Profits: The Views of Jerome Levy and Michal Kalecki

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Jerome Levy began the derivation of the profits identity and his serious interest in economics in 1908. Unemployment was high in that recession year and no unemployment insurance or other public safety net was available to aid those who lost their jobs. To him, the profits equation would be a tool to help address the scourge of unemployment.

Michal Kalecki derived that identity about 30 years later, some years after he became deeply involved with economics (Kalecki, 1969). He was disturbed by unemployment and poverty. Indeed, he believed that unemployment was a chronic feature of capitalism.

Jerome Levy, who was educated to be a physicist, was a small wholesaler of knit goods in 1908. Kalecki was an engineering student who abandoned his studies because of limited funds.

Levy often explained how he had approached the problem of unemployment. He indicated that he employed people because he expected to make a profit . . . spending $1,000 for rent, merchandise, and wages with the expectation of getting $1,100 back. He put $1,000 into circulation but wasn't sure where the other $100 came from. He set out to find the answer. He believed that private enterprises would employ all available workers if they found it profitable to do so.

Both Levy and Kalecki sought an ideal economy. Neither of them nursed the notion that the profit identity by itself provided the entire basis for determining the economic measures that would bring the ideal economy about. To Levy, the profits identity described the "economic machine." Indeed, he envisioned an actual machine in which flows of fluids through transparent tubes would be both a detailed model of the economic system and a representation of the sources of profits. The Levy derivation of the profits equation consisted of 100 or more terms that represented every type of transaction and every nontransaction ac-

counting charge such, as depreciation (Levy, 1943). I can think of only one term that he would add at present, the capital consumption adjustment that NIPA (National Income and Product Accounts) introduced in the 1970s.

The profits identity

The Levy and Kalecki profit identities are essentially identical. Yet, the processes of derivation are different. Although the two men would have understood and appreciated each other's work and probably would have broadly supported each other's points of view, they came from geographically and culturally different places. Kalecki was a Pole who lived in a society of rigid classes—rich and poor, and, to a great extent, rulers and ruled. Because he was dismayed by the inability of capitalism to provide full employment and by the lopsided distributions of wealth and power, he was readily attracted to Marxist ideas. Socialism promised a better life and an egalitarian society.

Jerome Levy, born in a small American town—Honesdale, Pennsylvania—was a member of a fluid society that lionized and rewarded able innovators. The Wright brothers, Irving Berlin, Henry Ford, George Eastman, David Sarnoff, Marcus Loew, George Pullman, Simon and Shuster, and J. Walter Thompson were just a few of Jerome's more or less contemporaries who justified America's designation: "Land of Opportunity." Levy, hardly a hard-core antisocialist, viewed capitalism as providing a superior milieu for freedom. He noted that socialism offered only one type of job, a government job. Under capitalism, one could work for a private employer, for oneself, or for the government. These options, he was sure, resulted in greater productivity and a higher standard of living. Yet, had he lived, he would have been disappointed at the dismal failure of socialism in the Soviet Union. He would have thought that socialism should have given capitalism a better race.

Although Levy believed in the merits of capitalism, he hardly viewed it as a God-bestowed blessing. He wrote:

> The working class is the original and fundamental economic class. . . . The function of the investing class is to serve the members of the working class by insuring them against loss and by providing them with desired goods. (Levy 1943)[1]

[1] The phrase "insuring them against loss" may need explanation. Levy discussed the risks of loss associated with the production and distribution of goods. The goods might be destroyed by natural phenomena, by fire, or by theft. Moreover, they might not find buyers at prices that equaled or exceeded their cost. Under socialism and

Levy continued:

> the justification for the existence of the investing class is the service it renders the working class, measured in terms of wages and desired goods. The contrary is not true. The working class does not exist to serve the investing class. The working class has the right to insure itself through organizations composed of its members or through government, thereby eliminating the investing class. (Levy, 1943)

Kalecki's derivation

Kalecki derived the profits identity by looking at the two major categories of gross national product (GNP)—consumption and investment. The income represented by GNP is wages and salaries, and profits. As prelude to a more detailed and complete version of the profits equation, Kalecki presented a simplified version of the profits identity (Table 1), in which he assumed that workers do not save, but that their consumption equals their wages and salaries (Kalecki, 1969).

Hence,

gross profits = gross investment + capitalists' consumption.

Kalecki fleshed out this equation with terms covering foreign transactions and governments' fiscal operations (Table 2).

Levy's derivation

Levy carefully identified all the types of transactions that occur in the economy and noted whether they represented a flow of funds to business, that is, its receipts, and whether they represented the costs of business. The equation that he derived in 1914 describes twenty-first century economies. His equation included terms for every conceivable transaction. A term for "losses suffered by domestic firms on credit extended to foreign customers" gives an idea of how thorough and detailed Levy was. Besides transactions, Levy's equation recognized accounting practices that affect profits—for example, depreciation and other capital consumption charges. It has a term for "depletion"—the loss of the value of land resulting from the exploitation of its resources, for example, the draining of an oil well. Levy recognized "exhaustion"—that is, the declines in the values of copyrights, patents, leases, or other assets that are

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under self-employment when farmers raise cotton or an artist paints a picture—losses arising from these risks are born by workers. Under capitalism, they fall on investors.

Table 1
Kalecki's simplified profits model

Income	Spending
+ Gross profits	+ Gross investment
+ Wages and salaries	+ Capitalists' consumption
	+ Workers' consumption
= Gross national product	= Gross national product

Source: Kalecki (1969)

Table 2
Kalecki's "general case" profit equation

		+ Gross investment
		+ Export surplus
Gross profits	=	+ Budget deficit
net of taxes		− Workers' saving
		+ Capitalists consumption

Source: Kalecki (1969)

legally established for a limited time period. Exhaustion is largely omitted in national product accounts although the software industry would like to see it there. His equation has a term for the NIPA's inventory valuation adjustment. He did not have a "capital consumption adjustment," but neither did NIPA until the need arose as a result of the inflation of the 1970s.

Levy's first step in his calculations was to derive the profits of the consumer industries (Table 3). His process of deriving the profit identity focuses first on the wages paid to workers in capital goods industries as a source of profits for consumer industries. Those workers do not buy locomotives or 747s—they purchase automobiles, beer, and movie admissions.

To the consumer sector, he added successively, the profits of the producer (capital) goods industries, the legal tender industry, and the money-lending industry (Table 4).

Implications drawn from the identity

Kalecki, if he saw an advantage in developing a more detailed version of the profit identity, undoubtedly would have offered one, but he likely saw virtue in simplicity. His "general profit equation" (Table 2) enabled him to reach crucial conclusions about the nature of capitalism.

Table 3
Levy's consumer industry profits

$$P = Stco + x_4 + x_5 + x_6 + xy_7 + xy_8 + cCr + Fscg + iRfc + aL + TpCNP$$
$$- oStp - Fcgp - iPfc - cCrl - r_7 - r_8 - cS$$

where

P	=	operating profits of consumer industries in any period
Stco	=	wage plus rent cost of stock (inventory) produced in the period and carried into subsequent period
x_4	=	primary expenditures (wages plus land rent) of producer (capital goods) industries
x_5	=	primary expenditures of legal tender industries (producers of gold and silver that is monetized)
x_6	=	primary expenditures of investment goods industries (stock brokers and Realtors)
xy_7	=	primary and secondary expenditures (outlays for materials and services) of landowning class
xy_8	=	primary and secondary expenditures of landowning class
cCr	=	consumers credit extended
Fscg	=	foreign sales of domestic consumer goods
iRfc	=	income received from foreign countries
aL	=	assets liquidated for personal purposes
TpCNP	=	total payments from current net profits (dividends plus profits taxes)
oStp	=	consumer purchases of inventory carried into current period
Fcgp	=	foreign consumer goods purchased
iPfc	=	domestic income received by residents of foreign countries
cCrl	=	consumer credit liquidated
r_7	=	interest received by the money-lending class
r_8	=	rent received by the land-owning class
cS	=	consumer saving

In conventional terms:

Profits = + Net investment in consumer goods inventory
         + Wages of capital goods industries
         + Corporate dividends and profits taxes
         + Net foreign investment
         − Personal saving

Source: Levy (1943)

What amount of production does one dollar of profit motivate? Both Levy and Kalecki certainly would agree that this question is key. Both are referring to markups. Kalecki emphasized that markups, because they were often determined by monopolies and oligopolies, did not reflect competition.

Kalecki noted that capitalists' markup (their rate of profit on sales or revenue) determined the distribution of consumption between them and workers. He believed that capitalism tended to become increasingly

Table 4
Levy's total profits

$$TNP = TVI + t_4b + t_5b + t_6b + cCr + aL - cCrl - cS + TpCNP + BT + BI - Tdp - ex - dep + ETC - vOt_7 + vOt_8$$

where

TNP	=	total net profits (all corporations)
TVI	=	change in value of monetary from beginning to end of period
t_4b	=	fixed investment
t_5b	=	amount of legal tender goods (gold silver) billed to government
t_6b	=	amount of investment goods (largely stock brokerage + realty services) billed domestic investors
cCr	=	consumer credit extended
aL	=	assets liquidated for personal consumption
cCrl	=	consumer credit liquidated
cS	=	consumer saving
TpCNP	=	total payments from current net profits (dividends + profits taxes)
BT	=	balance of merchandise trade
BI	=	balance of nonmerchandise foreign, current account transactions
Tdp	=	depreciation of fixed business assets
ex	=	exhaustion (depreciation) of copyrights, patents, goodwill
dep	=	depletion of natural resources, e.g., oil wells
ETC	=	a catchall for minor factors including obsolescence, profit and loss on used equipment, cost of theft
vOt_7	=	change in amounts due landowning class from beginning to end of period
vOt_8	=	change in amounts due money lending class from beginning to end of period

In conventional terms:

Profits before taxes	=	+ Investment in inventory
		+ Fixed investment
		+ Corporate dividends
		+ Corporate profit taxes
		+ Net foreign investment
		− Personal saving
		− Public sector surplus

Source: Levy (1943)

monopolistic. Markups therefore tended to widen. He wrote, "if the effect of the increase in the degree of monopoly upon the distribution of national income is not counteracted by other factors, there will be a relative shift from wages to profits" (Kalecki, 1969).

Levy lived in the United States where monopolies were usually frowned on. Indeed, the Sherman and Clayton antitrust acts made many monopolies and monopolistic practices illegal. Kalecki lived in Europe, where cartels were commonplace and, in the 1930s and 1940s, encouraged.

Kalecki certainly believed that an economy's aggregate profits will

not increase as a result of monopoly—indeed, they are likely to decline. Moreover, because of monopoly, wage income would decrease both relative to profits and absolutely.

Kalecki's recommendation for overcoming this situation was socialism. His (and Levy's) work establishes that profits depend on business-fixed investment in the long run (Sawyer, 1985). But Kalecki observed that monopolistic enterprises are under far less pressure to invest than competitive ones. They do not have to improve their products and rein in prices through gains in productivity in order to maintain or increase shares of market. Because investment is the basic determinant of profits, increasing aggregate profits in the presence of a monopoly is unlikely.

A monopolistic industry could increase its profits. If it did so, other industries would suffer a decline in profits. The monopoly, by raising prices, would take more of consumers' income, leaving less buying power for the products and services of industries that were not monopolies. Levy would basically have agreed with this Kaleckian view, but would have said that it was not sufficiently refined.

Levy was not primarily concerned with the institutional form of an industry—that is, whether it was a monopoly in some sense. His primary interest was whether the markup, that is, the rate of return on sales, was justified based on the productive risks of the industry. The rate of profit, not monopoly, was the concern. This rate equaled profit divided by what he called "quantitative risk."[2] Profit as a percentage of sales, then, is a crucial concern. The lower the percentage of profit, the higher the number of persons employed.

Levy was not necessarily opposed to monopolies. If they operated at a satisfactorily low enough rate of profit, they might even be desirable. He sought means to prevent industries from securing excessive profits—profits that could not be justified by an industry's productive risk. He proposed taxing such profits away. If an industry's profits were excessive, the tax would be on the entire industry and, in effect, confiscate the excess. This scheme allowed an individual firm in a competitive industry to retain an above average return as a result of being more efficient and astute in designing, producing, and marketing its products than its competitors.

A public utility that was given a franchise by government to be the exclusive supplier in a specific territory of an essential service assumed

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[2] I am skipping the explanation of quantitative risk, which is an ingenious, sophisticated, and involved concept. I'll substitute sales for quantitative risk—a reasonable, if not precise, replacement.

no risks. An example would be an electric company that was permitted to sell its service at a price that ensured a six percent profit on investment. Because the utility was taking no productive risk, he saw no justification for profit and wanted such utilities to be publicly owned and to sell their electricity at cost.

Levy's procedure for deriving the profits equation recognized the relation of profits to output and, hence, to employment, and that not all those who received profits merited them because of their contribution to output. He saw the profits equation as an instrument for describing the conditions that had to be met to ensure full employment. Profits were to be used to induce output and to ensure jobs.

Jerome Levy's premise was that profits were the sine qua non for private sector employment under capitalism. Not all profits, however, induced desired production and employment.

Levy believed that the purpose of any economic system is to produce goods and services for the benefit of consumers. Because workers, wage and salary earners, were the fundamental class, they had the right to insist that profits went only to those investors whose enterprises produced desired goods and services.

Levy did not presume that anyone, or any authority, should dictate what goods were desirable and what were not. Rather, the decisions about what should be produced be left to consumers. He recognized that some government employees would ultimately be responsible for determining what consumer goods would be produced under socialism. He did not preclude government making some decisions about what should and should not be produced under capitalism—for example, measures to outlaw DDT or to mandate catalytic converters for automobiles.

Despite the focus, Levy viewed the profits identity as applying to any economy—socialist or capitalist—and as a tool for determining what policies to follow. In a socialist economy, some of the terms would be zero, for example, corporations' payments of dividends. The profits identity readily predicted that Soviet workers would be carrying purses full of rubles, but could find few items on which to spend them. By creating profits that it did not claim, the Soviet Union was forcing saving on its people.

Kalecki had the luxury of GNP, which provided him with a nice, quick way of producing the profit identity. The concept of GNP was not developed when Levy set out to determine what he spoke of as "the sources of profits." The first recorded use of the term GNP was in the December 1934 issue of the *Journal of the American Statistical Association* (Warburton, 1934). Kalecki, however, was working in the late 1920s on

the development of national income accounts. Such efforts in the United States and elsewhere led to the concept of national product.

Levy stated the profit identity in a way that we today recognize as GNP. As shown in Table 5, he specifically gave us private sector gross domestic product (GDP) as

$$SP = CP + TNP \text{ (various terms)},$$

or

$$\text{Selling price} = \text{cost price} + \text{profit.}$$

For Levy, GNP was a result, and profits were a cause—the quest for profits motivated investors to produce goods and employ people in the process—to create GNP.

Kalecki emphasized investment and tended to ignore the importance of other major terms of the equation, for example, net foreign investment. He believed that workers did not save, or at most saved negligible amounts. He largely dismissed the role of investment in inventories in influencing the business cycle. In writing about "the unexpected accumulation or running down of stocks" Kalecki (1969) observed, "The importance of this factor seems to have been frequently exaggerated." These were assertions that Levy did not and would not have made.

Kalecki was deeply involved with trying to explain the business cycle. For him, the profit identity was a tool to be used in this task. Levy was content to let the multiterm profits equation describe whatever changes occurred in business conditions. He saw no need to discern a pattern that all business cycles were likely to follow.

Kalecki may have well understood and interpreted the behavior of economies during much of his lifetime, but his theories of business cycles seem not to have withstood the tests of time. Certainly, in the postwar era in the United States, the building and subsequent liquidation of excessive inventories, and not excessive fixed investment, were principle if not the principle causes of all the recessions until 1990. Then excessive fixed investment, particularly in real estate projects, was the villain.

Kalecki held a number of views back in the 1930s, and until his death in 1970 that are no longer supported by actual events. He held, for example, that workers do not save, or at best save only a pittance. Since he made this observation, institutionalized workers' saving has blossomed in the advanced economies. Many employees have money set aside for them in pension plans. Moreover, in the United States, some are coaxed into saving by individual retirement accounts (IRAs).

Table 5
Levy's "private sector GDP"

$$SP = CP + t_4b + t_5b + t_6b + cCr + aL + TpCNP - cCrl - cS + VU + BT + BI + vOt_7 + vOt_8$$

where

SP	=	selling price of goods of private enterprise
CP	=	cost price
t_4b	=	fixed investment
t_5b	=	amount of legal tender goods (gold silver) billed to government
t_6b	=	amount of investment goods (largely stock brokerage + realty services) billed
cCr	=	consumer credit extended
aL	=	assets liquidated for personal consumption
TpCNP	=	total payments from current net profits
cCrl	=	consumer credit liquidated
cS	=	consumer saving
VU	=	change in the value of inventories
BT	=	balance of merchandise trade
BI	=	balance of nonmerchandise foreign, current account transactions
vOt_7	=	change in amounts due landowning class from beginning to end of period
vOt_8	=	change in amounts due money lending class from beginning to end of period

In conventional terms:

Private sector GDP	=	+ Wages paid by private industry
		+ Fixed investment
		+ Investment on inventory
		+ Profits taxes and dividends
		− Personal saving
		+ Net foreign investment

Source: Levy (1943)

Leading to an early recognition of inventory's role was Jerome Levy's 1917 application of his understanding of fiscal policy. On a number of occasions he said that civilian business was fearful of what would ensue when the United States entered World War I, but that looking into his equation he knew that he should buy all the merchandise that anyone would give him the credit to carry.

That move changed Levy's business from struggling to substantial. Willy Nagel, the sales representative of Utica Knitting Mills, Jerome Levy's principle supplier, told me this story. In late 1919 and early 1920, the demand for his company's products exceeded supply and all its customers were placed on allotment. But since Jerome Levy had acquired special status, Nagel handed an order form to him and said,

"Write down everything you want and I'll see that you get it." But his customer, aware of the speculation in inventory, handed the form back and said, "I'm not buying anything." This decision required not only a great deal of confidence, but also courage, because all the small retailers that were Levy's customers depended on his having an adequate inventory.

A few months later the United States was in a deep recession and the prices of knit goods fell about 35 percent. At the beginning of 1929, Levy, noting that the country was heading for serious trouble because it had more plant and equipment than it needed, began to liquidate his business.

Although he understood what was happening, at any time a major change was brewing, I doubt he believed that the insights derived from the profits equation warranted dwelling on a theory of business cycles or that these cycles, over time, could be described by a valid theory. But Levy used the equation as one tool in constructing a program that was designed to avoid cycles and ensure steady growth.

Hyman Minsky's description of the deterioration of the quality of financing during a period of expansion may well be the best explanation of cyclical behavior to date (Minsky, 1986). Levy held that a properly run capitalist economy would maintain a steady pace of growth while employing everyone who was willing and able to work. This utopian notion appears to me to be beyond possibility. I am influenced by Minsky, but the United States and other countries with advanced economies seem to have learned how to smooth the cycles to a degree. However, Japan's experience since the mid-1990s may cast doubt on this observation.

Kalecki's version of the profits equation (Table 2) includes the term "capitalist consumption." This term encompasses capitalists' use of their profits and their salaries for consumption. If one is an executive officer of a company, he is not, in Kalecki's view, an employee. To the extent that he uses his salary for consumption, he is, in effect, spending profits. One can see the philosophical basis for this view, but it does not accord with any accounting system including the U.S. national income and product accounts.

In Levy's equations (Tables 3 and 4) is the term TpCNP, which stands for total payments from current net profits. This source of profits, which includes dividends and profits taxes, is important. Envision a newly created capitalist economy where the only profit source other than TpCNP is fixed investment, which equals 100 per year and stays at that amount for several years. In this economy, 40 percent of the previous year's

Table 6
The power of dividends

(1) Year	(2)	(3) Dividends as a percentage of previous profits (TpCNP%)	(4) Dividends (TpCNP)	(5) Total profits (col. 2 + col. 4) (TNP)
1	100	0.40	0.00	100.00
2	100	0.40	40.00	140.00
3	100	0.40	56.00	156.00
4	100	0.40	62.40	162.40
5	100	0.40	64.96	164.96
6	100	0.40	65.98	165.98
7	100	0.40	66.39	166.39
8	100	0.40	66.56	166.56
9	100	0.40	66.62	166.62
10	100	0.40	66.65	166.65

Source: Levy (1943)

profits are paid to shareholders as dividends. By year five, total profits as a result of these dividends will total 165. The payment of dividends will have increased profits by 65 percent. At that point, this source of profits is closely approaching a limit (Table 6). Recently in the United States, about 45 percent of profits were distributed to shareholders as dividends and 30 percent were paid to governments as income taxes. TpCNP and net fixed investment (new investment less depreciation) were about equal.

Applications to the current economy

The chronic high unemployment in most of Europe supports Kalecki's belief that such a situation is endemic to capitalism. Levy would say it is the result of the way capitalist economies are abused, of the ways in which they *waste* profits.

"Wasted profits" are secured by enterprises that do not assume productive risks. Primary among these risks is the "risk of exchange." The enterprise may not find a market for its products at prices that bring it a profit. Usually this results from competition, from other firms providing better or cheaper products.

One of the reasons for unemployment in the United States, at least at times, and in Europe chronically, is the perceived trade-off between

employment and inflation. Inflation was not a great concern during the periods in which Kalecki and Levy worked. Even during the quite prosperous 1920s in the United States, the CPI (consumer price index) barely budged. Aside from the World War II era, when acute shortages of many consumer goods were prevalent, inflation was not deemed a major problem prior to the 1970s.

Kalecki, who believed demand would be held down as a result of the propensity of capitalist enterprises to become monopolies, would not seem to have much concern about inflation. He experienced, however, hyperinflation in Poland after World War I, and he recognized circumstances that would result in rising price trends. He concluded that an extended period of full employment would result in rising wages and prices.

Levy generally stuck to his original, major concern of ending unemployment. He believed that his proposals for creating money and ensuring just wages and profits would, if adopted, eliminate threats of inflation. He claimed that the measures he advocated would reduce prices as productivity increased.

The infatuation with NAIRU (nonaccelerating inflation rate of unemployment) developed after Levy died. He would think of it as a peculiar concept. The profit identity shows that a rise in the average wage will cause a proportionate increase in aggregate profits. Rounds of wage increases, he would assert, are comparable to a cat chasing its tail. To improve the standard of living of wage and salary earners relative to recipients of profits and to ensure full employment, requires curtailing the waste of profits.

Newspapers frequently remind us of the importance of profits in determining employment. Time and again they report that an important corporation, in order to stem the tide of declining profits, is eliminating unprofitable operations and laying off thousands of workers. Such microeconomic phenomena are observed by a wide-ranging audience. But when the focus becomes macroeconomics, profits and their relation to employment are slighted. Yet four-fifths of the jobs in the United States are in private, profit-seeking establishments. Profits are important. They should not be wasted.

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