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Where Profits Come From

Answering
the Critical Question
That Few Ever Ask

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*Every year since 1933,
American corporations in aggregate
have taken in revenue in excess
of their expenses. Where do these
profits come from?*



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I. INTRODUCTION

Why Profits Matter

It is no secret that profits are the essential motivation for many activities in a capitalist economy. A firm's profits greatly influence its decisions about production levels, employment, and investment. Naturally, profits play a dominant role in microeconomics, the study of individual markets and the firms, industries, workers, and consumers that constitute them.

Just as profits are critical to the behavior of a single company, aggregate profits (the combined profits of all firms) have broad implications for the larger economy. Production, employment, and capital spending for the economy as a whole are strongly influenced by aggregate profitability. Therefore, understanding the determinants of aggregate profits leads to powerful insights into these activities and other economic phenomena, including inflation, unemployment, and business cycles.

Yet conventional macroeconomics, the study of the economy as a whole, rarely considers the role of total profits. When most business cycle analysts address the economy's overall performance, they focus on gross domestic product (GDP) and largely ignore aggregate profits. This is like assessing a firm's health by looking at its sales but not at its bottom line. In fact, any comprehensive analysis of business cycle dynamics must consider aggregate profits. For this reason, where profits come from and what determines their magnitude are critical questions.

The view of the economy that focuses on the profit creation process is the *profits perspective*. This powerful perspective provides a broad, financial view of the operation of the economy. It highlights developing influences for prosperity as well as threats to domestic and global economic and financial stability. It offers further understanding of virtually every important macroeconomic issue—deficit spending, business cycles, trade imbalances, etc. It exposes misconceptions about the relationship between saving and investment and between wages and profits. It is based on a direct flow-of-funds analysis, not on statistical approximations of reality. Therefore, it involves no exotic mathematics, no idealized assumptions about human intelligence and behavior, and no rigid or unrealistic assumptions about how firms, consumers, and investors operate.

How to Use *Where Profits Come From*

Where Profits Come From reveals what determines the total volume of profits in the economy by identifying and explaining the sources of profits. It also discusses some of the advantages of this approach. It is designed to be read on more than one level.

1. For a quick, basic understanding of the sources of profits and the profits equation, one may choose to read sections I, II, and III through page 14. Simply inspecting the remaining flow diagrams and their captions will provide a good general understanding of how the economy generates profits.
2. Adding section IV will provide an appreciation of the significance and usefulness of the profits perspective.
3. Readers with deeper or more technical interest can read the remainder of section III. An appendix offers further discussion of technical issues.

Think Macro, Not Micro

Answering the question "Where do profits come from?" requires a macroeconomic perspective. Profits are produced by specific macroeconomic flows of funds. Unfortunately, the macro perspective necessary to investigate these flows can be elusive because of a

logical trap: the tendency to assume wrongly that circumstances that apply to the familiar case of the single firm also apply to the entire business sector.

To illustrate the problem of applying a microeconomic perspective to a macro situation, consider the following. As every entrepreneur knows, employee costs are a major influence on a firm's profits. Cutting payroll expenses means a more robust bottom line. Accordingly, it is commonly believed that when firms throughout the economy hold down wages, they improve aggregate profits. However, for the whole business sector, cutting employee compensation reduces revenue as well as expenses. Less worker pay means less personal income and, therefore, less personal spending on the goods and services sold by businesses. Therefore, cutting payrolls will not directly increase corporate profits; however, it may indirectly affect profits through its consequences for such transactions as business investment, personal saving, and other issues that will be explored in the pages that follow.

One firm's profits are in large part the result of its ability to compete with other firms and to secure profits at their expense. Firms' quest for profits is not unlike a children's treasure hunt. The children with the sharpest eyes, the cleverest minds, the fastest legs, and, sometimes, the best luck find the most prizes. Yet these attributes have no effect on the total number of prizes available. In seeking the sources of aggregate profits, our interest is in what determines the total volume of profits available for business, and not in factors that affect only how those profits will be divided among firms.

We will present two ways to derive the sources of total business profits. The first, the identity method (pages 5-7) relies on a few simple applications of addition and subtraction. It is a quick way to identify the sources of profits and derive an equation for aggregate profits. However, this procedure fails to answer questions about the causal relationships in this equation, and it does not show how the phenomena we call "profit sources" actually determine the amount of aggregate profits. The second way to derive the sources of profits, the flows method (pages 7-20), provides insight into the origin of profits by tracing flows of funds through the economy.

II. FINDING THE SOURCES OF PROFITS: THE IDENTITY METHOD

Profits, Saving, and Investment

Aggregate profits, after corporate income taxes and dividends have been paid out, are the wealth the business sector accumulates during a period of time. Of course, businesses are not the only ones accumulating wealth—households, government, and foreign entities¹ also do so. The wealth the business sector accumulates is equal to the total new wealth created in the economy less that accumulated by the other sectors.

In economics, the accumulation of wealth is called saving, and the creation of wealth is called investment. By common sense, the new wealth the economy accumulates equals the new wealth the economy creates; that is, saving equals investment. Investment here refers not to the purchase of stocks or bonds, but to activities that increase the total wealth in the economy, such as the construction of buildings and manufacture of business equipment. There is no need to become hung up on exactly what we should count as wealth. Definitions of wealth vary; for example, the national income and product accounts (the "GDP accounts") recognize only a narrow class of wealth additions as investment: structures, equipment, software, and additions to inventories of goods. By contrast, gen-

Profits and the Fallacy of Composition

"One spectator at a football game will enhance his view by standing; therefore, all the spectators will improve their view by raising themselves from their seats." The above argument is an obvious example of the logical transgression known as the fallacy of composition. Most people make the same kind of error when discussing aggregate business profits. They recognize that a firm's profits reflect its selling prices, payroll expenses, productivity, materials prices, economies of scale, and so forth, so they wrongly assume that the same influences act on aggregate profits.

The accumulation of wealth is called saving, and the creation of wealth is called investment.

¹ Although the foreign sector is not part of the U.S. economy, it is treated as a sector because it is a source and destination of funds flows to and from the domestic sectors. It represents foreign individuals, firms, governments, and other organizations.

The new wealth the economy accumulates equals the new wealth the economy creates.

erally accepted accounting principles count such assets as land, patents, mineral rights, licenses, and various other items as wealth, and some people favor accounting regimes that recognize additional assets and wealth, such as human capital, management technology, and other, less tangible items. *But no matter what accounting system one uses, saving will always equal investment.*

The creation of financial assets may redistribute the economy's wealth, but it does not represent new wealth; a financial asset for one party is a financial liability for another. But what about wealth gains that occur when one's house, stock portfolio, or derivatives appreciate? The national income accounts ignore such gains, but they could easily be included if the definitions of saving and investing were broadened. (See appendix [1] for a discussion of what happens when a financial asset, such as a share of stock, appreciates.)

As we said before, the new wealth the economy accumulates equals the new wealth the economy creates. In other words

$$\text{Saving} = \text{Investment}^2$$

Total saving equals the saving by the business sector plus the saving by all other sectors, hence

$$\text{Business saving} + \text{Nonbusiness saving} = \text{Investment}$$

This can be rearranged:

$$\text{Business saving} = \text{Investment} - \text{Nonbusiness saving}$$

Business saving is none other than profits after taxes and dividends. Therefore,

$$\text{Profits after taxes and dividends} = \text{Investment} - \text{Nonbusiness saving}$$

Thus, as we asserted earlier, the wealth businesses accumulate is equal to the total new wealth created in the economy less the wealth accumulated by the nonbusiness sectors.

Profits Before Tax

Up until this point we have discussed profits after corporate profits taxes and dividends are deducted. However, the dividends and profits taxes paid out are part of the profits of the firm, their distribution to shareholders and government notwithstanding. Therefore, the profits equation we seek is for profits before tax ("before dividends" is understood in common usage). Thus, we simply add dividends and profits taxes to both sides of the equation, and we get the following:

$$\begin{aligned} \text{Profits before tax} &= + \text{Investment} \\ &\quad - \text{Nonbusiness saving} \\ &\quad + \text{Dividends} \\ &\quad + \text{Corporate profits taxes} \end{aligned}$$

This is the profits equation.³ It identifies the sources of profits. It says that changes in these profit sources—investment, nonbusiness saving, dividends, and corporate profits taxes—will

² In this analysis, saving and investment refer to net saving and net investment. Net investment is the creation of tangible assets less any losses of wealth due to the depreciation, loss, or destruction of any preexisting structures and equipment. Net saving means the accumulation of new wealth less the loss of wealth due to the depreciation of fixed assets owned. The saving-investment equation holds for either gross or net terms.

³ Except as otherwise noted, the terminology and definitions in this discussion are consistent with those in the national income and product accounts (NIPA), the government's primary economic accounting system, which includes gross domestic product (GDP).

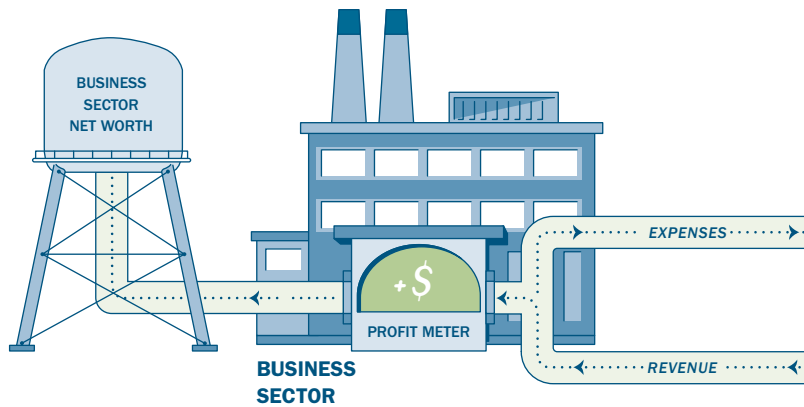


Figure 1

When business sector revenue exceeds expenses, the difference flows through the “profit pipeline,” registers on the “profit meter,” and adds to the sector’s net worth.

be matched by changes in profits. Like the saving-investment equation, the profits equation is an identity, meaning that it always holds true under any circumstance. Unlike the many, sometimes controversial theories that pervade economics, this is an incontrovertible statement.

However, this profits identity says nothing about causality. Using algebra to show that profits are equal to the sum of several terms does not prove that profits are determined by those terms. Nevertheless, we will show that there is a strong causal relationship between the profit sources and profits. Indeed, this profits equation is the answer to our query, “Where do profits come from?” Profits are generated by the economy’s creation of new wealth, but they are reduced as sectors of the economy besides business accumulate shares of that new wealth.

The alternative method of deriving the profits equation, the flows method, reveals the direction of causation and provides insight into the economy’s process of generating profits.

III. FINDING THE SOURCES OF PROFITS: THE FLOWS METHOD

The Pipeline Economy

Money flows through the economy like water through an intricate network of pipes. Dollars circulate continuously as they are received and spent by many different individuals and organizations over the course of a year. Wages, profits, sales revenues, taxes, and dividends are all flows of money, not static sums that sit in bank accounts or treasuries. Therefore, examining the profit sources requires a model of the economy that reflects this constant circulation of dollars.

The network-of-pipes model focuses on the particular flows that bring profits to the business sector. The discussion and diagrams that follow explain each kind of payment, transfer, or other transaction that affects profits with a specific flow of money through a pipe.

Imagine all the revenue of the business sector coming in through one pipe and all its expenses running out through another (figure 1). The “profit meter,” which measures the volume flowing through it much like a water meter, records the net effect of these flows on business net worth, represented by the “net worth tank.” All expenses reduce the net worth of business, and all revenues increase net worth.⁴ If the flows in these two pipes are

⁴ Not counted are transactions between businesses, which affect the profits of individual firms but have no impact on aggregate profits (except for investment outlays, discussed shortly). For example, suppose a florist shop pays a service station \$100 to align the wheels of its delivery truck. The service station’s revenue adds \$100 to total business sector revenue, and the florist’s \$100 expense adds \$100 to total business expense. There is no change in aggregate profits.

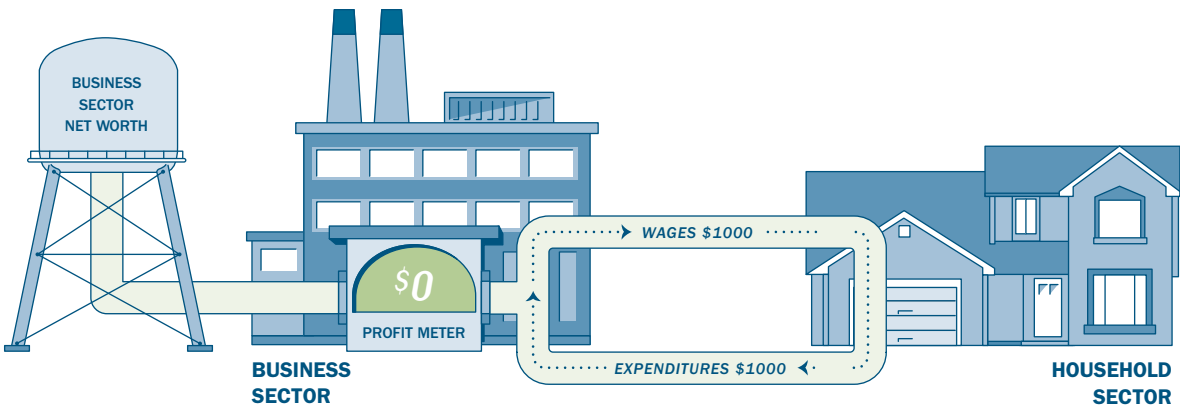


Figure 2

If the only source of consumer purchasing power were business sector wages, business could never make a profit, even if consumers spent every cent they earned.

equal, the profit meter reads zero; there is no profit or loss, and net worth is unchanged. But when revenues exceed expenses, the difference (profits) registers on the profit meter and adds to the net worth of the business sector.

We start with an extremely simple economy and introduce the profit sources one at a time, gradually building our model economy until it reflects all the forces affecting aggregate profits. Simultaneously, we will build up our profits equation one profit source at a time. The end result will be an equation exactly like the profits identity we derived using the identity method, but this time we will have seen how decisions to save, invest, tax, import, and so forth cause changes in profits.

The economy is divided into four sectors: household, government, foreign, and business.⁵ Generally, we are concerned only with net flows into or out of a sector. For example, a grant from the federal government to the state of Mississippi is a flow of money, but it is one that takes place within the government sector; dollars do not flow out of or into the government sector as a whole. As such, the grant does not affect the government sector overall or the rest of the economy.

Wages, Personal Saving, and Profits

At the outset, suppose our economy is very simple, composed of a household sector and a business sector that produces and distributes only consumer goods and services. Furthermore, suppose there is no inventory building—all goods are consumed in the period they are produced.

The wages that business pays to its workers are a flow of income to households. Households in turn spend this income on goods and services produced by the business sector; the consumer expenditure pipe flows into the business revenue pipe. Figure 2 illustrates these flows during a given period of time.

If the household sector spends all of its income during a given period, the business sector will not secure any profits. Since households spend every dollar of wages earned, total business revenue (consumer expenditures) will exactly equal total business expense (wages paid to households) and aggregate profits will be zero.

⁵ The household sector is all individuals in their roles as (1) recipients of wage, interest, dividend, and other forms of personal income and (2) consumers. This sector also includes not-for-profit organizations (viewed in the national statistics as groups of consumers). The business sector here is defined as all for-profit firms. For a note on the treatment of unincorporated businesses, see appendix [2].

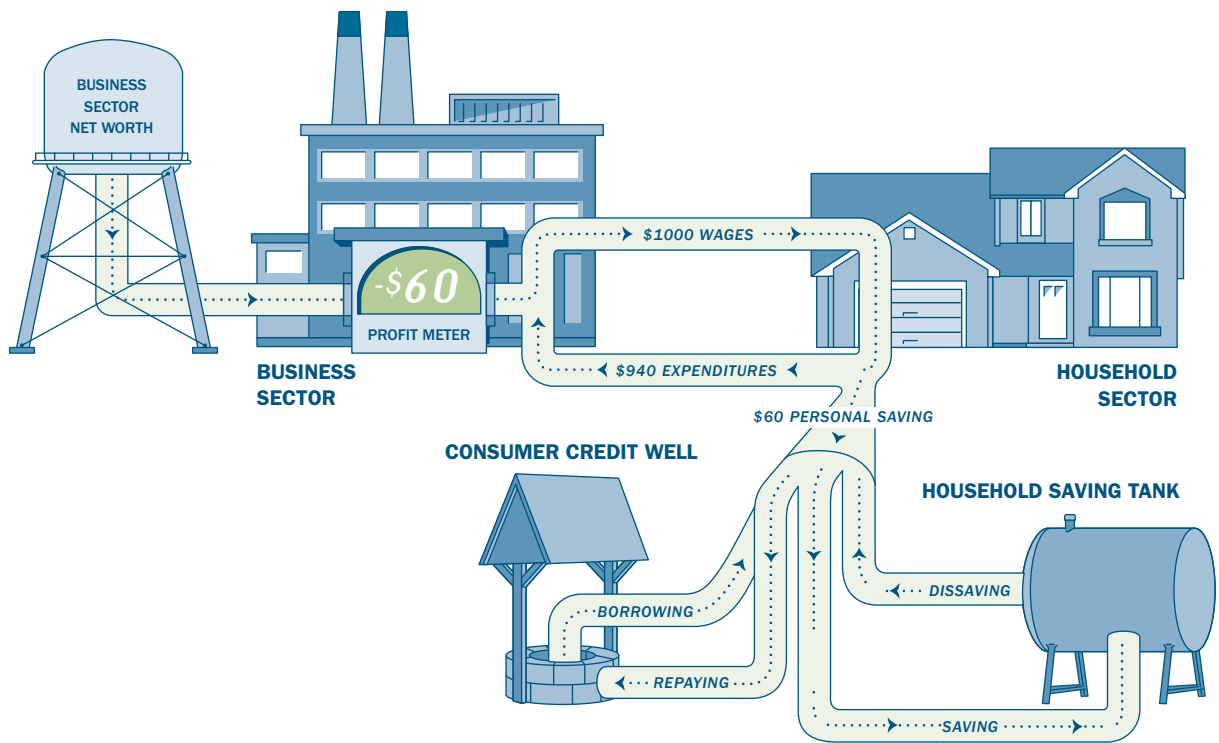


Figure 3

Saving, dissaving, borrowing, and repaying debt are all activities that affect how much of the household sector income will flow out as expenditures. The name given to the net effect of all these flows is “personal saving.” It is generally positive and therefore reduces consumer expenditures.

Yet households have options other than spending all of their income. They can spend less than they earn, perhaps depositing some money in a bank account or using it to reduce debt. Conversely, by borrowing money or spending funds previously set aside, they can spend more than they earn—negative saving. We represent consumer borrowing as flows from the “consumer credit well” and income not spent as flows into the “household saving tank” in figure 3. In reality, some households save while others dissave, but the household sector as a whole almost always saves some portion of its income. The official term for this net household saving is *personal saving*.

Suppose total wage income is \$1000, but households save \$60. Figure 3 illustrates what happens to profits in this case: household saving diverts some money from cycling back to the business sector as expenditures, reducing the stream of revenue to business by \$60 while leaving business expenses unchanged. Profits, which were zero when households spent all of their wages (figure 2) are now -\$60. Business has a loss equal to the amount households save. Personal saving is a negative source of profits.

$$\text{Profits } (-\$60) = - \text{Personal saving } (\$60)$$

We now can see the causal relationship between personal saving and profits. The decision by households to save some of their income is responsible for reducing profits—much as the decision of a farmer to divert part of a brook onto his land is responsible for reducing the water flowing to another farmer downstream.⁶

⁶ Interest paid by businesses to the household sector, like wages, is income that becomes business revenue when consumers spend it. As a result, business interest expense is similarly not in the profits equation. However, if households do not spend some of this income, then personal saving rises at the expense of profits.

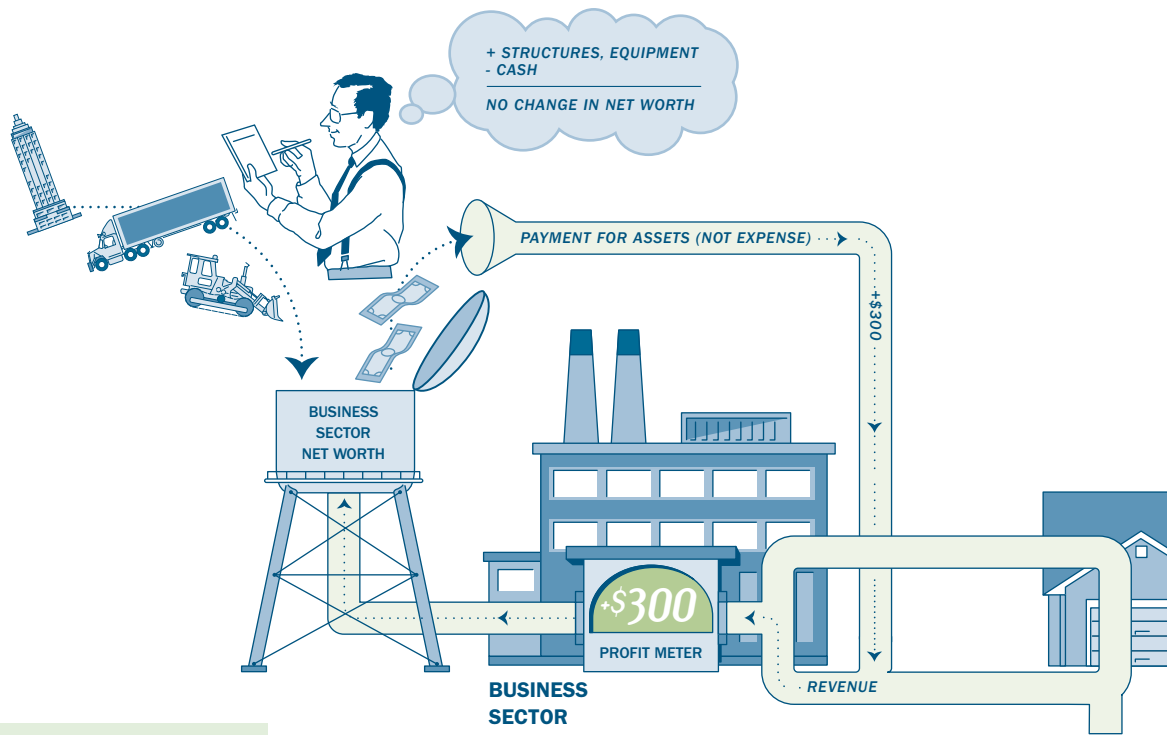


Figure 4

The accountant observes that firms buying new fixed assets (such as equipment or buildings) with cash are simply exchanging assets without changing their net worth. Such investment outlays are not recorded as expenses by firms at the time of purchase; rather, the amount paid for these assets is typically expensed gradually over the course of the assets' useful lives. As a result, at the time of purchase no money flows through the profit meter and out the expense pipe. But the money paid for these goods cycles right back to the business sector through the revenue pipe and profit meter.

Figures 2 and 3 illustrate an interesting point: total saving in our simple economy is always zero. When personal saving is zero, profits are also zero (profits exactly equal business saving since there are no profits taxes or dividends). In the case where personal saving is \$60, business saving is -\$60. Total saving must be zero because there is no investment. No new wealth is accumulated in this economy for the simple reason that no new wealth is created. Our simple economy produces only consumer goods and services, and no inventories are built for future consumption.

Investment and Profits

We now introduce net investment, or creation of tangible wealth, into the model economy. Investment has two components: net fixed investment (the net increase in the economy's stock of structures and equipment) and inventory investment.

Net fixed investment is typically the largest and most important profit source in a capitalist economy. It includes business investment in structures, equipment, and software.⁷ It also includes residential investment, which equals total outlays for the construction of all types of housing—from apartment buildings to single family homes—as well as outlays for additions and improvements. In keeping with NIPA conventions, we treat

⁷ For the sake of simplicity, we treat government investment in structures, equipment, and software like any other government expenditure, as was the NIPA convention until 1996. The distinction between government consumption (e.g. fuel for police cars) and government investment (e.g. construction of a bridge) can be important when one analyzes public financial activity, but our present focus is on the business sector. The effect of government outlays on profits is the same whether the outlays are for consumption or investment. (See appendix [3] for an explanation of how the profits equation would change if separate figures for government investment and consumption were used.)

residential investment as another kind of business investment. This may seem puzzling at first, but there are good reasons, explained in appendix [4], to consider home ownership a business.

It is useful to think about net fixed investment as the difference between two components:

$$\text{Net fixed investment} = + \text{Gross fixed investment} \\ - \text{Capital consumption allowances}$$

These components warrant separate consideration.

Gross fixed investment is the creation of new private structures and equipment. It is a source of profits because it creates business revenue without generating an expense. When a firm purchases a building or machine, it merely exchanges one asset (cash) for another (fixed asset). No expense is incurred until the first depreciation charge is recorded. But to the contractor that sells the building or the manufacturer that sells the machine, the transaction is a sale that produces revenue.

This process is described in figure 4. The accountant in the diagram observes that firms are buying new, valuable fixed assets and paying for them with cash—a simple exchange of assets. He notes that net worth is unchanged by these actions. Since the purchases are not expenses, no cash flows through the profit meter and out the expense pipe.

But who is selling the capital goods? Some of the firms in the business sector itself. So, the money paid for these goods, \$300, cycles right back through the revenue pipe, through the profit meter, and into the net worth tank. Thus,

$$\text{Profits } (\$240) = + \text{Gross fixed investment } (\$300) \\ - \text{Personal saving } (\$60)$$

We now turn to capital consumption allowances. Although investment causes no expense when it occurs, the amounts paid for all fixed assets are eventually expensed in full. Usually this process occurs a little at a time as depreciation expenses are charged over a fixed asset's lifetime. But sometimes a lump-sum expense is charged (i.e., the asset is "written off") if it is destroyed by accident or natural disaster. Depreciation and write-offs of fixed assets together are called *capital consumption*.

Figure 5 illustrates the loss of business sector net worth through capital consumption. For purposes of our illustration, capital consumption is \$160. Although there is no money flow involved, accountants charge depreciation expenses as if money did flow out of the net worth tank, through the profit meter, through the expense pipe, and down the "depreciation drain". Unlike wages, the business sector's depreciation expense is not an inflow for some other sector; it is a loss to the economy. Thus,

$$\text{Profits } (\$80) = + \text{Gross fixed investment } (\$300) \\ - \text{Capital consumption allowances } (\$160) \\ - \text{Personal saving } (\$60)$$

Note that in contrast to gross fixed investment, which produces business sector revenue but no expense, capital consumption is expense without any offsetting revenue. From another viewpoint, capital consumption is a negative source of profits because it is the erosion of existing wealth, diminishing the net gain in the economy's wealth of which business will obtain a share.

Gross fixed investment is a source of profits because it creates business revenue without generating an expense.

Although investment causes no expense when it occurs, the amounts paid for all fixed assets are eventually expensed in full.

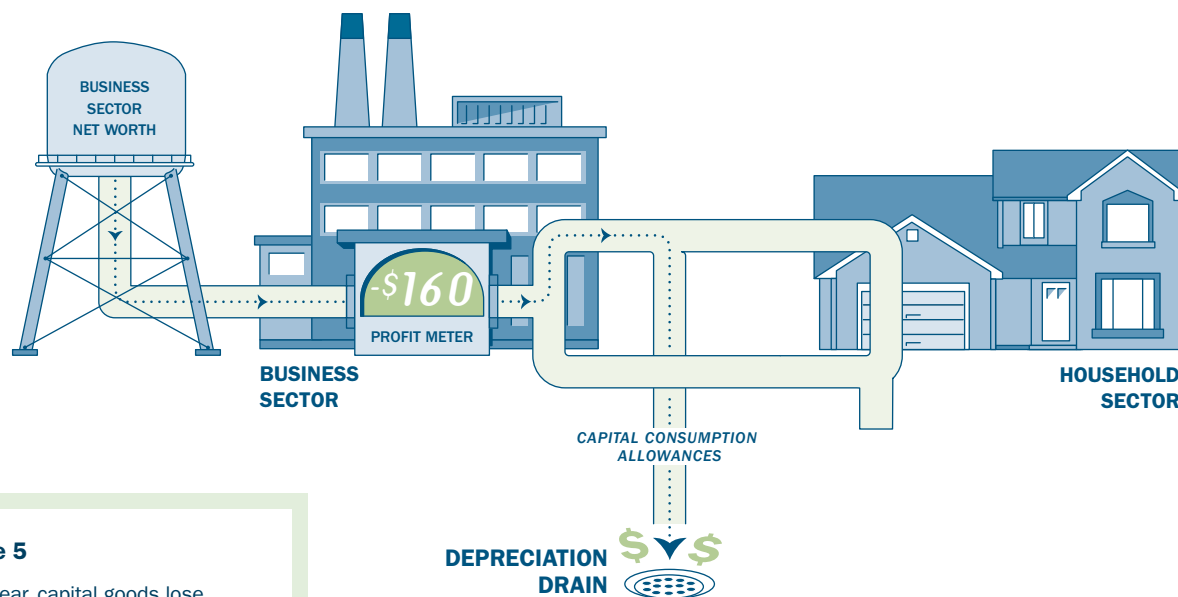


Figure 5

Each year, capital goods lose value as a result of wear, tear, and accident. The business sector's net worth declines. Accountants note this decline by charging capital consumption expenses, as if money were flowing out of the expense pipe and going down the depreciation drain. Here capital consumption allowances are \$160. Unlike wages, these expenses do not benefit another sector and are losses to the entire economy.

Inventory Investment and Profits

The remaining part of investment is inventory investment.⁸ Like purchases of fixed assets, firms' investments in inventories are not counted as expenses—firms merely trade cash for physical assets. Only when goods are taken out of inventory and used or sold—i.e., when the asset is given up—is the “cost of goods sold” or another expense recognized.

The effect on profits of additions to inventory is illustrated in figure 6, which is similar to the illustration for gross fixed investment (figure 4). Here again the accountant observes an exchange of assets—valuable goods are added to the net worth tank as cash is removed. He notes that net worth is unchanged by these actions. Since the purchases are not expenses, no cash flows through the profit meter and out the expense pipe.

On the other side of the transaction, the sellers of the goods that go into inventories are, of course, firms in the business sector itself. The money paid for them, in this case \$10, cycles right back through the revenue pipe, through the profit meter and into the net worth tank. Thus,

$$\begin{aligned}
 \text{Profits } (\$90) &= + \text{Gross fixed investment } (\$300) \\
 &\quad - \text{Capital consumption allowances } (\$160) \\
 &\quad + \text{Inventory investment } (\$10) \\
 &\quad - \text{Personal saving } (\$60)
 \end{aligned}$$

Unlike fixed assets, inventories are not depreciated. But the change in inventories can be negative; the business sector sometimes sells more than it produces, and some inventories are written off (charged as an expense) because they spoil, are lost, expire, or are destroyed.

⁸ For simplicity, we assume that inventory investment is entirely the result of goods purchases. The case of inventory building from internal production is discussed in appendix [5].

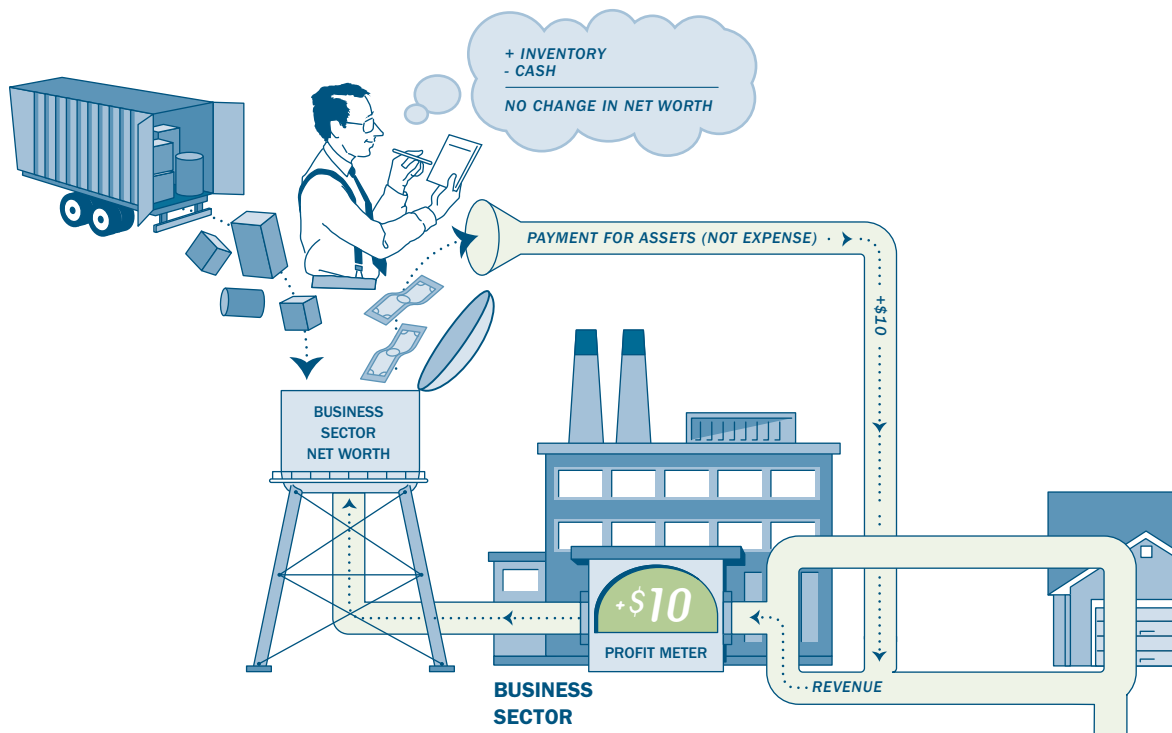


Figure 6

When business expands its inventory, valuable goods are added to the net worth tank as cash is removed. The accountant observes an exchange of assets but no change in net worth. Since the purchases are not expenses, no cash flows through the profit meter and out the expense pipe. But the money paid for this inventory cycles right back to the business sector through the revenue pipe and the profit meter.

When inventory investment is negative, the business sector records an expense equal to the value of the inventory reduction, and profits are reduced. Inventory liquidation is a decline in the economy's stock of tangible assets and therefore a loss of wealth.⁹

Combining all the components of net investment, our profits equation becomes

$$\text{Profits } (\$90) = + \text{Net Investment } (\$300 - \$160 + \$10) \\ - \text{Personal saving } (\$60)$$

The Causality Behind the Profits Identity Begins to Emerge

The two profit sources in the preceding equation are the fundamental components of the profits equation. True, our model economy still lacks government, a foreign sector, and distributions of profits (dividends) to shareholders. Despite these missing elements, which will appear shortly, three important observations warrant attention:

First, in Section II (identity method), we noted that investment is the creation of new wealth in the economy. Business's share of this new wealth is business saving. The flows method has taken us further by revealing that investment sets in motion flows of funds that become—indeed, cause—profits.

⁹ For another perspective on inventory reduction, think back to the starting point of our simple flow model in which there was no personal saving and wages paid out were exactly offset by consumer spending (figure 2). If, during a given period, business sells not only what is produced but also stocks of goods built up during earlier periods, its revenue will still equal its payroll expenses, but it will also have the expense of goods sold out of inventories. The business sector usually runs down inventories during a recession or pronounced slowdown, and this negative investment contributes to the weakness in profits.

Although investment decisions are made in the business sector, no business can manipulate investment to enhance its own current profits.

Saving by the foreign and government sectors, like personal saving, reduces profits by diverting funds from becoming business revenue.

Second, although investment decisions are made in the business sector, no business can manipulate investment to enhance its own current profits. Even the largest corporations are tiny relative to the entire business sector, so no firm's investment will have a significant direct impact on its own revenue or profits.

Third, it is now clear what determines the division of new wealth between profits and personal saving: the behavior of consumers. The identity method of deriving the profits equation did not indicate who or what decides what share of the economy's new wealth goes to each sector. By contrast, the flows method shows that personal saving is a negative profit source and that it is largely at the discretion of consumers, who directly determine what part of income will flow on to the business sector as revenue.¹⁰ The more households save, the more they accumulate wealth at the expense of the business sector. Profits change in direct, immediate response to personal saving.

Foreign Saving and Profits

The transactions between the United States and the rest of the world are numerous and complicated. For the sake of our discussion, we will limit our consideration to four major categories of international funds flows, which are illustrated by four pipes in figure 7 (see appendix [7] for more detailed discussion). The first category is payments by business to the rest of the world, which are primarily outlays for imported goods and services, including interest payments and other payments for the services of capital. The second is payments by households for goods and services purchased directly from foreign businesses (mostly travel expenses and other outlays made by Americans outside the United States). The third category of flows is business receipts from foreigners—payment for exports of goods and services, income earned on business investments in other countries, and interest on loans to foreigners. The fourth is investment income earned by the household sector on foreign holdings, as when an individual receives dividends on shares in a German company or interest on Italian bonds.

When international payments exceed receipts, the economy experiences a current account deficit—a net transfer of wealth abroad (unless offset by a shift of tangible assets—see appendix [8]). This wealth created in the domestic economy but accumulated by the rest of the world is foreign saving.¹¹ Inevitably, any net shift of wealth abroad leaves less new wealth in the economy available to be saved by business.

When the business sector pays Samsung for consumer audio equipment, Saudi Arabia for petroleum, or a Hong Kong investor interest on his U.S. corporate bonds, funds flow out through the expense pipe and then leave the country. Unlike wages paid to domestic workers, which come back as revenue (less personal saving), these payments to foreigners are lost to the domestic economy. In figure 7, \$135 dollars are lost this way. Similarly, American

¹⁰ This is not to say that profits cannot affect saving in any way. One period's profits may indirectly alter personal saving in subsequent periods as individual stockholders respond to their companies' earnings (see appendix [6]), as firms alter their hiring, and as workers respond to new labor market conditions. But these are delayed effects that require people to reflect and make decisions. By contrast, the impact of personal saving decisions on profits is immediate and automatic. When an individual receives a paycheck, his or her decision whether to spend it right away or to save it instantly influences profits.

¹¹ Foreign saving is equal to negative "net borrowing" (by the domestic economy from abroad). The latter term is used in the NIPA, but the former better communicates the notion of foreigners accumulating wealth from the domestic economy. Note that the NIPA concept of net borrowing uses slightly different accounting conventions than does the current account balance, but for simplicity we ignore these details here.

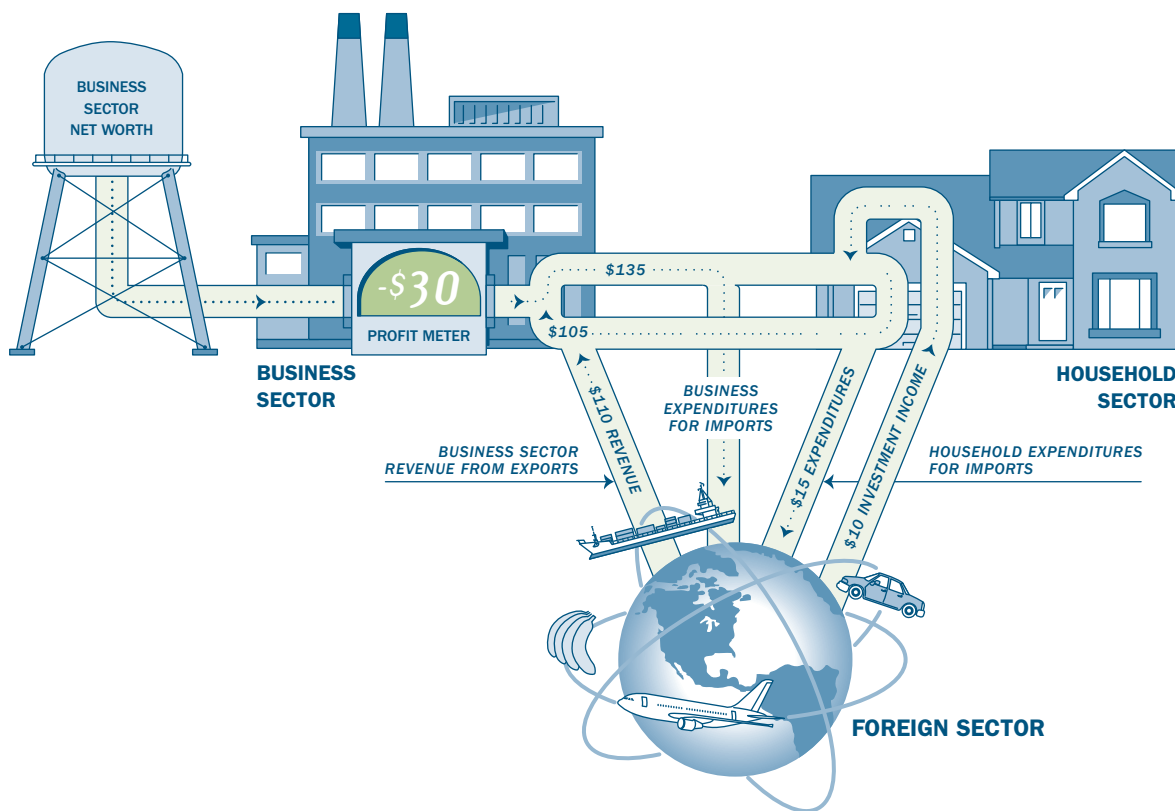


Figure 7

Payments to the rest of the world for goods and services all add to business expenses or reduce revenue. Conversely, payments received from the rest of the world increase revenue. Therefore, when foreign saving is positive (the current account balance is negative), it reduces profits.

consumers may buy British Airways tickets, a London hotel stay, and a suit from a London tailor. These purchases are consumption, not saving, but the money spent might as well have been saved by the household sector from the point of view of domestic business. In figure 7, the business sector loses another \$15 dollars in potential revenue from the household sector.

Of course, the United States’s foreign transactions go in two directions; exports of Boeing aircraft and Kansas wheat bring in revenue from the foreign sector, and Citibank loans to foreign entities generate interest income from abroad. These revenues flow into the country and straight to the business sector. These receipts are \$110 in the example.

In addition, investment income flows into the country to the household sector. These funds amount to \$10 in our example.

Summing up all of these international transactions that affect aggregate business revenue and expenses yields the foreign sector’s contribution to profits, the current account surplus (which is negative in this example):

$$\text{Current account surplus } (-\$30) = + \text{International receipts } (\$110 + \$10) - \text{International payments } (\$135 + \$15)$$

Furthermore, the current account surplus gives us foreign saving:

$$\text{Foreign saving } (\$30) = - \text{Current account surplus } (-\$30) \quad [\text{or } + \text{Current account deficit } (\$30)]$$

A country with a substantial current account surplus augments its profits through international commerce.

Thus, the profits equation is now:

$$\begin{aligned} \text{Profits (\$60)} &= + \text{Net Investment (\$150)} \\ &\quad - \text{Personal saving (\$60)} \\ &\quad - \text{Foreign saving (\$30)} \end{aligned}$$

International transactions reduce U.S. profits in the example—as they have for most of the past three decades—because the current account is in deficit. A country with a substantial current account surplus (such as the United States for most of the period from the end of World War II through 1977 or, in more recent times, Japan and China) augments its profits through international commerce. Negative foreign saving means receipts larger than payments, which boosts profits.

Government Fiscal Balance and Profits

Government sector saving is a negative source of profits.¹² Flows of funds between the government and household and business sectors can be summed up as the flows represented by four pipes in figure 8, with two exceptions. For simplicity, we leave transactions between the government and the foreign sectors to appendix [7] and, for the moment, assume that there is no corporate income (profits) tax.

The first category of funds flows—traveling through the personal taxes pipe—is payments from the household sector to the government sector. It includes sales taxes, personal income taxes, contributions to Social Security, other taxes, and various fees. These are flows of funds diverted from business revenue (unless they reduce personal saving). In the model economy, they are \$115.

The second category of flows includes excise taxes, fees, and all other payments from the business sector to government (excluding profits taxes, as noted above). These are business expenses, totaling \$20 in our example.

The third set of flows is payments from the government sector to households, including government wages, transfers, and interest. These flows provide consumers with income to spend on the products of business—revenue for the business sector. However, unlike wages paid by firms, these payments do not represent a business expense since they come from the government sector. In the model economy, these payments are \$150.

The final group of flows—government payments to business—includes funds paid by the government sector for goods and services purchased from the business sector as well as government interest payments to business. All of these payments are direct additions to business revenue (\$50 in figure 8).

The diagram allows us to sort out the overall effect of the government sector on profits. Government expenditures add to business sector revenue both directly through government purchases of goods and services and indirectly by increasing the income of households, which then buy from business. Flows to the government either increase business expenses or reduce business revenue. If the government sector saves (spends less than it receives), the subtractions from profits will more than offset the additions to profits; a government surplus is a negative source of profits. Conversely, a government deficit is a positive source of profits because more money flows from the government sector to become business revenue than government takes away from business.

¹² The government sector comprises the federal government and the thousands of state and local governments.

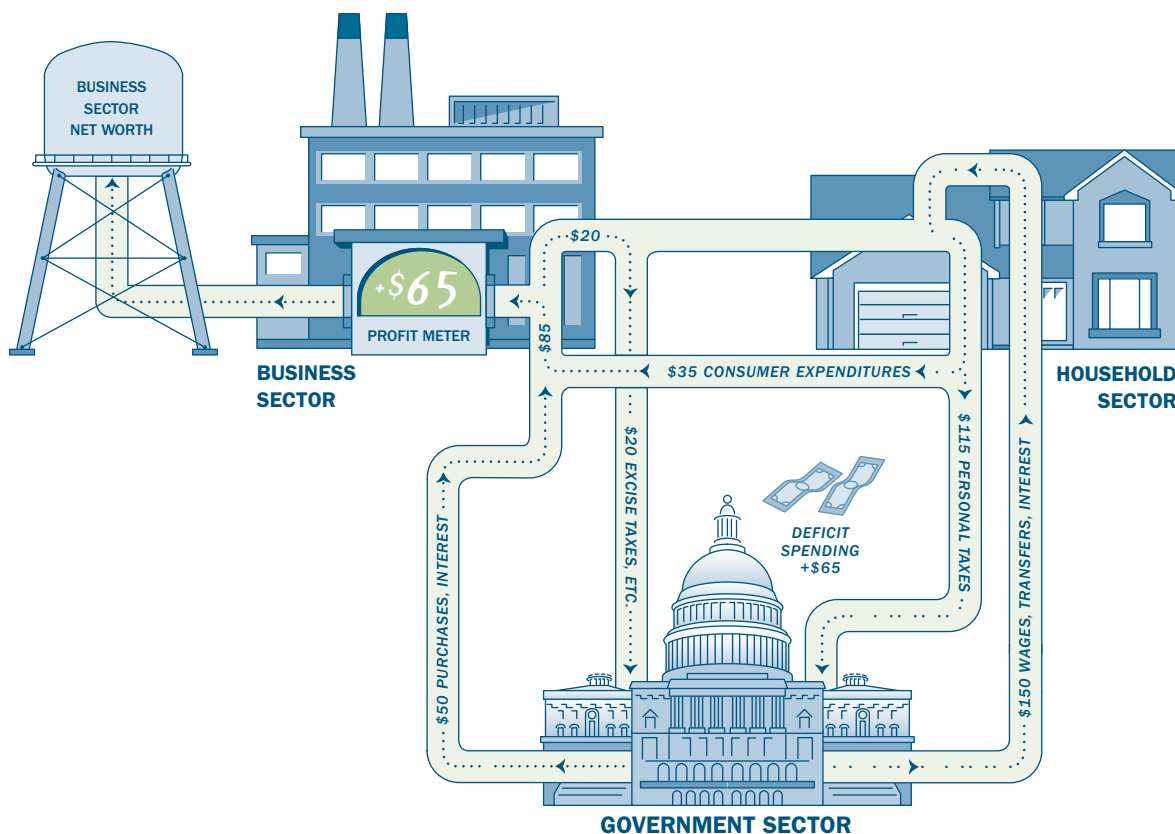


Figure 8

Government expenditures add to business sector revenue both directly through purchases of goods and services and indirectly by increasing household income. Flows to government either increase business expenses or reduce business revenue. Therefore, a government deficit, as pictured, is a source of profits.

This situation has been typical of the postwar era, and it is the case illustrated in the model economy.

Since government sector spending boosts profits while government revenue reduces profits, the effect of the government sector on profits is:

$$\text{Government deficit } (\$65) = + \text{ Outlays } (\$150 + \$50) - \text{ Revenues } (\$115 + \$20)$$

Moreover,

$$\text{Government deficit } (\$65) = - \text{ Government saving } (-\$65)$$

So the profits equation expands to

$$\begin{aligned} \text{Profits } (\$125) = & + \text{ Net Investment } (\$150) \\ & - \text{ Personal saving } (\$60) \\ & - \text{ Foreign saving } (\$30) \\ & - \text{ Government saving } (-\$65) \end{aligned}$$

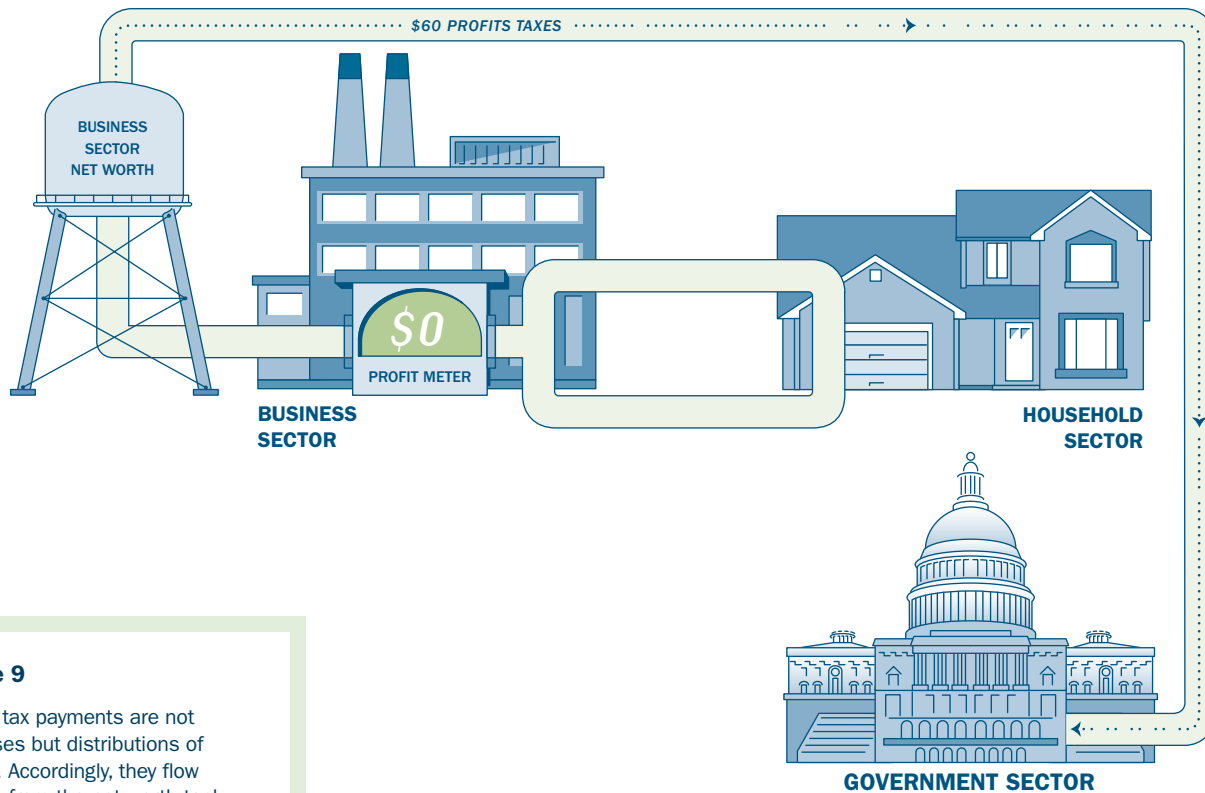


Figure 9

Profits tax payments are not expenses but distributions of profits. Accordingly, they flow directly from the net worth tank without passing through the profit meter.

Corporate Profits Tax

The next step is to acknowledge that the business sector does indeed pay income tax on its earnings—profits tax. Profits taxes are flows from the business sector to government, but although they are sometimes referred to as “profits tax expense”, they are unlike the business expenses we have mentioned thusfar. They are distributions of profits calculated *after* profits have already been secured and tabulated. Accordingly, in figure 9 they flow directly from the net worth tank without passing through the profit meter, which measures profits before tax. In the model economy, profits taxes are \$60. Personal taxes remain \$115 and indirect business taxes \$20, so now total government tax revenue is \$195.

We noted above that all government revenue reduced profits. But now, with profits taxes, this observation must be amended: all government revenue except profits taxes reduces profits. Therefore, keeping in mind that all government expenditures increase profits, the contribution of the government sector to profits is:

$$\begin{aligned}
 & \text{Outlays } (\$200) - [\text{Revenue } (\$195) - \text{Profits taxes } (\$60)] \\
 & = + \text{Government deficit } (\$5) + \text{Profits taxes } (\$60) \\
 & = - \text{Government saving } (-\$5) + \text{Profits taxes } (\$60)
 \end{aligned}$$

Hence,

$$\begin{aligned}
 \text{Profits } (\$125) & = + \text{Net Investment } (\$150) \\
 & - \text{Personal saving } (\$60) \\
 & - \text{Foreign saving } (\$30) \\
 & - \text{Government saving } (-\$5) \\
 & + \text{Profits taxes } (\$60)
 \end{aligned}$$

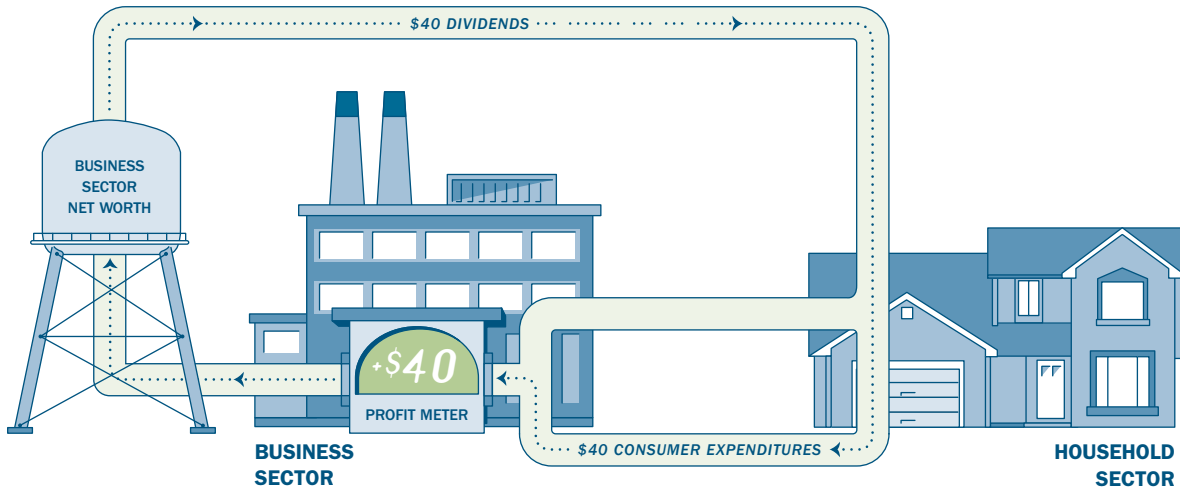


Figure 10

Dividends paid to households add to business revenue when consumers spend them. Because dividends are distributions of profits, not expenses, they do not flow through the profit meter and out the expense pipe.

Dividends: The Counterintuitive Profit Source

The final profit source is not a type of investment or saving. Although it is not immediately apparent, dividends paid by corporations to shareholders add to total profits.

Dividends paid to households add to business revenue when households spend them, as shown in figure 10. Corporations do not count dividends as a business expense because these payments are shares of profits already obtained that are distributed to the firms' owners, \$40 in our example. Since dividends are not expenses, they do not flow backward through the profit meter but directly from the net worth tank to households. Yet households spend this additional income (unless personal saving rises—an offsetting, negative profit source) just as they spend the rest of their income. If personal saving remains constant, the full amount paid out in dividends will come back to business in the form of consumer expenditures—as business revenue.

Thus, dividends add to business revenue without increasing expenses, thereby increasing profits. (See appendix [9] for a comment on dividends paid between businesses, to government, and to foreigners.)

Now,

$$\begin{aligned}
 \text{Profits } (\$165) &= + \text{Net Investment } (\$150) \\
 &\quad - \text{Personal saving } (\$60) \\
 &\quad - \text{Foreign saving } (\$30) \\
 &\quad - \text{Government saving } (-\$5) \\
 &\quad + \text{Profits taxes } (\$60) \\
 &\quad + \text{Dividends } (\$40)
 \end{aligned}$$

This is the complete profits identity—the equation for the sources of profits. We can combine the various forms of nonbusiness saving into one term, as follows:

$$\begin{aligned} \text{Nonbusiness saving} &= + \text{Personal saving} \\ &\quad + \text{Foreign saving} \\ &\quad + \text{Government saving} \end{aligned}$$

Substituting nonbusiness saving into our profits equation,

$$\begin{aligned} \text{Profits} &= + \text{Net Investment} \\ &\quad - \text{Nonbusiness saving} \\ &\quad + \text{Dividends} \\ &\quad + \text{Profits taxes} \end{aligned}$$

This equation is the profits identity derived in Section II (page 6) using the identity method.¹³

¹³ The NIPA data on profit sources do not actually add up to profits due to measurement imperfections. See appendix [10]. To learn about another approach to deriving the profits equation, see appendix [11].

IV. THE PROFITS PERSPECTIVE

What Is the Profits Perspective?

The profits perspective is a way of looking at the economy with a focus on the profits equation. By focusing on transactions that enlarge or diminish the flow of profits to the business sector, the profits perspective enables one to see how government policy, business developments, international events, and other phenomena contribute to profits, subtract from profits, or have no effect at all.

A major advantage of the profits perspective is that it provides insights into how changes in the economy will affect corporate profits, which affect how business will make subsequent investment, production, and employment decisions. For example, real GDP may be advancing solidly even as profits begin to weaken, as in 1989, in which case business is likely to begin reacting to narrowing margins by paring back expenditure plans.

A second advantage is that the profits perspective is inherently a financial view of the operation of the economy, and it connects profit generation to issues such as balance sheet size and structure, cash flow, cash requirements, credit, asset price changes, and financial stability. It provides a framework for analyzing how much, for example, a stock market bubble, a debt-refinancing boom, or a credit crunch will influence profits. Just as one would have a hard time evaluating the financial stability of a firm based solely on its unit output, it is hard to judge the financial stability of the economy based solely on real GDP.

Direct and Indirect Effects on Profits

The profit sources themselves include all direct influences on profits, but indirect influences are also important. These are events or circumstances that lead to changes in the profit sources. The profits perspective makes clear the channels through which such phenomena may alter aggregate business earnings.

The federal government's two primary macroeconomic policy tools—monetary and fiscal policy—illustrate the difference between indirect and direct influences on profits.

First, consider Federal Reserve interest rate policy. Because the business sector's interest expense is not in the profits equation (see appendix [12]), a rise in business interest payments caused by a Fed rate hike does not cause an immediate, direct change in the profits sources. However, since much interest goes to wealthy individuals, who tend to save high proportions of their incomes, higher interest rates may lead to higher personal saving, which does reduce profits. Moreover, more interest paid to foreigners will be a positive influence on foreign saving (although foreign saving will simultaneously be reduced by larger interest payments from foreign borrowers to domestic lenders). Overall, these shifts in the profit sources are quite small and, since they depend on saving decisions made by the recipients of interest income, they are indirect.

The most important influence of Federal Reserve policy on profits is delayed and also indirect. Interest rates sway individual and business decisions that in time affect profit sources such as residential investment, nonresidential investment in structures, and personal saving. Thus, a rise in interest rates in one period may reduce profits in the next.

In contrast to monetary policy, government fiscal policy has an immediate and also direct impact on profits, since a government deficit is a positive source. That is why, during the Great Depression, public works programs—deficit spending—helped boost profits. During the same period, monetary policy had little stimulative effect. Cutting interest rates was

Just as one would have a hard time evaluating the financial stability of a firm based solely on its unit output, it is hard to judge the financial stability of the economy based solely on real GDP.

Contrary to popular belief, increased saving by households or government does not cause investment to increase.

“pushing on a string” because it could only alter profits indirectly by influencing individual decisions, and people were generally too pessimistic to consume or invest, regardless of financing costs.

Fiscal policy also has indirect effects on the profit sources. Identifying and measuring them are controversial exercises, but undoubtedly the level of government saving or lack thereof can affect expectations in financial markets, long-term interest rates, and general confidence in the nation’s economy and currency. However, the analysis of the Levy Forecasting Center suggests that these effects are often smaller than commonly claimed, and that at least in the postwar history of the United States, the direct impact of fiscal policy as a profit source has overshadowed any indirect effects.

Profits Perspective Exposes False Claims

The profits perspective can shed light on analyses of the economy from other approaches. It can add insights to some conclusions reached from other viewpoints, and it can reveal flaws that invalidate other conclusions.

For example, public officials, forecasters, and investment advisors often use the saving-investment identity to argue that increases in personal and government saving will increase investment in plant and equipment, thereby improving the economy. Since saving equals investment, they reason, policies that increase personal or government saving must increase investment. By contrast, the profits perspective immediately highlights the omission of business saving from such analyses, and it emphasizes ways in which changes in personal and public saving will influence profits without necessarily affecting total saving or investment. Higher nonbusiness saving reduces business saving and therefore profits, rather than increasing investment. Moreover, weaker profits are likely to lead to less investment and, therefore, less total saving.

Interaction of Multiple Profit Sources and Indirect Influences

In the flows section (pages 7-20), we isolated one profit source at a time, holding others constant, but the real world economy is obviously much more complex. All the profit sources are usually changing simultaneously, and shifts in some of them or in aggregate profits may influence others. Assessing how events that affect one or more of the profit sources will affect profits requires evaluating the interactions among the profit sources themselves.

To illustrate, suppose households begin to save more. This could occur if consumer lenders suddenly curtailed credit growth because of severe loan performance problems. We have pointed out that an increase in personal saving would have a negative influence on profits. However, the jump in saving would also affect other profit sources.

One immediate consequence of consumers spending less of their incomes would be more goods left unsold in stores and warehouses—an unintended increase in inventory investment. This rise in stocks would make a positive contribution to profits, offsetting at least partly the negative effect of higher personal saving.

Another immediate effect of higher personal saving would be lower collection of state sales taxes, which would decrease government saving somewhat and therefore have a small positive effect on profits.

Overall, the initial impact of the personal saving rise on profits would be negative, although it would be partially offset by other influences. But the reaction set in motion would hardly be complete.

The inventory rise caused by the more conservative consumer behavior might be more than firms desired, especially if profits were significantly diminished. Firms would respond by curtailing orders and production to stem the growth of inventories. Slowing stock building in subsequent periods—perhaps even inventory liquidation—would be a negative influence on profits.

On the other hand, some of the unsold goods would be imports, so business would respond by cutting orders to overseas vendors. After a number of months, foreign saving would decline (the current account balance would improve). This would be a positive influence on profits that would offset part of the downward influence of falling inventory investment.

The initial weakening of profits caused by higher personal saving and the consequent efforts to reduce inventories would likely discourage fixed investment. Business would need less plant and equipment in view of weak economic conditions, and it would have less cash flow to finance it (a large proportion of nonresidential fixed investment is financed internally). This weakening of investment, like the reduction in imports, would take a number of months to occur.

The further slowing of business conditions would lead to slower growth in employment, personal income, and therefore income tax revenue. The public sector deficit would increase, providing a boost to profits.

Other relevant effects would be the influence of these developments on market expectations for inflation, Federal Reserve policy, and interest rates. Any downward pressure on mortgage rates would compete with negative effects on consumer incomes and confidence in determining whether residential construction strengthened or weakened.

The net effect of the personal saving rise on profits would be negative, but whether it would lessen a steep profit rise, worsen a decline, or something in between would depend on many factors. Clearly the influences on the sources of profits and the relationships among the sources are multiple and complex. Still, by analyzing and estimating the effects, one can understand all of the important influences on profits and how they interact.

Analyzing and Forecasting Business Cycles

Profits motivate business behaviors that largely determine whether the economy experiences prosperity or recession. In particular, profits are the single most important influence on business managers' decisions about employment, wages, production, fixed investment, import purchases, and new product development outlays.

Profits' influence occurs through two channels:

1. A firm's earnings greatly affect its executives' expectations of future profits. Higher profits raise expectations of future profits, thereby inducing more aggressive expansion of production, employment, and investment.
2. Profits play a vital role in enabling a firm to finance operations and investment. Profits facilitate financing both directly, by providing cash flow, and indirectly, by enhancing access to outside capital. Banks, lenders, equity markets, venture capitalists, and other sources of finance perceive profits to be indications of a firm's financial health, prospects, and stability.

Since the profits perspective provides basic insights into future business decisions, it is an important tool for analyzing economic expansions, recessions, slowdowns, and recoveries.

Profits motivate business behaviors that largely determine whether the economy experiences prosperity or recession.

The profits equation, the financing of fixed investment, financial institution structure, and several other elements were woven together into a profound theory of financial instability by the late Hyman Minsky. See Minsky's 1986 book, *Stabilizing an Unstable Economy* (Twentieth Century Fund).

Another advantage of the profits perspective as a macroeconomic forecasting tool is its adaptability to virtually any circumstance. Whereas many forecasting methods are based on recognizing familiar patterns of key indicators, the profits perspective shows how any set of developments will influence profits. For instance, at the end of 1989 almost no forecasters thought recession was a possibility for 1990 because the usual signs—rising interest rates and rapidly accumulating inventories—were notably absent. Yet from the profits perspective, one could not help but perceive a strong chance of recession with no quick or ordinary recovery. The reason: fixed investment was headed toward a serious and enduring slump—a critical blow to profits—as the real estate bubble deflated and an increasing number of corporations with excess capacity curtailed expansion or downsized. Moreover, these developments would lead to severe performance problems for the loans that had financed real estate and capacity expansion.

Once perceived, a slump in fixed investment would clearly be seen as a drag on the economy from a demand perspective as well. Nevertheless, the profits perspective (1) more clearly identifies the impact of the investment slide on the economy by identifying the direct effect on corporate earnings and (2) is especially helpful in analyzing the relationship between economic conditions and financial conditions.

The Link Between Profits and the Economy's Financial Dimension

The link between overall economic activity and the economy's financial condition is both critical and commonly underemphasized, if not ignored altogether. Financial conditions can profoundly affect economic performance, either for better or for worse. In the mid 2000s, balance sheet conditions created enormous pressure on lenders to increase volume and forced yields below investors' historical targets. These conditions led to aggressive lending and speculative buying, turning a strong housing market into a bubble and producing massive consumer spending out of home equity. The results were a great rise in residential investment and a fall in personal saving, developments that generated enormous aggregate profits. By contrast, in the early 1990s a credit crunch stymied home sales and construction, curtailed the working capital available to many small and medium-sized businesses, and otherwise interfered with credit-financed activity—directly undermining several profit sources.

The financial conditions revealed by the profits perspective are not always destabilizing or unhealthy. The period following World War II is a prime example. At the time, many feared that the falloff in defense spending and the discharge of ten million soldiers and sailors from the military would throw the economy back into depression. However, the difference between private sector balance sheets in 1929 and at the end of the war was like night and day. Instead of dangerously high asset valuations, extensive excess business capacity, and high levels of debt, by 1946 businesses and households had little debt and were awash in cash. The red-hot wartime economy had created strong incomes, yet personal consumption and business investment had been severely curtailed by quotas and shortages, forcing vast private saving and debt reduction. When wartime restrictions were lifted, there was not only enormous pent-up demand for both consumer goods and business plant and equipment, but also the cash with which to buy and a great capacity to add debt. GI bill financing further expanded household spending capacity. In the early postwar period, business investment boomed, personal saving plunged, and profits soared. From the profits perspective, the prospects for a great period of prosperity were readily apparent at the end of World War II.

Analyzing macrofinancial conditions should go hand-in-hand with analyzing macroeconomic conditions. Credit conditions affect the profit sources, and profits affect credit conditions. Profits are the major source of corporations' cash flow and, as the motivation for hiring, are indirectly responsible for a large part of household cash flow. When earnings weaken, loan performance problems increase, banks respond by tightening lending criteria, and credit markets enlarge the risk premiums built into interest rates, widening credit spreads. The diminishing credit availability further retards investment. The profits perspective provides insights into corporate cash flow (see appendix [13]), which can be compared to corporate debt service requirements to provide indications of financial stress.

The 1990 episode again serves to illustrate. The financial stress and deteriorating fixed investment were the makings of a vicious cycle of weak profits, increasing defaults on debts, reduced credit availability, declining investment, and then still weaker profits. Thus, in early 1990, the profits perspective pointed not only to an earnings decline, but also to a vicious cycle of financial problems, tighter lending policies, further investment weakness, and more downward pressure on profits.

Sure enough, a recession began in July of 1990. In the absence of familiar warning signs of a downturn, the Iraqi invasion of Kuwait at the end of the month was widely blamed for the downturn. But after the war and the official recession trough in March of 1991, employment and profit margins continued to deteriorate for another year, and the economy's progress remained spotty until late 1993. From the profits perspective, the Gulf crisis appears to have had little impact on the economy except during January and February of 1991, on the eve of and during Operation Desert Storm. Indeed, the activity of the U.S. armed forces provided some fiscal stimulus to the economy. The Gulf crisis briefly aggravated but did not cause the 1990-1991 recession.

Neither the profits perspective nor the profits equation is a magic tool that flawlessly predicts the future. A forecaster still must judge how much businesses will invest, how much consumers will save, how large federal tax revenues will be, how well domestic firms will fare in export markets, and so forth. Moreover, the government data on both profits and the profit sources are not perfect, resulting in an error term in the national accounts and introducing some imprecision into the analysis. Nevertheless, the profits perspective enables forecasters to see how any given scenario will affect corporate profits.

Perhaps even more important than the profits perspective's use in analyzing and forecasting business cycles are its revelations about fundamental relationships between financial conditions and economic activity. For example, the profits perspective reveals why balance sheets tend to grow faster than income over time, how aggregate balance sheet expansion causes the economy to generate additional profits, how this balance sheet expansion can lead to financial instability, and how the behavior of the economy and markets necessarily changes as these developments unfold. This approach also reveals the severe consequences for profits and stability when balance sheet expansion can no longer continue. From the profits perspective, one can see that the tendency for financial bubbles is actually a mechanical byproduct of certain changes in the financial structure of an economy.

Conclusion

The discovery of the sources of profits proves to be the starting point of an entire approach to macroeconomics. Profits matter—enormously—to business executives who make many of the most important decisions in the economy. Watching how new developments affect profit sources, and therefore total profits, is a highly effective way to address economic questions, from assessing economic policy proposals to making sense out of the business cycle.

APPENDIX

1. When a financial asset appreciates, financial wealth is created, but this wealth is not included in the national income and product accounts (NIPA). We use the NIPA definitions here because they are the only comprehensive set of accounts with data on the United States economy. The NIPA are designed to measure only economic output and changes in tangible assets.

However, one could define the accounts otherwise to include financial asset appreciation. For example, if a manufacturer purchased one of its parts suppliers, which had been valued at \$100 million, for \$120 million, one might assume the purchased company was economically more valuable under the control of its new owner because of inventory coordination and other efficiencies gained. By buying it, the purchaser had increased the economy's wealth—investment in the economy rose by \$20 million. The shareholders who sold the parts company had a capital gain of \$20 million—they accumulated wealth, so saving in the economy also rose by \$20 million. One could theoretically invent an accounting rationale for calling any asset appreciation investment, and inevitably there would be corresponding saving.

2. Here, as in the NIPA, unincorporated businesses are recognized, but their owners' earnings are called "proprietors' income," not "profits." In such businesses, whether mom-and-pop stores or large law firms, the proprietors or partners play a dual role as employees and owners. It is often impossible to tell how much of their incomes should be designated as wages or salaries and how much should be profits. Generally, most proprietors' income should probably be counted as labor income. Thus, all proprietors' income is treated as a form of personal income other than profits. Only corporations have profits.

If one had a way to designate some proprietors' income as profits, the following changes would be made and reflected in the values in the profits equation on page 6:

- a. Profits would be raised by this figure;
- b. Dividends would be raised by the same figure, since these profits were distributed to the firms' owners in the household sector.

3. Under the accounting conventions in this analysis, all investment is in the private sector. Construction of public sector structures and government purchases of equipment are lumped in with all other government purchases and treated as government expenditures. This conforms with the NIPA practice prior to 1996, when the government deficit was expenditures minus revenue (cash-basis deficit). Presently, the NIPA counts outlays for structures and certain durable goods to be investment. The deficit, as presently defined, is an "operating" deficit, consumption minus revenue,

where consumption includes all expenditures not counted as investment plus charges for the consumption of fixed capital (essentially, depreciation).

In the profits equation derived in this publication, private investment is a positive term and government saving a negative term. Negative government saving can be transformed as follows:

$$\begin{aligned} & - \text{Government saving} \\ & = \text{Government deficit} \\ & = \text{Expenditures} - \text{Revenue} \\ & = (\text{Consumption} + \text{Net government investment}) \\ & \quad - \text{Revenue} \\ & = \text{"Operating" deficit} + \text{Net government investment} \end{aligned}$$

Thus, in the profits equation on page 6 and 20, investment could be redefined to include net public investment plus net private investment if government saving was also redefined to mean the "operating" deficit.

4. As in the NIPA, outlays for new residential structures are counted as business fixed investment. This principle holds whether they are purchases of apartment buildings by real estate companies or purchases of single-family dwellings by individuals for their own use. In the latter case, the individual home buyer is considered to have two roles, one as the owner of a business that owns the house and rents it out and the other as the tenant—a consumer paying rent. The accounts are set up this way to identify the consumption of shelter, the service provided by a house.

5. Suppose a manufacturing company converts \$500 of raw materials into finished goods valued at \$1200. That \$700 increase in inventory value reflects wages, depreciation, and other expenses that went into the production of these goods. Therefore, \$700 of these expenses are offset by the accumulation of valuable assets—they are actually investment expenditures, not expenses. Only when the inventory is sold—when the firm parts with the inventory assets—is the cost-of-goods-sold expense recognized.

6. If profits rise, does that not automatically increase the saving of business owners? The answer is no. Although corporate shareholders have a claim against the earnings of the corporation, profits are not part of the personal income of shareholders. Only the dividends the corporation pays to the shareholders count as personal income. In the aggregate, corporate profits may suddenly soar in response to changes in the profit sources, but dividends must be deliberately raised for any of those additional earnings to become personal income (and personal saving). Dividends respond only gradually to changes in the profits trend.

7. Transactions between the government sector and the foreign sector have offsetting effects in the profits equation. Suppose the government sector makes a payment to another country of \$10—whether as interest on a Treasury bond or foreign aid does not matter. The transaction obviously has no impact on the business sector. In the profits equation, there would be two changes:

- a. Government saving would shrink by \$10, boosting profits.
- b. Foreign saving would rise by \$10, reducing profits.

There would be no net effect on profits. However, if the foreign recipient of the interest or aid spent all of it on U.S. goods and services, foreign saving would not rise, but profits would.

8. When Americans import and consume goods like Belgian chocolates, the payment to the foreign sector represents a transfer of domestic wealth abroad. But when, say, an industrial machine is imported, the transfer of financial wealth abroad is offset by the transfer of tangible wealth to the United States. This transaction would involve two offsetting profit sources, an increase in foreign saving (a negative influence on profits) and an increase in fixed investment (a positive influence on profits).

Similarly, if the Belgian chocolates were added to inventories, the domestic economy would again have an increase in tangible wealth to offset the transfer of wealth abroad. Foreign saving would also increase, a negative influence on profits, but inventory investment would increase, an offsetting, positive influence. Once the chocolates were sold to consumers, inventories would fall, exerting a negative influence on profits.

9. Dividends paid by one firm to another are not counted here or in the NIPA data. Suppose company A has a profit of \$100 million. Further, suppose company B owns company A and has zero profits on its other operations. The sum of the two companies' profits is \$100 million + 0 = \$100 million. However, if A pays a dividend of \$20 million to B, its profits remain \$100 million and B's profits are \$20 million; the firms' combined profits are then \$120 million. Thus, the more layers of corporate ownership—and the more profits are distributed from company to parent—the greater total profits will be.

But firms profiting from dividends are really reporting that they own profits already counted at other firms; these dividend profits do not reflect revenues that came into the business sector, bumping up total revenues less expenses; they reflect only the redistribution of wealth within the business sector. By ignoring dividends paid between firms, the NIPA treats the business sector as if it were one large firm, so dividend payments among its components are not considered. In the above example, B's profits would be counted as zero because its dividend income would be ignored.

Dividends paid from business to government (a tiny share of all dividends) are similar in effect to corporate profits taxes. These dividends, like profits taxes, contribute to government saving if they are not spent yet cause neither a loss of business revenue nor an increase in expense since dividend payments are profit distributions, not expenses. If corporate dividends paid to government rise by \$5, total dividends rise by \$5 (increasing profits), but government saving also increases by \$5 (reducing profits).

Dividends paid to foreigners similarly have no effect on profits as long as they are not spent on U.S. goods and services. In other words, dividends rise in the profits equation, but this positive impact on profits is offset by a rise in foreign saving. Alternatively, if foreigners spent all dividend income on U.S. products, then foreign saving would be unchanged and profits would rise.

10. The data on profit sources in the NIPA do not actually add up exactly to profits. Nor, for that matter, does measured saving exactly equal measured investment. The reason has nothing to do with the integrity of either the profits identity or the saving-investment identity, but rather with imperfections in measuring the elements in these relationships. Therefore, an additional term, “statistical discrepancy,” appears in the saving-investment data (NIPA table 5.1), which indicates the difference between the saving data and the investment data. This difference is 100 percent measurement error. This same discrepancy appears in the profits equation. We could have included it in our derivation of the profits equation using the identity method, but omitted it for simplicity. As a practical matter, the discrepancy can at times cause problems analyzing and forecasting profits trends, but usually it is a minor problem.

11. An explanation of the profits equation similar to that presented here appears in *Profits and the Future of American Society* (HarperCollins, 1983, by S Jay Levy and David A. Levy). In contrast to the single-business-sector approach used here, the book divides the business sector into a consumer goods sector and a capital goods sector, providing some additional insights into the economy's generation of profits. It also includes more extended discussions about aggregate profits.

12. When thinking about interest payments and their relationship to macroeconomic profits, it is important to keep in mind the circular nature of money flows through the economy. Business payments—whether wages, sales tax, or interest—are not negative elements in the profits equation because they tend to return to business as revenue. The issue for profits is whether these payments are saved—removed from the circular flow by households, government, or the rest of the world.

For example, suppose the business sector increases its interest payments by \$100—\$50 to households, \$30 to the foreign sector, and \$20 to government. If these sectors simultaneously increased their spending (did not increase their saving), business revenue would rise by \$100, exactly offsetting the increased expense, and there would be no effect on profits. Alternatively, if households saved \$5 of this new income, foreigners saved \$15, and government saved \$10, then

Change in profits (-\$30) =
– Change in personal saving (\$5)
– Change in foreign saving (\$15)
– Change in government saving (\$10)

13. History testifies that periods of crisis in the financial system can disrupt economic activity. The 1995 Mexican crisis, the U.S. credit crunch of the early 1990s, the 1997 Asian epidemic of financial problems, the 2001-2002 corporate credit crunch, the mortgage market crisis that began in 2007, and the Great Depression are some familiar examples. Understanding and predicting these episodes requires analysis of an economy's balance sheet and its cash flow. That means examining the cash flow required to meet interest and debt repayment obligations as well as the cash flow actually available. In the corporate sector, profits heavily influence cash flow available. In the NIPA, profits before capital consumption allowances and after taxes and dividends equal net cash flow.