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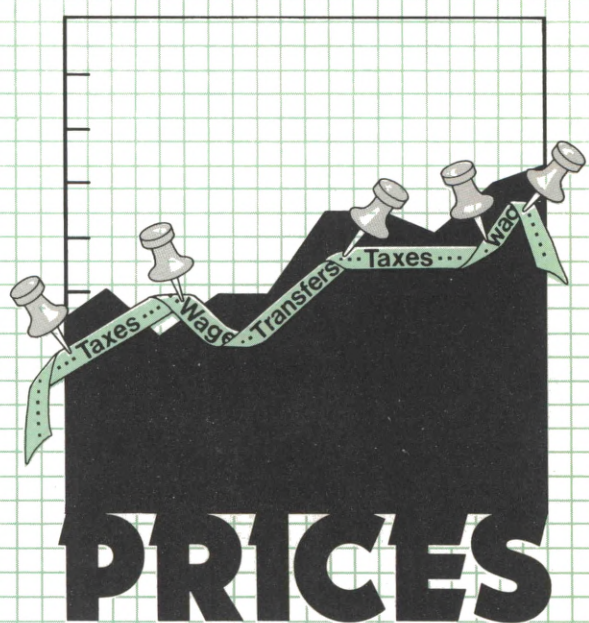

Who Controls What in the U.S. Economy?

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Brian Horrigan

. . . Far from being the cause of inflation, indexing wages, taxes, and transfer payments to the price level makes inflation easier to put up with and easier to get rid of.

WHO CONTROLS WHAT IN THE U.S. ECONOMY?

Timothy Hannan

. . . The best evidence suggests that control of the economy has not become more concentrated in recent decades.

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Indexation:
A Reasonable Response to Inflation

*By Brian Horrigan**

"Until I was eight, I got a five dollar bill every year for my birthday from Grandpa. Then, because of inflation, the amount rose to ten dollars. On my next birthday, I expect it to rise to twenty dollars." — Ben, nine years old, quoted in *FORBES*.

With fifteen years of historically high and variable inflation behind them and with anti-inflation programs showing less than the hoped-for success, Americans are looking for ways to protect themselves from inflation. One of the more widely discussed approaches is indexation—pegging wages, transfer payments, and even taxes to changes in the cost of living as measured by a price index.

Indexation has its detractors—those who argue that it tends to perpetuate inflation and that it leads to more unemployment when productivity unexpectedly drops. But many economists favor indexing on the grounds that it preserves the after-tax purchasing power of wages and transfer payments, mitigates the undesirable side effects of anti-inflationary monetary and fiscal policies, and reduces the government's incentive to expand via inflation.

On balance, indexation appears to hold a lot of promise as a means of reducing the costs of inflation while at the same time reducing the costs of eliminating inflation, provided a way can be found to make sure that its desirable effects predominate.

INDEXATION ON THE RISE

Indexation has become quite common in the United States. About 9 million workers—some 10 percent of nonagricultural civilian employment—are covered by cost-of-living-adjustment (COLA) clauses. Over 35 million people who receive social security or government pensions, and over 16 million food stamp recipients, have their benefits linked to a price index.

Indexation is extensive in the rest of the

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world, too. In the Scandinavian countries, as well as in Britain, Belgium, and Italy, and even in stable Switzerland, virtually all wages, welfare payments, and taxes are indexed. Indexation rarely is total, though; usually, wages are adjusted only by some fraction of the increase in the cost of living.

The Brazilian experiment in monetary correction (as indexation sometimes is called) has attracted a lot of attention as an example of how it is possible to reduce inflation rapidly with minimal economic disruption. In 1964, Brazilian inflation was running at about 90 percent per year while the real economy stagnated under controls. At that point, the Brazilian government reduced the growth rate of money, eliminated many controls, reduced the size of the government deficit, and instituted partial indexation. The inflation rate dropped to about 30 percent in three years and fell further to about 15 percent in 1973, while real income per capita grew at about 7 percent per year from 1968 to 1973.[1]

The inflation situation in the U.S. is not as severe as Brazil's was, but many economists are convinced that the U.S. should pursue a similar policy: reduce the deficit and money growth, eliminate price controls, and index wages, taxes, and transfer payments. They contend that indexation can minimize the economic slowdown that usually accompanies a reduction in the inflation rate.

HOW INFLATION HURTS

In a decentralized market economy, prices provide both information and incentives to producers and consumers for rational economic planning. Inflation—a rise in the average of all prices—distorts the relations among the prices of various goods and services, and in the process it makes those relations less stable. When people get confused about the state of the economy, they make mistakes about investment, purchases, and employment: resources are misallocated and society is less well off in the face of increased uncertainty.

The degree of misallocation of resources depends largely on how much inflation is anticipated by the public. The cost of *unanticipated inflation*—an increase in the price level that catches the public by surprise—is far greater than that of *anticipated inflation*—an increase that the public expects and can prepare for. If everyone could forecast the inflation rate perfectly—and people do spend a lot of time and effort trying—much of the misallocation of resources caused by inflation and much of the hostility toward inflation would end. A foreseen inflation rate would be built into all contracts and agreements.

What if the actual inflation rate is different from what people expect? If a labor contract embodies one inflation rate and the actual inflation rate turns out to be higher than anticipated, laborers get stuck with lower real wages (the purchasing power of their wages is reduced). If the inflation rate is lower than expected, laborers get unexpectedly higher real wages—at the expense of their employers. To protect themselves from these redistributional swings in income, labor negotiators have sought to build more and more inflation insurance into their contracts in the form of indexation. And it's not hard to see why many employers have been willing to go along.

WHY LABOR CALLS FOR INDEXATION

Indexation has an unmistakable appeal when the outlook for prices is highly uncertain. It gives the impression of slicing through inflation's Gordian Knot in a single stroke. For all its promised benefits, however, indexation has to be used with a measure of delicacy if it's to produce the desired result.

[1] During the mid-1970s, Brazil's inflation rose as high as 80 percent, but not because of (or in spite of) indexation. The cause of this change was connected with the oil-price shocks caused by the OPEC oil cartel and with the relaxation of strict monetary and fiscal policies.

An Example. Suppose the American Widget Corporation (AWC) signs a three-year contract with the Widget Workers Union (WWU) specifying that wages will rise 5 percent a year for each year of the contract. Both management and the union expect consumer prices—including AWC's prices—to rise 3 percent a year. If worker productivity rises at about 2 percent a year and prices rise as expected, AWC should have no trouble meeting its payroll.

But what if, contrary to expectations, consumer prices rise at 7 percent a year, not 3 percent? Then *real* wages will drop at the rate of 2 percent a year (5 percent less 7 percent leaves a minus 2 percent), even though *nominal* wages rise. Meanwhile, AWC finds its revenues increasing faster than its payroll as unanticipated inflation transfers real income from workers to the managers and stockholders of the company. Because the workers' real wages are dropping, AWC finds it profitable to step up production and increase the number of employees and the number of hours worked. AWC has a boom, and if most of the companies in the economy are in the same position as AWC, the entire economy has a boom. Unanticipated inflation fools workers into working more hours than they would have if they had anticipated the lower real wage.

Suppose that when the contract expires after three years, the WWU negotiates a large initial raise plus an agreement to increase wages at 9 percent a year for three years. The wage settlement in this example is not inflationary; it is only a response to high inflation (see DOES INDEXATION CAUSE INFLATION?). The large initial

DOES INDEXATION CAUSE INFLATION?

Some writers argue that wage indexation causes inflation. According to this point of view, indexation creates a built-in wage-price spiral in the economy: indexation forces wages up, which forces prices up, which in turn forces wages up through indexed contracts, and so on.

In fact, however, inflation is explained by other forces. The Federal government influences the level of aggregate demand by monetary and fiscal policies. If aggregate demand rises faster than aggregate supply, inflation results. The private sector does not produce a demand inflation; only the government does.

Inflation produced by supply shocks is another matter. A shock to the supply side of the economy, such as an oil price increase, makes unemployment and inflation temporarily worse with wage indexation than without. Historically, though, prolonged high inflation—the only kind that produces indexation of labor contracts—has been produced by monetary and fiscal policies, not by supply shocks. If supply shocks seem to be the cause, workers will do better with partial indexation than with none at all.

Some economists offer a different objection. They believe that the size of the budget and the size of the deficit directly affect the amount of inflation. These critics of indexation argue that as indexation automatically boosts government wages and reduces tax rates, the budget and deficit swell, creating more inflation. But indexation by itself does not create a budget deficit. Suppose all prices were to double. With perfect indexation, the government payroll, the prices of materials purchased, transfer payments, and tax revenues all would double. If the budget is balanced before the price level doubles (assuming that the national debt also is indexed), it will be balanced after the price level doubles. Thus indexation does not lead to larger real deficits or more inflation. Overindexation of government wages and transfer payments will cause larger deficits, however, so it is important that the government take care not to overindex.

Whatever the merits and difficulties of wage indexation for stabilizing the economy and protecting workers, wage indexation cannot be accused of causing inflation. Only monetary and fiscal policies can create a sustained inflation.

raise simply restores real wages to where they would have been had unanticipated inflation not cheated workers of some of their real wages. And the high annual increase in future wages is designed to give the workers raises to match their increased productivity, after allowing for the expected 7-percent inflation rate.

Suppose now that policymakers decide to end inflation by taking restrictive monetary and fiscal measures. Aggregate demand rises more slowly and inflation tapers off at the same time that AWC must give a 9-percent annual wage hike to its employees. Since the new inflation rate is lower than anticipated, the *real* wages of the workers are *higher* than expected. With revenues rising more slowly than anticipated and real wages rising faster, AWC must cut back production and lay off workers. If many companies are in the same position as AWC, the entire economy slides into a recession, even though inflation still rages. When the contract expires, workers will have to accept a reduction in their real wages to be re-employed.

The Benefits of Indexation. These dislocations need not occur if labor contracts with a fixed wage increase are replaced by contracts containing a COLA clause. Unanticipated variations in the inflation rate produce far less economic disruption when wages are indexed to consumer prices than when they are changed contractually without an explicit link to the inflation rate (see IN SEARCH OF AN INDEX). With COLA, for example, an initial contract is negotiated for a small fixed-percentage wage increase—reflecting productivity increases—plus a cost-of-living adjustment. If the fixed portion of the increase were, say, 2 percent and the inflation rate were 7 percent, indexed wages would rise by 9 percent. If inflation is 3 percent, wages rise 5 percent. With full indexing, the real wage rate is not affected significantly by the inflation rate. Therefore, if all the labor contracts in the economy were indexed, the temporary boom that accompanies an unanticipated increase in inflation would not occur. And the recession that accompanies an unanticipated decrease in inflation wouldn't occur either. Thus if the main reason government won't implement the monetary and fiscal policies necessary to end inflation is that it is afraid to cause a recession (as some have suggested), then indexation facilitates an anti-inflationary program by reducing its costs.

If wage indexation promises to reduce both the undesirable effects of inflation and policymakers' incentives for letting inflation continue, it would seem appropriate to index to the hilt, adjusting wages with each upward (or downward) tick of the chosen price index. But as with most policy actions, wage indexing can produce certain unwanted results alongside the desired ones.

Supply Shocks Complicate the Issue. The prices of goods and services reflect both supply conditions and demand conditions. Expansionary monetary and fiscal policies increase prices by increasing demand. Changes in supply-side factors, such as the cost of raw materials or labor productivity, also change prices. Over the last decade, the U.S. has undergone several sharp supply shocks which boosted the price level, and indexation gives unfortunate results when used in an environment of supply-induced inflation.

In particular, while indexation moderates fluctuations in employment induced by demand-caused inflation, it *aggravates* fluctuations in employment occasioned by inflation brought on from the supply side. The reason is that though a demand shock increases the price level, it does not change worker productivity. Hence employment need not change when wages are indexed. But a supply shock does reduce worker productivity, so real wages must fall if employment is to stay the same. Since real wages cannot readily adjust downward with productivity when wages are indexed, supply shocks produce a drop in employment.

IN SEARCH OF AN INDEX

The main technical difficulty with indexed contracts concerns the choice of a proper price index. Measuring inflation is no simple task; compiling price indices is difficult and there is a large margin of error. Using a price index that does not measure inflation accurately reduces the advantages and worsens the disadvantages of indexation.

The Consumer Price Index is the most widely quoted and often-used price index in the United States. The CPI measures the change in the cost of buying a representative market basket of goods and services over time. The Bureau of Labor Statistics, which issues the CPI, derived its representative market basket from a massive survey of consumer buying habits in 1972-73. It estimates the inflation rate for subsequent periods by updating the prices of the goods in that market basket.

The market basket purchased by the representative American family, however, changes constantly not only in price but in composition. As consumer preferences shift, as new products are introduced, and as supply conditions change, consumers substitute one component for another. By failing to capture the changes in consumer buying habits, the CPI overstates the inflation rate. In 1979, for example, the price of gasoline rose 51 percent, and as a result, consumers cut down their use of it: the share of total real consumption allotted to gasoline fell from 3.2 percent to 2.8 percent. Yet the CPI calculates the change in the cost of living as if the share of gasoline still were 3.2 percent, and consequently it overstates the rate of inflation.

The CPI does an especially poor job with the cost of owner-occupied housing. It includes the purchase price of new homes and the current mortgage rate along with the price of haircuts and bread in the market basket. But it leaves out the expected capital gains of home ownership, which must be subtracted from mortgage costs in order to arrive at an accurate estimate of the net cost of occupying a home. As a result of the mismeasurement of housing costs, the CPI overstates the inflation rate during periods of rising mortgage rates and rising home prices. The BLS is considering new ways to figure the CPI and has constructed five experimental measures which embody different treatments of housing costs.

An alternative index is the Personal Consumption Expenditures (PCE) Deflator issued by the Bureau of Economic Analysis of the Department of Commerce. The PCE offers some advantages in the measurement of housing costs and it adjusts the representative market basket for changes in consumer buying habits. But the PCE has disadvantages too, connected with its sampling technique and its currency (it is issued quarterly with a two-month lag, whereas the CPI comes out monthly and is available three weeks after the end of the month of record).

The choice of a price index is not merely an academic matter; the differences in estimates of the inflation rate conveyed by different price indices tell different stories about consumer welfare. For 1979, for example, the CPI measure of the inflation rate was 12.8 percent, while the Personal Consumption Expenditures Deflator measured the inflation rate at 10.2 percent. In an economy in which tens of millions of people are covered by indexed labor contracts and transfer payments, even a small change in measured inflation shifts billions of dollars around. Thus the search for an index that measures the effect of price changes on human welfare more accurately should continue.

Suppose that a supply shock (such as a sudden, dramatic increase in the price of oil) causes worker productivity to drop. AWC finds that its labor costs per widget have risen. The company will continue to employ the same number of workers only if real wages decline. If the workers are not covered by a COLA clause, their real wages will drop, so fewer of them (or none) will have to be laid off. If workers are protected against inflation by a COLA clause, though, their real wages can't drop, so AWC will have to lay some of them off. Thus the effect of indexing on employment depends crucially on whether inflation is demand-induced or supply-induced.

Looking at it another way: If an increase in the scarcity of some commodity such as oil, steel, or wheat requires a reduction in real incomes throughout the economy, inflation will help to spread the shock by reducing real incomes everywhere. With perfect indexation, everyone tries to keep the same size slice of the pie even though the whole pie is smaller. The only way to trim workers' income down to size after a supply shock in an indexed world is simply to lay off workers—or else break the contract and renegotiate.

Thus supply shocks make the chances of success for indexation somewhat more tenuous. But even with a demand-induced inflation, it's still a good trick to find the level and technique of indexing that will capture most of the achievable benefit while incurring the least possible cost.

Optimal Indexation. One way to get a fix on how much to index is to see how workers protect themselves against inflation under a system of nonindexed labor contracts.

Shortening the duration of contracts is one method they use to reduce the costs of misestimating the inflation rate. If inflation is fluctuating, frequent renegotiation of labor contracts will keep the real wage rate more nearly constant than long-term contracts can. Indeed, during hyperinflations (those exceeding 100 percent per week), contracts longer than a week vanish from the economy. But shortening the labor contract is an expensive way to cope with inflation because negotiation costs can be formidable. Also, the more frequently contracts are renegotiated, the higher union militancy and worker discontent appear to be. The inflation rate in the United States, for instance, is correlated positively with strike activity. Internationally, high worker militancy in Britain and Italy (both with chronically high inflation rates) and lower worker militancy in Switzerland and West Germany (both with relatively low inflation rates) are consistent with the view that inflation causes strikes.

Shortening and indexing contracts both are imperfect and costly ways of coping with inflation uncertainties. But despite their costs, they are attractive to both labor and management, though in different mixes under different conditions. When inflation is induced primarily by pumped-up demand, indexation will get the most emphasis in labor contracts. When supply interruptions are chiefly responsible for a round of inflation, negotiators will rely more heavily on shortening labor contracts. There is no one formula that's best for dealing with all cases of uncertainty about inflation: the best combination of index and contract length will vary from country to country, from industry to industry, and from time to time. With their relative incomes at stake, though, both management and labor will try hard to find the formula that meets their needs best.

Should government get involved in this process? Given the complexities of labor negotiations, which are occasioned by wide variations in shocks to various industries, mandating a single economy-wide indexing scheme or prohibiting indexation would not be socially beneficial. An unfettered market seems best able to consider the large amount of information required to decide what kind of labor agreement works best in a given instance.

As wage indexing in the private sector becomes more common, however, it raises questions of both efficiency and equity for government, since government must compete for workers in the private labor market. Should wages in government be linked to those in the private sector? And if wages are indexed, how about transfer payments and taxes? These are issues that government can't avoid addressing.

INDEXING IN GOVERNMENT

In the Federal government, wages by turns have risen faster than wages for comparable work in the private sector and have been capped without regard to market pressure.[2] Transfers have moved with the CPI, but tax

rates have not been adjusted for inflation. Recently, however, policymakers have looked more closely at hitching all three to the same driver, and in the case of taxes the Congress has spoken fairly clearly.

Wages and Transfer Payments. Government faces the same issue with its employees as does a private employer: unexpected inflation erodes the real value of their wages. If government workers don't receive periodic cost-of-living adjustments, their real wages drop, affecting morale and turnover. The best workers leave government for the private sector or refuse to join the government if wages there lag too far behind the private sector.

But there is a danger of overindexing government wages. If government wages grow faster than private wages, taxpayers bear an ever-increasing burden and private employers may face ever-increasing labor costs as they try to compete with government. Some degree of indexing seems both equitable and efficient, but how much and what kind of indexation?

The best way, it seems, to index government wages is to index them to private wages on a total-compensation basis, including both salaries (or wages) and benefits. A well administered indexing program of this kind can keep government wages from racing ahead of private wages (burdening the private sector) and from falling behind private wages (imposing a burden on government workers and yielding inefficient turnover).

Also, the Federal government dispenses hundreds of billions of dollars each year in transfer payments, particularly to the elderly, the poor, and the handicapped. If transfer payments are fixed in nominal terms, these people can be hurt badly by inflation. One approach to protecting them—already implemented in many cases—is to index transfer payments.

But indexing transfers raises new questions of equity: Should those dependent on transfer payments be protected from supply shocks? Should recipients of social security, for example, be protected from inflation caused by a foreign oil cartel? Should those on retirement or on welfare maintain their real incomes even when the real incomes of workers drop?

Government has the alternative of indexing transfer payments to wages or to the price level. This issue cannot be settled by economic logic alone. How to index social security and other transfer payments is a political question about what transfer payments are intended to do. If the function of transfer payments is to maintain a constant real standard of living for those on the receiving end, then price indexation is appropriate. If the purpose of transfer payments is to keep the standard of living of transfer recipients in line with that of workers, then indexing transfers to wages is appropriate.

Tax Indexation. As incomes rise just to keep up with inflation, people find themselves in higher and higher tax brackets, because the current progressive tax code does not distinguish a real increase in income from a purely nominal increase in income. The marginal tax rate of a married taxpayer with a $40-thousand salary and standard deductions, for example, is 32 percent. (The marginal tax rate measures the extra tax paid on each extra dollar earned.) If the inflation rate is 10 percent and the taxpayer's salary rises by 10 percent to $44 thousand, the taxpayer finds himself in the 37-percent marginal tax bracket: the taxpayer pays higher real taxes even though his real income before taxes is unchanged. It has been estimated that if the price level rises 10 percent, tax revenues rise 15 percent; with tax indexation, tax revenues would rise only 10 percent.

[2] Anthony M. Rufolo, "Local Government Wages and Services: How Much Should Citizens Pay?" *Business Review*, Federal Reserve Bank of Philadelphia, January/February 1977, p. 14.

Further, inflation creates illusory profits that are subject to taxation as if they were real profits. In calculating profit, the tax code does not adjust capital gains, the value of inventories, or depreciation allowances for inflation. Thus it overstates current taxable income and increases the effective tax rate. The higher the inflation rate, the higher the effective tax on corporate profits.[3]

Finally, certain deductions, exemptions, and allowances in the tax code are not adjusted for inflation. To the extent that the personal exemption, the standard deduction, the low-income allowance, and the dividend and interest exclusion are stated in nominal terms, inflation reduces their real value and increases real taxes on the same real income.[4]

Indexing the whole tax system would neutralize the effect of inflation on real taxes by adjusting all nominal values in the tax system annually. If the inflation rate were 10 percent over a year, then at the end of the year a $1,000 personal exemption would become a $1,100 personal exemption, the $1,000-$2,000 tax bracket would become the $1,100-$2,200 tax bracket, a 5-cent a gallon gasoline excise tax would become a 5 1/2-cent tax, a 25-percent capital gain would become a 15-percent capital gain, and so on.

Recently, the Congress instituted partial indexation of the tax code based on the CPI. Effective in 1985, income tax brackets, the zero bracket amount, and the personal exemption will be adjusted annually by the amount of inflation. Tax bracket creep will cease to be a burden on the American taxpayer.

But important parts of the tax code remain unindexed. The real value of depreciation allowances, of capital gains taxes, of excise taxes, and of interest taxes varies with the rate of inflation even after the new indexing law takes effect. If inflation persists, the Congress may well consider further indexation of the tax code for the sake of its equity and efficiency.[5]

CONCLUSION

Indexation is, at best, a necessary evil. Indexation is costly to administer and it makes the economy more sensitive to supply shocks. It would be far better to have no inflation and no indexation than even a little of either or both. But given the prospect that

[3]Feldstein and Summers, two economists who have studied the interaction of inflation and corporate taxation, conclude:

> The overall effect of inflation with existing tax laws was to raise the real 1977 tax burden on corporate sector capital income by more than $32 billion. This extra tax represented 69 percent of the real after-tax capital income of the nonfinancial corporate sector, including retained earnings, dividends, and the real interest receipts of the corporations' creditors. The extra tax raised the total tax burden on nonfinancial corporate capital income by more than one-half of its noninflation value, raising the total effective tax rate from 43 percent to 66 percent. M. Feldstein and L. Summers, "Inflation and the Taxation of Capital Income in the Corporate Sector," *National Tax Journal* 32 (1979), p. 463.

This inflation-induced extra burden on capital income probably reduces the level of investment.

[4]There is one way inflation reduces real taxes. Excise taxes are fixed in nominal terms and decrease in real value during an inflation. The gasoline excise tax finances the highway system; highway construction and maintenance may have been hurt by the reduction in real gasoline excise tax revenues caused by the inflation.

[5]The alternative to indexation is annual legislative review to make inflation adjustments. Annual review has the advantage that the legislature can keep government wages, transfer payments, and taxes from becoming too high or too low. Unfortunately, annual review produces constant political controversy and thus absorbs a very large amount of legislative time. Furthermore, inflation makes it easy for the legislature to let real transfer payments fall via inflation. (Similarly, inflation creates tax bracket creep which allows taxes to rise without explicit legislation.) It seems preferable for the legislature periodically to set the level of real government wages, transfer payments, and taxes it desires and let indexation preserve their value on a year-to-year basis.

inflation will continue, indexation is a lesser evil than no indexation.

When inflation disappears, indexation will vanish with it from the private economy. But until it does, Americans and others will look on indexation as one of the few tools they have to protect their economic well-being.

SUGGESTED READING

A reader interested in learning more about indexation would do well to read *Essays on Inflation and Indexation* (Washington: American Enterprise Institute for Public Policy Research, 1974). Included in the essays is Milton Friedman's classic defense of indexation. A shorter version of Friedman's essay can be found in *Fortune Magazine,* July 1974. Another valuable source of information is *Indexing With the Consumer Price Index: Problems and Alternatives* (Washington: Congressional Budget Office, July 1981).

The economic theory of indexation is discussed in J. A. Gray, "Wage Indexation: A Macroeconomic Aproach," *Journal of Monetary Economics* 5 (April 1976) and "On Indexation and Contract Length," *Journal of Political Economy* 86 (February 1978); also in S. Fischer, "Wage Indexation and Macro-Economic Stability," in *Stabilization of the Domestic and International Economy,* Carnegie-Rochester Conference Series, Vol. 5, K. Brunner and A. Meltzer, eds., (Amsterdam: North-Holland Publishing Co., 1977), and O. J. Blachard, "Wage Indexing Rules and the Behavior of the Economy," *Journal of Political Economy* 87 (August 1979). A good history of indexation can be found in T. M. Humphrey, "The Concept of Indexation in the History of Economic Thought," *Economic Review,* Federal Reserve Bank of Richmond, November 1974.

The theory and practice of measuring inflation are discussed in W. Wallace and W. Cullison, *Measuring Price Changes: A Study of Price Indexes,* 4th edition, Federal Reserve Bank of Richmond, 1979; A. Blinder, "The Consumer Price Index and the Measurement of Recent Inflation," *Brookings Papers on Economic Activity,* 2 (1980); and J. Norwood, "The Consumer Price Index Puzzle," *Challenge,* March/April 1980.

BIG GOVERNMENT, a pamphlet written by Lawrence C. Murdoch, Jr., Vice President at the Philadelphia Fed, traces the growth of government in the United States and puts recent calls for reducing the size of government into perspective. Copies are available without charge from the Department of Public Services, Federal Reserve Bank of Philadelphia, 100 North Sixth Street, Philadelphia, PA 19106.

Who Controls What in the U.S. Economy?

*By Timothy Hannan**

In recent months, three giant companies—DuPont, Seagram, and Mobil—engaged in a much publicized bidding war for control of Conoco, Inc., the nation's ninth largest oil concern. The action got so fast and furious at one point that a prominent banker dubbed it a "feeding frenzy." While the fierce bidding battle for Conoco made most of the headlines, other large corporations also appeared to be zeroing in on still other acquisition targets. Understandably, this new urge to merge has caused thoughtful people to reflect on the meaning of it all and to make one more attempt at sorting out the implications for the future.

Will a few large corporations eventually control most of the economic activity in the United States? This question is not a new one. It has preoccupied economists and social critics since the days of Marx, and concern over the issue has continued to this day.

Some studies have presented data which seem to show aggregate concentration—the percentage of some national economic measure controlled by the leading companies in the nation—increasing rapidly over time. Such findings are alarming to the public and to policymakers, and understandably so. In the late 1970s, for example, when the economy appeared to be experiencing an earlier wave of mergers among large companies, the resulting concern over aggregate concentration may well have occasioned the legislation that was introduced then to limit large conglomerate mergers.

How solid are the findings upon which such concerns are based? The most recent evidence suggests that the dire predictions may be misleading. Many of these predictions are based on data that pertain to only a small portion of the economy, and

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many studies either employ data which make things appear worse than they really are or use perfectly sound data in questionable ways. Although fragmentary, the best evidence available suggests that aggregate concentration has not been increasing in recent years and even may have declined somewhat.

SOUNDING THE ALARM

Many Americans prefer to think of their economy as a system characterized mainly by competition. In competitive markets, prospective buyers and sellers are able to come together and agree on terms for transferring goods and services. Most people agree that an economic system in which markets are truly competitive is the most efficient system and provides the greatest possible economic benefit to all participants.

Markets can become noncompetitive, however, if the number of buyers and sellers is restricted. One source of this noncompetitiveness (there are others) is the tendency of firms that are in the same business to merge. Noncompetitiveness results if a few big firms in an industry, or in the extreme case a single firm, can be influential enough in the market to set prices above competitive levels. Concentration of an industry along these lines can localize economic power in a very small part of the market.

Above and beyond concentration within industries, however, concentration across industries conceivably could carry with it enormous political power as well as economic clout. The issue here is not merely the drift toward monopoly that can produce misallocation of resources, serious as that might be. When control of several large or key industries is concentrated in a few firms, the people who direct them may be able to play a dominant political role in the national society, operating in a dimension wholly different from that of the single-industry monopolist. Some observers believe that the U.S. already has begun to head down the road toward such aggregate economic concentration and the narrow distribution of political power that goes with it.

One of the first to warn of the dire consequences of aggregate concentration was Gardner Means. In his now classic study, Means estimated that the 100 largest manufacturing corporations in the U.S. controlled about 40 percent of manufacturing assets in 1929, 44 percent in 1933, and 49 percent in 1962.[1] Means did not continue his study for later years, but references in the popular press sometimes suggest that the trend he reported is continuing unabated.

A study that would seem to support the picture of progressive concentration in more recent years was conducted recently by W. M. Leonard. He reports that the 200 largest manufacturing firms in the U.S. had 39.5 percent of total manufacturing employment in 1955, 48.4 percent in 1965, and 60.7 percent in 1974—a disturbing trend indeed.[2]

No wonder, then, that policymakers and public alike have become concerned about aggregate concentration and that economists have taken greater pains to measure it.

AGGREGATE CONCENTRATION: OF WHAT AND FOR WHICH SECTORS?

Basic to measuring aggregate concentration is deciding what to measure, but this is not as simple a matter as it might seem. Any of a number of different indicators of economic activity could be considered. And once one is chosen, a decision still must be made about where to apply it. A study has to be based on appropriate choices of measures and sectors if it's going to yield reliable results.

Choosing a Measure. 'Aggregate concen-

[1]Testimony in U.S. Senate, Committee on the Judiciary, Subcommittee on Antitrust and Monopoly, Hearings, Economic Concentration, Part I, Washington, U.S. Government Printing Office, 1964, pp. 15-19, pp. 281-324.

[2]W. M. Leonard, "Mergers, Industrial Concentration, and Antitrust Policy," *Journal of Economic Issues* 10 (June 1976), pp. 354-382.

tration' refers to the share of economic activity controlled by the nation's largest firms. There are several different ways to measure this share. One alternative is to look at the percentage of the workforce employed by these firms. Another is to count up the assets these firms command. Sales, profits, and value added—the value of goods completed minus the cost of materials purchased from others—are still other measures that might be examined.

Picking one measure rather than another may influence significantly the findings that a study reports. Consider, for example, how the results of focusing on share of employment at large firms will differ from those of a share-of-assets approach. Since large firms tend to exhibit higher levels of capital per employee than do smaller firms, the share of total assets controlled by, say, the top 100 firms in the economy will be much larger than those firms' share of total employment. While the use of asset data could produce an overestimate of the economic power of large firms, use of employment data could make for an underestimate. These measures may present equally distorted pictures of where power lies at a given time or where it is trending over time.

Which is most appropriate to use in tracing aggregate concentration over time? When people speak of aggregate concentration, they usually are concerned with the concentration of political and social power in the hands of a small group. So at least conceptually, the measure of economic activity which is most indicative of political or social power is the one that ought to be used. While there's very little evidence to indicate what measure of economic activity is aligned most closely with political or social power, firm value added appears to be the best candidate for such a measure, since it incorporates the contributions of both labor and capital. Studies based on other measures of economic activity probably stand on somewhat more shaky ground.

What Should Be Measured? Once the choice of a measure is made, using it would seem to be a fairly straightforward exercise. In fact, though, it doesn't work out that way, because the U.S. economy is made up of a host of sectors and industries, each with its own peculiarities. Some are larger than others. Data are available for some but not for others, and what data are available in one area may not be comparable to data available elsewhere. The recent increase in international transactions by U.S. firms raises issues of its own. Thus there are pitfalls to avoid even after a measure of economic activity has been chosen.

Suppose, for example, that over time the largest manufacturing firms increase their share of the manufacturing sector, while the largest firms in the service sector experience a relative decline. A study of aggregate concentration which includes the manufacturing sector and excludes the service sector may find an alarming increase in the share of the economy controlled by the largest firms, while a study which includes only the service sector may end with a much more soothing conclusion. Since the omission of important sectors of the economy can yield a rather distorted picture, it seems reasonable to include all sectors of the economy in a measure of aggregate concentration, not just one or a few. The economy as a whole almost surely is more important than any one sector in its bearing on social and political power.

Another decision to be made concerns the business that firms do in foreign countries. Since on average large firms do a larger percentage of their business in international markets than do small firms, a study which includes foreign operations will find a higher level of aggregate concentration than a study which does not, and the observed trend in aggregate concentration may be similarly affected.

But whether or not international operations should be included in a measure of aggregate

concentration at all is a tough one to call. Since most people probably are concerned about domestic political influence when they speak of aggregate concentration and since domestic political influence probably is related most closely to direct control of domestic resources, the most reasonable choice seems to be that of excluding foreign operations in measuring aggregate concentration, although the issue isn't clear cut.

Thus certain basic working decisions have to be made about how to assess concentration. If the aim is to get a useful picture of where economic power lies, it seems most appropriate to focus on a broad-based measure such as value added and to cast the net as widely as possible over the domestic economy.

THE EVIDENCE FROM SOME PAST STUDIES

Many past studies violate one or the other of these principles, especially the mandate to examine the whole economy. Most of

FIGURE 1

THE MANUFACTURING SECTOR SHOWS OF STABILITY IN CONCENTRATIO

Aggregate Concentration in the Manufacturi

	1947	1950	1954	1955	1958	1960	1963	1965	1967	1968	1969
Census of Manufactures Data											
Percent share of value added											
Largest 50	17	—	23	—	23	—	25	—	25	—	—
Largest 100	23	—	30	—	30	—	33	—	33	—	—
Largest 200	30	—	37	—	38	—	41	—	42	—	—
Percent share of employment											
Largest 50	—	—	—	—	—	—	19	—	20	—	—
Largest 100	—	—	—	—	—	—	25	—	26	—	—
Largest 200	—	—	—	—	—	—	32	—	34	—	—
Federal Trade Commission Data*											
Percent share of assets											
Largest 100	—	37.7	—	44.3	—	46.4	—	46.5	48.2	49.1	48.2
Largest 200	—	42.7	—	53.1	—	56.3	—	56.7	59.4	60.8	60.1

*Data before 1973 include foreign operations.

Sources: U.S. Bureau of the Census, *Census of Manufactures; U.S. Department of Commerce, Stati* "Aggregate Concentration in the United States," *Journal of Industrial Economics* 29 (March 1981),

these studies focus exclusively on the manufacturing sector—a sector which makes up only about a fourth of the entire economy and, at least in percentage terms, is shrinking all the time. But even they can provide useful evidence on concentration trends.

Data on the manufacturing sector are collected by the U.S. Bureau of the Census and the Federal Trade Commission. The Census Bureau's *Census of Manufactures* presents information on concentration both by share of value added and by share of employment.

WO DECADES
RATIOS

Sector

1971	1972	1973	1974	1975	1976	1977
—	25	—	—	—	24	—
—	33	—	—	—	34	—
—	43	—	—	—	44	—
—	17	—	—	—	18	—
—	23	—	—	—	24	—
—	31	—	—	—	32	—
48.9	47.6	44.7	44.4	45.0	45.5	45.7
61.0	60.0	56.9	56.7	57.5	58.0	58.4

] Abstract. Both cited from Lawrence White,
423-430.

Comparing these two methods of presentation with the FTC's share-of-assets approach makes it clear that how economic activity is measured can make a lot of difference in how important the largest firms appear. Using value added or employment makes large firms appear relatively unimportant, while using assets assigns then a much bigger role (Figure 1).

The trend in aggregate concentration rather than the level, however, is of interest to most people, and here it doesn't appear to make much difference which set of data is used. They all seem to suggest that while the importance of the largest firms did indeed increase up until the early 1960s, aggregate concentration has remained relatively stable since then.

Of the three kinds of data, the data from the *Census of Manufactures* probably are the most appropriate, because of the greater reliability of value added as a measure of economic activity. Also, the Federal Trade Commission data include foreign operations for the years before 1973, and foreign operations may not be as germane as domestic activity if the issue is domestic political or social influence. Since the two sets of data seem to tell the same story in terms of the trend over time, however, these distinctions turn out not to be too crucial in the case of the manufacturing sector.

A special feature of using international numbers for certain industries or sectors is the requirement that they be presented in relation to activity in the economy as a whole. So, for example, when viewed in isolation, international business appears to have become more and more concentrated in the 200 largest U.S. manufacturing firms over the last several decades whether measured by share of sales, assets, after-tax income, or employment. This alarming-looking trend results from the inclusion of international economic activity in the numerators but not in the denominators of the ratios used to calculate percentage shares, so that the

importance of the largest firms is overstated. When the denominators are adjusted upward to reflect increased U.S. business in other countries, concentration falls back to the range of the Census and FTC numbers.

Thus the manufacturing sector shows comparatively little growth in aggregate concentration over the past two decades whether measured by value added, employment, or assets.

SOME NEW EVIDENCE

What is really desired, of course, is information on the importance of large firms in the economy as a whole, not just in the manufacturing sector. Unfortunately, value added data are not available for most firms outside the manufacturing sector, so data for such firms generally are not as good as for the manufacturing sector. Nonetheless some recent attempts have been made to try to find

FIGURE 2

THE NONMANUFACTURING S
SHOW NO CONSISTENT TREND TOWARD

Aggregate Concentration Ratios in Nonmanufa

	1955	1960	1965	1966	1967	1968	1969	197
Banking: Largest 50								
Percent share of assets	—	39.1	39.4	—	—	—	—	34.
Percent share of deposits	—	38.5	38.4	—	—	—	—	32.
Life Insurance: Largest 50								
Percent share of assets	—	87.7	85.5	84.8	84.4	83.9	83.4	82.
Percent share of insurance in force	—	83.1	77.4	72.2	75.5	74.7	74.3	73.
Electric and Gas Utilities: Largest								
Percent share of assets	—	—	—	57.4	58.1	58.7	59.4	60.
Percent share of net income after taxes	—	—	—	53.8	54.0	54.6	53.9	54.
Retail Trade: Largest 50								
Percent share of sales revenues	13.9	16.3	17.2	—	18.8	—	—	19.
Percent share of employment	—	—	17.1	—	18.4	—	—	21.
Transportation: Largest 50								
Percent share of sales revenues	—	53.2	55.5	—	59.7	—	—	58.
Percent share of employment	—	—	—	—	35.0	—	—	35.

SOURCES: U.S. Federal Deposit Insurance Corporation, *Assets and Liabilities: Commercial and Mu* years. American Council of Life Insurance, *Life Insurance Fact Book*, various years; *Fortune: Sta* Association, *Historical Statistics of the Gas Utility Industry, 1965-1975* (Arlington, 1977). See White, "

out what firms in the rest of the economy are up to.

Lawrence White recently reported concentration data for five different nonmanufacturing sectors. The data that White used to trace the trend in aggregate concentration in these sectors come from various sources, including business publications, industry groups, and government.[3] For most of these sectors, economic activity pertaining to foreign operations is excluded. In the case of public utilities and the retail sector, the leading firms are almost entirely domestically oriented, so there are no complications associated with overseas operations. Also, White carefully selected the financial sector data so that only domestic operations were included. Only the transportation sector, with its international air carriers, includes some overseas operations.

TORS
ONCENTRATION

ing Sectors

1971	1972	1973	1974	1975	1976	1977
—	—	—	37.3	35.7	35.3	35.5
—	—	—	35.4	33.5	32.0	31.9
82.4	819	81.1	80.7	80.3	79.9	79.1
72.8	72.2	71.7	70.8	70.9	71.0	71.0
—	61.2	—	—	60.4	60.1	59.8
—	54.7	—	—	52.9	52.2	53.4
19.6	20.0	20.0	20.9	21.0	20.6	20.5
20.9	21.0	21.8	21.6	21.0	20.8	20.1
57.1	56.7	58.4	60.2	66.0	61.6	—
—	33.3	33.6	33.1	37.2	35.9	35.0

Savings Banks and *Annual Report*, various
al Abstract, various years. American Gas
egate Concentration in the United States."

White's results are rather mixed (Figure 2). They show that aggregate concentration in the banking and life insurance sectors decreased during the 1960s. Through the 1970s this trend appears to have continued in the life insurance area, while aggregate concentration in banking appeared to level off. The 1960s saw an increase in aggregate concentration in the electric and gas utility sector, but this sector then stabilized in the 1970s and concentration even declined somewhat. The trend for retail trade was toward higher levels of aggregate concentration in the 1950s and 1960s but then leveled off in the 1970s. The growth of the airlines and mergers among railroads brought steady increases in aggregate concentration in the transportation sector as measured by sales, but concentration measured by employment has remained steady. White claims that the temporary increases in 1975 were the result of that year's sluggish growth in the trucking business, which happens to be populated by predominantly small firms.

Overall, some nonmanufacturing sectors experienced increases while others experienced decreases in aggregate concentration. But for the 1970s, most sectors experienced either stability in aggregate concentration or slight decreases.

White also did some calculations for the

[3]Much of the following discussion of aggregate concentration borrows from evidence presented in Lawrence White, "Aggregate Concentration in the United States," *Journal of Industrial Economics* 29 (March 1981), pp. 423-430.

entire private sector of the economy (Figure 3). These calculations cover a fairly short period (1972 through 1977), and the measures of economic activity that he was forced to use fall far short of what is desirable. But there is no reason to believe that the results are misleading, and they show a slight *decline* in aggregate concentration over the years covered.

In fact, White's findings are reinforced by another set of data compiled recently by the Federal Trade Commission's Bureau of Economics. The FTC series uses assets as the measure of economic activity and excludes the financial sector of the economy, and so it too leaves much to wish for in getting a good picture of aggregate concentration. But it does cover a longer period than White's series, and it's one of the few sources of data available for examining the importance of big firms in both manufacturing and nonmanufacturing sectors. These data also report a slight decline in aggregate concentration (Figure 4). It appears that once people allow for the fact that there's more to an economy than the manufacturing sector, the largest firms are not in general increasing their share of economic activity. Indeed, their share may be declining slightly.

CONCLUSION

It has been claimed that the percentage of economic activity controlled by the largest firms in the U.S. economy has been growing at a rapid rate. If greater concentration of economic activity in the hands of a few implies greater concentration of political and social power, then such findings are alarming indeed. They suggest a rather disturbing future unless strong actions are taken

FIGURE 3

DATA FOR PRIVATE SECTOR SHOW DECLINES IN CONCENTRATION

Aggregate Concentration Ratios in the Entire Private Sector

	1972	1973	1974	1975	1976	1977
Percent share of nonagricultural private sector employment						
Largest 100	18.2	—	—	—	—	17.3
Largest 200	23.9	—	—	—	—	22.7
Largest 1,300	37.3	37.4	37.2	36.1	36.1	35.5
Percent share of corporate net income after taxes						
Largest 100	46.8	—	—	—	—	45.8
Largest 200	59.8	—	—	—	—	57.8
Largest 1,300	82.7	74.7	84.3	82.6	82.1	82.2

SOURCE: *Fortune*, various years; U.S. Department of Commerce, *Survey of Current Business*, various years; U.S. Department of Labor, *Employment and Earnings*, various years. See White, "Aggregate Concentration in the United States."

FIGURE 4

FTC DATA FOR NONFINANCIALS SHOW SLIGHT DECLINE IN CONCENTRATION

Aggregate Concentration Ratios for Largest 200 Nonfinancial Corporations, Assets

	1958	1963	1967	1972	1975
Largest 50	24.4	24.4	24.5	23.4	23.3
Largest 100	32.1	31.7	32.0	30.7	30.6
Largest 150	37.4	36.7	37.0	35.9	35.6
Largest 200	41.1	40.5	41.2	39.9	39.5

SOURCE: U.S. Federal Trade Commission data.

in the policy arena. A ban on otherwise beneficial conglomerate mergers is a frequently mentioned policy option.

Recent evidence suggests, however, that these dire predictions rest on shaky foundations. They usually are based on data that pertain to only a small portion of the economy and use measures of economic activity that make things appear worse than they really are. Attempts to correct for these deficiencies by including more than the manufacturing sector and by using more defensible measures of economic activity in calculating aggregate concentration show a trend over time which is decidedly less alarming. While undue concentration of economic power merits close attention, the best evidence suggests that aggregate concentration has not increased in the last ten to twenty years and even may have declined somewhat.

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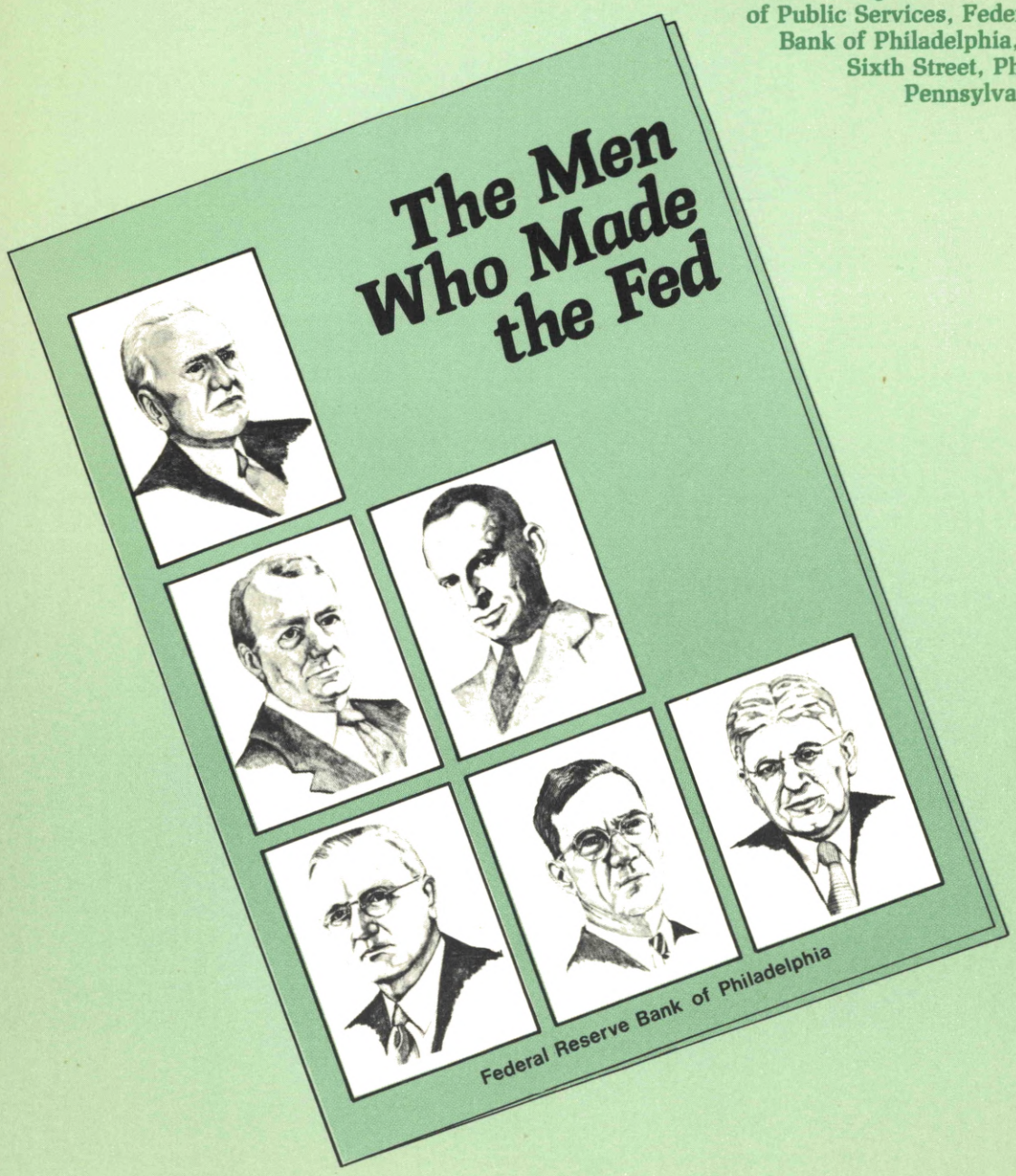

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