial statements because of the three reasons below:

- first, government policies can suddenly prohibit price rises
- second, competitive pressure can prevent from any price rise
- third, even if prices increases can be implemented, the recovery of the currency loss only takes place when proceeds are collected from the sale of inventory. Hence there is often a considerable lag between the depreciation of the currency and the loss recovery. This brings about uncertainty and leads to a conservative attitude.

From this point of view. INVESTA advises the management of its subsidiaries to consider inventory as 100% exposed to conversion losses. Obviously, this is very conservative and there is no doubt that some of these losses may be recovered.

b) Fixed assets:

On the other hand, INVESTA considers that fixed assets value in local currency keeps pace with inflation (real value constant) as it is generally assumed in inflation adjustment systems. Consequently the fixed assets item in the balance sheet is 100% considered as an hedge against exchange exposure, the same way as monetary assets in hard currency are. However, this attitude is not as 'audacious' as it could appear, as fixed assets are carried and depreciated according to historical cost (in dollar terms).

#### 4) Profits:

The last guidelines concerning the way INVESTA wants its subsidiaries to interpret financial figures concerns profits. As they state, "the overall true performance of the investment is represented by the growth in the hard currency equivalent of net worth plus dividends". Consequently, profits in local currency are not considered as meaningful and should be computed in terms of dollar figures with losses incurred as a result of currency fluctuation (exchange losses) charged against them. Dividends can be distributed only from this profit figure. Summarily the INVESTA case is an example of a very conservative policy by an American holding company attempting to have a clear and accurate picture of the real meaning of financial information provided by its subsidiaries. This policy not only attempts to measure more truly past performance by

systematically taking into account past local depreciation against the dollar, but is also understood as a planning tool through its emphasis on the various types of exposure (conversion and exchange) related to apparently similar data because of the future currency depreciation or devaluation. Here, again, the correction system is limited in scope, even departs from generally accepted theoretical effects of inflation (particularly concerning the treatment of inventory or the absence of adjustments for the dollar-historical cost of fixed assets); however, it was designed for a very specific purpose (protect investors' funds) and its conservative flavor is therefore perfectly understandable.

## EXHIBIT 4-1

## TAMPA Co. in Argentina

Balance Sheet In US Dollars ('000)

	Balance Sheet	Conv. Exp.	Exch. Exp.
Local currency cash	10	10	
Hard currency cash	5		5
Local currency receivables	400	400	
Hard currency receivables	20		20
Inventory	300	300	
Fixed assets (net depreciation)	500		500
Other assets, local currency	10	10	
Other assets, hard currency	<u>2</u>	<u>          </u>	<u>2</u>
TOTALS	1,247	720	527
Due banks, local currency	100	100	
Due banks, hard currency	400		400
Payables, local currency	50	50	
Payables, hard currency	200		200
Long term debt, hard currency	100		100
Accruals, local currency	2	2	
Accruals, hard currency	<u>20</u>	<u>          </u>	<u>20</u>
TOTALS	872	<u>152</u>	720
Total exposure to conversion losses		<u>568</u>	<u>          </u>
Total exposure to exchange losses	<u>          </u>		<u>193</u>
Net worth	<u>375</u>		



## CHAPTER V

FIRST TRUST & SAVINGS BANK

In 1973 the management of FIRST COMPANY asked a public auditing firm to restate the financial statements of one of its subsidiaries FIRST TRUST & SAVINGS BANK, according to the general price level adjustment method. This is therefore our first case where the approach has been global and all financial figures reassessed according to the impact general inflation has had on them. As pointed out in Part I, the objective of such an adjustment is only a conversion of historical data to current dollar, there is no attempt to assessing current values.

1) Purpose of this study:

Banks are generally considered as less affected by inflation distortion, as their capital usually represents a small portion of their total assets (typically 6 to 9%). Moreover, the usual distortion effects described in the literature mostly concern fixed assets and inventory valuation or the related issues of cost of goods sold and depreciation expense (cf. Part I), all of them being of quite marginal importance in the case of a bank (for example fixed property only represents less than 1% of FIRST's total assets). The real issue for a

bank is net monetary assets (monetary assets less monetary liabilities) and the corresponding inflation loss. In addition to this, transactions (generating income or expenses) are spread over the entire fiscal year and have to be also translated in a common purchasing power unit.

The purpose of this study is to assess the inflation impact on the particular business structure and activity of a bank like FIRST TRUST and to determine the influence this assessment should have on their financial policy.

## 2) Approach and method used:

As we mentioned the restatement consisted in a conversion of all financial figures in end-of-the year dollars and the computation of the loss on holding net monetary assets (The guidelines of APB Statement n<sup>o</sup> 3 were followed in most cases).

Summarized financial statement are provided in Exhibit 5-1, 5-2 and 5-3. Although FIRST's fiscal year ends on January 31st, the financial statements were converted into December 31st dollars, as no inflation rate is available from governmental sources on a monthly basis; consequently no adjustment was made for net monetary assets in January. As far as property is concerned, it was assumed that all items originated after 1966. A special attention should be given to the fact that FIRST TRUST raised its allowance for loan losses from

\$222,000 in 1972 to \$1,222,000 in 1973, mainly for tax-related reasons; the decline in profits on an adjusted basis (from 73 \$ 3,161,000 to 73 \$ 2,621,000) is therefore not to be interpreted as entirely due to inflation (cf. analysis in paragraph 3). The inflation rates used for these restatements were 3.3% in 1972 and 7.3 % in 1973 on average.

FIRST TRUST and his auditors think that this approach is particularly relevant for the adjustment needs of a bank; there is no such thing as inventory profit or specific inflation rates for this type of business (as in manufacturing companies) and the major problem is the shift of the value of the monetary unit, quite well represented by the evolution of the GNP deflator published by government agencies. One could agree that this is only true for the monetary items, but their property should be valued according to some current value system. FIRST TRUST answers that their property represents too small an amount in their balance sheet and there is no real pay-off in implementing a different adjustment system for their properties. From this point of view this case represents an extreme, the same way as the ESTATE COMPANY (a real estate operator, cf. Chapter II) represented another extreme in the opposite direction. For them the fundamental issue was the current value of their properties and their system was geared at resolving this issue.

### 3) Results and consequences for financial policy:

#### a) Profits:

It is particularly interesting to see the influence of this restatement on the profit figures, as FIRST TRUST is considered as one of the most profitable banks in the country. Restated in '73 dollars, their profits decrease from \$3,472,000 to \$3,161,000 in fiscal year 1973 and from \$3,842,000 to \$2,621,000 in fiscal year 1974. The important point is as follows: while historical accounting shows an increase of 10%, profits actually decreased by 15%. Most of this decrease is due to the monetary losses incurred in 1973 (73 \$ 566) and 1974 (73 \$ 1302). Other contributing factors were the high provision for possible loan losses we mentioned earlier and the lack of security gains in 1974. Altogether, one can conclude that inflation has had a quite substantial effect on FIRST's income, but we must point out that it is not as devastating as it can be the case in most other banks: after adjusting for inflation, the Bank's return on equity is still a nice 13.5% (20.8% before adjustments), well above a great number of U.S. banks (according to their auditors).

#### b) Taxes:

This system enables FIRST to calculate its effective tax rate. In 1973 it was 41% (compared with 37% before adjustment); in 1974 it was 50% (compared with 19% before adjustments). Again

we can notice the usual effect of inflation described in Part I. However, here again, FIRST's situation is fairly nice and it seems they managed to hedge quite well against inflation, as it is denoted by their early implementation of an adjustment system.

c) Dividends:

On the other hand, dividends seem to be the area where inflation distortions have had the most devastating effect: on an adjusted basis, dividends paid represent 67% and 73% of their net income in 1972 and 1973, while they are only 57% and 51% of historical net income. The consequence is that their equity only leaps from \$20,094,000 to \$20,724,000 in '73 dollars (3% increase) while it is supposed to jump from \$18,439,000 to \$20,319,000 in historical dollars (10% increase). Clearly dividends are the area where their adjustment system should lead FIRST TRUST to reconsider its past policy.

d) Consequences for financial policy:

The evidence given by this restatement of their accounts concerning the impact of price-level changes on their operations leads FIRST TRUST to concentrate more on these monetary assets that provide an income flow least affected by inflation, namely commercial and construction loans with an interest rate tied to the prime rate. On the other hand, low yield fixed interest rate loans (like mortgage or installment) and investment securities are de-emphasized as they do not provide a

sufficient hedge against monetary losses. From this policy viewpoint, their system enables them to have a clear picture of their real situation and to plan and act accordingly.

4) Inflation effects on bank financial statements: as short-cut method:

FIRST TRUST's auditors tested an interesting short-cut method aimed at evaluating quickly the inflation distortions in financial statements of banks: by simply applying the year-end rate of inflation to the net monetary assets in historical dollars at the beginning of the year, they arrive at a price-level loss not very far from the actual figure obtained after restating all items according the GPL method. For example, as of 1/31/73, we had for FIRST TRUST:

Total equity capital:	\$ 18,439,000
Less: property, net	<u>(1,905,000)</u>
Net monetary assets	16,534,000
Rate of inflation during 1973	<u>7.3%</u>
Estimated price-level loss	<u>1,207,000</u>
Actual price-level loss	<u>1,221,000</u>
	(3,842,000-2,621,000)

This concurrence is due to the fact that in the case of banks (regular income and expense flow and marginal fixed assets) the different inflation effects on items other than net

monetary assets approximately cancel each other and are immaterial in the aggregate. Nevertheless, this method obviously fails to pinpoint the specific distortions on particular items.

EXHIBIT 5-1

FIRST TRUST & SAVINGS BANK

CONDENSED PRICE-LEVEL ADJUSTED BALANCE SHEETS  
AS OF JANUARY 31, 1973 AND 1974  
(000 omitted)

	1-31-73		1-31-74	
	Historical	Restated to 12-31-73 \$'s	Historical	Restated to 12-31-73 \$'s
Cash and due from banks	\$ 24,032	\$ 25,787	\$ 24,353	\$ 24,353
Federal funds sold	5,000	5,365	10,000	10,000
Investments	69,215	74,267	68,223	68,223
Loans				
Commercial and construction	149,580	160,500	178,914	178,914
Other	58,795	63,087	56,706	56,706
Direct lease financings	1,335	1,433	4,107	4,107
Other monetary assets	4,578	4,912	4,616	4,616
Property	1,905	2,352	1,949	2,354
	<u>\$314,440</u>	<u>\$337,703</u>	<u>\$348,868</u>	<u>\$349,273</u>
Demand deposits	\$ 77,324	\$ 82,969	\$ 76,687	\$ 76,687
Time deposits	208,517	223,739	226,969	226,969
Federal funds purchased	-	-	3,700	3,700
Other liabilities	8,195	8,793	8,121	8,121
	<u>\$294,036</u>	<u>\$315,501</u>	<u>\$315,477</u>	<u>\$315,477</u>
Reserve for loan losses	1,965	2,108	3,072	3,072
Capital notes	-	-	10,000	10,000
Equity capital	18,439	20,094	20,319	20,724
	<u>\$314,440</u>	<u>\$337,703</u>	<u>\$348,868</u>	<u>\$349,273</u>



EXHIBIT 5-2

FIRST TRUST & SAVINGS BANK

CONDENSED PRICE-LEVEL ADJUSTED STATEMENT OF INCOME  
FOR THE YEARS ENDED JANUARY 31, 1973 AND 1974  
 (000 omitted)

	1-31-73		1-31-74		
	Historical	Restated to 12-31-72 \$'s	Restated to 12-31-73 \$'s	Historical	Restated to 12-31-73 \$'s
Operatin income	\$18,229	\$18,408	\$19,752	\$24,919	\$25,620
Operating expenses	(12,825)	(12,985)	(13,932)	(18,579)	(19,125)
Price-level losses	-	(527)	(566)	-	(1,302)
Income before taxes and security gains	\$ 5,404	\$ 4,896	\$ 5,254	\$ 6,340	\$ 5,193
Provision for income taxes	(1,975)	(1,994)	(2,139)	(2,498)	(2,572)
Income before security gains	\$ 3,429	\$ 2,902	\$ 3,115	\$ 3,842	\$ 2,621
Security gains	43	44	46	-	-
Net income	<u>\$ 3,472</u>	<u>\$ 2,946</u>	<u>\$ 3,161</u>	<u>\$ 3,842</u>	<u>\$ 2,621</u>

EXHIBIT 5-3

FIRST TRUST & SAVINGS BANK

CONDENSED PRICE-LEVEL ADJUSTED STATEMENT OF CHANGES IN EQUITY CAPITAL  
FOR THE YEARS ENDED JANUARY 31, 1973 AND 1974  
(000 omitted)

	<u>Historical</u>	<u>Restated to 12-31-72 \$'s</u>	<u>Restated to 12-31-73 \$'s</u>
Equity capital, January 31, 1972	\$16,929	\$17,753	\$19,049
Net income	3,472	2,946	3,161
Dividends	<u>(1,962)</u>	<u>(1,972)</u>	<u>(2,116)</u>
Balance, January 31, 1973	\$18,439	<u>\$18,727</u>	\$20,094
Net income	3,842		2,621
Dividends	<u>(1,962)</u>		<u>(1,991)</u>
Balance, January 31, 1974	<u>\$20,319</u>		<u>\$20,724</u>

CHAPTER VI  
SHELL OIL COMPANY

1) General background:

The SHELL OIL COMPANY is our second example of a company that has attempted a complete adjustment to its financial statements by taking into account the general price-level changes. However, its situation is quite different from the situation of FIRST TRUST (Chapter V) because of its totally different assets structure. In its case the traditional problems of inventory valuation and fixed assets depreciation (cf. Chapter I) become highly relevant, while issues related to monetary assets and liabilities still remain important for a company of such a size. From this point of view, this case is considered as a typical 'intermediary' example between two extremes: ESTATE COMPANY where most assets were fixed and FIRST TRUST BANK where most assets were monetary.

These restated financial statements are understood by SHELL OIL not only as a way of providing more accurate information about their performance, but also as a tool for helping understand some public policy issues. In their opinion, these reports show that the Company made "true savings to the consumer" possible because in real terms their unit revenues for refined

product sales decreased by 15% from 1953 to 1974, excluding the passthrough of increased costs of purchased crude oil in 1973 and 1974. Although this type of conclusion could be highly argued about (are they really responsible for the 15% decrease or is it due to the fact that crude oil prices did not keep pace with western inflation until 1973?), it shows one merit of an inflation system: provide some more 'objective' information that can then be used for comments or conclusions.

Finally, let us note that, as the subsidiary of a European oil giant incorporated in a European country where inflation accounting methods have enjoyed interesting developments, SHELL OIL had some strong corporate incentive for implementing some price-level adjustments in their financial statements.

## 2) Approach and methods used:

The method used by SHELL OIL COMPANY is the General Price Level method, with the exception of the treatment of deferred taxes, as we will describe below. It is therefore only a restatement of historical financial figures according to the purchasing power loss of the dollar and, as it is pointed out by the Company in its 1976 Financial Report "the amounts shown, therefore, do not purport to represent appraised value, replacement cost, or any measure of the current value of assets". Moreover,

commenting on the recent SEC regulation requiring certain companies to disclose some replacement cost figures, SHELL OIL's opinion is that "such information should not be included in the Annual Report because of its imprecise nature considering the numerous assumptions and subjective judgements which must be made in the compilation of replacement cost data; GPL adjustments provide relevant information about the current economics of its business in an inflationary economy". Consequently, replacement cost data are only published in the 10-K Form filed with SEC.

This is a very interesting position and it can be considered as quite representative of the reluctance felt by big companies toward current value adjustments because of the factors pointed out in Chapter I. Again it is an example of how the specificity of their industry or business (here size, diversity and geographically spread operations implying extreme difficulty of current value estimations) leads various companies to have very different opinions about the type of adjustment system they need and the degree of its implementation.

Let us now analyze more specifically how inflation distortions are brought to light by SHELL OIL's adjustment system. Exhibits 6-1 and 6-2 provide historical and adjusted data (in December 31, 1976 dollars) for the years 1972 to 1976 for selected financial items.

## a) Fixed assets and depreciation:

The treatment of fixed assets and depreciation is traditional: historical costs of fixed assets are adjusted according to the GNP deflator, their depreciation expense for the year is computed from this adjusted figure. The result gives a depreciation expense that is each year about 30% higher than the historical cost depreciation: this does correspond to the objective most manufacturing companies assign to inflation adjustment systems. On the other hand, the effect on fixed assets valuation can be argued: to adjust them only according to changes in the value of the monetary unit does not say anything about possible changes in their real value. This is one of the shortcomings of using an approach that puts aside any notion of current value; although the now required replacement cost data were not available when this was written, one can expect significant differences between these figures and 'adjusted' figures based on the GPL method. As the fixed assets are not immaterial in the case of the SHELL OIL (as they were in the case of a bank like FIRST TRUST), this problem is a real issue and this company does not seem to direct its efforts toward attempting to solve it.

## b) Monetary items:

Monetary items are treated according to the guidelines of the GPL method. The result is a net monetary gain that is quite substantial (between 10 to 15% adjusted net income) and

corresponds to the traditional debt structure of manufacturing firms. Two elements are worth noting:

First the breakdown between inflation effect on long term debt and on other monetary items: it enables the analyst to separate the long-term hedging against inflation from short-term variations in non-inventory working capital items. In particular it is possible to see the relationship between the gain on long-term debt and the interest and discount amortization expenses: for example in 1976 monetary gain (\$65 millions) covered 81% of the interest expense (\$80 millions).

Second the treatment of deferred income taxes: departing from APB Statement n<sup>o</sup> 3 about price-level adjusted statements, SHELL OIL considers them as a monetary item "because it believes that when reversals of such tax differences take place, they give rise immediately to taxable income and to additional taxes payable in current dollars at that time". This treatment seems quite logical (and is endorsed by SHELL's public auditors), although it contradicts APB's position which wants deferred taxes to be considered as non-monetary items.

c) Profits:

The final effect on profits seems to be less important than one could expect: a difference of about 15% between historical and adjusted profits. This is due to the fact that gains on monetary items cancel out higher depreciation and amortization

expenses. For this reason it is very important to point out that inflation distortions can be quite substantial on individual items while they are much milder on the aggregate figures.

An example of this is the return on stockholders' equity which dropped in 1976 from 18% to 10% after adjustment, or the return to net capital (equity plus long-term debt) which dropped from 15% to 9%. The same remarks can be made about 1972 to 1975 statements.

d) Dividends:

SHELL OIL states that their adjustments system (implemented since 1972) was an important factor in their decision to decrease the dividend pay-out ratio in 1973 and 1974

	1972	1973	1974	1975	1976
Dividends pay-out ratio (Historical)	62%	49%	27%	34%	27%
(Adjusted)	86%	55%	27%	41%	33%

These figures show that in 1972 they were almost on the verge of distributing capital back to their sockholders. However, they clearly became aware of the distortions brought about by inflation and decided a sharp decline of the dividend payments. This can be considered as one of the pay-offs of this type of adjustment systems.

e) Taxes:

Another use of this type of adjustment system is to find out



what was the effective tax rate compared with the official one. However, because in the aggregate the distortions on net income were not extremely high, this difference does not trigger the usual alarm about comparing being unfairly taxed according to the present system.

	1976	1975	1974
Historical tax-rate	52%	58%	71%
Effective tax-rate	57%	62%	68%

Summarily SHELL OIL has set up an adjustment system that enables them to assess quite well the impact of inflation on their business provided they pay careful attention to individual distortions on specific items rather than aggregate distortions. One of the drawbacks, however, is that there is no attempt at obtaining some measurement of the current value of their assets. Moreover SHELL has adopted the arguable attitude of considering such current value adjustments as useless, claiming purchasing power conversions are sufficient to bring about inflation effects into light.

EXHIBIT 6-1

HISTORICAL vs END OF YEAR \$ DATA

1. Summary Income Statement

	1976		1975		1974	
	<u>Historical</u>	<u>EOY\$</u> *	<u>Historical</u>	<u>EOY\$</u> *	<u>Historical</u>	<u>EOY\$</u> *
Revenues	9,309	9,495	8,224	8,414	8,867	8,493
Depreciation, depletion	639	833	597	739	654	503
Taxes	780	796	706	723	1,320	1,265
Interest and discount amortization	79	80	71	73	64	61
Other expenses	<u>7,105</u>	<u>7,263</u>	<u>6,335</u>	<u>6,493</u>	<u>6,317</u>	<u>6,044</u>
Income before gain or loss on monetary items	706	523	515	386	512	621
Gain on long-term debt	-	65	-	68	117	-
Gain (loss) on other items	-	5	-	(16)	(5)	-
Net Income	<u>706</u>	<u>593</u>	<u>515</u>	<u>438</u>	<u>621</u>	<u>512</u>

\* EOY\$: end of year dollars

2. Summary Balance Sheet (selected items)

	1976		1975		1974	
	<u>Historical</u>	<u>EOY\$</u>	<u>Historical</u>	<u>EOY\$</u>	<u>Historical</u>	<u>EOY\$</u>
Current assets	2,465	2,615	2,475	2,593	2,072	2,162
Properties, plant & equip.	5,082	6,650	4,389	5,828	3,905	5,147
Current liabilities	1,653	1,653	1,530	1,530	1,273	1,273
Long-term debt	1,175	1,175	1,202	1,202	977	977
Deferred income taxes	417	417	367	367	320	320
Shareholders' equity	4,591	6,348	3,912	5,495	3,560	4,911

EXHIBIT 6-2

FIVE-YEAR SURVEY - END OF 1976 DOLLARS (millions)

1. Summary Income Statement

	1976	1975	1974	1973	1972
Revenues	9,495	8,885	9,042	6,375	5,593
Depreciation, depletion	833	781	735	704	658
Taxes	796	763	563	332	298
Interest + discount amort.	80	77	71	79	81
Other expenses	<u>7,263</u>	<u>6,857</u>	<u>7,099</u>	<u>4,973</u>	<u>9,344</u>
Income before monetary gain	523	407	574	287	212
Gain on long-term debt	65	72	131	93	41
Gain (loss) on other items	<u>5</u>	<u>(17)</u>	<u>(5)</u>	<u>(5)</u>	<u>3</u>
Net Income	593	462	700	375	256

2. Summary Balance Sheet

	1976	1975	1974	1973	1972
Current assets	2,615	2,738	2,429	2,195	2,163
Property, plant & equip.	6,650	6,154	5,782	5,513	5,532
Current liabilities	1,653	1,616	1,430	1,233	1,251
Long-term debt	1,175	1,269	1,097	1,257	1,382
Deferred income taxes	417	388	360	382	395
Shareholders' equity	6,348	5,803	5,518	5,029	4,862

CHAPTER VII  
LORENTZ NEWSPAPERS

This case can be considered as a variation of the BRENTON HOSPITAL case, as far as the approach is concerned with the difference that management motivation made these attempts at price-level adjustment quite successful, although incomplete and even arguable in the form they took.

LORENTZ COMPANY operates a chain of newspapers in Illinois through two subsidiaries, Superior Newspapers, Inc. and Southern Publications, Inc. The ownership is closely held by the members of two Chicago families and management has close links with these families.

The inflation burden is considered as having been particularly heavy on press businesses because the cost of paper and related products increased much more than the general price-level. Another component not to be underestimated is the unusual amount of income cashed before it is earned that is represented by subscriptions paid in advance: this corresponds to the opposite of the usual situation where costs precede revenues (and consequently inflation has the effect of understating costs); in this case costs follow revenues (for subscriptions) and -- other things being equal -- inflation adjustment would have the unusual effect of increasing profits rather than decreasing them, as it is usually the case. However this is

largely overshadowed by the traditional understatement of depreciation charges in historical cost based statements for companies having rather high proportion of fixed assets: this is the case of a newspaper business (net plant and equipment at cost represent 71% of total assets) and it is therefore logical that as early as in the late fifties the management of LORENTZ undertook the implementation of a depreciation adjustment system.

1) Approach used:

Two periods are to be distinguished in this very early attempt at taking inflation into account in financial statements:

a) Before 1963 (when they hired a public auditor for the first time), LORENTZ NEWSPAPERS had designed a kind of 'rule-of-thumb' adjustment system for depreciation expenses: a set mark-up percentage was applied to the historical cost of buildings, presses and some other fixed assets, then depreciation was computed from this modified initial cost. The mark-up percentage was a fair guess subjectively combining both inflation rates since the acquisition of the assets and some estimate of its value now; it could be therefore considered as a nice spontaneous mixture of the General Price Level Method and the Current Value Method for inflation accounting. If the technical approach can therefore present some drawbacks due to

its subjectivity (in addition to this there was some inconsistency in the fact that adjustments were made only for the parent company, but not for the two subsidiaries), there is no doubt that management had a sound awareness of the issues involved. In a meeting with their auditors before this early system was modified, they pointed out as the main objectives of their initiatives:

(i) Fairly present the true results of operations (expense) during an inflationary period.

(ii) Minimize the possibility that the Internal Revenue Service would assert as unreasonable the accumulation of earnings when there was, in fact, no such accumulation on an economic basis.

(iii) Avoid showing as available for dividends amounts which were, in fact, returns of capital.

This summarizes the three traditional issues of inflation accounting: understatement of costs, unfair taxation, unrealistic dividends. It does overlook less well understood issues (at least at this time) about gain (or loss) on monetary items or current value assessments.

b) In 1963, a public auditing firm took over and proposed some modifications to this system: the historical cost was revaluated according to the evolution of the Consumer Price Index and a corresponding "fair value depreciation expense" was computed on the adjusted cost. Then the following

arguable accounting treatment took place:

(i) No adjustment was made on the balance sheet value of the fixed assets, still carried at cost. Only the 'historical' portion of the adjusted depreciation allowance was charged to this historical cost. Consequently, the fixed assets account are not affected at all by the adjustments.

(ii) The other portion of the depreciation allowance ("fair value depreciation") is credited to a special account called "capital retained for fair value depreciation" part of the stockholder equity.

(iii) The total depreciation expense is charged to net income in the income statement.

For instance as evidenced in the balance sheet and income statement provided in Exhibits 7-1 and 7-2 the depreciation expense for \$183,000 was credited partly to the 'reserves for depreciation on cost' (for (\$143,000) and partly to the 'capital retained for fair value depreciation' (for \$40,000). Plant and equipment acquisition value was carried at its historical worth, namely \$3,179,000.

## 2) Consequences:

This approach has the following consequences:

a) It has some effect in diminishing inflation distortions on net income due to depreciation. However it does

not take into account some effects that can be quite substantial:

(i) Current cost of inventory (especially important because of the roaring paper price inflation we mentioned earlier). This ends up in an understatement of the cost of goods sold (included in 'other expenses').

(ii) Inflation gains on the pre-paid subscriptions.

(iii) Inflation losses on holding net monetary assets: as LORENTZ does not have any long-term debt, its net monetary assets equal its working capital and this should give recognizance of a purchasing power loss.

b) On the other hand it has no effect at all on the balance sheet, that eventually looks like if no adjustment had been made: plant and equipment is carried at cost and the charge against net income that is made every year for fair value depreciation is accumulated in a capital account, therefore leaving the aggregate shareholders' equity unchanged.

Summarily, this case can be considered as a nice early attempt for dealing with inflation distortions based on a sound understanding of the issues involved and a good commitment by management. However the technical approach and the method used can be considered as poorly devised or at least highly incomplete.



3) A side issue: the endorsement of the public auditor:

LORENTZ NEWSPAPERS' public auditor has taken a major part in the design of the adjustment system we described so far. Generally speaking the big auditing firms have been very cooperative with companies showing interest and motivation for this kind of change, as they have been convinced for a long time of the short-comings and possible deception arising from the blind application of the sacred 'generally accepted accounting principles'. Having encouraged their clients to initiate these moves, the issue was then for them: should they endorse also the adjusted figures in their statement of opinion joined to the published financial statements? In this particular case, the auditing firm did endorse them, even adding in their opinion they believed "the (generally accepted) principles should be changed with respect to depreciation so as to recognize increased price levels". Since then they backed off from such a strong statement, simply adding to their traditional wording mentioning the policy of inflation adjustments followed by their client that "it results in a fairer presentation of the results of operations".

## EXHIBIT 7-1

BALANCE SHEET (\$'000)

Current assets		2,908	
Investments, at cost		21	
Plant & equipment, at cost		3,179	
Less reserves for depreciation on cost		(1,650)	
		<u>4,458</u>	
Liabilities		1,019	
Unearned subscription income		79	
Minority interest on subsidiary		97	
Shareholders' equity			
Stock and paid-in surplus	667		
Capital retained for fair-value depreciation		874	
Retained earnings	1,809		
Treasury, at cost		(87)	
		<u>3,263</u>	
		<u>4,458</u>	

## EXHIBIT 7-2

INCOME STATEMENT ('000)

Operating income		7,825	
Operating expenses			
Provisions for depreciation			
Cost	143		
Fair value		40	
Other expenses	<u>7,016</u>		<u>7,199</u>
Income from operations		626	
Other income		111	
Federal income taxes		405	
Minority interest (including share of fair value depreciation)		<u>17</u>	
Net income		<u>315</u>	

CHAPTER VIII  
BARBER-ELLIS COMPANY

The approach described in this case concerns the use of replacement cost as an approximation of assets and liabilities current values. It is therefore totally different from the systems studied so far (except the ESTATE COMPANY, Chapter II) that aimed at taking into account the erosion of the monetary unit through inflation while still keeping historical costs as basis; here the goal is to replace the notion of historical cost by the notion of current cost (cf. Chapter I for more details).

BARBER-ELLIS, a Canadian manufacturer and merchandiser of envelopes and fine paper, started to include replacement cost based financial statements in its 1974 Annual Report. As they state it, their objective was "to bring all costs and assets values to a common point in time" and to "relate current costs with current revenues". This general wording hides the usual imprecision lying behind the expression 'current cost and current value'. Let us therefore examine in some detail the methods used to arrive at this current data and comment about their advantages and possible drawbacks.

1) Methods used:

The methods used by BARBER-ELLIS differ according to the type of tangible asset that was revalued (no value analysis done as far as monetary items are concerned). The 1974 financial statements are presented in Exhibits 8-1 and 8-2.

a) Property plant:

The current value assigned to property and plant was obtained through appraisals made by independent surveyors assessing the "replacement cost of facilities with similar productive capacities". When these appraisals were made before fiscal year-end, the values were adjusted to reflect the change of a non-residential construction price index developed by Statistics Canada. Although it is claimed that such a method enables one to discard totally the notion of historical cost, it is difficult to imagine how such a 'replacement cost' was arrived at without considering some elements of historical cost. The very notion of replacement cost of an asset implies some possible reproductibility that does not exist for a plant. Consequently, it is very likely that the replacement cost of a plant is assessed by considering the elements of cost included in the historical figure and finding out what they would be currently. From this viewpoint the difference with an assessment simply using a specific inflation index is likely to be very small (Of course this remark does not apply when current value is assessed as present economic value - like in the ESTATE case, Chapter II).

Having reached the 'current replacement cost' of property and plant, depreciation is charged against revenues according to the same rates and service lives as for historical accounting: 5% for buildings and 20% for plant. This results in 1974 in a depreciation expense approximately 40% higher than conventional depreciation. This adjustment is quite substantial and greater than any depreciation adjustment in the other cases we have analyzed.

b) Equipment:

Machines and equipment are valued according to recent suppliers' prices and estimates made by an equipment supplier. This can be considered as a good approximation of the replacement cost of this particular type of asset and little subjectivity is involved in this process. Depreciation is then computed from this adjusted figure using a 20% annual rate.

c) Inventories:

Replacement cost for inventories is based on current material prices and current labor costs. This only involves an internal computation and no outside appraisal. Inventory is then valued at the lower of current replacement cost and net realizable value. Consequently the cost of goods sold is defined as their current value at the time of sale. As evidenced in Exhibits 8-1 and 8-2 this does not bring about major changes in the balance sheet and income statement: inventories are adjusted 2% upward, as well as the cost of products sold.

This situation can be considered to be caused by a high inventory turnover (products stay 14 days in inventory on average) and therefore a low inflation effect. In such a case the necessity of such a revaluation (considering the cost of recomputing current value figures) can be challenged.

d) Profits:

No other adjustment is made to arrive at the profit figure. Earnings before taxes are 20% lower after current value conversion; the effective tax rate appears to be 60% instead of 47%; the dividend pay-out ratio 49% instead of 30%. These changes are pointed out insistently in BARBER-ELLIS' financial statements because parallelly the adjusted profits show an increase from 1973 to 1974 that can be interpreted as an index of better performance; consequently BARBER-ELLIS' management had an easy task in stressing how these nice profits were excessively given away under the form of too high taxes and cash dividends. This adjustment system raises however some important issues.

2) Issues:

Only distortions that were unfavorable to the business were dealt with in this type of system, namely understated depreciation and cost of goods sold. The following problems were approached much more loosely:

## a) Monetary items:

BARBER-ELLIS' position is that historical cost also represents the current value of monetary items for business and therefore no inflation effect is to be considered. This position is perfectly sound as far as stock data are concerned: monetary items (cash, securities, investments, accounts receivable or any debt obligation) are worth what dollar figure is printed on them. However this conceals an inflation effect concerning flow data: namely the change in purchasing power of the dollar has in fact resulted in a monetary gain or loss according to the net monetary position. The question 'should we recognize this gain or loss now or upon realization?' is another issue (cf. FIRST TRUST case, Chapter V, for a bank or INDIANA TELEPHONE, chapter IX, for a utility company) that should not be mixed with the first one. It seems BARBER-ELLIS was wrong in its treatment of monetary items.

## b) Goodwill:

Goodwill was suppressed in the current value statements; this corresponds to a policy of BARBER-ELLIS auditors stating that "the purpose of financial statements is to portray not the value of the entity but the value of existing resources and obligations". This means that if some goodwill still exists after current value adjustments, it corresponds to some intangible that should not be carried in the financial statements. The problem is that this intangible took the form of hard cash

when the parent company acquired its subsidiary; it is therefore arguable to wipe it out as having no relationship whatsoever with current replacement value.

### 3) Lessons from the case:

This case provides interesting insights about the difficulty of implementing a replacement cost adjustment system and the issues such an approach can raise. In addition to the valuation problem (appraised? suppliers prices?), there is a great danger of overlooking the main impact of inflation on financial statements: the deceiving impression that the monetary unit used has a constant value. If this distortion is cancelled by the current value assessment of tangible assets, it still remains as far as intangible and monetary items are concerned. We are therefore quite unsure this system provides a complete way of dealing with inflation distortions in financial statements.



## EXHIBIT 8-1

BARBER-ELLIS OF CANADA, LIMITEDCURRENT REPLACEMENT COST BALANCE SHEET  
AS AT DECEMBER 31, 1974

<u>Assets</u>			<u>Liabilities</u>		
	<u>Current Replacement Cost</u>	<u>Historical Cost</u>		<u>Current Replacement Cost</u>	<u>Historical Cost</u>
Current:			Current:		
Cash	\$ 29,783	\$ 29,783	Bank indebtedness	\$ 7,573,983	\$ 7,573,983
Accounts receivable	12,074,945	12,074,945	Accounts payable and accrued liabilities	4,109,189	4,109,189
Inventories	10,366,804	10,117,804	Income taxes	1,296,693	1,296,693
Prepaid expenses	249,545	249,545	Dividends--preference shares	700	700
	\$22,721,077	\$22,472,077	Current portion of long-term debt	486,650	486,650
				<u>\$13,467,215</u>	<u>\$13,467,215</u>
Property, plant and equipment	\$15,164,198	\$11,261,927	Deferred income taxes	\$ 278,362	\$ 278,362
Accumulated depreciation	(8,074,486)	(5,817,772)	Long-term debt	4,133,650	4,133,650
Unamortized excess of purchase price of subsidiaries over fair value of net assets acquired	-	816,067		<u>\$17,879,227</u>	<u>\$17,879,227</u>
	<u>\$29,810,789</u>	<u>\$28,732,299</u>	<u>Shareholders' equity</u>		
			Capital Stock	\$ 565,705	\$ 565,705
			Contributed surplus	45,000	45,000
			Retained earnings	7,001,653	10,242,367
			Revaluation surplus	4,319,204	-
				<u>\$29,810,789</u>	<u>\$28,732,299</u>

## EXHIBIT 8-2

BARBER-ELLIS OF CANADA, LIMITED

CURRENT REPLACEMENT COST STATEMENT OF EARNINGS  
AND RETAINED EARNINGS  
FOR THE YEAR ENDED DECEMBER 31, 1974

	<u>Current Replacement Cost</u>	<u>Historical Cost</u>
Net Sales	\$69,058,300	\$69,058,300
Costs and Expenses		
Cost of products sold	\$69,373,580	\$50,389,580
Selling, general and administration	10,705,281	10,705,281
Depreciation and amortization	1,095,567	786,969
Interest--long-term debt	381,884	381,884
Interest-- current	590,284	590,284
	<u>\$64,146,596</u>	<u>\$62,853,998</u>
Earnings before income taxes	\$ 4,911,704	\$ 6,204,302
Provision for income taxes	2,927,442	2,927,442
Net earnings	\$ 1,984,262	\$ 3,276,860
Retained earnings, beginning of year	7,939,344	7,939,344
	<u>\$ 9,923,606</u>	<u>\$11,216,204</u>
Adjustment of prior years' depreciation on current replacement cost of plant and equipment	\$ 1,948,116	-
Dividends	973,837	\$ 973,837
Retained earnings, End of Year	\$ 7,001,653	\$10,212,367

CHAPTER IX  
INDIANA TELEPHONE CORPORATION

INDIANA TELEPHONE CORPORATION can be considered as one of the very few companies in the United State that has an experience in dealing with inflation distortions in financial statements dating back to as early as 1954, when they published their first parallel report on an inflation adjusted basis.

1) General background.

This long experience results in an awareness of inflation-related problems affecting their business that is particularly conspicuous in the way their financial statements are presented: a long introduction by the president devotes more than three pages to an analysis of their position and at the end of the statement a memorandum called "Inflation and Regulated Industry" summarizes the major impacts changing prices have on INDIANA TELEPHONE's business. Moreover, these analyses are not made from the strict accounting viewpoint: they clearly define the Company's position about how it understands the causes of inflation and even how it thinks it could be cured. Our point is not to discuss if such an opinion is sound or not, but to point out that, in this case, the accounting adjustment system they implemented is part of a broader scheme and is related to a more extensive analysis than usually found in

companies, at least in the sample studied here. As a matter of fact, there is a lot to argue about in INDIANA TELEPHONE's position concerning the macro-economic causes and possible cures of inflation: basically their view is a monetary view stating that increase in the money supply by Government selling bonds to the Federal Reserve Board instead of the free market is the one and only cause of inflation; consequently their proposed cure is a decrease in Federal spending, or at least no financing of the debt through the Federal Reserve System. As they say, "There is only one way to stop or slow down inflation: that is for the Government to stop monetizing its deficit and to let the market control the money supply." This overall opinion about inflation macro-economics leads INDIANA TELEPHONE to a very clear and thoughtful assessment of (a) the specific impact of inflation on their types of industry (b) the type of adjustment needed for their financial report system.

a) Inflation and the Regulated Industry:  
INDIANA TELEPHONE argues (quite rightly) that their type of business is the most severely hit by inflation. For two sets of grounds:

-- the price of their services is not decided by the market but by a state regulatory commission. For various reasons (political, social or simply lack of awareness of the impact of inflation on public utilities) these

commissions tend to set prices that are below the level that would be determined by free market mechanisms. Consequently, these prices do not reflect the real cost (especially capital cost) of running this type of business. From INDIANA TELEPHONE viewpoint, such a situation not only is damaging for themselves, but also deceives the public and in the long run users also are losers. As they point out bluntly, "As the users of Penn Central services are discovering, it is hard to get service from a bankrupt company."

-- the inflation impact on such a company is multiplied by its high proportion of fixed assets as a very capital-intensive industry: each dollar of sales requires \$2.25 of fixed plant for INDIANA TELEPHONE (only \$.22 for GENERAL MOTORS for example). Therefore depreciation expenses based on historical costs bring about a particularly substantial distortion in the profit figures. Let us mention that even the Indiana Regulatory Commission has some awareness of this problem, as its public utility rates are defined according to some 'fair value' of the capital assets used; INDIANA TELEPHONE's view is that there is no relation between this so-called fair value and the true adjusted value of their fixed assets.

b) Type of adjustment system needed:

As the basic position of INDIANA TELEPHONE is that inflation is due to an increase in the money supply and price rises are only a consequence of this, they make the point that current

value accounting (that incorporates any price rises) is not an adequate system for reflecting inflation impacts on financial figures. Namely because some price rises can be also due to supply and demand phenomena that, in Indiana's view, have nothing to do with inflation. Again we do not want to assess whether this opinion is right (how would INDIANA TELEPHONE executives call excess of aggregate demand over available supply?), but simply point out that the way they split up inflationary and non-inflationary price increases leads them to discard current value accounting as a relevant way for coping with inflation distortions exclusively.

Consequently, the adjustments they have implemented are of the General Purchasing Power Accounting type, with the variations described below. Its aim is at converting all figures in a common monetary unit -- the end of current year dollar -- through the use of a general index, namely the Gross National Product Price Deflator in this case. They claim that "the use of specific indexes would tend to confuse the user of financial statements" and therefore should not be undertaken.

Altogether, INDIANA TELEPHONE has carried out a very extensive and motivated analysis. Let us now look at their adjustment system in a more detailed way.

## 2) Approach and methods used:

The approach and methods used are a straightforward application of the GPLA procedure: fixed assets are revalued according to the GNP deflator and depreciation charged on this adjusted amount according to a 6.3% straight line rate (16 years average service life). The result is, as it could be expected, a 44% jump of the depreciation expense from the historical figure. Monetary items give rise to holding losses of 141,472 current dollars. Altogether profit decreases by about 1 million current dollars. More detailed figures can be found in Exhibits 9-1 and 9-2. As usual, these adjusted figures are used by INDIANA TELEPHONE management to point out the unfairness of taxation (according to them, "the Government has condemned and confiscated during the last ten years over \$2,771,000 (in terms of dollars of the years in which these taxes were paid) of the assets of the Corporation through taxation of overstated earnings.") and the excessiveness of dividend payments. This has been already described in other cases (SHELL OIL, for example) and we will rather focus now on the way INDIANA TELEPHONE treated monetary gains on long-term debt and preferred stock, which departs from the method advised by the Accounting Principles Board in its statement n<sup>o</sup> 3.

- Treatment of long-term debt monetary gains:

As we mentioned in Part I, there are three possible treatments of the monetary gains on long-term debt: (1) either they should be reflected in current income (position of the FASB)

(2) or they should be treated as adjustments of the fixed assets acquired from the sale of long-term bonds (3) or these gains should be deferred until this debt is retired and not refinanced. This third position is the one adopted by INDIANA TELEPHONE and it is quite well argued: they discard the first treatment on the grounds that "it would require current reporting of earnings, which may be illusory, as if they were fully realized"; this would have a devastating effect on investors (expecting higher dividends), users (expecting lower rates) and employees (expecting higher wages). The second alternative is rejected because "it assumes that the assets and the debt used to purchase the assets will be specifically related. Actually, the term of the debt will only by coincidence be the same as the life of the investment." On the other hand, the third alternative reflects the fact that "gains or losses on long-term debt are known only when the debt is retired and not refinanced"; consequently they should be recognized only at this time. The figure provided in their 1974 Income Statement therefore only refers to the long-term debt retired in 1974 (\$74,195 gain).

Summarily, INDIANA TELEPHONE is a very comprehensive example denoting a very thoughtful and carefully planned analysis of inflation distortions, even if some of their conclusions cannot be considered as definitive answers to some particularly sensitive points.



EXHIBIT 9-1  
INDIANA TELEPHONE CORPORATION  
1974 BALANCE SHEET\*  
ASSETS ('000)

	<u>Historical Basis</u>		<u>Adjusted Basis</u>	
Telephone plant	56,649		80,181	
less Accumulated Depreciation	<u>(18,606)</u>	38,043	<u>(28,586)</u>	51,596
Plant under construction		3,060		3,200
Goodwill		<u>140</u>		<u>(219)</u>
		41,243		54,576
Working Capital:				
Current Assets:				
Cash and cash investments	3,642		3,642	
Accounts receivable, net	1,798		1,798	
Materials & Supplies	1,766		1,937	
Other	<u>147</u>	7,353	<u>153</u>	7,530
Current liabilities:		(7,280)		(7,280)
Deferred Federal Income taxes and other items		<u>(2,734)</u>		<u>(3,619)</u>
		<u>38,581</u>		<u>51,206</u>

\* Adding discrepancies are due to rounding.

EXHIBIT 9-1 (Cont'd)

CAPITAL ('000)

	<u>Historical Basis</u>	<u>Adjusted Basis</u>
Long-Term Debt	21,232	21,232
Preferred Stock	1,758	1,758
Shareholders' equity		
Common Stock	9,842	13,919
Treasury Stock and	(5)	(10)
Stock Discount	(74)	(144)
Retained earnings	<u>5,828</u>	<u>1,633</u>
	15,590	15,397
Unrealized Effects of Price-Level Change	<u>--</u>	<u>12,818</u>
	<u>38,581</u>	<u>51,206</u>

## EXHIBIT 9-2

INDIANA TELEPHONE CORPORATION  
1974 INCOME STATEMENT \* ('000)

	<u>Historical Basis</u>		<u>Adjusted Basis</u>	
Operating Revenues		13,506		14,123
Operating Expenses				
Depreciation	2,632		3,783	
Federal Income Taxes	1,659		1,715	
Other	<u>6,441</u>	<u>10,732</u>	<u>6,755</u>	<u>12,253</u>
Operating Income:		2,775		1,871
Other expenses (Income)				
Interest on long-term debt	886		926	
Other (summarized)	(135)		(152)	
Price-level gain from retirement of long-term debt and preferred stock	--		(82)	
Price-level loss from monetary items	<u>--</u>	<u>751</u>	<u>141</u>	<u>833</u>
Net Income:		<u><u>2,023</u></u>		<u><u>1,037</u></u>

\* Adding discrepancies are due to roundings.

## CONCLUSION

As we mentioned at the beginning of this study, its purpose was to take a practical approach to a problem that had been too often treated in terms of generalities, theory and made up examples. Consequently, we do not claim to draw any broad conclusion from these cases that could be generally applicable: the sample is too small and has been chosen so that it covers equally the business spectrum rather than according to the relative importance of different types of businesses. However, we could like to stress briefly some of the particularly emerging points.

First the adjustment system we have examined were very much directed to specific needs of the different companies:

a) capital intensive companies like SHELL OIL and INDIANA TELEPHONE essentially stress distortions affecting depreciation and (for SHELL) inventory. Their treatment of monetary items is quite conservative, as they feel that full purchasing power adjustments (for long-term debt for instance) does not correspond to their real needs in terms of performance evaluation improvements.

b) companies like INVESTA or FIRST TRUST BANK on the other hand put much emphasis on adjustments on monetary items, since these are the ones whose distortion through

inflation ends up in a wrong assessment of their performance.

c) the approach of a company like ESTATE is radically different: its concern is the current value of its own property and an adjustment system considering the general purchasing power loss of the dollar is not sufficient in this case. Consequently a fairly sophisticated system aiming at computing the present economic value of these properties was implemented.

Second all cases stress how important management commitment was for successfully implementing these adjustment systems and effectively interpreting the adjusted data. The success of ESTATE COMPANY or INDIANA TELEPHONE CORPORATION can be surely attributed to this commitment; on the other hand the relative failure of BRENTON HOSPITAL and LORENTZ NEWSPAPER is due to a wrong approach by management or too much reliance on their auditors.

Finally it seems that the gap between proponents of the two new accounting methods is quite wide: companies like SHELL OIL or INDIANA TELEPHONE consider replacement cost accounting as something unrealistic, biased and anyway unfeasible while BARBER-ELLIS thinks it is the only good alternative to current historical cost accounting. Moreover, no company has implemented any adjustment system that exactly matches proposals made

by the various accounting circles: some are radically different (like ESTATE COMPANY), other depart from these rules on one or two items (mostly the treatment of long-term debt) but such companies consider their method for these particular items as the only right and relevant one and are very unlikely to give it up unless the SEC or APB rules become mandatory which, in our opinion and considering the current actual situation, is not likely to happen in a very near future...

## SELECTIVE BIBLIOGRAPHY

American Institute of Certified Public Accountants, Reporting the Financial Effects of Price-Level Changes, Accounting Research Study n<sup>o</sup> 6, New York, 1963.

Casey, R., Adjustment of Accounting Earnings for Inflation, Master's thesis, 1975.

Davidson, S., Inflation Accounting: a Guide, 1976.

FASB, Exposure Draft, Proposed Statement of Financial Accounting Standards, Financial Reportin in Units of General Purchasing Power, FASB, Stamford, Dec. 31, 1974.

F.E.P. Sandilands. Report of the Inflation Accounting Committee, London, 1975.

Huntley, P., The effect of inflation uncertainty on the corporate investment decision, Master's thesis, 1971.

Jones, R., Effects of Price-Level Changes on Business Income, Capital and Taxes, Columbus, Ohio, American Accounting Association, 1956.

\_\_\_\_\_, Price-Level Changes and Financial Statements, Case studies of four companies, Columbus, Ohio, AAA, 1955.

Kirkman, P., Accounting under inflationary conditions, 1975.

- Lara, C., Financial Management in Hyperinflationary Economics: the Argentine Case, Master's thesis, 1968.
- Largay, J., Accounting for changing prices: replacement cost and general price-level adjustments, 1976.
- Mason, P. e., Price-Level Changes and Financial Statements, Columbus, Ohio, AAA, 1956.
- Mathews, R., Inflation and Company Finance, 1962.
- Morris, R., The impact of inflation on financial reporting and decision-making. In: Management under inflation, London, Economic intelligence unit, 1975. Hg 229.M3 Biblio.
- Olavarria, C., Investment in fixed assets under hyperinflation, Master's thesis, 1965 (Chile).
- Ross, H., Financial statements: a crusade for current values, 1969.
- Schift, E., Inflation and earning power of depreciable assets, 1974.
- SEC, Replacement Cost Accounting, Accounting Series, Release 190, Washington, 1976.
- Shapiro, S., Financial Accounting in an Era of Inflation, Master's thesis, 1975.



Symonds, C., Managing Profits under Inflation, 1974.

Terborgh, G., Accelerated depreciation as an offset to inflation, 1970.

\_\_\_\_\_, Underdepreciation from inflation: a ghost return, 1969.

From Harvard Business Review

Anthony, R., A case for historical cost, HBR 76-6

Vancil, R., Get ready for price-level adjusted Accounting, HBR 75-2.

\_\_\_\_\_, Inflation Accounting. The Great Controversy. HBR 76-2

Weston F., Adjust your accounting for inflation, HBR 75-1.