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11 Inflation, Corporate Profits, and the Rate of Return to Capital

Jeremy I. Bulow and John B. Shoven

11.1 Introduction

In the 1960s and 1970s the United States experienced a substantial increase in both the rate of inflation and the variance of this rate. This fact has made conventional nominal financial accounts difficult to interpret, and it has made accounting for inflation and changing prices an important subject for both economists and accountants. Assertions have been made that distorted inventory profits and the failure to index depreciation allowances for inflation have caused reported corporate profit figures to be exaggerated and have increased the tax rate on real corporate earnings. The results of this paper show that this view was predicated on incomplete adjustments for inflation, and our real profit measures contradict the commonly held conclusion that profits have been overstated. If one wants to calculate complete and consistent inflation-adjusted accounts, the liabilities of the firm must be included in the process in addition to the tangible assets which receive the most attention.

In this paper we briefly discuss the value of adjusting profit figures for inflation and describe two alternative approaches (one based on balance sheets and the other on income statements). We discuss the individual factors involved and describe the supplementary inflation accounting information now being required by the Financial Accounting Standards Board (FASB) and the Securities and Exchange Commission (SEC). These reporting requirements will soon vastly increase the amount known about how inflation has affected large American corporations since 1975. The

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full impact of the requirements is effective with the 1980 annual reports, which must include a summary of five years' worth of inflation adjustments. Given that the "micro" information is in a state of flux and rapidly improving, we concentrate in this paper on presenting a macro-time series of the aggregate importance of these adjustments for nonfinancial corporations. In doing so, we utilize the as yet unpublished aggregate balance sheets recently compiled by the Flow of Funds division of the Board of Governors, Federal Reserve System.¹ A time series of balance sheets is available from 1946 to 1979 for the household sector, the financial sector, and the nonfinancial corporate sector. We compute several alternative measures of nonfinancial corporate profits, present estimates of the return to corporations, tabulate the effective average corporate tax rate, and derive a new series for q , the ratio of the market value to replacement cost of capital. We conclude with a summary of our findings.

11.2 Why Adjust Corporate Accounts?

Adjusting corporate profits for inflation is important for at least three reasons. First, inflation accounting may entail supplemental disclosures on the part of the firm. Such disclosures may provide valuable new information about the status of corporate operations. This may be useful as a guide to investment allocation, in assessing management performance, and, in aggregate, in determining the state of the economy and the distribution of income. Second, adjustments to already available data may make such information more usable and understandable. This assemblage of already available data serves the same purpose as presenting historical accounting data in balance sheet, income statement, and sources and uses of funds formats, rather than serving just as a collection of raw data. Providing data in a usable and standardized form is essential for analyzing firms. Third, in addition to helping gauge the financial status of the corporate sector, inflation accounting can be quite useful in developing policy guidelines, most obviously in the area of corporate tax policy. To date, all the required inflation accounting adjustments are purely supplementary information for book purposes. The tax base is still conventional nominal corporate net income.²

Inflation distorts not only the reported income flows of corporations but also their balance sheet entries, including the bottom line net worth figure. Revising the balance sheet statistics to reflect current prices is useful in assessing the distribution of wealth in the country. Further, the current value figures are necessary to implement most fundamental investment analysis techniques and theories of investment based on asset market equilibrium such as Brainard and Tobin's " q " theory. Their variable q is the ratio of the market value of a firm's assets (the total of the

bond and stock market value) to the replacement cost of those assets (hence, the need for inflation-adjusted figures). They logically assert that as long as this ratio exceeds unity, acquiring physical assets and selling paper claims is a profitable real investment activity which will be engaged in. On the other hand, if q is less than one, real investment is unprofitable. We compute a new series for the average q of the nonfinancial corporate sector.

11.3 Balance Sheet and Income Statement Approaches

In analyzing inflation adjustments, one can take either of two approaches. One method, the traditional one, is to emphasize the income statement, with the balance sheet serving a secondary role. With such a method, each income statement item is adjusted to calculate a total effect on profits. Some income statement procedures designed to correct for inflation (such as LIFO inventory accounting) actually make the balance sheet less reflective of current values at the same time that they improve the income figure. In the next section we review the major adjustments which are needed to comprehensively follow the income statement approach. An alternative method is to adjust the balance sheet, with the income statement being a residual. Such a method is consistent with the Haig-Simons definition of income as the change in real net worth plus net disbursements. If income statement items are each adjusted in such a way as to reflect the change in the firm's net worth, the two methods will be identical. However, we find it simpler to begin with the balance sheet method. Also, we feel that the balance sheet method makes it easier to be sure of adjusting all items in a consistent manner. None of the new inflation accounting supplemental reporting requirements of the FASB and SEC, which basically follow the income statement approach, are fully comprehensive. The SEC requirements in particular deal only with the asset side of the balance sheet. We will discuss the balance sheet approach in some detail later, treating the nonfinancial corporate sector as essentially one firm. The real income of that sector is calculated there using the balance sheet residual approach.

11.4 Major Income Statement Adjustments

Because it is the way in which most of the literature approaches the subject, we will begin by discussing the major income statement adjustments. These issues were more fully detailed in our previous two articles on this subject (Shoven and Bulow 1975, 1976).

The adjustment which receives the most attention is the depreciation deduction, which reflects the effects of wear, tear, and obsolescence on the value of the firm's physical assets. Conventional accounts base depre-

ciation deductions on the historical acquisition cost of the asset. The original cost of the asset is really an irrelevant number as a balance sheet entry or as the basis of an income statement adjustment. This cost is sunk and in a world of rapid inflation and relative price moves may bear little resemblance to current value or economic wealth.

Corporations deduct the historical acquisition cost over time according to the several alternative schedules which are permitted. Over the past thirty years the IRS has generally shortened the lifetime assumptions it will permit and also has accelerated the permissible schedules. Many of these changes may have been made to reflect inflationary expectations (as argued by Beaver 1979), although they offset inflation correctly only for certain firms and for a particular rate of inflation. The recent push for extreme lifetime shortening and simplification (ten-year lives for plant, five for equipment, and three for motor vehicles) certainly was fueled by the perception that inflation was eroding the value of existing original cost depreciation allowances. One feature of depreciation accounting, never fully justified, is that a firm need not use the same technique for book (i.e. annual report, SEC 10-K) and tax-reporting purposes. The usual practice is to use straight-line depreciation for book purposes and accelerated depreciation techniques for tax accounts. The difference can result in firms reporting far lower profit figures to the Treasury than to their shareholders.

Higher rates of inflation reduce the real value of depreciation deductions based on historical cost and therefore increase reported profits and taxes. In our earlier papers we showed that the magnitude of this effect was greater for firms with longer-lived assets. We also showed that if true economic depreciation followed a straight line pattern, then the accelerated original cost methods permitted could be as generous as the straight-line replacement cost for growing firms with modest rates of inflation. In general, however, the empirical analysis of that earlier work showed that inflation had reduced even tax depreciation figures below what would result from using a straight-line current cost basis.

At least three forms of inflation-adjusting depreciation allowances have been suggested. They would all be identical if relative prices remained stable and there was no technical change. The first form is termed a "general value," "constant dollar," or "general purchasing power" adjustment. With it, the original cost basis is increased according to the increase in a general measure of inflation between the present and the acquisition date. The second form of adjustment is usually termed "current cost," although terminology is not as precise in the field as would be desirable. The current cost basis of an asset is the cost of an identical asset today. To implement a current cost depreciation plan, one would use a specific price index for each type of capital asset. The final scheme is termed "replacement cost." The replacement cost of an asset is the

lowest cost of obtaining a new asset of equivalent operating capacity or productive capability. Unlike current cost, replacement cost takes technical change into account, and hence, in general, replacement cost figures will be the same as or lower than current cost figures.

In adjusting the basis from original cost to one of these figures which more closely approximate present values, one would almost certainly want to unwind the acceleration which has been permitted on tax accounts. Of course, as we already stated, to date none of the adjustments have been utilized by the tax authorities. Further, if one were trying to measure the accrual or Haig-Simons income of corporations, the proper depreciation figure would be the change in the real value of the asset. If the relative price of an asset had increased (decreased), you not only would want to raise (lower) the depreciation basis of that item, but also would record the holding gain (loss). This point will be made clearer when we discuss the balance sheet approach.

The second income statement adjustment, that involving inventory evaluation, also receives a great deal of attention. With first-in, first-out (FIFO) inventory accounting and other essentially equivalent methods, the nominal appreciation of inventoried stock is treated as part of corporate income. This is because with these techniques the cost of goods sold or utilized is taken as the cost of the oldest of the inventoried items. No account is made of the fact that the acquisition cost was in older dollars of more purchasing power. Firms are offered an alternative inventory accounting technique, last-in, first-out (LIFO), which does not record inventory appreciation as a profit. With this method the cost of goods sold or utilized is taken as the cost of the newest inventoried items (which approximates replacement cost). One drawback of LIFO is that it results in inappropriate balance sheet valuations for inventories, as items may be carried at extremely old prices. Further, if the inventory of a company appreciates in real terms (e.g. oil or gold in recent years), a reasonable argument can be made that real profits should be recorded. The LIFO system will fail to do so, while the FIFO method will report the full nominal appreciation rather than the lower real increase in value.

One of the puzzles of corporate behavior is why corporations continue to use FIFO as widely as they do. The national income and products accounts (NIPA) report the impact that universal adoption of LIFO would have on nonfinancial corporate profits in their inventory valuation adjustment (IVA) figures, and the estimate for 1979 was that reported profits would have been \$41.9 billion lower. From the Federal Reserve's current cost balance sheet we have determined the total inventory appreciation or holding gains. Table 11.1 shows that less than half of aggregate inventory appreciation is sheltered through the adoption of LIFO and that there has been no strong trend in that direction. Significantly, the IRS and SEC require consistency of inventory accounting techniques between the

Table 11.1 **Distribution of Inventory Holding Gains
between LIFO and FIFO Method Firms**

| | Revaluation of Inventories | Inventory Valuation Adjustment | LIFO Sheltered Inventory Profits |
|------|----------------------------------|--------------------------------------|---|
| 1967 | 4.0 | 1.2 | 2.7 |
| 1968 | 4.9 | 3.4 | 1.5 |
| 1969 | 9.0 | 5.5 | 3.5 |
| 1970 | 5.7 | 5.1 | 0.6 |
| 1971 | 6.8 | 5.0 | 1.8 |
| 1972 | 9.1 | 6.6 | 2.5 |
| 1973 | 29.5 | 18.6 | 10.9 |
| 1974 | 59.2 | 40.4 | 18.8 |
| 1975 | 12.5 | 12.4 | 0.1 |
| 1976 | 24.8 | 14.6 | 8.2 |
| 1977 | 23.6 | 15.2 | 8.4 |
| 1978 | 42.1 | 25.2 | 16.8 |
| 1979 | 76.0 | 41.9 | 34.0 |

annual report books and the tax accounts, so this means that, in aggregate, corporations could have lowered their 1979 tax base by \$41.9 billion and their tax bill by \$19.2 billion by adopting LIFO, assuming the marginal rate as the statutory 46%. It should be emphasized here that the choice is only a matter of what numbers to write down on these accounts; no real behavior need be altered. The bill of almost \$20 billion for the right to use FIFO seems a little steep for the explanations we offer.

Nonetheless, some attempts at explaining the preference for FIFO can be made. First, the adoption of LIFO lowers reported earnings and in the long run will make the firm's ratio of assets to liabilities appear worse (because of the lower value placed on the inventoried stock). Managers may not believe in the efficiency of financial markets in "seeing through" this. Further, a firm commonly faces constraints in its dividend and borrowing policies by the terms of its existing bonds and bank credits. These constraints may become binding sooner or with higher probability with LIFO accounting figures. Also, the management's profit sharing or bonus arrangement may well depend on reported earnings. Changing these plans to offset a new system of accounts may be institutionally difficult. Finally, it is asserted, although not documented, that LIFO is computationally more expensive than FIFO or equivalent techniques. We leave it to the reader to assess whether these factors add up to \$20 billion.

Many discussions of inflation accounting stop right here. The major categories of tangible assets have been covered (except those which do not depreciate such as land). However, the treatment of financial assets and liabilities is of equal importance.

Financial assets and liabilities (nonfinancial corporations are net debtors) undergo a change in real value under inflation via two quite different mechanisms. First, debt with the same nominal market value at the end of the year as at the beginning is less of a real liability if the general price level is higher. Another way of looking at the same thing is to recognize that the inflation premium component of the interest payments represents real debt repayment. It should be emphasized that this adjustment of adding the real depreciation of nominal liabilities to profit figures is appropriate independent of inflationary expectations. The second mechanism results from changes in nominal interest rates which may or may not be due to changes in inflationary expectations. Generally, one does expect interest rates to rise with inflationary expectations, and on average that has certainly occurred since about 1950. Changes in interest rates affect the value of long-term bonds and therefore the value of a firm's financial assets and liabilities. Because (1) most innovations in inflationary (and interest rate) expectations have been positive since about 1950 and (2) in periods when interest rates have unexpectedly fallen, bond price increases have been limited by call provisions, the market value of publicly held debt has consistently been below par value for that period. It is difficult to evaluate complex private debt agreements (e.g. some capitalized lease contracts), but qualitatively the effect has doubtless been the same.

With a Haig-Simons accrual definition of real income these changes in market value should be considered a part of income in the year they occur. Currently, they are taken into income over the life of the debt. For example, assume that debt with a par value of \$50 million falls in market value from \$50 to \$40 million over the course of a year. The reason for the fall would be that the present value of the interest payments to be made on this debt would be \$10 million less than on debt with an equal par value issued at the end of the year. The company has made a \$10 million gain at the expense of its bondholders in the sense that it can buy up its obligation (or similar obligations of other companies) for \$40 million.

Two aspects of this proposal should be clarified. First, it may seem paradoxical for the case of a fall in bond values due to a perceived deepening of default risk. Such a change may correspond to a decrease in value of the assets of the firm that clearly makes the equity holders worse off and which, under the purchasing-power-accrual concept of income, would be reported as a loss. However, to the extent that the greater risk of bankruptcy depreciates the value of the bond liabilities, some of this loss is transferred from the equity holders to the bondholders. As a result, stockholders realize a partially offsetting gain, which would be recorded as accrual income with the procedures described in this section.

Second, as with depreciation and inventory accounting, market value reporting of financial liabilities involves the timing of income (and pre-

sumably tax payments). If the bond is not repurchased prematurely, its price will return to 100 (percent of issue price).³ The net change in value will be zero, and the tax payments over the life of the bond will be the same with or without market value reporting. Firms offer many bond issues, some with rather long maturities, and the empirical data presented in our earlier papers show that the long run is long enough that the adoption of market value statements would have a sizable effect on earnings.

As has already been stated, firms do not now revise the value of their outstanding liabilities to the market level. In terms of present value, this omission is compensated for by the deduction of interest expense according to the historical coupon rate and not the market rate, but the timing of reported income diverges from that of the actual accrual of economic power. To clarify this phenomenon, consider a firm that issues a ten-year, \$10,000 bond at 4% interest. If interest rates jump to 10% immediately after the bond is issued, its market value falls to \$6,313. If the company does not repurchase this obligation, current accounting practice would have it report \$400 annual interest expense on a \$10,000 loan, \$600 less interest than what would be required at the market rate. With a 10% discount rate, the present value of this \$600 annual "saving" for the next ten years is \$3,687, exactly the amount of the drop in market value. Thus the gain is spread over the life of the obligation. With market value accounting, a \$3,687 profit would be recorded when the spurt in the interest rate occurred. If the 10% rate persists, the value of the bond would be \$6,544 after one year and \$6,798 after two. Following the extraordinary (one-shot) gain of \$3,687, the firm would report \$400 in interest and a \$231 rise in obligations the first year (for a total of \$631, or 10% of \$6,313), and \$400 plus a \$254 increase in obligations during the second year. The total debt cost would always be consistent with the market interest rate and the market value of the debt, and the profits or losses due to interest rate changes would be reported when they were experienced. Proponents of accrual accounting would argue that these calculations more accurately reflect the income flows and economic position of the business enterprise.

This second adjustment "marks to market" the nominal value of bonds and simply records a loss in value as a profit if the bond is a liability and as a loss should it be an asset. In fact, nonfinancial corporations hold few long-term financial assets, so that most of these adjustments come from financial liabilities. Also, the second type of adjustment depends on *changes* in interest rates which may occur because of *changes* in the rate of inflationary expectations and not the level of inflation, so that even the sign of the adjustment varies over time. The first adjustment to financial assets and liabilities simply converts changes in nominal values to changes

in real values. Both of these adjustments are numerically significant as will be seen in the aggregate figures we display later.⁴

While this completes the major income statement inflation adjustments, there are a couple of special items worthy of mention. These are the accounting treatment for pension liabilities and for foreign assets and liabilities. All accrued pension liabilities of a firm are nominal. Such liabilities are calculated with only the knowledge of the worker's past history with the firm and the knowledge of the term structure of nominal interest rates. Even if workers have their pensions tied to their final salary, the firm's pension obligation is still nominal—unless there is an implicit contract between the worker and the firm that provides the worker a given real *salary* (not a given level of real total compensation) in future years. For more details concerning why these liabilities are nominal, see chapter 5 of this volume, by Jeremy Bulow.

Pension fund liabilities, as very long-term corporate debts, change dramatically in value when interest rates change. As pointed out by Bulow in chapter 5, defined benefit pension plans currently hold surpluses in the tens of billions of dollars, principally because of increases in nominal interest rates.

The treatment of foreign assets and liabilities is complex and will not be dealt with here in any detail. Generally, the accrual definition of corporate income would require that foreign assets and liabilities first be stated at current value in whatever currency they are denominated, and then converted to dollars at the present exchange rate. There are a number of FASB proposals to calculate the holding gains on foreign assets, but none precisely implements this concept.

11.5 The FASB and SEC Reporting Requirements

Three types of inflation accounting data are now required of certain large firms.⁵ Two of these requirements are due to the FASB, with the final being SEC Accounting Series Release (ASR) 190. Beginning with fiscal years ending after 25 December 1979, FASB Statement No. 33 required firms to provide certain general price level financial information. For years after 25 December 1980 data must also be disclosed on a current cost basis. The SEC requires statements of costs of goods sold, depreciation, inventory, and property, plant, and equipment on the basis of replacement cost. The FASB does include the first of the two adjustments to financial assets and liabilities mentioned earlier (that is, it does reflect the fact that a liability with a fixed nominal value through time has a decreasing real value with inflation), but does not mark financial items to current market value. The SEC requirements do not apply to financial items.

The FASB general price level computation procedures are meant to adjust the value of assets and liabilities for general inflation, but not to allow for differential price movements. The Consumer Price Index for all urban consumers (CPI-U) is prescribed to measure changes in general purchasing power. This choice of index is probably unfortunate as the CPI's shortcomings have become more apparent in recent years. The general restatement rule is (constant dollar amount) = (historical cost amount) \times [(average for the year CPI-U)/(date of purchase CPI-U)]. Constant dollar amounts of inventory and property, plant, and equipment must be reduced to the recoverable amount⁶ if there has been a material and permanent reduction in the value of the asset to the enterprise. (This is also true for the current cost method.)

Some reasonable approximations are allowed in performing these computations. For example, in dealing with property, plant, and equipment it is permissible to assume that any asset acquired before 1945 was acquired at that time, because such a cutoff does not introduce material distortions into companies' data.

The FASB also requires that entries in historical cost financial statements expressed in a foreign currency first be translated into historical cost financial statements expressed in United States dollars in accordance with FASB Statement No. 8. The resulting amounts are then restated to constant dollar amounts using the CPI-U.

Unlike the general price level-adjusted statements, the current cost method is meant to take into account relative as well as general price movements. The current cost of assets may be obtained either through direct pricing—using (1) current invoice price, (2) vendors' firm price lists or other quotations or estimates, or (3) standard manufacturing costs that approximate current costs—or through indexing—using either externally or internally generated indices of the cost changes for the class of assets being considered.

The FIFO value of inventories may be used as a reasonable measure of current cost, except for slow inventory turnover items such as tobacco and wine. Property, plant, and equipment will often be adjusted by the use of specific price indices rather than the general CPI-U used for the general price level statements. Foreign assets are handled by first estimating current cost in the foreign market and then translating that cost into United States dollars at the current rate of exchange.

The SEC replacement cost disclosure requirements are similar in spirit to the FASB current cost requirements, but they differ in several respects. The most important difference is that replacement cost is based on the cost of acquiring a new asset with equivalent productive capability whereas current cost is based on the cost of producing an *identical* asset currently.

Also, ASR 190 may or may not require a replacement cost measure of assets related to a contract or project, depending primarily on whether the contract or project is of a recurring nature. The FASB requires current cost estimates for all such assets, as of the date of use on or commitment to the contract.

The SEC requires firms to use straight-line depreciation when assets are being depreciated on any time-expired basis (as opposed to use basis) for historical cost purposes. FASB 33 requires the use of the same depreciation methods for current cost purposes as are used for historical purposes, unless accelerated methods were chosen for historical purposes to offset in part the effect of inflation on depreciation deductions.

Detailed information about the various requirements can be found in FASB (1979) and Deloitte, Haskins, and Sells (1979).

11.6 Aggregate Profits of the Nonfinancial Corporate Sector: A Balance Sheet Approach

The balance sheet is meant to present the value of a firm's assets and liabilities with net worth representing the residual of assets less liabilities. A very condensed balance sheet is shown below:

| BALANCE SHEET | | | |
|---------------------|-----|---------------------------|-----|
| Tangible Assets | 70 | Total Liabilities | 55 |
| Plant and Equipment | 40 | Long-term Debt | 40 |
| Inventories | 20 | Short-term Debt | 15 |
| Land | 10 | Net Worth | 45 |
| Financial Assets | 30 | | |
| Total Assets | 100 | = Liabilities + Net Worth | 100 |

The change in net worth between the end of the current year and the end of the year before represents the increase in the value of the equity holders' claim. The profit of equity holders equals the increase in the value of their claim plus the net disbursements made by the firm to equity holders. Thus

$$\text{profit} = \Delta \text{net worth} + \text{dividends} - \text{new issues},$$

where new issues would be the net of share repurchases by the corporation.

The problem in implementing this profit formula is determining the appropriate definition for net worth and hence the change in net worth. We begin by assembling two sets of balance sheets for the nonfinancial corporate sector using the new data set compiled by the Federal Reserve

System. The first set bases the valuation of all assets and liabilities on historical cost. The second set of balance sheets values all assets and liabilities at current cost. In table 11.2 we present a time series of these two balance sheets and compute nine different definitions of corporate income. Several of these income measures differ in which of the balance sheet items are adjusted to current value figures in the determination of net worth and the change in net worth. Two of the income measures are based on the performance of equity markets.

Historical profits are determined from the net worth figures of traditional historical cost balance sheets. Capital maintenance income has been defined as that amount of money (or purchasing power) over and above what is necessary to keep capital intact. This definition has been propounded by Pigou and Marshall and would exclude real holding gains on tangible and financial assets. It is not consistent with the balance sheet determination of income. For example, the capital maintenance concept calls for the use of LIFO inventory accounting. For depreciable assets it uses a replacement cost basis, but does not recognize changes in the asset value for balance sheet reporting. Financial items are not "marked to market," but the correction for the change in general purchasing power is made.

Our "SEC" profits attempt to capture the impact of ASR 190-type adjustments. Tangible assets are stated at current value⁷ while financial items are unadjusted. The FASB figures in table 11.2 are derived from balance sheets in which tangible assets are carried at current cost and a general value adjustment is made to financial items.

National Income Account profit figures are presented in table 11.2 for comparison with our constructed series. The real current cost income figures are derived from balance sheets with both the asset and liability sides adjusted to current values, and both beginning and end-of-year balance sheets are stated in end-of-year dollars. The resulting change in net worth represents the real increase in the current value of the net asset position of equity holders. This figure is the most consistent with the Haig-Simons definition of accrual income. The seventh income definition, nominal current cost, calculates the change in the *nominal* net worth in the equity holders position, not adjusting the beginning balance sheet to end-of-year dollars. Finally, the nominal and real stockholder gain adds the change in firm stock market values and net disbursements to shareholders.

In examining the alternative profit figures of table 11.2, one is first struck by the stability of historical and National Income Account (NIA) profits relative to the other measures. It comes as no surprise, of course, that the measures based on the stock market are highly volatile. The "SEC" measure is frequently low, indicating the inappropriateness of

partial adjustments. If only such adjustments were made for tax purposes, this would, obviously, be highly advantageous for owners of corporate equities. The most noteworthy feature of table 11.2 is the volatility of the sixth series, real Haig-Simons income or real current cost profits. In 1971, this definition of profits yields a loss of \$0.6 billion for the nonfinancial corporate sector (while the NIA figure is a \$33.4 billion profit). In 1974, the relative positions are reversed, with the accrual figure being \$169.3 billion profit versus the NIA figure of \$60.2 billion. It is no surprise that recording holding gains as profits adds volatility, but the extent of the addition is very large.

Comparison of the NIA and real current cost profits yields one particularly striking result. In the years from 1949 through 1972 National Income Accounts profits were consistently a little higher than real current cost, by a total of roughly \$60 billion. However, since 1973 aggregate NIA profits have understated our real current cost income figures by a total of about \$160 billion. Thus official profits were overstated relative to real accrual profits in the relatively low-inflation early part of the sample and are actually being understated in the current high-inflation period.

Table 11.3 presents average tax rates and corporate rates of return for our alternative profit figures. In general, real accounting rates of return, while volatile, have not declined. Stockholder returns have, of course, fallen sharply over the period. The result is summarized in the Brainard-Tobin " q " measure, which is also shown in table 11.3.

The first q series measure is simply the ratio of the market value of equity and net financial liabilities to the current cost value of tangible assets. The remaining three measures simply take inventories out of the numerator and denominator, the first at full value, the second at 90 cents per dollar, and the last at 75 cents per dollar. Several of the q series figures were constructed from a relatively small sample of firms, so that an advantage of this set is that it is for the entire nonfinancial corporate sector.

The q series data yield several interesting results. First, q is low at the beginning of our sample with a 0.48 value in 1949. If inventories are removed at full current value, then the remaining tangible assets are valued in financial markets at only 33 cents per dollar. The q ratio rises fairly steadily through the 1950s and ranges slightly above unity during the 1960s. This is a substantially lower value for q for these peak years than other investigators have derived. The fall in q after 1972 is extremely sharp, its value more than halving in just two years. The 1979 figures range from 0.435 to 0.573 depending on the inclusion of inventories. One possible reason for the low 1979 values of q is that the significant relative price changes of the 1970s reduced the value of much equipment in place, even if the cost of replacing such equipment had risen. Such adjustments

Table 11.2 Aggregate Balance Sheets and Profits for Nonfinancial Corporations, 1949-79
a) 1949-55

| | 1949 | 1950 | 1951 | 1952 | 1953 | 1954 | 1955 |
|--|-------|-------|-------|-------|-------|-------|-------|
| Historical Balance Sheet for Nonfinancial Corporations | | | | | | | |
| (1) Tangible assets | 147.0 | 166.2 | 187.8 | 199.5 | 213.8 | 222.8 | 241.9 |
| (2) residential structures | 2.5 | 2.7 | 2.8 | 2.9 | 3.0 | 3.2 | 3.3 |
| (3) property, plant, equipment | 90.2 | 99.1 | 110.5 | 121.1 | 133.0 | 143.0 | 154.7 |
| (4) inventories | 45.3 | 55.1 | 64.9 | 66.1 | 67.9 | 66.3 | 73.0 |
| (5) land | 9.0 | 9.3 | 9.6 | 9.4 | 9.9 | 10.3 | 10.9 |
| (6) Financial assets | 85.6 | 102.4 | 110.5 | 116.0 | 119.1 | 124.6 | 142.1 |
| (7) Long-term debt | 48.1 | 50.9 | 55.1 | 60.8 | 65.1 | 70.2 | 74.9 |
| (8) Short-term debt | 53.7 | 73.9 | 83.9 | 84.1 | 84.6 | 83.8 | 100.7 |
| (9) Net worth | 130.8 | 143.8 | 159.3 | 170.6 | 183.2 | 193.4 | 208.4 |
| (10) change in net worth | 9.7 | 13.0 | 15.5 | 11.3 | 12.6 | 10.2 | 15.0 |
| (11) + dividends | 6.4 | 7.9 | 7.7 | 7.8 | 8.0 | 8.2 | 9.4 |
| (12) - new issues | 1.2 | 1.3 | 2.1 | 2.3 | 1.8 | 1.6 | 1.7 |
| (13) = profits | 14.9 | 19.6 | 21.1 | 16.8 | 18.8 | 16.8 | 22.7 |

Current Cost Balance Sheet for Nonfinancial Corporations

| | | | | | | | |
|--------------------------------|-------|-------|-------|-------|-------|-------|-------|
| (1) Tangible assets | 222.3 | 249.0 | 277.5 | 291.6 | 304.6 | 314.1 | 342.5 |
| (2) residential structures | 5.2 | 5.5 | 5.7 | 5.8 | 5.8 | 5.9 | 6.1 |
| (3) property, plant, equipment | 127.6 | 141.3 | 156.8 | 166.7 | 176.4 | 184.7 | 202.0 |
| (4) inventories | 50.2 | 61.0 | 71.1 | 72.1 | 73.9 | 72.2 | 79.3 |
| (5) land | 39.3 | 41.2 | 43.9 | 47.0 | 48.5 | 51.3 | 55.1 |
| (6) Financial assets | 85.6 | 102.4 | 110.5 | 116.0 | 119.1 | 124.6 | 142.1 |
| (7) Long-term debt | 46.7 | 50.6 | 51.3 | 58.5 | 62.0 | 69.8 | 68.7 |
| (8) Short-term debt | 53.7 | 73.9 | 83.9 | 84.1 | 84.6 | 83.8 | 100.7 |
| (9) Net worth | 207.5 | 226.9 | 252.8 | 265.0 | 277.1 | 285.1 | 315.2 |
| (10) change in net worth | 7.4 | 19.4 | 25.9 | 12.2 | 12.1 | 7.9 | 30.1 |
| (11) + dividends | 6.4 | 7.9 | 7.7 | 7.8 | 8.0 | 8.2 | 9.4 |
| (12) - new issues | 1.2 | 1.3 | 2.1 | 2.3 | 1.8 | 1.6 | 1.7 |
| (13) = profits | 12.6 | 26.0 | 31.5 | 17.7 | 18.3 | 14.5 | 37.8 |

Alternative Definitions of Income for Nonfinancial Corporations

| | | | | | | | |
|------------------------------|------|------|------|------|------|------|------|
| (1) Historical | 14.9 | 19.6 | 21.1 | 16.8 | 18.8 | 16.8 | 22.7 |
| (2) Capital maintenance | 12.9 | 11.1 | 17.3 | 13.7 | 14.3 | 13.8 | 19.6 |
| (3) "SEC" | 16.2 | 22.9 | 11.3 | 15.9 | 12.8 | 13.0 | 25.1 |
| (4) "FASB" | 16.0 | 23.3 | 13.2 | 16.2 | 13.3 | 13.4 | 25.8 |
| (5) National Income Accounts | 15.5 | 21.5 | 17.8 | 15.9 | 16.4 | 16.4 | 21.8 |
| (6) Real current cost | 14.4 | 22.0 | 16.3 | 14.7 | 14.1 | 10.7 | 31.5 |
| (7) Nominal current cost | 12.6 | 26.0 | 31.5 | 17.7 | 18.3 | 14.5 | 37.8 |
| (8) Nominal stockholder | 13.5 | 31.0 | 27.3 | 17.1 | 1.1 | 77.8 | 60.9 |
| (9) Real stockholder | 14.3 | 29.2 | 19.5 | 15.4 | -1.3 | 75.8 | 56.1 |

(Table continues on the following pages)

Table 11.2 (continued)

b) 1956-63

| | 1956 | 1957 | 1958 | 1959 | 1960 | 1961 | 1962 | 1963 |
|---|-------|-------|-------|-------|-------|-------|-------|-------|
| Historical Balance Sheet for Nonfinancial Corporations | | | | | | | | |
| (1) Tangible assets | 266.0 | 285.2 | 294.5 | 313.8 | 331.3 | 347.3 | 368.2 | 389.3 |
| (2) residential structures | 3.6 | 3.9 | 4.3 | 4.9 | 5.6 | 6.6 | 7.9 | 9.4 |
| (3) property, plant, equipment | 169.8 | 185.8 | 195.5 | 206.4 | 218.5 | 228.7 | 241.1 | 252.9 |
| (4) inventories | 80.5 | 82.6 | 80.3 | 86.5 | 89.7 | 92.4 | 97.8 | 103.7 |
| (5) land | 12.1 | 12.9 | 14.4 | 16.0 | 17.5 | 19.6 | 21.4 | 23.3 |
| (6) Financial assets | 147.2 | 151.9 | 163.5 | 178.7 | 181.7 | 194.6 | 206.6 | 222.2 |
| (7) Long-term debt | 80.1 | 88.1 | 96.6 | 102.6 | 108.7 | 117.4 | 126.4 | 135.1 |
| (8) Short-term debt | 108.8 | 110.3 | 111.8 | 124.2 | 129.9 | 137.1 | 145.0 | 158.5 |
| (9) Net worth | 224.3 | 238.7 | 249.6 | 265.7 | 274.4 | 287.4 | 303.4 | 317.9 |
| (10) change in net worth | 15.9 | 14.4 | 10.9 | 16.1 | 8.7 | 13.0 | 16.0 | 14.5 |
| (11) + dividends | 10.1 | 10.4 | 10.2 | 10.8 | 11.5 | 11.7 | 12.7 | 14.0 |
| (12) - new issues | 2.3 | 2.4 | 2.0 | 2.1 | 1.4 | 2.1 | 0.4 | -0.3 |
| (13) = profits | 23.7 | 22.4 | 19.1 | 24.8 | 18.8 | 22.6 | 28.3 | 28.8 |

Current Cost Balance Sheet for Nonfinancial Corporations

| | | | | | | | | |
|--------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| (1) Tangible assets | 380.9 | 405.2 | 415.2 | 434.4 | 448.6 | 462.5 | 482.5 | 499.0 |
| (2) residential structures | 6.3 | 6.6 | 7.2 | 7.8 | 8.5 | 9.5 | 10.7 | 12.2 |
| (3) property, plant, equipment | 225.3 | 242.8 | 250.1 | 257.6 | 264.6 | 269.8 | 278.2 | 287.4 |
| (4) inventories | 87.5 | 89.3 | 87.0 | 92.0 | 94.8 | 97.8 | 102.7 | 109.3 |
| (5) land | 61.8 | 66.5 | 70.9 | 77.0 | 80.7 | 85.4 | 90.9 | 90.1 |
| (6) Financial assets | 147.2 | 151.9 | 163.5 | 178.7 | 181.7 | 194.6 | 206.6 | 222.2 |
| (7) Long-term debt | 70.0 | 77.6 | 86.0 | 85.9 | 93.9 | 103.5 | 114.0 | 122.2 |
| (8) Short-term debt | 108.8 | 110.3 | 111.8 | 124.2 | 129.9 | 137.1 | 145.0 | 158.5 |
| (9) Net worth | 349.3 | 369.2 | 380.9 | 403.0 | 406.5 | 416.5 | 430.1 | 440.5 |
| (10) change in net worth | 34.1 | 19.9 | 11.7 | 22.1 | 3.5 | 10.1 | 13.5 | 10.4 |
| (11) + dividends | 10.1 | 10.4 | 10.2 | 10.8 | 11.5 | 11.7 | 12.7 | 14.0 |
| (12) - new issues | 2.3 | 2.4 | 2.0 | 2.1 | 1.4 | 2.1 | 0.4 | -0.3 |
| (13) = profits | 41.9 | 27.9 | 19.9 | 30.8 | 13.6 | 19.7 | 25.8 | 24.7 |

Alternative Definitions of Income for Nonfinancial Corporations

| | | | | | | | | |
|------------------------------|------|-------|-------|------|------|------|-------|------|
| (1) Historical | 23.7 | 22.4 | 19.1 | 24.8 | 18.8 | 22.6 | 28.3 | 28.8 |
| (2) Capital maintenance | 19.3 | 19.2 | 16.1 | 22.5 | 17.7 | 21.4 | 30.7 | 31.6 |
| (3) "SEC" | 27.4 | 14.2 | 13.7 | 15.2 | 8.5 | 16.5 | 18.6 | 16.5 |
| (4) "FASB" | 28.7 | 15.8 | 14.4 | 16.3 | 9.5 | 17.0 | 19.8 | 17.6 |
| (5) National Income Accounts | 21.8 | 20.7 | 17.5 | 22.3 | 20.2 | 19.7 | 23.0 | 25.5 |
| (6) Real current cost | 32.2 | 15.7 | 14.3 | 22.0 | 7.2 | 16.0 | 17.9 | 17.9 |
| (7) Nominal current cost | 41.9 | 27.9 | 19.9 | 30.8 | 13.6 | 19.7 | 25.8 | 24.7 |
| (8) Nominal stockholder | 27.8 | -38.7 | 107.8 | 27.9 | 2.9 | 83.8 | -26.8 | 81.2 |
| (9) Real stockholder | 19.5 | -48.8 | 104.2 | 20.0 | -2.9 | 80.6 | -34.9 | 75.0 |

(Table continues on the following pages)

Table 11.2 (continued)

c) 1964-71

| | 1964 | 1965 | 1966 | 1967 | 1968 | 1969 | 1970 | 1971 |
|--|-------|-------|-------|-------|-------|-------|-------|-------|
| Historical Balance Sheet for Nonfinancial Corporations | | | | | | | | |
| (1) Tangible assets | 414.9 | 450.5 | 497.1 | 536.7 | 578.9 | 630.7 | 670.9 | 712.2 |
| (2) residential structures | 10.9 | 12.4 | 13.7 | 14.8 | 16.4 | 18.4 | 20.2 | 22.3 |
| (3) property, plant, equipment | 268.0 | 289.9 | 316.8 | 341.7 | 368.6 | 399.5 | 427.5 | 456.0 |
| (4) inventories | 110.7 | 120.3 | 136.4 | 147.8 | 159.2 | 173.9 | 182.6 | 191.4 |
| (5) land | 25.3 | 27.9 | 30.2 | 32.4 | 34.7 | 38.9 | 40.6 | 42.5 |
| (6) Financial assets | 237.1 | 258.8 | 272.3 | 288.6 | 319.2 | 351.1 | 369.6 | 406.0 |
| (7) Long-term debt | 142.8 | 152.1 | 166.7 | 185.8 | 204.9 | 222.1 | 248.5 | 278.2 |
| (8) Short-term debt | 172.3 | 198.5 | 219.1 | 230.9 | 264.0 | 300.6 | 314.4 | 332.5 |
| (9) Net worth | 336.9 | 358.7 | 383.6 | 408.6 | 429.2 | 459.1 | 477.6 | 507.5 |
| (10) change in net worth | 19.0 | 21.8 | 24.9 | 25.0 | 20.6 | 29.9 | 18.5 | 29.9 |
| (11) + dividends | 15.3 | 17.1 | 18.1 | 18.8 | 20.7 | 20.6 | 19.8 | 20.0 |
| (12) - new issues | 1.1 | 0.0 | 1.3 | 2.4 | -0.2 | 3.4 | 5.7 | 11.4 |
| (13) = profits | 33.2 | 38.9 | 41.7 | 41.4 | 41.5 | 47.1 | 32.6 | 38.5 |

Current Cost Balance Sheet for Nonfinancial Corporations

| | | | | | | | | |
|--------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| (1) Tangible assets | 524.8 | 566.6 | 622.5 | 675.8 | 731.3 | 807.5 | 871.5 | 925.7 |
| (2) residential structures | 13.8 | 15.3 | 16.6 | 18.6 | 22.0 | 25.4 | 27.7 | 30.2 |
| (3) property, plant, equipment | 302.0 | 326.9 | 360.9 | 394.6 | 435.3 | 486.1 | 534.0 | 576.4 |
| (4) inventories | 116.5 | 126.7 | 143.1 | 155.9 | 167.7 | 185.0 | 194.1 | 204.5 |
| (5) land | 92.5 | 97.7 | 101.9 | 106.7 | 106.3 | 111.0 | 115.7 | 114.6 |
| (6) Financial assets | 237.1 | 258.8 | 272.3 | 288.6 | 319.2 | 351.1 | 369.6 | 406.0 |
| (7) Long-term debt | 131.8 | 138.9 | 140.7 | 152.5 | 168.5 | 160.2 | 200.7 | 250.2 |
| (8) Short-term debt | 172.3 | 198.5 | 219.1 | 230.9 | 264.0 | 300.6 | 314.4 | 332.5 |
| (9) Net worth | 457.8 | 488.0 | 535.0 | 581.0 | 618.0 | 697.8 | 726.0 | 749.0 |
| (10) change in net worth | 17.3 | 30.2 | 47.0 | 46.0 | 37.0 | 79.9 | 28.1 | 23.1 |
| (11) + dividends | 15.3 | 17.1 | 18.1 | 18.8 | 20.7 | 20.6 | 19.8 | 20.0 |
| (12) - new issues | 1.1 | 0.0 | 1.3 | 2.4 | -0.2 | 3.4 | 5.7 | 11.4 |
| (13) = profits | 31.5 | 47.3 | 63.8 | 62.4 | 57.9 | 97.1 | 42.2 | 31.7 |

Alternative Definitions of Income for Nonfinancial Corporations

| | | | | | | | | |
|------------------------------|------|------|-------|-------|-------|--------|-------|-------|
| (1) Historical | 33.2 | 38.9 | 41.7 | 41.4 | 41.5 | 47.1 | 32.6 | 38.5 |
| (2) Capital maintenance | 36.5 | 42.6 | 47.3 | 47.0 | 48.7 | 53.9 | 39.3 | 44.2 |
| (3) "SEC" | 25.9 | 33.6 | 31.7 | 37.0 | 23.7 | 34.2 | 13.6 | 7.8 |
| (4) "FASB" | 27.1 | 35.6 | 35.6 | 40.8 | 30.6 | 43.0 | 23.8 | 18.1 |
| (5) National Income Accounts | 30.7 | 37.1 | 39.9 | 37.5 | 38.2 | 35.1 | 27.9 | 33.4 |
| (6) Real current cost | 24.9 | 37.2 | 47.2 | 46.9 | 31.1 | 65.5 | 5.3 | -4.6 |
| (7) Nominal current cost | 31.5 | 47.3 | 63.8 | 62.4 | 57.9 | 97.1 | 42.2 | 31.7 |
| (8) Nominal stockholder | 67.6 | 61.3 | -32.7 | 164.0 | 106.1 | -72.9 | 16.6 | 119.7 |
| (9) Real stockholder | 60.8 | 50.1 | -51.5 | 149.4 | 76.1 | -110.5 | -17.7 | 87.2 |

(Table continues on the following pages)

Table 11.2 (continued)

| | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 |
|--|-------|-------|-------|--------|--------|--------|--------|--------|
| Historical Balance Sheet for Nonfinancial Corporations | | | | | | | | |
| (1) Tangible assets | 765.6 | 850.0 | 965.7 | 1015.9 | 1102.0 | 1212.2 | 1347.7 | 1513.1 |
| (2) residential structures | 25.1 | 28.5 | 30.5 | 31.0 | 31.4 | 32.1 | 33.3 | 35.3 |
| (3) property, plant, equipment | 489.2 | 532.7 | 582.0 | 627.7 | 680.1 | 748.8 | 830.3 | 926.9 |
| (4) inventories | 205.9 | 238.9 | 299.4 | 302.2 | 331.9 | 368.4 | 416.1 | 477.0 |
| (5) land | 45.4 | 49.9 | 53.8 | 55.0 | 58.6 | 62.9 | 68.0 | 73.9 |
| (6) Financial assets | 455.5 | 526.0 | 516.7 | 557.6 | 610.4 | 664.8 | 756.7 | 869.9 |
| (7) Long-term debt | 307.9 | 337.0 | 371.9 | 413.0 | 451.7 | 495.3 | 541.4 | 590.1 |
| (8) Short-term debt | 373.1 | 456.1 | 443.9 | 438.9 | 473.8 | 531.7 | 631.5 | 765.7 |
| (9) Net worth | 540.1 | 582.9 | 666.6 | 721.6 | 786.9 | 850.0 | 931.5 | 1027.2 |
| (10) change in net worth | 32.6 | 42.8 | 83.7 | 55.0 | 65.3 | 63.1 | 81.5 | 95.7 |
| (11) + dividends | 21.6 | 23.8 | 25.9 | 28.3 | 32.9 | 37.0 | 41.6 | 46.8 |
| (12) - new issues | 10.9 | 7.9 | 4.1 | 9.9 | 10.5 | 2.7 | 2.6 | 3.5 |
| (13) = profits | 43.3 | 58.7 | 105.5 | 73.4 | 87.7 | 97.4 | 120.5 | 139.0 |

d) 1972-79

Current Cost Balance Sheet for Nonfinancial Corporations

| | | | | | | | | |
|--------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|
| (1) Tangible assets | 1008.9 | 1166.1 | 1393.9 | 1512.7 | 1649.7 | 1815.3 | 2045.7 | 2344.2 |
| (2) residential structures | 34.7 | 41.3 | 46.7 | 50.3 | 54.7 | 61.5 | 69.3 | 78.4 |
| (3) property, plant, equipment | 625.5 | 717.3 | 847.6 | 947.5 | 1026.7 | 1124.3 | 1256.8 | 1422.1 |
| (4) inventories | 221.2 | 264.0 | 336.1 | 338.2 | 373.9 | 416.7 | 478.5 | 571.5 |
| (5) land | 127.5 | 143.5 | 163.5 | 176.7 | 194.4 | 212.8 | 241.1 | 272.2 |
| (6) Financial assets | 455.5 | 526.0 | 516.7 | 557.6 | 610.4 | 664.8 | 756.7 | 869.9 |
| (7) Long-term debt | 281.7 | 288.8 | 283.9 | 347.5 | 438.3 | 461.3 | 467.9 | 470.7 |
| (8) Short-term debt | 373.1 | 456.1 | 443.9 | 438.9 | 473.8 | 531.7 | 631.5 | 765.7 |
| (9) Net worth | 809.6 | 947.2 | 1182.8 | 1283.9 | 1348.0 | 1487.1 | 1703.0 | 1977.7 |
| (10) change in net worth | 60.6 | 137.5 | 235.6 | 101.2 | 64.1 | 139.1 | 215.8 | 274.8 |
| (11) + dividends | 21.6 | 23.8 | 25.9 | 28.3 | 32.9 | 37.0 | 41.6 | 46.8 |
| (12) - new issues | 10.9 | 7.9 | 4.1 | 9.9 | 10.5 | 2.7 | 2.6 | 3.5 |
| (13) = profits | 71.3 | 153.4 | 257.4 | 119.6 | 86.5 | 173.4 | 254.8 | 318.1 |

Alternative Definitions of Income for Nonfinancial Corporations

| | | | | | | | | |
|------------------------------|-------|--------|--------|-------|-------|-------|-------|-------|
| (1) Historical | 43.3 | 58.7 | 105.5 | 73.4 | 87.7 | 97.4 | 120.5 | 139.0 |
| (2) Capital maintenance | 48.9 | 57.4 | 89.9 | 77.8 | 75.3 | 91.9 | 114.1 | 124.0 |
| (3) "SEC" | 34.2 | 73.0 | 109.2 | 6.8 | 61.5 | 57.1 | 81.1 | 96.2 |
| (4) "FASB" | 43.7 | 88.5 | 137.0 | 35.3 | 77.5 | 78.1 | 111.9 | 138.0 |
| (5) National Income Accounts | 42.2 | 52.6 | 60.2 | 60.4 | 77.2 | 83.9 | 97.3 | 115.2 |
| (6) Real current cost | 39.9 | 106.5 | 169.3 | 4.9 | 21.0 | 95.2 | 144.8 | 171.6 |
| (7) Nominal current cost | 71.3 | 153.4 | 257.4 | 119.6 | 86.5 | 173.4 | 254.8 | 318.1 |
| (8) Nominal stockholder | 108.5 | -161.4 | -157.9 | 207.3 | 184.2 | -20.2 | 99.4 | 162.9 |
| (9) Real stockholder | 76.6 | -211.2 | -221.2 | 158.7 | 149.0 | -69.6 | 40.4 | 89.1 |

Table 11.3 Average Tax Rates, Alternative Rates of Return, and Tobin's *q*
for Nonfinancial Corporations, 1949-79

| | 1949 | 1950 | 1951 | 1952 | 1953 | 1954 | 1955 |
|--|--------|--------|--------|--------|---------|--------|--------|
| Alternative Tax Rates | | | | | | | |
| (1) Historical | 0.3843 | 0.4615 | 0.5000 | 0.5144 | 0.4946 | 0.4815 | 0.4709 |
| (2) Capital maintenance | 0.4198 | 0.6016 | 0.5493 | 0.5642 | 0.5629 | 0.5304 | 0.5071 |
| (3) "SEC" | 0.3653 | 0.4234 | 0.6509 | 0.5287 | 0.5891 | 0.5448 | 0.4460 |
| (4) "FASB" | 0.3674 | 0.4189 | 0.6147 | 0.5233 | 0.5800 | 0.5371 | 0.4389 |
| (5) National Income Accounts | 0.3750 | 0.4386 | 0.5424 | 0.5282 | 0.5287 | 0.4875 | 0.4810 |
| (6) Real current cost | 0.3926 | 0.4329 | 0.5639 | 0.5476 | 0.5667 | 0.5942 | 0.3903 |
| (7) Nominal current cost | 0.4249 | 0.3930 | 0.4010 | 0.5008 | 0.5177 | 0.5177 | 0.3482 |
| (8) Nominal stockholder | 0.4079 | 0.3515 | 0.4360 | 0.5100 | 0.9436 | 0.1670 | 0.2491 |
| (9) Real stockholder | 0.3948 | 0.3648 | 0.5199 | 0.5355 | 1.0759 | 0.1707 | 0.2646 |
| Alternative Rates of Return | | | | | | | |
| (1) Historical | 0.1230 | 0.1498 | 0.1467 | 0.1055 | 0.1102 | 0.0917 | 0.1174 |
| (2) Capital maintenance | 0.0652 | 0.0540 | 0.0764 | 0.0552 | 0.0544 | 0.0504 | 0.0690 |
| (3) "SEC" | 0.0820 | 0.1110 | 0.0499 | 0.0637 | 0.0489 | 0.0476 | 0.0881 |
| (4) "FASB" | 0.0813 | 0.1131 | 0.0584 | 0.0651 | 0.0507 | 0.0491 | 0.0907 |
| (5) National Income Accounts | 0.1280 | 0.1644 | 0.1238 | 0.0998 | 0.0961 | 0.0895 | 0.1127 |
| (6) Real current cost | 0.0719 | 0.1061 | 0.0719 | 0.0582 | 0.0531 | 0.0384 | 0.1107 |
| (7) Nominal current cost | 0.0629 | 0.1251 | 0.1389 | 0.0702 | 0.0691 | 0.0524 | 0.1327 |
| (8) Nominal stockholder | 0.1609 | 0.3362 | 0.2341 | 0.1236 | 0.0073 | 0.5373 | 0.2819 |
| (9) Real stockholder | 0.1699 | 0.3172 | 0.1671 | 0.1116 | -0.0087 | 0.5233 | 0.2599 |
| Alternative Measures of Tobin's <i>q</i> | | | | | | | |
| (1) Traditional (net of fin. assets) | 0.4813 | 0.5572 | 0.5875 | 0.6052 | 0.5656 | 0.7802 | 0.8658 |
| (2) Net of inventories | 0.3300 | 0.4135 | 0.4454 | 0.4756 | 0.4264 | 0.7145 | 0.8253 |
| (3) Inventories at 90 cents | 0.3592 | 0.4460 | 0.4798 | 0.5084 | 0.4585 | 0.7444 | 0.8555 |
| (4) Inventories at 75 cents | 0.4029 | 0.4947 | 0.5315 | 0.5577 | 0.5065 | 0.7892 | 0.9007 |

| | 1956 | 1957 | 1958 | 1959 | 1960 | 1961 | 1962 | 1963 |
|--------------------------------------|--------|---------|--------|--------|---------|--------|---------|--------|
| Alternative Tax Rates | | | | | | | | |
| (1) Historical | 0.4577 | 0.4602 | 0.4574 | 0.4549 | 0.5053 | 0.4619 | 0.4213 | 0.4408 |
| (2) Capital maintenance | 0.5090 | 0.4983 | 0.5004 | 0.4791 | 0.5202 | 0.4750 | 0.4013 | 0.4177 |
| (3) "SEC" | 0.4221 | 0.5741 | 0.5399 | 0.5774 | 0.6919 | 0.5410 | 0.5253 | 0.5794 |
| (4) "FASB" | 0.4109 | 0.5473 | 0.5279 | 0.5601 | 0.6699 | 0.5329 | 0.5093 | 0.5630 |
| (5) National Income Accounts | 0.4785 | 0.4799 | 0.4792 | 0.4814 | 0.4873 | 0.4962 | 0.4725 | 0.4710 |
| (6) Real current cost | 0.3835 | 0.5492 | 0.5290 | 0.4845 | 0.7280 | 0.5479 | 0.5349 | 0.5597 |
| (7) Nominal current cost | 0.3230 | 0.4064 | 0.4475 | 0.4021 | 0.5850 | 0.4966 | 0.4437 | 0.4785 |
| (8) Nominal stockholder | 0.4184 | -0.9745 | 0.1299 | 0.4259 | 0.8688 | 0.1880 | -3.3225 | 0.2185 |
| (9) Real stockholder | 0.5069 | -0.6426 | 0.1339 | 0.5082 | 1.1765 | 0.1940 | -1.4368 | 0.2324 |
| Alternative Rates of Return | | | | | | | | |
| (1) Historical | 0.1137 | 0.0999 | 0.0800 | 0.0994 | 0.0708 | 0.0824 | 0.0985 | 0.0949 |
| (2) Capital maintenance | 0.0624 | 0.0567 | 0.0448 | 0.0608 | 0.0458 | 0.0547 | 0.0763 | 0.0758 |
| (3) "SEC" | 0.0886 | 0.0418 | 0.0383 | 0.0409 | 0.0221 | 0.0420 | 0.0462 | 0.0395 |
| (4) "FASB" | 0.0928 | 0.0466 | 0.0401 | 0.0439 | 0.0245 | 0.0434 | 0.0493 | 0.0422 |
| (5) National Income Accounts | 0.1046 | 0.0923 | 0.0733 | 0.0893 | 0.0760 | 0.0718 | 0.0800 | 0.0840 |
| (6) Real current cost | 0.1020 | 0.0449 | 0.0388 | 0.0578 | 0.0178 | 0.0394 | 0.0430 | 0.0415 |
| (7) Nominal current cost | 0.1330 | 0.0799 | 0.0538 | 0.0808 | 0.0338 | 0.0484 | 0.0620 | 0.0575 |
| (8) Nominal stockholder | 0.1033 | -0.1338 | 0.4445 | 0.0816 | 0.0080 | 0.2367 | -0.0626 | 0.2086 |
| (9) Real stockholder | 0.0723 | -0.1688 | 0.4295 | 0.0586 | -0.0080 | 0.2277 | -0.0816 | 0.1926 |
| Alternative Measures of Tobin's q | | | | | | | | |
| (1) Traditional (net of fin. assets) | 0.8422 | 0.6873 | 0.9066 | 0.9041 | 0.8833 | 1.0254 | 0.9153 | 1.0313 |
| (2) Net of inventories | 0.7952 | 0.5989 | 0.8819 | 0.8784 | 0.8520 | 1.0323 | 0.8924 | 1.0400 |
| (3) Inventories at 90 cents | 0.8250 | 0.6272 | 0.9084 | 0.9052 | 0.8788 | 1.0591 | 0.9195 | 1.0681 |
| (4) Inventories at 75 cents | 0.8697 | 0.6696 | 0.9481 | 0.9455 | 0.9190 | 1.0993 | 0.9600 | 1.1101 |

(Table continues on the following pages)

Table 11.3 (continued)

| | 1964 | 1965 | 1966 | 1967 | 1968 | 1969 | 1970 | 1971 |
|--|--------|--------|---------|--------|--------|---------|---------|---------|
| Alternative Tax Rates | | | | | | | | |
| (1) Historical | 0.4186 | 0.4106 | 0.4135 | 0.4000 | 0.4467 | 0.4135 | 0.4548 | 0.4363 |
| (2) Capital maintenance | 0.3959 | 0.3887 | 0.3835 | 0.3699 | 0.4076 | 0.3814 | 0.4087 | 0.4025 |
| (3) "SEC" | 0.4798 | 0.4468 | 0.4809 | 0.4269 | 0.5855 | 0.4925 | 0.6666 | 0.7920 |
| (4) "FASB" | 0.4688 | 0.4324 | 0.4523 | 0.4037 | 0.5226 | 0.4359 | 0.5328 | 0.6226 |
| (5) National Income Accounts | 0.4377 | 0.4221 | 0.4242 | 0.4240 | 0.4672 | 0.4861 | 0.4936 | 0.4715 |
| (6) Real current cost | 0.4900 | 0.4211 | 0.3838 | 0.3705 | 0.5183 | 0.3363 | 0.8381 | 1.1847 |
| (7) Nominal current cost | 0.4316 | 0.3641 | 0.3154 | 0.3066 | 0.3667 | 0.2549 | 0.3917 | 0.4849 |
| (8) Nominal stockholder | 0.2612 | 0.3066 | -8.9087 | 0.1441 | 0.2400 | -0.8363 | 0.6210 | 0.1993 |
| (9) Real stockholder | 0.2823 | 0.3511 | -1.3288 | 0.1560 | 0.3056 | -0.4296 | 2.8589 | 0.2546 |
| Alternative Rates of Return | | | | | | | | |
| (1) Historical | 0.1044 | 0.1155 | 0.1163 | 0.1079 | 0.1016 | 0.1097 | 0.0710 | 0.0806 |
| (2) Capital maintenance | 0.0853 | 0.0954 | 0.0995 | 0.0924 | 0.0889 | 0.0926 | 0.0619 | 0.0652 |
| (3) "SEC" | 0.0606 | 0.0751 | 0.0668 | 0.0728 | 0.0433 | 0.0588 | 0.0214 | 0.0115 |
| (4) "FASB" | 0.0633 | 0.0796 | 0.0750 | 0.0801 | 0.0559 | 0.0739 | 0.0375 | 0.0266 |
| (5) National Income Accounts | 0.0966 | 0.1101 | 0.1112 | 0.0978 | 0.0935 | 0.0818 | 0.0608 | 0.0699 |
| (6) Real current cost | 0.0565 | 0.0814 | 0.0967 | 0.0877 | 0.0536 | 0.1060 | 0.0075 | -0.0064 |
| (7) Nominal current cost | 0.0715 | 0.1034 | 0.1307 | 0.1167 | 0.0996 | 0.1570 | 0.0605 | 0.0436 |
| (8) Nominal stockholder | 0.1482 | 0.1203 | -0.0591 | 0.3253 | 0.1628 | -0.0989 | 0.0257 | 0.1843 |
| (9) Real stockholder | 0.1332 | 0.0983 | -0.0931 | 0.2963 | 0.1168 | -0.1499 | -0.0273 | 0.1343 |
| Alternative Measures of Tobin's <i>q</i> | | | | | | | | |
| (1) Traditional (net of fin. assets) | 1.0985 | 1.1160 | 0.9505 | 1.1047 | 1.1628 | 0.9369 | 0.9121 | 1.0124 |
| (2) Net of inventories | 1.1267 | 1.1493 | 0.9357 | 1.1362 | 1.2112 | 0.9182 | 0.8870 | 1.0159 |
| (3) Inventories at 90 cents | 1.1552 | 1.1782 | 0.9656 | 1.1661 | 1.2410 | 0.9479 | 0.9156 | 1.0443 |
| (4) Inventories at 75 cents | 1.1980 | 1.2214 | 1.0104 | 1.2111 | 1.2856 | 0.9925 | 0.9586 | 1.0868 |

| | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 |
|--------------------------------------|--------|---------|---------|--------|--------|---------|--------|--------|
| Alternative Tax Rates | | | | | | | | |
| (1) Historical | 0.4355 | 0.4016 | 0.2872 | 0.3544 | 0.3740 | 0.3788 | 0.3628 | 0.3499 |
| (2) Capital maintenance | 0.4060 | 0.4071 | 0.3210 | 0.3411 | 0.4104 | 0.3926 | 0.3755 | 0.3763 |
| (3) "SEC" | 0.4939 | 0.3506 | 0.2802 | 0.8558 | 0.4602 | 0.5098 | 0.4583 | 0.4375 |
| (4) "FASB" | 0.4332 | 0.3081 | 0.2368 | 0.5328 | 0.4033 | 0.4319 | 0.3801 | 0.3516 |
| (5) National Income Accounts | 0.4418 | 0.4283 | 0.4138 | 0.4002 | 0.4043 | 0.4145 | 0.4135 | 0.3937 |
| (6) Real current cost | 0.4559 | 0.2701 | 0.2007 | 0.8924 | 0.7140 | 0.3841 | 0.3215 | 0.3036 |
| (7) Nominal current cost | 0.3189 | 0.2043 | 0.1417 | 0.2521 | 0.3773 | 0.2551 | 0.2121 | 0.1904 |
| (8) Nominal stockholder | 0.2354 | -0.3230 | -0.3683 | 0.1628 | 0.2215 | 1.5153 | 0.4083 | 0.3147 |
| (9) Real stockholder | 0.3037 | -0.2294 | -0.2378 | 0.2025 | 0.2602 | -5.8144 | 0.6294 | 0.4563 |
| Alternative Rates of Return | | | | | | | | |
| (1) Historical | 0.0853 | 0.1087 | 0.1810 | 0.1101 | 0.1215 | 0.1238 | 0.1418 | 0.1492 |
| (2) Capital maintenance | 0.0678 | 0.0733 | 0.1000 | 0.0711 | 0.0618 | 0.0689 | 0.0785 | 0.0761 |
| (3) "SEC" | 0.0475 | 0.0932 | 0.1214 | 0.0062 | 0.0504 | 0.0428 | 0.0558 | 0.0590 |
| (4) "FASB" | 0.0606 | 0.1129 | 0.1524 | 0.0323 | 0.0636 | 0.0585 | 0.0770 | 0.0847 |
| (5) National Income Accounts | 0.0832 | 0.0974 | 0.1033 | 0.0906 | 0.1070 | 0.1066 | 0.1145 | 0.1237 |
| (6) Real current cost | 0.0532 | 0.1315 | 0.1788 | 0.0041 | 0.0163 | 0.0706 | 0.0974 | 0.1008 |
| (7) Nominal current cost | 0.0952 | 0.1895 | 0.2718 | 0.1011 | 0.0673 | 0.1286 | 0.1714 | 0.1868 |
| (8) Nominal stockholder | 0.1427 | -0.1880 | -0.2319 | 0.4135 | 0.2669 | -0.0237 | 0.1246 | 0.1899 |
| (9) Real stockholder | 0.1007 | -0.2460 | -0.3249 | 0.3165 | 0.2159 | -0.0817 | 0.0506 | 0.1039 |
| Alternative Measures of Tobin's q | | | | | | | | |
| (1) Traditional (net of fin. assets) | 1.0482 | 0.7718 | 0.5111 | 0.6075 | 0.6993 | 0.6201 | 0.5869 | 0.5733 |
| (2) Net of inventories | 1.0618 | 0.7050 | 0.3558 | 0.4945 | 0.6112 | 0.5069 | 0.4608 | 0.4358 |
| (3) Inventories at 90 cents | 1.0899 | 0.7342 | 0.3876 | 0.5233 | 0.6405 | 0.5367 | 0.4913 | 0.4680 |
| (4) Inventories at 75 cents | 1.1320 | 0.7781 | 0.4352 | 0.5665 | 0.6845 | 0.5814 | 0.5371 | 0.5164 |

are important, and not captured by any of our accounting measures. However, it should be pointed out that these adjustments are not due to price level changes but rather to specific price movements.

11.7 Conclusion

In this paper we have reviewed the basics of adjusting nonfinancial corporate profit figures for inflation, and have utilized a new data source to compute alternative measures of adjusted profits, corporate rates of return, and q series. We have argued that partial procedures for adjusting income figures such as those required by the FASB and the SEC are misleading in terms of determining the difference between real and nominal profits. We propose using the balance sheet approach to systematically adjust income reporting.

We have found that real accrued corporate profits are far more volatile than those reported in the National Income Accounts. Further, and more interesting, perhaps, is the fact that real accrued profits have actually exceeded those presented by the NIA in the more recent inflationary years, reversing the relative relationship of the 1950s and 1960s. The most striking aspect of our new q estimates, based on the new national balance sheet data, is that they are generally lower than those previously published.

Notes

1. We would like to thank Larry Summers of MIT for making us aware of these data and Elizabeth Fogler of the Federal Reserve for helping us obtain the information.
2. Against the usefulness of inflation-adjusted corporate figures must be weighed the cost of obtaining them. There are no estimates of these figures to the best of our knowledge.
3. Bonds that never mature, termed "consols," need not return to par, however.
4. A similar argument can be made about depreciation deductions. When a firm purchases an asset, it also acquires a stream of depreciation deductions based on the historical cost of the asset and (perhaps) an investment tax credit. These depreciation deductions are thus nominal assets held by the firm. As with nominal debt obligations, the values of these deductions are affected by general inflation and by changes in nominal adjustments to a firm's balance sheet for depreciation. However, there are complications. First, it is difficult to separate the value of depreciation deductions from the rest of an asset's worth, based simply on currently available data. Second, if depreciation rules do not change from year to year, a decrease in the present value of depreciation deductions on new assets (in the presence of an increase in inflation and nominal interest rates) would make new investment less attractive, leading to a decrease in the amount of new investment and an increase in the present value of rents for assets already in place. Finally, the value of the depreciation asset depends on the present and future corporate tax rate.
5. The SEC requires firms with inventories and gross property, plant, and equipment in excess of \$100 million to submit the supplementary inflation accounting information. The

FASB regulations apply only to slightly larger firms—those having inventories, gross property, plant, and equipment of \$125 million or more, measured at the beginning of the fiscal year. Further, even if these gross tangible assets do not meet this criterion, if total assets are over \$1 billion, the reporting requirements must be met.

6. The recoverable amount is an estimate of the net realized value of an asset subject to near-term sale or the net present value of expected cash flows derived from an asset that is to be used in business operations.

7. Because of data limitations, we could not discriminate between current cost and replacement cost valuations.

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