

BUSINESS REVIEW

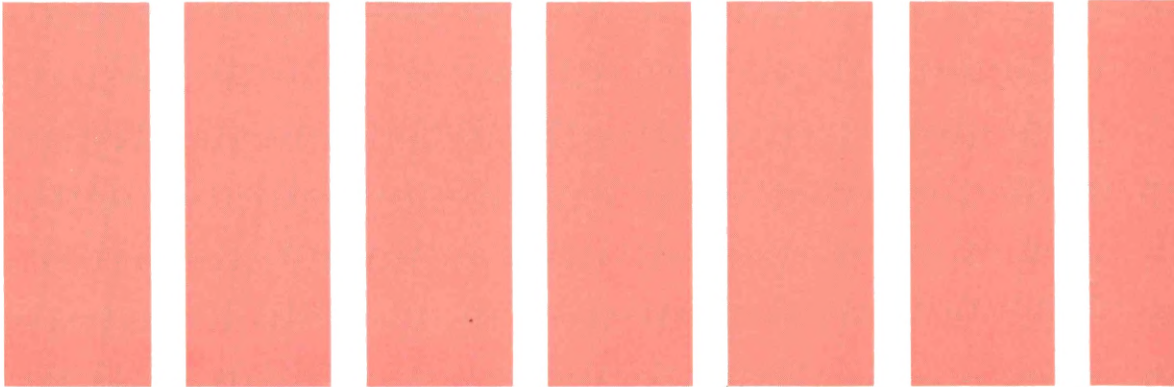
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An Economic Approach to Family Size:
A New Perspective on Population Growth

Tax Cuts and Economic Activity:
The Role of "Financing"

The Fed in Print

Annual Operations and Executive Changes





IN THIS ISSUE . . .

An Economic Approach to Family Size: A New Perspective on Population Growth

. . . A growing body of evidence indicates that the rising value of an individual's time affects decisions about family size. This economic approach to childbearing decisions yields a less pessimistic outlook for future population growth.

Tax Cuts and Economic Activity: The Role of "Financing"

. . . Although the initial effect of a tax cut is expansionary, the longer term impact on the economy depends on how the government responds to the resulting loss in revenue.

On our cover: *Washington Crossing the Delaware*, by Emanuel Gottlieb Leutze. The event which this famous painting depicts occurred Christmas night, 1776, when Washington's troops ferried across the icy Delaware River in order to make a surprise attack the next day on the Hessians garrisoned in Trenton, New Jersey. This advance led to the American victory at Princeton on January 3, 1777, which caused the British to withdraw from western New Jersey. These winter victories secured a safe post of observation for the winter at Norristown, and restored the colonists' confidence in their ability to defeat the British armies.

Emanuel Gottlieb Leutze (1816-1868) was born in Gmund, Wurttemberg. He came to Philadelphia as a child and studied art there. Leutze painted *Washington Crossing the Delaware* in 1851. He was in Germany at the time, and used the Rhine as a model for the Delaware. (The Metropolitan Museum of Art, Gift of John Stewart Kennedy, 1897.)

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An Economic Approach to Family Size: A New Perspective on Population Growth

By Donald J. Mullineaux

People are becoming increasingly anxious at the prospect that we humans will someday procreate ourselves right back into our ancestral cave dwellings. This is hardly a new worry. Thomas Malthus, the most pessimistic of a breed Carlyle dubbed the “dismal scientists,” averred almost 200 years ago that population growth would inevitably outstrip man’s ability to feed and clothe himself. Misery and distress would come to characterize the human condition. Experience has belied the Malthusian prophecy as living standards have risen sharply in most areas of the world. Yet Parson Malthus’s theory of population and calamity has shown remarkable resiliency. Like some rubber-legged heavyweights, Malthus has been down but never out. Indeed, in two recent and highly publicized studies¹, the Malthusian outlook has resur-

faced, fortified by computer analyses of the world economy and psychosociopolitical theorizing.

Until recently, economists have had relatively little to say about Malthus’s views concerning fertility and population *per se*. The Malthusian prophecy was considered faulty because it neglected the saving grace of technology, and nothing needed to be said about family size. Indeed, nothing could be said, since family size was determined mainly by noneconomic factors. Some economists have recently had a change of heart, however. They emphasize that both logic and evidence indicate that economic variables play a role in family decisions about childbearing. One economic approach—sometimes referred to as the “household model”—suggests that neglecting the impact of *prices* on family size can lead to poor forecasts of population growth. In addition, the household model clarifies the relation of education and family size. Finally, the outlook for population growth suggested by this

¹See Donella H. Meadows et al., *The Limits to Growth* (New York: Universe Books, 1972) and Robert L. Heilbroner, *An Inquiry into the Human Prospect* (New York: W. W. Norton and Company, 1974).

approach allows a much more optimistic view of mankind's future than the bleak Malthusian scenario.

AN ECONOMIC VIEW OF FAMILY SIZE: THE DEMAND AND SUPPLY OF CHILDREN

In recent years, economists have begun to apply their logic and methods in a number of areas once considered beyond the pale of economics. Decisions concerning marriage, childbearing, migration, criminal behavior, church attendance, suicide, and even (with tongue in swollen cheek) teeth brushing have all been subjected to economic analysis. Sociologists and psychologists have, of course, long studied these kinds of phenomena. The explanations of economists are not intended to displace or denigrate their efforts, but rather to complement psychological or sociological theories and hence provide a fuller elucidation of human behavior.

Many people are offended by the suggestion that children can be treated like any other economic good. Parents in particular are likely to resist attempts to attach a "price" to their children. The reason is that society uses prices to measure value, and most mothers and fathers would not assign a monetary value to their children (although the neighbors' children are often considered "priceless" in quite a different sense than our own). Economists seek to apply their logic to childbearing, however, not to debase the human qualities of children or parents, but to gain insights into behavior which may be useful for problem solving. In other words, economists are trying to abstract from the extremely large number of factors affecting family size and isolate those elements they understand best. This is not to suggest that all behavior is motivated *solely* by economic factors. Economists make no claim to completeness when studying the demand for children (though this is no less the case for automobiles or theater tickets). The point is that where economic factors play *some* role and

are ignored, explaining and predicting human behavior and its consequences (such as population growth) will be at best difficult and at worst fallacious.

A popular approach involves treating each household as a miniature firm.² A firm purchases materials, equipment, and manpower to produce some product. Similarly, a household purchases goods and services and combines them with its own available time ("manpower") to produce things which give satisfaction to household members. A household for instance employs materials such as bread, wine, steak, vegetables, and the like along with shopping and preparation time to "produce" a meal. Just as the amount a business manufactures depends on what it has to pay for raw materials and for labor, what a household "produces" depends on the prices of household goods and the value of family members' time. This "household model" also suggests that as the price of a husband's or wife's time increases relative to the prices of other goods, a household will switch to activities requiring less time (just as a firm substitutes machines for labor when wages rise relative to equipment rentals).

The "services" provided by children represent one form of satisfaction produced in many households. Children yield their parents productive services (such as mowing lawns, washing dishes, "doing chores," and the like) as well as nonproductive services. Economists term the latter "psychic income" and it includes the sum of the innumerable joys of watching and helping children grow. Since children yield these services over time, from an economic viewpoint they can be considered akin to "durable goods." Like durables in general, children are costly. Expenditures on food, clothing, health maintenance, education, recreation, and so on can

²Not all economists employ the same framework in studying family size. For an alternative approach to the one outlined in this article, see Harvey Leibenstein, "The Economic Theory of Fertility Decline," *Quarterly Journal of Economics* 89 (1975): 1-31.

run into many thousands of dollars. In addition, there will be “psychic costs” to child-raising since growing up produces parental heartaches as well as joys.³

If children can be thought of as resembling other durable goods in a broad sense, then economists can apply their reasoning to derive suggestions about how people are likely to behave in making decisions about family size. For instance, the demand for “satisfaction” from children should fall when the “price” of children rises. As children become more expensive relative to other means of satisfaction, parents should want to bear and raise fewer children. This presumes of course that the other factors affecting fertility—both economic and noneconomic—are unchanged. Applying economics to childbearing decisions also would suggest that households should desire more children as family income rises (that is, if children are what economists call “normal” goods). Here is one point where an economic application appears to hit a snag. For the evidence is quite clear that over time and in almost all the various cultures of the world the birth rate *falls* as income increases. In the same vein, wealthier families typically have fewer children than families with lower standards of living. Looking at the relation between family size and income *in isolation*, however, can be misleading. Economists must try to “control” for the effects of other factors which may impinge on childbearing decisions. Recent studies show, for example, that once we take account of the effects of changes in the “quality” and “price” of children, family size on

average does increase with income. Thus, income changes cannot explain the long-run decline in birth rates in most developed economies. According to the “household model,” declining family size is accounted for mainly by three factors: (1) increases in the average “quality” level of children; (2) the rising “price” of children; and (3) increases in the average education level of parents.

Quantity vs. Quality of Children. The household model approach to family size suggests that children can be viewed much like other durable goods which are desired for the “services” they provide. At first glance, it seems vulgar or offensive to contend that children are wanted for their “services.” However, economists define “services” quite broadly. Indeed, *any* kind of “good feeling” that a parent would attribute to having a son or daughter would be considered a “service” from the economist’s viewpoint. Friendly greetings on arriving home, long walks in the woods, and games of catch in the backyard are all part of the “service flow” from children.

In many cases, households would like to increase the services provided by durable goods. There are two ways to accomplish this. More units of the good in question can be acquired, or alternatively, a higher quality unit (more BTUs or horsepower) can be purchased. Economists have carried over the quantity-quality distinction to their discussion of the demand for children. In particular, they note that “services” from children can be increased either by adding to the size of the family or by boosting the “quality” of the children parents already have.

By injecting “quality” into their analysis of family size, economists do not mean to suggest that some children are “better” in some moral sense than others. Instead they are simply emphasizing that some parents spend more on raising a family of given size than others. Rather than add further to family size, parents may opt for summer camp and nursery schools for the children they already

³Parents presumably compare the benefits of an additional child with the costs involved (such a calculation is, of course, rough at best and perhaps not even consciously undertaken) and adjust their reproductive behavior to add to the size of the family whenever benefits exceed costs. Some may find thinking about behavior this way crass or offensive. It should be remembered, however, that the economic approach is not intended to be the sole explanation of all we do. In addition, whether or not the household model is useful can only be judged in terms of its ability to explain and predict human behavior.

have. Indeed, households cannot avoid choosing between quantity and quality expenditures in childraising since no family has unlimited resources.

For most durable goods, expenditures on quality seem much more responsive to income gains than does spending on quantity.⁴ Several economists have argued that this is likely to be the case for children as well. They note that high-income families typically have only slightly larger or even smaller numbers of children than low-income families, but they spend more on each child. There is some disagreement about why this might be the case. Some have argued that social pressures dictate that children's living standards are inexorably linked to those of their parents. Other economists have contended that producing "quality" children becomes "cheaper" as incomes rise. Whatever the underlying reason, it is clear that ignoring the quality-quantity distinction in relating income and size of family can lead to misleading conclusions since quality can "substitute" for quantity to some extent. Still another factor which must be taken into account, however, is the "price" of children relative to other goods and services.

The Cost of Raising or "Price" of Children. In these inflationary times, everyone recognizes that rearing a family has become an increasingly expensive proposition. But it is difficult to think of any activity that isn't costing more today than yesterday. In fact, childbearing will be discouraged not by inflation *per se*, but by increases in the "price" of children relative to the prices of other goods and ser-

vices. There is good reason to believe that the relative price of children has been rising sharply over time, at least in the developed countries. The reason is that the "services" that children provide are produced in the home using a resource whose value (relative price) has risen considerably—namely, the parents' (especially the mother's) time.

The dollar cost of the goods and services used in child rearing is only part of the total cost of children. Economists also reckon the "opportunity cost" of the time spent with children as part of the "price" of children. These opportunity costs represent the value parents would attach to *alternative* uses of the time and energy they allot to their children. For instance, to devote her time to her children, a mother foregoes opportunities to earn income in the job market or enjoy leisure activities. Indeed, the "production" of child services requires an extraordinary amount of the parents' time, especially when children are young. In the jargon of economists, producing satisfaction from children is very "time-intensive." Hence, this time or opportunity cost forms an integral part of the "full price" of children.

The value of the opportunities a mother foregoes to raise children can be considered the price of her time, and likewise for the father. For women who spend at least part of their time working in the labor market, their "real wage" (inflation-adjusted earnings) can be taken as a measure of the price of time. In the U. S. as well as in other developed economies, real wages have increased sharply over time (see Chart 1). Hence, the value of time has been increasing. A rising price of time translates into an increased price of children relative to other goods and services because children are *more time-intensive* than other kinds of durable goods. Economic logic dictates that as the relative price of children rises, people will shift to less time-intensive activities to economize on an increasingly scarce resource (time).

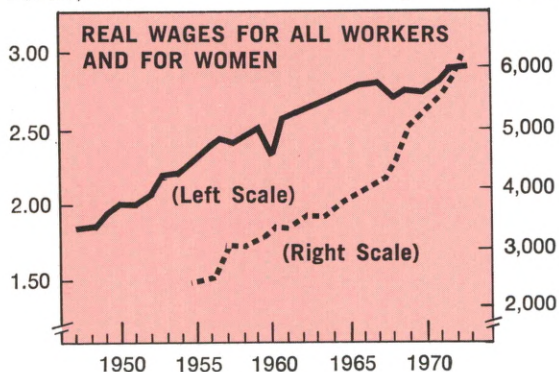
Some studies have considered the statistical relationship between family size and the

⁴For example, one well-known study estimates that if total income in the U. S. doubles, total spending on automobiles would rise 200 percent. However, spending on additional numbers of cars would rise by only 31 percent. The difference reflects increased expenditures on quality. See Gregory C. Chow, *The Demand for Automobiles in the United States* (Amsterdam, The Netherlands: North-Holland Publishing Company, 1957).

CHART 1

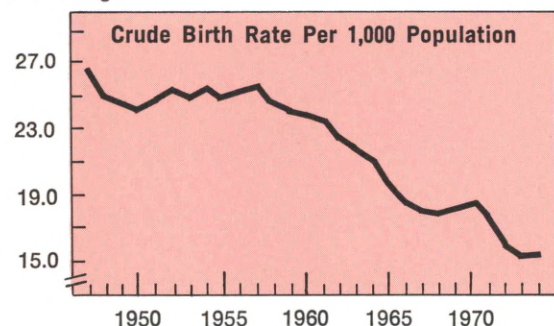
AS THE VALUE OF TIME HAS INCREASED SHARPLY IN THE POSTWAR PERIOD IN THE U.S....

All Workers Dollars/hour Median Annual Earnings For Women



THE BIRTH RATE HAS DROPPED SIGNIFICANTLY.

Percentage



Source: Statistical Abstract of the U.S. & U.S. Department of Commerce, Current Population Reports P-60 Series.

price of parents' time.⁵ The relationship between the father's wage and family size is unclear, but several studies have found that a higher value of the mother's time is associated with a lower number of children in the family. These studies typically use a woman's wage or number of years of education as a measure of the value of time. Years of schooling are of course only a "proxy" measure for the value of time. Some researchers employ this measure because wage-rate information is not available for a large proportion of women—mainly those who spend *all* of their time working in the home. The value of the housewife's time must exceed her potential wage in the labor market or she would devote at least some of her time to working outside the home. Studies have shown that the value of the housewife's time will depend on a number of factors,⁶ but that education is especially important. Education increases productivity in *work at home* by improving the ability to acquire, evaluate, and use information concerning matters such as consumer products and health maintenance. Since education also has a positive effect on earnings outside the home, it clearly affects the demand for children via its influence on the value of time. But education's impact on family size is not limited to the demand side. It also influences the supply of children by affecting a couple's ability to control the size of their families.

Education and the Supply of Children. Children are unique when viewed in an economic light since they are generally "supplied" by the same individuals who "demand" their "services"—namely, their parents. Having a child is not a perfectly predictable event,

⁵Several studies in the "household model" approach to fertility can be found in T. W. Schultz, ed., *New Economic Approaches to Fertility*, published in the *Journal of Political Economy* 81 (1973): S1-S299.

⁶See Reuben Gronau, "The Effect of Children on the Housewife's Value of Time," in T. W. Schultz, ed., *Economic Approaches to Fertility*, pp. S168-S199.

however, so that parents cannot expect to be completely successful in matching their "supplies" and "demands" for satisfaction from children. But couples are not completely at the mercy of chance in supplying children. They can exercise some control over the likelihood of having a child.

Trying to increase or reduce the chances of having a child is typically a costly activity. Many couples spend both time and money on family planning. Other kinds of costs may also be involved, such as any expectation of impaired physical health or any conflict with religious beliefs. Couples are willing to bear some of these costs to reduce the chances of having an unplanned child.

Some couples may be more efficient at family planning than others, however. In particular, better-educated couples may be able to reduce the chances of having an unplanned child more efficiently than the less-educated. Researchers have developed evidence which supports this claim. Some have argued that this finding simply reflects the fact that better-educated couples want fewer children (the demand side) and hence have a greater incentive to plan family size more effectively. At least one study has taken the desired number of children into account as a factor in determining family size, and it still remains true that better-educated couples are more effective at family planning.⁷

Within the context of the "household model" approach to family size, then, education clearly plays a leading role in contributing toward an explanation of birth rates. Since it affects both the demand and supply of children, it exerts a clear influence on the "price" of children which has been increasing over time. The notion that the "price" of children is important for predicting family size and population growth is a key one. It differs sharply from past thinking which assigned a role only to income when consider-

ing the impact of economic variables on population growth. Once prices are taken into consideration, the outlook for the "human condition" stands at considerable variance with the well-known Malthusian view.

THE LONG-RUN IMPLICATIONS OF THE "HOUSEHOLD MODEL" OF FAMILY SIZE: DOOMSDAY OR PROSPERITY?

Almost all "theories" of population behavior suggest that at some point growth in the number of people on our planet will come to a halt. Many thinkers are at odds, however, about the likely condition of the world once birth rates achieve rough congruence with death rates to produce what demographers call a "population equilibrium." Malthus's own conclusion was straightforward and depressing. Calamity and misery will characterize the human condition in population equilibrium. Recently, the Malthusian outlook appears to be making more and more converts (see Box 1).

The economic approach to fertility outlined in the "household model" yields a different and more optimistic answer about mankind's future. It suggests that population equilibrium is compatible with high living standards and a prosperous human condition. Prosperity prevails over calamity mainly because the "household model" visualizes a different set of factors underlying a decline in birth rates than the Malthusian approach. Malthus and his followers see increases in the relative prices of the *services of natural resources* as the key factor accounting for a leveling off of population growth. Land or energy prices become so high that families can no longer afford to feed or house additional children. According to the "household model" approach, however, an increase in the relative price of *human time* is the driving force which eventually brings worldwide birth rates in line with death rates. Procreation is limited in this scenario by the high price (opportunity cost) of children themselves.

⁷See Robert T. Michael, "Education and the Derived Demand for Children," in T. W. Schultz, ed., *Economic Approaches to Fertility*, pp. S128-S164.

BOX 1

POPULATION AND CALAMITY: THE MALTHUSIAN VIEW

Social and natural scientists as well as mathematicians have long been intrigued by the implications of continuously growing numbers of people competing for living space on a finite planet. Thomas Malthus (in essays published in 1798 and 1830) contended that population growth sails along without bound as long as wages remain above the level required for subsistence. While the sum total of people grows and grows, the quantity of land is essentially fixed. Hence, increasing demands for food require that farmers turn to less and less fertile land. These inferior fields yield less and less output per acre (an example of the “law of diminishing returns”). As population doubles and redoubles, the earth is in effect halved until it shrinks so much that food production falls below the level necessary to sustain life. According to Malthus, population growth is eventually held in check by starvation and malnutrition, and hence misery and want characterize the human condition.

Except for incidents isolated in time and space, the Malthusian prediction of calamity has gone unfulfilled. Indeed, during the last 200 years living standards have *risen* sharply rather than fallen. Technological improvement in agricultural production is generally recognized as the providential savior which continuously redeems mankind from a Malthusian hell. Recently, however, debate has resurfaced concerning the outlook for future growth and prosperity, *despite projected advancements in technological wizardry*. In particular, a group of scientists and mathematicians has constructed a computerized “model” of the world economy. They employ a system of mathematical equations to predict future economic activity and population growth. Their conclusion is that continued economic growth is impossible. The earth’s natural resources will soon be exhausted, they contend, and increased industrial activity will shortly strangle us in pollution. Furthermore, increasing population will eventually outrun the world’s capacity to produce food, and famine will result. Because of the nature of the suggested interaction between depleted resources, pollution, industrial production and population growth, technological innovation cannot prevent or even long forestall the advent of doomsday. These researchers conclude that setting explicit limits on growth in capital (factories, trucks, machines, and the like) and population represents the only means of preventing the eventual realization of the Malthusian forecast.

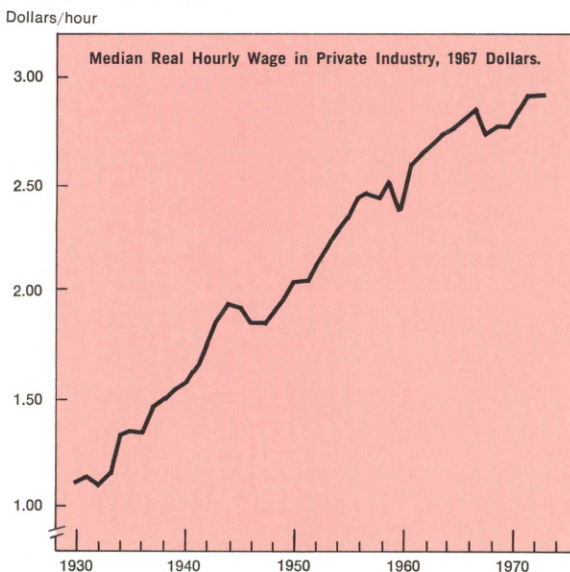
The conclusions of any mathematical model, however, are only as strong as its weakest equation. One area where the analysis of the neo-Malthusians (as well as Malthus himself) can be challenged concerns the relationship between population growth and economic variables. Malthusians suggest that income is the only relevant economic variable for explaining and predicting fertility and population growth. They fail to consider the impact of *prices*—in particular the “price” of children—on parents reproductive behavior. The household model approach to fertility—which emphasizes the role of the “price” of children (and its relation to the price of time)—yields a different and more optimistic picture of the future.

Since no amount of technological virtuosity can squeeze more than 24 hours out of a day, time can be considered the ultimate economic resource constraint. Indeed, the *present scarcity* of time relative to other resources is reflected in long-run changes in relative prices. In the U. S., for example, wages adjusted for inflation—a rough measure of the price of time—have moved

sharply upwards since the Great Depression (see Chart 2). In fact, total real compensation per hour at work in manufacturing increased between 1929 and 1970 more than *four times* as much as did the rent paid for the services of farmland in the U.S. As time becomes increasingly more expensive, economic logic dictates that households and firms will substitute material goods for human time and en-

CHART 2

THE VALUE OF TIME SHOWS A SHARP UPWARD TREND OVER THE LONG RUN IN THE U. S.



Source: *Statistical Abstract of the United States.*

gage in less time-intensive activities. If these trends continue on a worldwide basis (see Box 2 on the less-developed economies), the high price of time may become the basic constraint which determines the upper limit of economic growth and population increases.⁸ The basic logic is simple. Time is fixed in supply and is becoming more and more expensive. Yet consumption takes time. Hence, eventually it is no longer "worth it" to add to the production stream because no time is available to consume the benefits. But the high price of time guarantees—indeed is synonymous with—continued prosperity once growth in production and population ends.

SUMMING UP

The "household model" represents an

⁸For some discussion about the reasons for the increasing value of time, see T. W. Schultz, "The Increasing Economic Value of Human Time," *American Journal of Agricultural Economics* 54 (1972): 843–50.

economic approach to family size, an issue economists in the past have considered outside their analytical domain. While it does not pretend that economics has all the answers, it does suggest that students of population growth may err in their explanations and predictions if they neglect the impact of relative price changes on family behavior. In particular, changes in the value of time are likely to exert an influence on birth rates over time and across families. This economic view also clarifies the nature of the several channels through which changes in the average level of education affect the rate of procreation. Finally, the economic approach foresees a future for mankind which stands at considerable variance with the well-known Malthusian prophecy of gloom and doom. Although some remain skeptical about the "household model" approach, the evidence accumulated thus far seems sufficiently favorable for policymakers to take account of the issues raised in an economic approach

BOX 2

Can Economists Apply Their Fertility Approach to the Less-Developed Countries?

The optimistic outlook for the household model for mankind's future presumes that the relative price of time will continue to rise and that this approach is a useful analytical tool for predicting future population behavior. Some researchers have questioned the validity of this economic approach, particularly as it applies to the less-developed countries (LDCs). In these economies, human time is cheap and women have relatively few opportunities to earn income outside the home. In addition, life expectancy is lower, infant mortality higher, and the availability of family planning techniques (including information about them) is less widespread and hence more costly than in developed economies. The nature of the benefits of children may also differ in LDCs. In particular, more parents may invest in children with a view toward having their offspring support them in old age. This *pension motive* for having children undoubtedly bulks larger in childbearing decisions in less-developed economies where governments have yet to devise public retirement programs (such as Social Security in the U.S.) and where capital markets are not well suited to private pension savings.


None of these differences in the overall economic environment rules out the application of the "household model" to family size decisions in less-developed economies *in principle*. Rather, they require that the mode of analysis be revised to make it more relevant to economies with different characteristics than those of developed economies.* This, of course, does not *guarantee* that this overall approach will successfully explain and predict family size in LDCs. That is for empirical testing to decide, and such tests are just beginning to be undertaken.

At the same time, there is little evidence that the Malthusian approach is best fitted for the study of family size in LDCs. Per capita income is in general not falling in these countries. In addition, there are appreciable gains in living standards which are reflected in improved health conditions and longer life expectancy. Moreover, birth rates are falling in a number of LDCs.

None of this is to suggest that LDCs or even some developed economies do not have a population "problem." In fact, an economic approach to family size clarifies the nature of an overpopulation problem and suggests what may be required by way of a solution. The problem, simply stated, is "too many people" relative to some "desired" population from the point of view of society (as perceived by some agent of society—the government or a planning agency). Such a problem could stem from parents ending up with more children than they want or it may reflect that couples demand more children than is socially desirable. In reality, both factors no doubt play a role. This means, however, that policies designed to reduce the cost of family planning (by devising inexpensive and morally acceptable family planning methods, for example) cannot guarantee a solution to an overpopulation problem. Modern family planning methods only make it easier to control family size. They do not reduce the desired size of the family. To accomplish this, the government must either alter the incentives for childbearing (by changing the "price" or rate of return on children) or directly curtail the freedom of some or all families to choose the number of children they desire. Pills and propaganda are not enough to curb overpopulation, as the economic approach to family size makes clear.

*For an analysis in this vein, see Philip A. Neher, "Peasants, Procreation, and Pensions," *American Economic Review* 61 (1971): 380–89.

when designing population programs. In particular, assessments of the impact of various policies on the "price" of children would seem desirable. Finally, the optimistic conclusions of the "household model" about mankind's destiny should not be taken as a signal for complacency in the face of some obvious population problems in many parts of the world. Economists study only a part

of the large puzzle known as human nature. Hence, the contributions of the other social sciences must also be taken into consideration in designing policies. The "household model" approach indeed tells us that doomsday is not the inevitable natural legacy of mankind. But from this we should not conjecture that the only other feasible outcome is prosperity and bliss. 

SELECTED READINGS

- Becker, Gary S. "An Economic Approach to Fertility." in *Demographic and Economic Change in Developed Countries*. National Bureau Conference Series 11. Princeton, N.J.: Princeton University Press, 1960.
- DeTray, Dennis N. "Child Quality and the Demand for Children." *Journal of Political Economy* 81, No. 2, supplement (1973): S70–S95.
- Gronau, Reuben. "The Effect of Children on the Housewife's Value of Time." *Journal of Political Economy* 81, No. 2, supplement (1973): S168–S199.
- Leibowitz, Arleen. "Home Investments in Children." *Journal of Political Economy* 82, No. 2, supplement (1974): S111–S131.
- Michael, Robert T. "Education and the Derived Demand for Children." *Journal of Political Economy* 81, No. 2, supplement (1973): S128–S164.
- Schultz, Theodore W. "Population Equilibrium: The High Value of Human Time." *Journal of Political Economy* 82, No. 2, supplement (1974): S2–S10.
- . "The Value of Children: An Economic Perspective." *Journal of Political Economy* 81, No. 2, supplement (1973): S2–S13.
- Willis, Robert J. "A New Approach to the Economic Theory of Fertility Behavior." *Journal of Political Economy* 81, No. 2, supplement (1973): S14–S64.

Tax Cuts and Economic Activity: The Role of “Financing”

By *Nariman Behraves* and
Donald L. Raiff

The ideas of economists and political philosophers, both when they are right and when they are wrong, are more powerful than is commonly understood. Indeed the world is ruled by little else. Practical men, who believe themselves to be quite exempt from any intellectual influences, are usually the slaves of some defunct economist.

—John Maynard Keynes, *The General Theory of Employment, Interest and Money* (1936)

Keynes is a defunct economist, but his ideas have proved more durable than his person—as he indeed warned they might. One Keynesian notion, that government can combat an economic slowdown by cutting taxes, has become commonplace, even among noneconomists. If the government withholds fewer dollars for taxes, then consumers have more take-home pay to spend. More spending in turn means more production and more jobs, and an end to the business slowdown. What could be more obvious?

Few economists would deny that the initial effect of a tax cut is expansionary. But, beyond the initial effect the impact on the economy can be quite varied. It turns out that the overall effectiveness of a tax cut depends on how the government responds to the resulting loss in its revenue. In particular, it makes a great deal of difference whether the government “finances” a tax cut by trimming expenditures, by borrowing solely from the public, or by borrowing from the central bank as well as the public.

BASIC ECONOMICS SUGGESTS A TAX CUT IS STIMULATIVE . . .

“Eighty-five cents for me and fifteen cents for Uncle Sam.” This saying represents the man-in-the-street’s view on taxation. The more an individual has to set aside to cover his tax bill, the less he has available to spend on goods and services. Herein lies the power of fiscal policy. By reducing the tax bite on each wage earner’s paycheck, the government increases after-tax or “dispos-

ble income.”¹ Hence, workers retain a greater proportion of their gross income to spend. (Not all of the tax reduction will end up in more consumption spending; some of course will be saved.)

Business firms as well as individuals pay taxes on their income and a cut in business taxes is also likely to add to overall spending in the economy. The reasoning goes like this: If a business wants to buy a new machine or put up a new building, it must either dip into its earnings or borrow the necessary funds from private lenders. When the government cuts business taxes, after-tax earnings are increased. Then, business can use the cash freed up by the tax cut to pay higher dividends to their stockholders or to expand the scale of operations. Either of these activities will boost overall spending. A rise in dividends will augment personal income and increase consumption spending. Rising business expenditures on plant and equipment will also add to total spending by increasing what economists call “investment.”

Following this logic, a cut either in personal or corporate income taxes increases overall spending in the economy. It does so by boosting disposable personal income and after-tax earnings retained for business expansion. This represents only the first chapter of the story, however. A tax cut may also have an impact on government spending or credit markets. In certain instances, these secondary effects can partially offset, and in the extreme, fully neutralize the initial impacts of a tax reduction.

... BUT THE FINAL OUTCOME DEPENDS ON HOW THE GOVERNMENT “PAYS” FOR THE TAX CUT

Like the rest of us, the government must ultimately pay for what it buys. When its bills

¹Some economists believe that consumption depends on one’s expected lifetime income and are, therefore, doubtful that a one-time tax rebate will have any substantial effect. They argue that a rebate will have a

come due, if it doesn’t have enough cash to meet its obligations, it has to borrow the difference. There is no escape from the economist’s notion of a “budget constraint” which simply states that expenditures cannot exceed revenues. The major source of revenue for all governing bodies (including the Federal Government) is taxation. Hence, when taxes are cut, the loss in revenue must somehow be made up.

Two options are available: First, the government could reduce its expenditures by the amount of a tax cut so that revenues and expenditures remain in balance. Or second, the government can replenish revenues by borrowing.² If the government decides to borrow, there are two principal sources of loanable funds: the public (which includes foreign borrowers as well as individuals and businesses which reside in the U. S.) and the central bank (which in the U. S. is the Federal Reserve System). How the government chooses to “offset” the revenue loss from a tax cut alters the ultimate impact of the fiscal policy change on the economy’s level of activity.

REVENUE “OFFSETS” AND THE EFFECT OF A TAX CUT

Cutting Expenditures. If the Federal Government cuts spending to make up for the revenue loss from a tax cut, it will counteract the stimulus to the economy from the tax reduction. A tax cut represents an injection of spending power into the stream of economic activity; but a drop in government spending serves to offset that stimulus. While consumers and businesses are spending more, the government is spending less.

relatively small effect on lifetime average income and hence will have little effect on consumption (see Appendix).

²Another alternative for “offsetting” the revenue loss from a tax cut would be for the government to sell some of its assets or increase the fees it charges for certain services it provides to the public. However, this alternative is not considered in the text.

In fact, if taxes and government spending are cut by the same amount, the overall level of economic activity may actually decline. Why? Because *all* the proceeds of a tax cut are typically not spent by consumers and businessmen. Rather a portion will be saved. Hence, only part of a tax cut finds its way into the spending stream, but the full amount of the matching drop in government spending is removed from the flow of spending. Thus, the net effect of a given tax cut matched by a like reduction in government spending may be a lower level of economic activity than would have occurred without the tax cut, other things being equal.

Borrowing from the Public. If the government wishes to maintain its level of spending when taxes are reduced, it can compensate for the revenue shortfall by borrowing from the public. This process may also serve to offset some of the stimulative impact of the tax cut on economic activity. Unless there is a simultaneous decline in the demand for loans by private borrowers, attempts by the government to tap the credit markets to offset a drop in tax revenues will increase interest rates beyond what they would have been. Any increases in the cost of borrowing will tend to discourage expansion in the private sector. Thus, the higher interest rates will serve to “crowd out” some private borrowers who will reduce their spending as a result. If the increase in interest rates is sufficiently large, the decline in spending it produces will completely offset the stimulus stemming from the tax cut. However, if the government can borrow with only moderate effects on interest rates or with no effect at all, then there will be no “crowding out” to speak of. The net impact of a tax cut “financed” through borrowing from the public in such a case would be a rise in economic activity.³

³It can be argued that the tax cut stimulus will be further weakened if the public perceives that the in-

Borrowing from the Central Bank. When the Treasury borrows money to replace depleted revenues, this increases the total demand for credit, other things being equal. Hence, interest rates will tend to rise *unless the supply of credit is likewise increased*. One way for credit to expand is for the Federal Reserve to step up its purchases of government securities.

There are legal limits on the amount the Treasury can borrow *directly* from the Fed (the current limit set by Congress is \$5 billion). However, there are no limits on the amount of Treasury IOUs the Fed can buy in the market for government securities. These purchases increase the supply of money and credit,⁴ thus allowing the Fed to indirectly finance the tax cut. If the increase in the supply of credit equals the increase in demand for credit, then the government can borrow with no upward pressure on interest rates. Indeed, rates may actually fall if credit supplies expand by more than demand.

When the Fed allows some portion of the rise in government debt to be financed by increases in the supplies of money and credit, it is usually said that the Fed has “monetized” a portion of the debt. Since debt monetization moderates or lessens interest-rate pressures⁵ and since lower rates

creased government debt will have to be paid for by future increases in taxes. With some foresight, individuals may see that if the current tax cut is financed by future tax increases, then they may not be better off in the long run. If this is the case, the public may not wish to spend the money it receives from the tax cut, but will save it to pay for those future tax increases!

⁴The process works like this: the Fed pays for government securities with a check drawn on itself which eventually gets deposited in a bank. This means banks have more funds available for lending, which increases the supply of credit. And since the loans they make represent additions to borrowers' checking accounts, the money stock is also increased.

⁵Interest rates cannot remain perpetually lower as a result of a tax cut financed by debt monetization. As economic activity expands, upward pressure on rates will result. And if the accompanying expansion generates expectations of future inflation, interest rates could

induce additional private spending, a tax cut financed through the purchase of securities by the central bank as well as the public has the potential to yield more stimulus than any of the other cases.

WHAT HAVE COMPUTER MODELS TO SAY ABOUT ALL THIS?

The previous discussion had little to say about the size of the effects of a tax cut under different assumptions about how the government offsets the revenue loss. One way to try to get a handle on this is to use a computer ("econometric") model of the economy to estimate the impacts of different kinds of policy changes (see Box). The re-

end up higher than their initial levels as lenders build "inflation premiums" into interest rates to compensate for future erosion of their purchasing power.

sults of some experiments of this kind are reported below. Several caveats should be noted in interpreting these results, however. First, the results are specific to the computer model employed; a different model may give different results. Second, the computer model is only an approximation to the way the economy works. And third, the results depend on the economic environment existing at the beginning of the time period examined in these experiments. If the economy had been in a more (or less) rosy state than at present the results of the experiments would be different. The results reported in the various experiments show the *change* in economic activity expected as a result of shifts in policy. We focus on six key variables—"real" GNP (GNP adjusted for inflation), disposable income (in current dollars), the unemployment rate, the infla-

BOX

USING ECONOMETRIC MODELS TO DETERMINE THE EFFECT OF ALTERNATIVE POLICIES

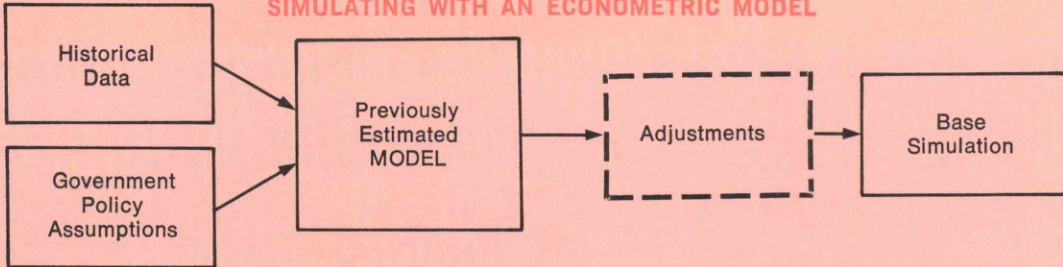
An econometric model is a set of interrelated mathematical equations. These relationships are based on economic theory and, subsequently, are estimated (quantified), using the available economic data. The combination of theory and data can provide an approximation to the structure of the economy.

The variables of interest to the forecaster may be called the internal variables of the model. To a large extent the main internal variables are dependent on each other. But these internal variables are also influenced by policy variables (government spending, taxes and the money supply) and their own past values.

If the model is to be used for predictions, the forecaster must supply the historical data and the likely policy changes for every period being predicted. The model can then be solved for the values of the internal variables. Often the forecaster may want to make adjustments to the model to correct for the past errors of the model and to account for changes in the economy that the model cannot pick up.* The final product of this fine tuning may be called a *base simulation*.

*See Nariman Behraves, "Forecasting the Economy with Mathematical Models: Is It Worth the Effort?" *Business Review* of the Federal Reserve Bank of Philadelphia, July/August 1975, pp. 15-25.

SIMULATING WITH AN ECONOMETRIC MODEL



To determine the effects of policy changes on the economy, the model user can change the policy assumptions in the model and allow these new assumptions to feed through the system. A comparison of these “alternative solutions” with “base simulation” provides an approximation of the effects of policy changes.** Although these forecasts may be subject to error, the models do provide reasonable estimates of the overall impacts of policy shifts.

The computer model used in this article is a modified version of the MIT-Penn-Social Science Research Council model. It was used to generate a “base simulation” of economic events over eight quarters (two years)*** under the assumption that taxes are unchanged and the money stock is growing at a moderate rate. We are only concerned with six of the variables predicted by the model: real GNP (GNP adjusted for changes in inflation), disposable personal income (in current dollars), the unemployment rate, the inflation rate (percent change in the implicit deflator for GNP), and interest rates. The 90-day Treasury-bill rate and the Moody’s AAA corporate-bond rate are used as measures for short- and long-term interest rates. After obtaining the base simulation values for these variables, the assumptions about economic policy were changed in a manner designed to reflect each of the cases discussed in the text. For example, we assumed that taxes were cut and that government spending dropped to “offset” the revenue loss. We then allowed the computer model to grind out values for all six variables mentioned above in the new policy environment. This allows us to compare the new predicted value of real GNP, say, with the anticipated value before the policy change (the base simulation result). We also go through the same procedure for the other two kinds of policy: a tax cut financed by borrowing from the public and a tax cut financed (at least in part) by borrowing from the Fed, as well as the public.

Since we want to emphasize the effect of policy *changes* rather than the base simulation itself, we do not report the values for each variable before the change in policy occurred. Rather we present the *change* in the value of each variable relative to the base simulation—the simulation with no change in fiscal policy or monetary policy. However, the first part of the base simulation used is roughly similar to what we have observed in 1975.

**If, however, the structure of the economy is altered by such policy changes, the comparison of base and alternate simulations of a given, unchanging model will not yield good estimates of the effects of those policy changes.

***To study the full impact of any policy change, it is desirable to simulate the model for longer periods. However, there are some difficulties associated with longer-run simulations which limit the information gained from such exercises.

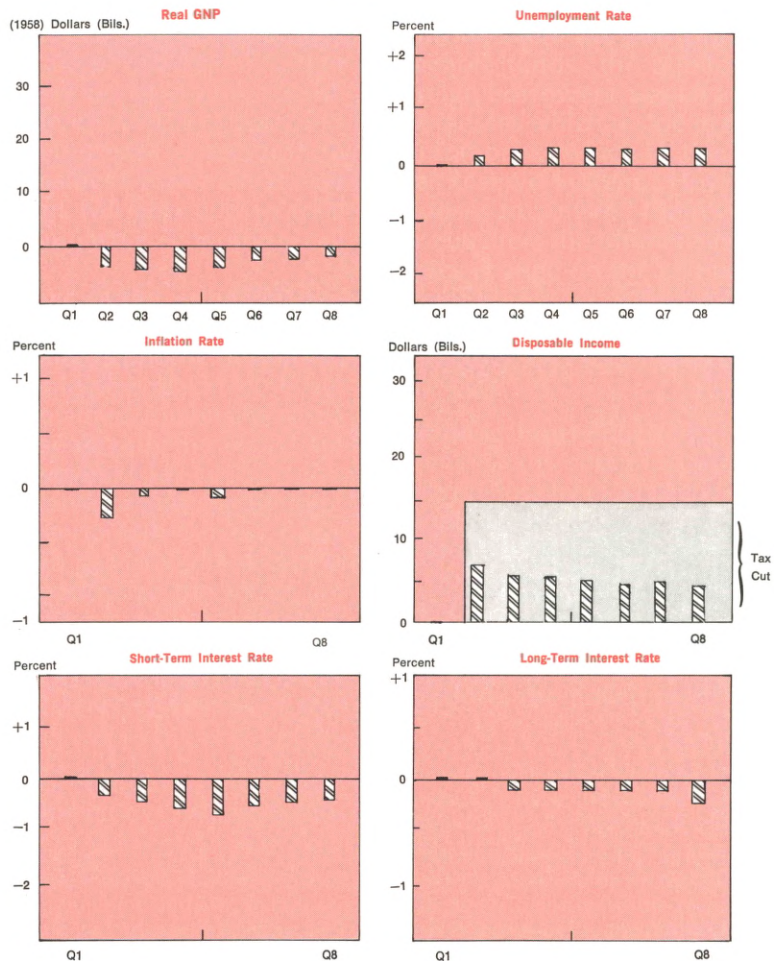
tion rate, and short-term and long-term interest rates.

A Tax Cut With A Spending Cut. In this case, the government does not allow the tax cut to increase the size of the budget deficit, but rather cuts its spending in line with the drop in revenues. The size of the assumed tax and spending cuts is \$15 billion. The results of this policy *relative* to how we might expect

things to turn out with no change in fiscal policy are shown in Graph I. It shows that the level of economic activity is reduced by such a policy. Real GNP is *lower* for this case than when there were no tax or expenditure cuts. And as a result of the fall in real GNP, the unemployment rate is higher. The price level is reduced, however, as demand is dampened. Interest rates are also lower. The model suggests, then, that the restrictive

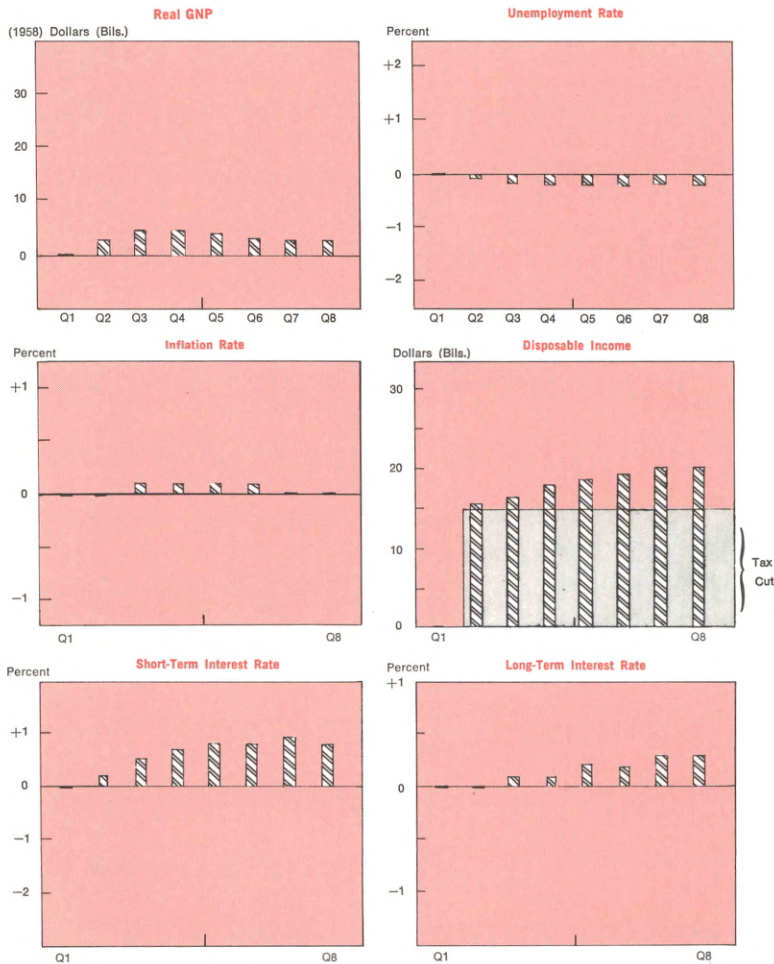
GRAPH I

CHANGES RESULTING FROM TAX CUT WITH MATCHING EXPENDITURE CUT



GRAPH II

CHANGES RESULTING FROM TAX CUT WITH GOVERNMENT BORROWING FROM THE PUBLIC



effect of a cut in government spending more than offsets the stimulative effect of a reduction in taxes.

A Tax Cut Financed by Government Borrowing from the Public. In this experiment, taxes are again reduced by \$15 billion. Rather than reduce spending, however, the government allows its budget deficit to grow, financing ex-

penditures by borrowing solely from the public. The results are shown in Graph II.

This kind of fiscal policy change results in an increase in real GNP, but its impact reaches a peak several quarters after the tax cut. The impact on real GNP then tends to wane over succeeding quarters. The unemployment rate remains slightly lower throughout the two-year period, but the inflation rate is higher during the four quarters

following the tax cut. Disposable income rises by more than the decrease in taxes as a result of the cumulative increase in the level of economic activity.

Why does the impact of the tax cut on the level of GNP tend to diminish over time? The change in interest rates shown in Graph II provides the answer. Unless there is considerable slack in financial markets, the increase in government borrowing in the credit market will push up interest rates.⁶ The increase in borrowing costs will reduce private spending. The fall in interest-sensitive spending begins to offset the initial increases in consumption resulting from the tax cut. Over the two-year horizon of the experiment we do not observe a complete offset, however. Private borrowers are only partially "crowded out" of credit markets by the government borrowing. If the resulting trend observed in real GNP were to continue, however, the decline in private spending produced by rising interest rates, in turn, would completely offset the increase in consumption spending.

A Tax Cut Financed by the Fed. Another possibility is for the Federal Reserve to finance the tax cut by stepping up the supply of new money and credit. Several options would be open to the Fed. For instance, the Fed could try to increase the supply of credit enough to maintain interest rates at the

⁶In the model used this effect comes about as the demand for money increases more rapidly than the supply of money. The demand for money increases as GNP rises. However, not all computer models of the economy yield this result. In some models, the impact on interest rates of government borrowing depends on whether the government issues short-term or long-term securities. In particular, if it sells mainly short-term issues, then long-term rates may fall and investment (which depends on *long-term* rates) may increase rather than fall. For an example of a model of this kind, see Patric Hendershott, "The Impact of a Tax Cut: Crowding Out, Pulling In and All That," Salomon Brothers Center for the Study of Financial Institutions, Working Paper No 59, New York University, November 1975.

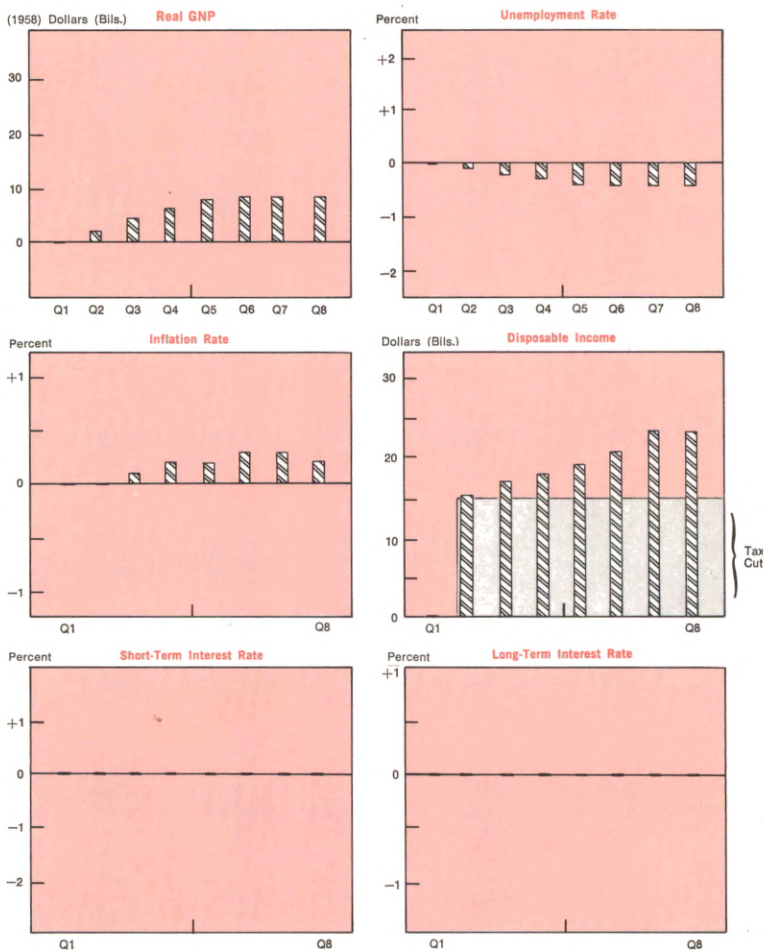
levels that would have occurred if the government had not decided to cut taxes and borrow from the public. (This of course assumes the Fed can predict what those interest rates would have been.) Alternately, the Fed could simply peg interest rates at the time of the tax cut—supply enough credit to keep interest rates unchanged.

In the first case we assume that the Fed knows what interest rates would prevail in the absence of a tax cut. It then attempts to keep short-term rates in line with this pattern by buying government securities. The stepped-up purchase of government IOUs increases the supply of money and credit. If interest rates are the same as they would have been without the tax cut, then the "crowding out" effect which resulted in the previous case would be eliminated. The net result is a stronger stimulus to real GNP and a lower unemployment rate than would result if the tax cut were "financed" by borrowing solely from the public (compare Graph III with Graph II). This is not a costless gain, however, for the increased growth in money also means a higher inflation rate than would have otherwise occurred.

A second scenario considers the possibility that the Fed may not be able to predict what rates would have occurred in the absence of a tax cut. Hence, it simply pegs short-term interest rates at whatever level was prevailing at the time of the change in fiscal policy. In an economy with expanding activity, interest rates will normally rise to reflect increasing demands for money and credit. Hence, the Fed can only succeed in restraining rising interest rates by speeding up the growth of the supply of money and credit. Therefore, this "pegged-rate" approach generates the fastest growth in the money supply of all the options.⁷

⁷The differential impact on interest rates from the two types of accommodative monetary policy (compare Graphs III and IV) is in part due to the rising interest rates in the base simulation. Thus a policy that attempts to peg interest rates at first quarter levels must offset the initial pattern of rising interest rates plus the

GRAPH III
 CHANGES RESULTING FROM TAX CUT WITH ACCOMMODATIVE MONETARY POLICY:
 INTEREST RATES KEPT AT PRE-TAX CUT LEVELS

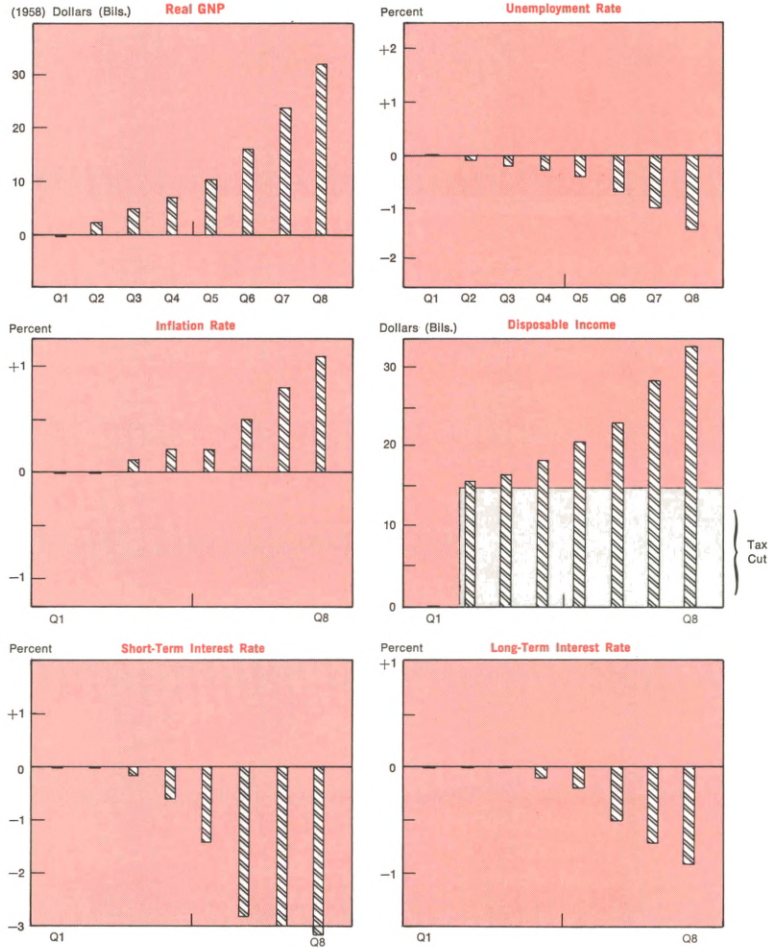


The results are shown in Graph IV. Real GNP is higher in this experiment than in all the others and the unemployment rate is substantially below the no-tax-cut case by the end of two years. At the same time, the inflation rate is higher than results from any

increase in rates due to the tax cut. This is accomplished by expanding the supply of money much faster in the "pegged rate" experiment than the experiment which holds interest rates at the base simulation levels.

other policy. Interest rates are lower than in any of the other alternatives, but may eventually rise to levels *higher* than in previous cases. The higher level of economic activity and *expectations* of still higher prices could push rates higher in the period beyond the end of the computer experiment. A policy designed to hold interest rates down yields some early gains in terms of increased activity and lower unemployment but it involves

GRAPH IV
CHANGES RESULTING FROM TAX CUT WITH ACCOMMODATIVE MONETARY POLICY:
INTEREST RATES PEGGED AT FIRST QUARTER LEVELS



substantial costs down the road when society has to pay the inflation price.

SO WHAT ABOUT A TAX CUT?

The moral of the story is simple. There is very little one can say about the effects of a tax cut unless we know how the government will respond to the loss in revenue that results. Hence, policymakers must consider

the costs and benefits of the various financing alternatives along with the merits of the tax cut itself. Policywatchers must also consider the total picture when assessing the likely outcome of a tax cut. When the tax cut is "financed" by a more generous monetary policy (whichever version), overall stimulus to economic activity will likely be greater than when the loss in government revenues is covered entirely by borrowing from the

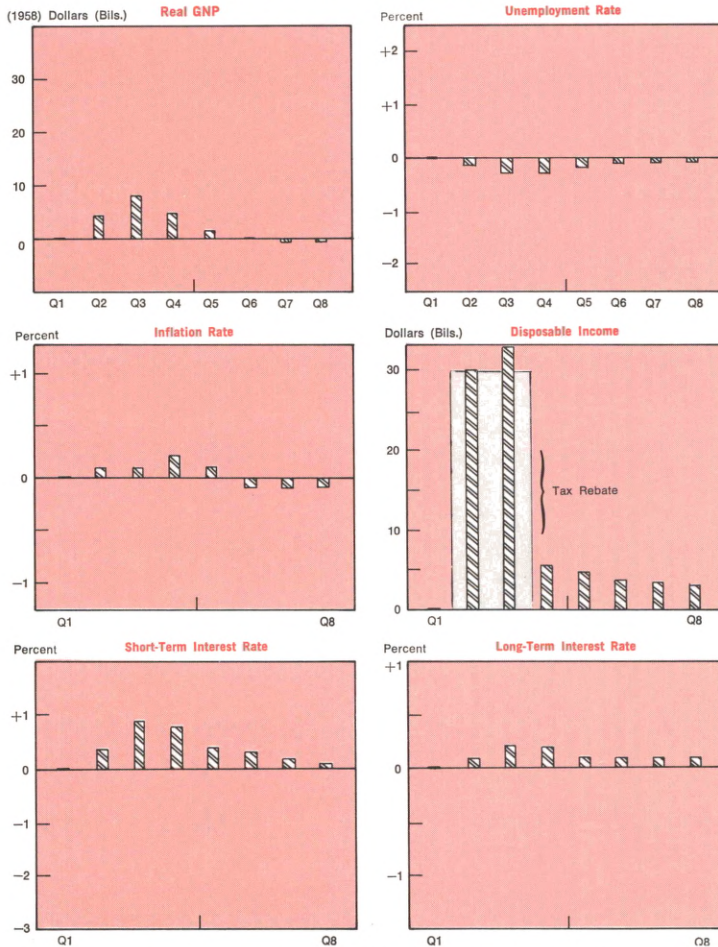
public. Borrowing from the public (initially at least) involves higher interest rates than borrowing from the central bank. Finally, when the government cuts its spending as taxes are reduced, the net effect is probably a con-


traction in economic activity. Thus, despite conventional wisdom to the contrary, it is a mistake to view a tax cut as an expansionary policy without considering how the government will respond to the drop in revenues.

APPENDIX

GRAPH V

CHANGES RESULTING FROM A TAX REBATE



A prevalent feeling among economists today is that tax rebates and temporary tax cuts have no long-term impact on the economy. A two-year projection of the economy with such a tax cut bears out these beliefs. The stimulative effects of a \$15 billion tax rebate spread over the second and third quarters of the forecast wash out within six quarters (a year and a half), and leave the economy close to where it was before the tax cut by the end of two years (assumes borrowing from the public). 

The Fed in Print

Business Review Topics, Third Quarter 1975, Selected by Doris Zimmermann

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ALABAMA

Banking structure in Alabama—
Atlanta Sept 75 p 137

BALANCE OF PAYMENTS

Balance of payments concepts—
what do they really mean?—
St Louis July 75 p 14
Measuring the United States balance of
payments—
NY Aug 75 p 183

BANK ACCOUNTS

Customer profitability analysis
Part II: Analysis methods at major banks—
Kansas City Sept 75 p 11

BANK CAPITAL

Banking's capital shortage:

The malaise and the myth—
Phila Sept 75 p 3

BANK COMPETITION

The changing competition between commercial banks and thrift institutions for deposits—
St Louis July 75 p 2

BANK EARNINGS

Bank profits in 1974—
Chic July 75 p 13
Income and expenses of Eighth District member banks—1974—
St Louis Aug 75 p 20

BANK HOLDING COMPANIES

A valuation approach to bank holding company acquisitions—
Rich July 75 p 9
The performance of individual bank holding companies—
FR Bull Aug 75 p 472

BANK LIQUIDITY

Rebuilding bank liquidity—
Atlanta Aug 75 p 128

BANK LOANS—BUSINESS

Business loans in recession—
Atlanta July 75 p 112
Loan commitments to business in United States banking history—
Rich Sept 75 p 15

BANK LOANS—CHARGE OFFS

Accounting for loan charge offs—
Atlanta Aug 75 p 118
Bank loan losses: A fresh perspective—
Phila Sept 75 p 18

BANK SUPERVISION

Toward early warning of changes in banks' financial condition: A progress report—
NY July 75 p 157

BANK TAX

Income taxation of commercial banks—
Kansas City July 75 p 3

BANKING STRUCTURE

Factors affecting bank structure change:

- The New England experience, 1963–74—
 Bost July 75 p 16
- Banking structure in the Sixth District states—
 Atlanta Sept 75 p 134
- Banking structure in Florida—
 Atlanta Sept 75 p 142

BUCHER, JEFFREY M.

- Statement to Congress, July 8, 1975 (leasing)—
 FR Bull July 75 p 413
- Statement to Congress, July 17, 1975 (consumer credit)—
 FR Bull Aug 75 p 474

BUDGET

- Recent trends in Federal budget policy—
 FR Bull July 75 p 396

BURNS, ARTHUR F.

- Statement to Congress, July 24, 1975 (monetary policy)—
 FR Bull Aug 75 p 491
- Statement to Congress, July 29, 1975 (business forecasts)—
 FR Bull Aug 75 p 497
- Statement to Congress, September 4, 1975 (grain)—
 FR Bull Sept 75 p 574

BUSINESS FORECASTS & REVIEWS

- KEYS FOR BUSINESS FORECASTING *available*—
 Rich July 75 p 15
- Financial developments in the second quarter of 1975—
 FR Bull Sept 75 p 539

BUSINESS INDICATORS

- Forecasting with a deflated index of leading series—
 Bost Sept 75 p 15
- Real money balances: A good forecasting device and a good policy target?—
 St Louis Sept 75 p 11

CALIFORNIA

- California—end of growth?—
 San Fran Sum 75 p 25

CERTIFICATES OF DEPOSIT

- Changes in reserve requirements influence volume and maturity—
 Dallas Aug 75 p 1

COLDWELL, PHILIP E.

- Statement to Congress, July 16, 1975 (bank statements)—
 FR Bull July 75 p 416

COMMERCIAL POLICY

- The Trade Reform Act: Provisions and potential—
 Minn Oct 75 p 5

CORPORATE FINANCE

- Corporate security sales soar—record volume boosts liquidity—
 Chic Aug 75 p 3
- Recent developments in corporate finance—
 FR Bull Aug 75 p 463

CREDIT RATIONING

- Credit allocation and commercial banks—
 Chic Aug 75 p 13

DEMAND DEPOSITS

- Advertising for demand deposits—
 Chic Sept 75 p 10

DISCOUNT OPERATIONS

- District seasonal borrowing in 1974—
 Minn July 75 p 10

ECONOMIC STABILIZATION

- INTERNATIONAL ASPECTS OF STABILIZATION PRICES *available*—
 Bost July 75 p 30

FEDERAL ADVISORY COUNCIL

- Quarterly survey of bank policies with respect to credit use—
 FR Bull July 75 p 405

FEDERAL RESERVE BANKS AUDIT

- Analysis of System expenditures—
 FR Bull Aug 75 p 534

FEDERAL RESERVE BANKS—BRANCHES

- Miami branch of the Federal Reserve Bank

of Atlanta opens July 1, 1975—
FR Bull July 75 p 460

FEDERAL RESERVE BOARD

Membership of the Board of Governors of the Federal Reserve System, 1913–75—
FR Bull July 75 p 407
ANNUAL REPORT *available*—
FR Bull July 75 p 459

FEDERAL RESERVE—FOREIGN EXCHANGE

Treasury and Federal Reserve foreign exchange operations—
N. Y. Sept 75 p 199

FOOD STAMP PLAN

The food stamp program—
Chic July 75 p 3

FOREIGN ASSETS IN U. S.

Foreign investment in the Ninth District—
Minn July 75 p 6

FOREIGN DEPARTMENT BANK

International banking: Part I—
Chic Sept 75 p 3

FOREIGN EXCHANGE

The dollar at home and abroad—
Phila Sept 75 p 14

FOREIGN TRADE DOMESTIC EFFECTS

Adjustment to import competition—
Bost July 75 p 3

FUEL

The battle for energy independence: How much of a good thing?—
Phila July 75 p 3
Western resources: Key to the nation's energy future—
San Fran Sum 75 p 3

GEORGIA

Banking structure in Georgia—
Atlanta Sept 75 p 148

GRAIN

A new record wheat crop: Will it reduce farm income?—
Atlanta Aug 75 p 124

Grain exports and inflation—
St Louis Sept 75 p 2

HOLLAND, ROBERT C.

Statement to Congress, July 16, 1975 (bank supervision)—
FR Bull July 75 p 419
Statement to Congress, July 22, 1975 (bank failures)—
FR Bull Aug 75 p 486

INCOME PERSONAL

The Sixth District share of personal income in Mississippi, Louisiana, and Tennessee—
Atlanta Aug 75 p 126

INDUSTRIAL PRODUCTION INDEX

Western manufacturing production—
San Fran Sum 75 p 21
Changes to Texas index present different picture—
Dallas Sept 75 p 8

JACKSON, PHILIP C.

Appointment confirmed June 25, 1975—
FR Bull July 75 p 459
Statement to Congress, September 15, 1975 (real estate)—
FR Bull Sept 75 p 578

LABOR MARKET

The recession's impact on labor markets—
Minn July 75 p 3
On labor market indicators—
Rich July 75 p 3

MEXICO

Inflation in Mexico and recession in U. S. threaten maquiladora accomplishments—
Dallas July 75 p 1

MITCHELL, GEORGE W.

Statement to Congress, June 25, 1975 (municipal finance)—
FR Bull July 75 p 409
Statement to Congress, September 9, 1975 (Regulation Q)—
FR Bull Sept 75 p 576

MODELS (STATISTICS)

Forecasting the economy with mathematical models: Is it worth the effort?—
Phila July 75 p 15

MONETARY POLICY

Observed income velocity of money: A misunderstood issue in monetary policy—
St Louis Aug 75 p 8
The strategy of monetary policy—
Rich Sept 75 p 3

MONEY SUPPLY

The monetary-fiscal mix through mid-1976—
St Louis Aug 75 p 2
Explanation of the growth of the money stock: 1974–early 1975—
St Louis Sept 75 p 5

MORTGAGES

Solving the long-range problems of housing and mortgage finance (Morris)—
Bost July 75 p 26
Letter re: Emergency Housing Act of 1975—
FR Bull Aug 75 p 535

MORTGAGES VARIABLE

Purchasing-power mortgages—
Dallas Sept 75 p 1

PHILLIPS CURVE

Wages and unemployment: A state analysis of the Phillips curve—
Atlanta July 75 p 106

PREAUTHORIZED PAYMENTS

New bill-paying service—
FR Bull Aug 75 p 534

PROPERTY TAX

100 percent assessment: Higher taxes or more inequity?—
Bost Sept 75 p 3

REGULATION M

Amendment August 25, 1975—
FR Bull Sept 75 p 587

REGULATION Q

Amendment September 1, 1975—
FR Bull July 75 p 440
Amendment September 2, 1975—
FR Bull Aug 75 p 513

REGULATION Y

Interpretation: Courier activities—
FR Bull Sept 75 p 588

REGULATION Z

Amendment August 8, 1975—
FR Bull July 75 p 459
Amendment August 8, 1975—
FR Bull Aug 75 p 513
Amendment to cover Fair Credit Billing Act
September 15, 1975—
FR Bull Sept 75 p 600

SWAP ARRANGEMENTS

Reciprocal currency arrangements—
FR Bull Sept 75 p 602

TAX AND LOAN ACCOUNTS

Treasury cash balances—
Kansas City July 75 p 12

TAXATION

Paying more taxes and affording it less—
St Louis July 75 p 9

TRANSFER OF FUNDS

ECONOMICS OF A NATIONAL ELECTRONIC FUNDS TRANSFER SYSTEM *available*—
Bost July 75 p 30

UNEMPLOYMENT

Recent developments in the theory of unemployment—
Kansas City Sept 75 p 3

WALLICH, HENRY C.

Statement to Congress, June 25, 1975 (capital)—
FR Bull July 75 p 411
Statement to Congress, July 21, 1975 (foreign exchange rates)—
FR Bull August 75 p 480

**BUSINESS REVIEW
FEDERAL RESERVE BANK OF PHILADELPHIA
TABLE OF CONTENTS—1975**

JANUARY

"Why Not Pay Interest on Member Bank Reserves?" *by Ira Kaminow*

"Should the Fed Sell Its Services?" *by W. Lee Hoskins*

Annual Operations and Executive Changes

FEBRUARY

"Which School Resources Help Learning? Efficiency and Equity in Philadelphia Public Schools" *by Anita A. Summers and Barbara L. Wolfe*

MARCH

"Indexing Inflation: Remedy or Malady?" *by Vincent A. Gennaro*

" 'Yields' on Checking Accounts Rise In Recent Years"

"Regional Wrap-up '74: Doldrums Descend On District Economy" *by Howard Keen, Jr.*
The Fed in Print *by Doris Zimmermann*

APRIL

"Is There a Future for Economic Man?" *by David P. Eastburn*

"The Cost of Buying: It Takes More Dollars But Less Work" *by John G. Bell*

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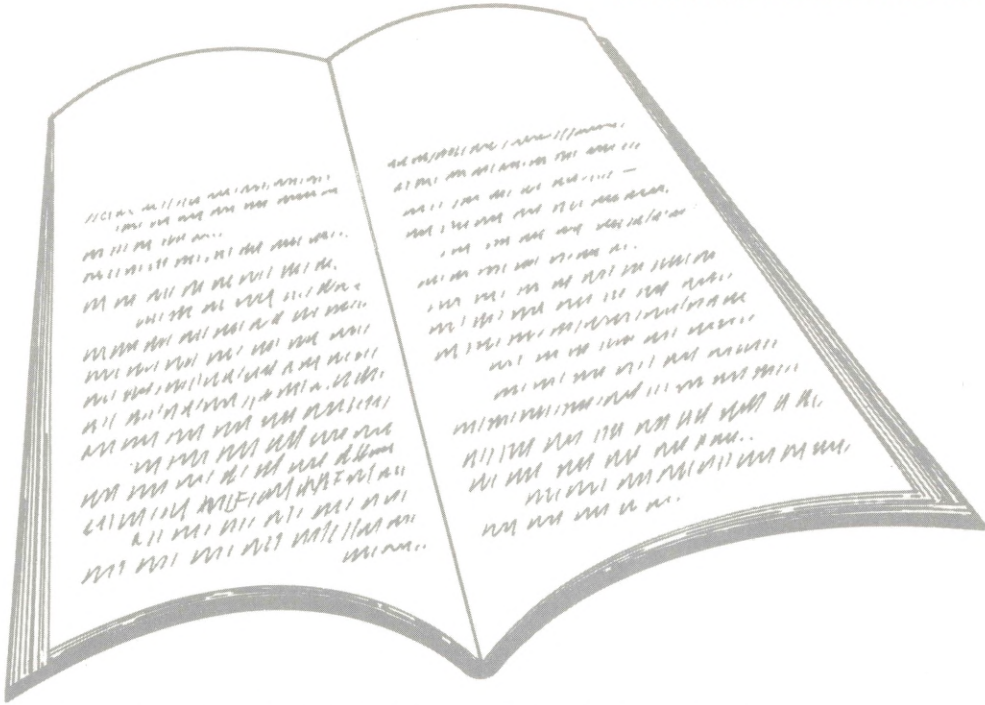
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FEDERAL RESERVE BANKS AND BOARD OF GOVERNORS

Publications Services
Division of Administrative Services
Board of Governors of the
Federal Reserve System
Washington, D. C. 20551

Federal Reserve Bank of Atlanta
Federal Reserve Station
Atlanta, Georgia 30303

Federal Reserve Bank of Boston
30 Pearl Street
Boston, Massachusetts 02106

Federal Reserve Bank of Chicago
Box 834
Chicago, Illinois 60690

Federal Reserve Bank of Cleveland
P.O. Box 6387
Cleveland, Ohio 44101

Federal Reserve Bank of Dallas
Station K
Dallas, Texas 75222

Federal Reserve Bank of Kansas City
Federal Reserve Station
Kansas City, Missouri 64198

Federal Reserve Bank of Minneapolis
Minneapolis, Minnesota 55440

Federal Reserve Bank of New York
Federal Reserve P.O. Station
New York, New York 10045

Federal Reserve Bank of Philadelphia
925 Chestnut Street
Philadelphia, Pennsylvania 19105

Federal Reserve Bank of Richmond
P.O. Box 27622
Richmond, Virginia 23261

Federal Reserve Bank of St. Louis
P.O. Box 442
St. Louis, Missouri 63166

Federal Reserve Bank of San Francisco
San Francisco, California 94120

*Annual Operations
&
Executive
Changes*



FEDERAL RESERVE BANK of PHILADELPHIA

DIRECTORS AND OFFICERS

The Board of Governors of the Federal Reserve System redesignated John R. Coleman, President of Haverford College, Haverford, Pennsylvania, as Chairman of the Board of this Bank for 1976. John W. Eckman, President and Chief Executive Officer of Rorer-Amchem, Inc., Fort Washington, Pennsylvania, has been appointed by the Board of Governors of the Federal Reserve System to a three-year term as a Class C Director, replacing Edward J. Dwyer, Chairman of the Board, ESB, Incorporated, Philadelphia, Pennsylvania, who completed his term of office. At the same time, Mr. Eckman was named Deputy Chairman for 1976.

James Patchell, President and Chief Executive Officer of the National Bank and Trust Company of Gloucester County, Woodbury, New Jersey, has been elected by member banks in Electoral Group 2 as a Class A Director of this Bank for a three-year term, replacing John H. Hassler, President, The City National Bank and Trust Company of Salem, New Jersey, who completed his term of office.

James F. Bodine, President and Chief Operating Officer, First Pennsylvania Bank N. A., has been renamed to serve during 1976 as the member of the Federal Advisory Council from the Third Federal Reserve District.

In November 1975, Edward W. Robinson, Jr., Vice President, North Carolina Mutual Life Insurance Company, Philadelphia, Pennsylvania, resigned his Class C Directorship. The Board of Governors has not yet appointed a replacement.

Effective January 1, 1975, Peter M. DiPlacido, Paul E. Kirn, Jr., and Lawrence C. Santana, Jr., were promoted to Assistant Vice Presidents. At the same time three persons were promoted to official status: Glennie M. Matthewson II became Assistant Counsel, Donald J. Mullineaux became Research Officer and Economist, and Ronald D. Watson became Research Officer and Economist. The following officers received new titles: Ira Kaminow became Vice President and Economic Advisor and W. Lee Hoskins became Vice President and Director of Research.

On January 13, Robert E. Matthews joined the Bank as Assistant General Auditor, succeeding A. Lamont Magee, who took early retirement on January 31.

Effective February 3, D. Russell Connor, Assistant Vice President, became the officer responsible for construction of the new building. Lawrence L. Murdoch, Jr., Vice President and Secretary, became the senior officer responsible for planning and implementing the move, including the purchase

DIRECTORS AND OFFICERS (continued)

of new furniture, furnishings, and equipment.

On February 28, Kenneth M. Snader, Vice President, retired from the Bank.

On March 3, James F. Gaylord joined the Bank as Vice President in charge of the Human Resources Department, and on March 20, he was designated Equal Employment Officer of the Bank.

On March 17, Richard L. Smoot was appointed as a Vice President with responsibility for Operations Improvement.

On April 14, Judith H. Helmuth, formerly Computer Services Officer, joined the staff of the Vice President for Operations Improvement, as Operations Improvement Officer.

On June 30, Joseph M. Case, Vice President, retired from the Bank.

Effective July 1, Konstanty G. Adack became Senior Vice President—Accounting and Systems, replacing Robert R. Swander, who resigned from the Bank. Mr. Adack retained responsibility for the Protection, Building, Printing, Purchasing and Records Management departments.

Effective August 1, Lawrence C. Murdoch, Jr., Vice President and Secretary, assumed responsibility for the newly created Office of Consumer Affairs. Mr. Murdoch remained

responsible for Public Services and media relations and remained responsible for the move to the new building. In addition, Mr. Murdoch continued as the Bank's Secretary and became the focal point for handling outside requests under the Freedom of Information Act.

On September 30, Hugh Barrie, Senior Vice President, retired from the Bank.

Effective November 6, Alexander A. Kudelich, Vice President, assumed direct responsibility for the check function. Richard L. Smoot, Vice President, took over direction of Cash and Fiscal Operations. He remained responsible for the Operations Improvement effort. William E. Roman, Vice President, moved from Check Operations and took charge of the Accounting Department. Richard W. Epps, Vice President, began heading an expanded Operations Planning, Analysis and Research Department as well as the Budget function. Jack P. Besse, Assistant Vice President, joined Mr. Smoot and Ms. Helmuth in Operations Improvement.

Also effective November 6, Stanley J. Forst became Director of Computer Applications, and Anita A. Summers became Research Officer and Economist.

On December 31, George C. Haag, Public Services Officer, retired from the Bank.

DIRECTORS AS OF JANUARY 1, 1976

JOHN R. COLEMAN, Chairman of the Board and Federal Reserve Agent

JOHN W. ECKMAN, Deputy Chairman

GROUP		TERM EXPIRES DECEMBER 31
	CLASS A	
1	WILLIAM B. EAGLESON, JR. Chairman of the Board and President Girard Trust Bank Bala-Cynwyd, Pennsylvania	1977
2	JAMES PATCHELL President and Chief Executive Officer National Bank and Trust Company of Gloucester County Woodbury, New Jersey	1978
3	THOMAS L. MILLER President Upper Dauphin National Bank Millersburg, Pennsylvania	1976
	CLASS B	
1	WILLIAM S. MASLAND President C. H. Masland & Sons Carlisle, Pennsylvania	1976

DIRECTORS AS OF JANUARY 1, 1976

CLASS B

2	C. GRAHAM BERWIND, JR. President and Chief Executive Officer Berwind Corporation Philadelphia, Pennsylvania	1977
3	HAROLD A. SHAUB President and Chief Executive Officer Campbell Soup Company Camden, New Jersey	1978

CLASS C

	JOHN R. COLEMAN President Haverford College Haverford, Pennsylvania	1976
	JOHN W. ECKMAN President and Chief Executive Officer Rorer-Amchem, Inc. Fort Washington, Pennsylvania	1978

Member of the Federal Advisory Council

	JAMES F. BODINE President and Chief Operating Officer First Pennsylvania Corporation and the First Pennsylvania Banking and Trust Company Bala-Cynwyd, Pennsylvania	1976
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OFFICERS AS OF JANUARY 1, 1976

David P. Eastburn, President

Mark H. Willes, First Vice President

Konstanty G. Adack, *Senior Vice President*
Edward G. Boehne, *Senior Vice President*
Hugh Chairnoff, *Vice President and Lending Officer*
Thomas K. Desch, *Vice President*
Richard W. Epps, *Vice President*
James F. Gaylord, *Vice President*
Hiliary H. Holloway, *Vice President and General Counsel*
W. Lee Hoskins, *Vice President and Director of Research*
*Ira Kaminow, *Vice President and Economic Adviser*
Alexander A. Kudelich, *Vice President*
Donald J. McAneny, *Vice President and General Auditor*
G. William Metz, *Vice President*
Lawrence C. Murdoch, Jr., *Vice President and Secretary*
William E. Roman, *Vice President*
Bipin C. Shah, *Vice President*
Richard L. Smoot, *Vice President*
Evelyn G. Battista, *Human Resources Services Officer and Assistant Secretary*
Jack P. Besse, *Assistant Vice President*
D. Russell Connor, *Assistant Vice President*
Samuel J. Culbert, Jr., *Bank Services Officer*
Peter M. DiPlacido, *Assistant Vice President*
Stanley J. Forst, *Director of Computer Applications*
Judith H. Helmuth, *Operations Improvement Officer*
Kathleen C. Holmes, *Research Officer and Assistant Secretary*
Paul E. Kirn, Jr., *Assistant Vice President*
Edwin C. Lodge, *Statistical Officer*
Frederick M. Manning, *Chief Examining Officer*
Dominic L. Matteo, *Payments Mechanism Officer*
Robert E. Matthews, *Assistant General Auditor*
Glennie M. Matthewson, II, *Assistant Counsel*
Warren R. Moll, *Assistant Vice President*
Arthur L. Morath, Jr., *Banking Structure Officer*
Donald J. Mullineaux, *Research Officer and Economist*
Stephen M. Ondeck, *Examining Officer-Commercial*
Joseph J. Ponczka, *Fiscal Operations Officer*
Lawrence C. Santana, Jr., *Assistant Vice President*
David H. Scott, *Regulations Officer*
Anita A. Summers, *Research Officer and Economist*
Robert A. Wallgren, *Examining Officer—Trust*
Ronald D. Watson, *Research Officer and Economist*
Elizabeth S. Webb, *Assistant Counsel*

*On Leave

STATEMENT OF CONDITION

FEDERAL RESERVE BANK OF PHILADELPHIA

(000s omitted in dollar figures)	End of Year	
	1975	1974
ASSETS		
Gold certificate account	\$ 667,401	\$ 450,111
Special Drawing Rights Certificate	31,000	23,000
Federal Reserve notes of other Federal Reserve banks	84,884	81,816
Other cash	6,862	10,164
Loan and securities:		
Discounts and advances	9,400	23,235
Federal Agency obligations	356,571	265,883
United States Government securities	5,092,335	4,526,831
Total loans and securities	5,458,306	4,815,949
Uncollected cash items	344,775	343,481
Bank premises	51,001	30,942
Operating equipment	2,891	0
All other assets	77,023	67,078
Interdistrict settlement account	-460,296	163,620
Total assets	<u>\$6,263,847</u>	<u>\$5,986,161</u>
LIABILITIES		
Federal Reserve notes	4,634,985	4,468,137
Deposits:		
Member bank reserve accounts	710,428	864,771
United States Government	544,174	151,723
Foreign	12,342	14,210
Other deposits	18,720	28,558
Total deposits	1,285,664	1,059,262
Deferred availability cash items	193,064	309,618
All other liabilities	65,302	65,288
Total liabilities	6,179,015	5,902,305
CAPITAL ACCOUNTS		
Capital paid in	42,416	41,928
Surplus	42,416	41,928
Total liabilities and capital accounts	<u>\$6,263,847</u>	<u>\$5,986,161</u>
Ratio of gold certificate reserve to Federal Reserve note liability	14.4%	10.1%

EARNINGS AND EXPENSES

Federal Reserve Bank of Philadelphia

(000s omitted)	1975	1974
Earnings from:		
United States Government securities	\$345,742	\$328,474
Other sources	1,234	7,377
Total current earnings	<u>\$346,976</u>	<u>\$335,851</u>
Net expenses:		
Operating expenses*	26,891	23,670
Cost of Federal Reserve currency	2,871	2,295
Assessment for expenses of Board of Governors	1,565	2,009
Total net expenses	<u>\$ 31,327</u>	<u>\$ 27,974</u>
Current net earnings	\$315,649	\$307,877
Additions to current net earnings:		
Profit on sale of U.S. Government securities (net)	2,067	0
Miscellaneous nonoperating income	125	151
Total additions	<u>\$ 2,192</u>	<u>\$ 151</u>
Deductions from current net earnings:		
Loss on sales of U.S. Government securities (net)	0	2,291
Loss on foreign currency transactions	11,364	1,664
Miscellaneous nonoperating expenses	278	2,254
Total deductions	<u>\$ 11,642</u>	<u>\$ 6,209</u>
Net deductions	9,450	6,058
Net earnings before payments to U.S. Treasury	<u>306,199</u>	<u>301,819</u>
Dividends paid	\$ 2,517	\$ 2,490
Paid to U.S. Treasury (interest on Federal Reserve notes)	303,194	298,993
Transferred to or deducted from (-) Surplus	488	336
	<u>\$306,199</u>	<u>\$301,819</u>

*After deducting reimbursable or recoverable expenses.

VOLUME OF OPERATIONS

Federal Reserve Bank of Philadelphia

Number of pieces (000s omitted)	1975	1974	1973
Collections			
Ordinary checks*	556,136	547,080	545,463
Government checks (paper and card)	49,333	41,313	38,052
Postal money orders (card)	9,492	9,295	11,285
Noncash items	905	1,007	963
Food stamps redeemed	125,347	121,528	89,494
Clearing operations in connection with direct sendings and wire group clearing plans**	573	572	585
Transfers of funds	534	448	382
Currency counted	413,140	380,085	377,043
Discounts and advances to member banks		3	2
Depository receipts for withheld taxes	2,185	2,196	2,038
Fiscal agency activities:			
Marketable securities delivered or redeemed	378	431	289
Computerized marketable securities (Book entry transactions)	19	16	18
Savings bonds and notes (Federal Reserve Bank and agents)			
Issues (including reissues)	12,375	12,015	12,589
Redemptions	8,266	8,728	8,609
Coupons redeemed (Government and agencies)	615	536	592
Dollar amounts (000,000s omitted)			
Collections:			
Ordinary checks*	\$188,803	\$184,597	\$164,136
Government checks (paper and card)	18,950	15,134	13,433
Postal money orders (card)	272	268	226
Noncash items	3,580	3,195	2,698
Food stamps redeemed	381	254	172
Clearing operations in connection with direct sendings and wire and group clearing plans**	99,742	97,912	98,938
Transfers of funds	910,043	914,436	616,427
Currency counted	3,390	3,227	3,058
Discounts and advances to member banks		16,760	15,502
Depository receipts for withheld taxes	10,556	10,659	9,754
Fiscal agency activities:			
Marketable securities delivered or redeemed	12,678	12,808	11,452
Computerized marketable securities (Book entry transactions)	37,907	16,379	30,560
Savings bonds and notes (Federal Reserve Bank and agents)			
Issues (including reissues)	601	671	680
Redemptions	469	559	540
Coupons redeemed (Government and agencies)	439	377	356

*Checks handled in sealed packages counted as units.

**Debits and credit items.



**FEDERAL RESERVE BANK of PHILADELPHIA
PHILADELPHIA, PENNSYLVANIA 19105**

business review

**FEDERAL RESERVE BANK
OF PHILADELPHIA
PHILADELPHIA, PA. 19105**

**BUSINESS REVIEW
FEDERAL RESERVE BANK OF PHILADELPHIA
TABLE OF CONTENTS—1975**

JANUARY

"Why Not Pay Interest on Member Bank Reserves?" *by Ira Kaminow*

"Should the Fed Sell Its Services?" *by W. Lee Hoskins*

Annual Operations and Executive Changes

FEBRUARY

"Which School Resources Help Learning? Efficiency and Equity in Philadelphia Public Schools" *by Anita A. Summers and Barbara L. Wolfe*

MARCH

"Indexing Inflation: Remedy or Malady?" *by Vincent A. Gennaro*

" 'Yields' on Checking Accounts Rise In Recent Years"

"Regional Wrap-up '74: Doldrums Descend On District Economy" *by Howard Keen, Jr.*

The Fed in Print *by Doris Zimmermann*

APRIL

"Is There a Future for Economic Man?" *by David P. Eastburn*

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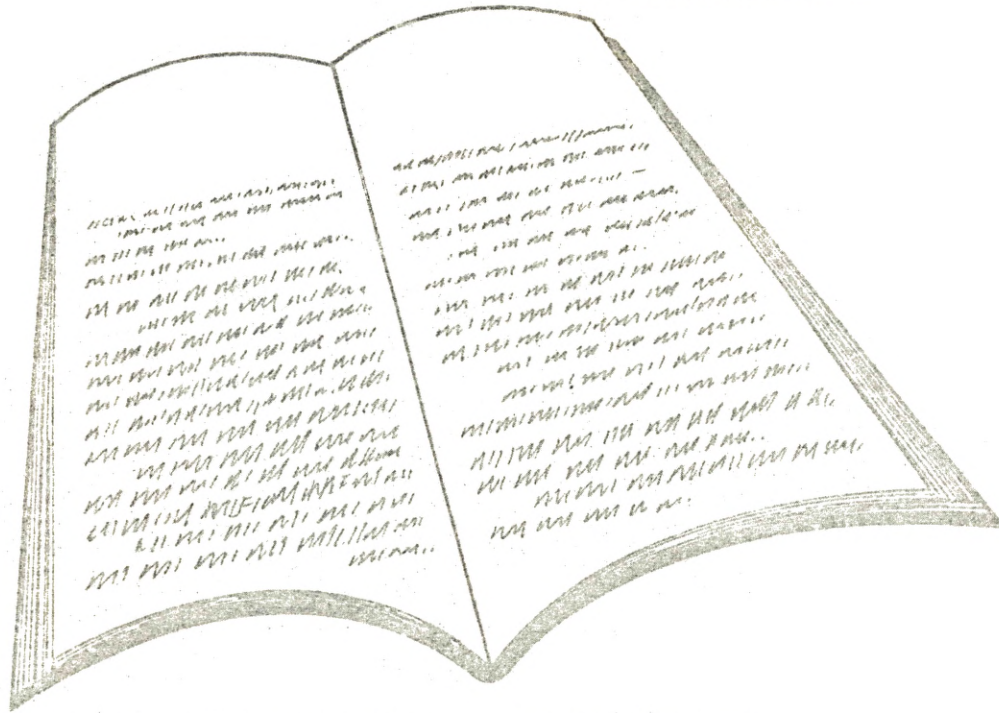
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