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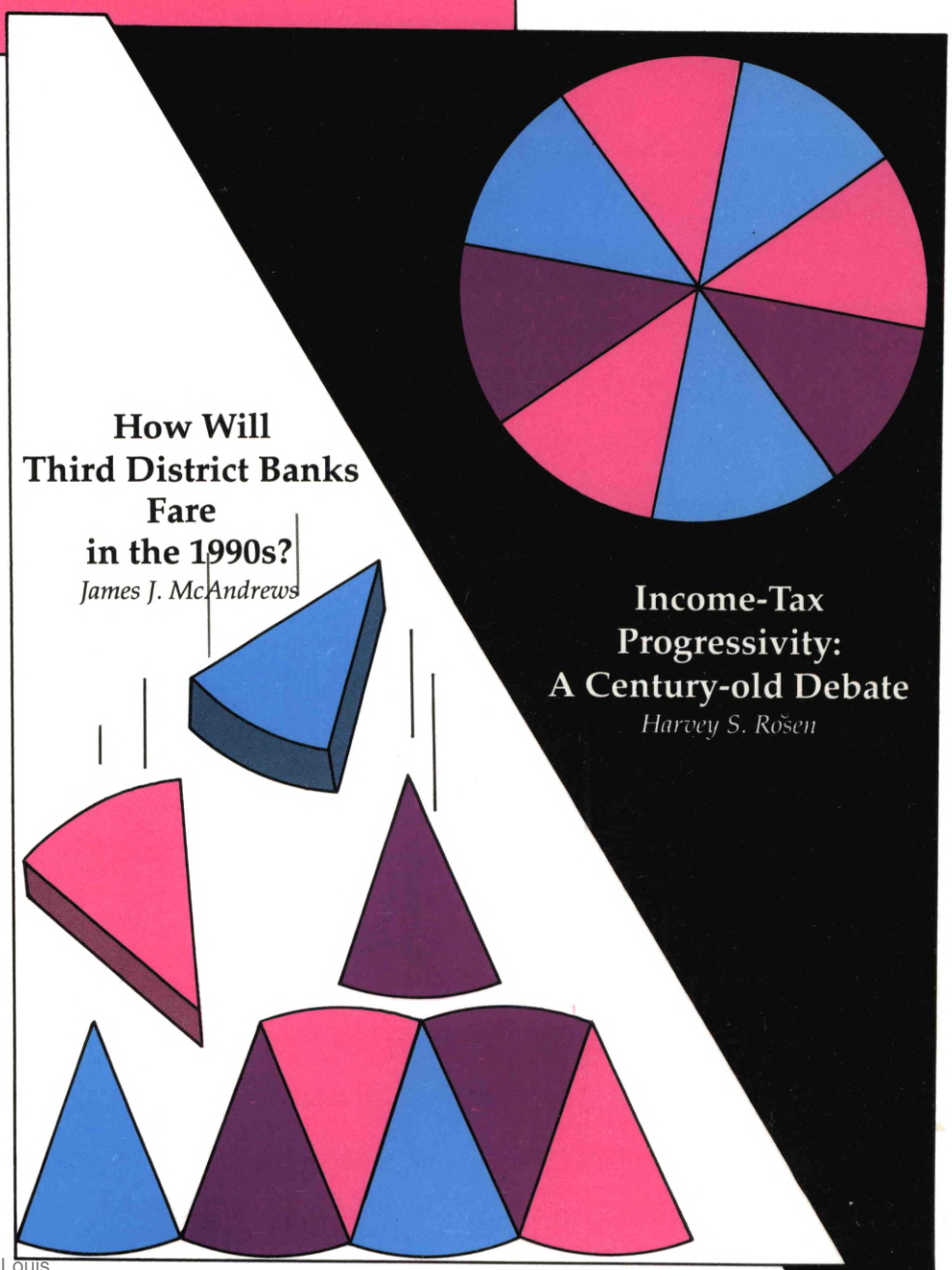

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BUSINESS REVIEW

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Income-Tax Progressivity: A Century-old Debate

*Harvey S. Rosen**

Income taxes are accepted as a permanent feature of the fiscal landscape. No one expects them to be repealed and replaced with some other tax. Nevertheless, there appears to be a chronic dissatisfaction with the structure of the income tax, manifested in periodic calls for its reform. Following two years of debate, there was a massive overhaul of the federal income-tax system in 1986.

Has this stilled the desire for change? Not at all. A number of additional changes are already being debated. Some legislators, for example, have suggested that tax rates for high-income taxpayers be increased. In any case, we can expect more modifications of the law within the next few years.

One major source of controversy is disagreement over how progressive the income tax should be—that is, how the tax burden should be allocated among different income groups.

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The problem of how to design a tax system is an old one. Several centuries ago, the French statesman Colbert suggested that "the art of taxation is the art of plucking the goose so as to get the largest possible amount of feathers with the least possible squealing."[1] Modern economics takes a somewhat less cynical approach, emphasizing how taxes should be levied so as to enhance economic efficiency and promote a "fair" distribution of income.

These modern approaches to the problem of optimal tax progressivity are worth exploring. While the theory of optimal tax progressivity does not provide a definitive solution to the controversies surrounding tax design, it does provide a useful framework for thinking about the problem systematically.

WHAT IS "PROGRESSIVITY"?

Debates over tax progressivity sometimes become confused because people have different things in mind when they use the term. Before proceeding, we should carefully define progressivity and several related concepts.

Suppose you have calculated every person's income-tax burden and want to characterize the associated distribution of tax burdens. The "bottom line" of such an exercise is often a description of the tax as proportional, progressive, or regressive. The definition of proportional is straightforward; it describes a situation in which the ratio of taxes paid to income is constant regardless of income level. If everyone pays 20 percent of their income to the government, the tax system is proportional.

It is not as easy to define progressive and regressive. A natural way to define these words is in terms of the *average tax rate*, the ratio of taxes paid to income. If the average tax rate increases with income, the system is progressive; if it falls, the tax is regressive. Confusion arises because some people think of progressivity in terms of the *marginal tax rate*—the change in taxes paid with respect to a change in income. According to this view, a tax system is progressive only if people with higher incomes have higher marginal tax rates.

A Hypothetical Tax Law. To see the distinction between the two definitions, consider this simple hypothetical income-tax structure. Each individual computes his or her tax bill by subtracting $5,000 from income and paying an amount equal to 25 percent of the remainder. (If the difference is negative, the individual gets a subsidy equal to 25 percent of the figure.) Table 1 shows the amount of tax paid, the marginal tax rate, and the average tax rate for several income levels. The average rates increase with income. However, the marginal tax rate is constant at 25 percent because for each additional dollar earned, the individual pays an additional 25 cents, regardless of income level. People could disagree about the progressivity of this tax system and each would be right according to his or her own definition.

TABLE 1

Income and Taxes Under a Hypothetical Income Tax

Income	Tax Liability	Marginal Tax Rate	Average Tax Rate
$2,000	$ -750	25%	-38%
$5,000	$0.0	25%	0.0%
$10,000	$1,250	25%	13%
$25,000	$5,000	25%	20%
$50,000	$11,250	25%	22.5%
$100,000	$23,750	25%	23.8%

[1]See George Armitage-Smith, *Principles and Methods of Taxation* (London: John Murray, 1907) p. 36.

It is therefore very important to make the definition clear when using the terms regressive and progressive. Most economists believe that the *average* tax rate is more suitable for characterizing progressivity, and this convention will be used from this point on.

A nice example of the distinction between marginal and average tax rates is provided by the U.S. rate schedule that applied to your 1988 income. As in the hypothetical tax law in Table 1, under U.S. law your taxable income is found by making certain subtractions from total income. (Total income is referred to as adjusted gross income, or AGI.) In the simplest case, a family subtracts a $5,000 standard deduction and an exemption of $1,950 per family member. In some cases, a family may find it advantageous to itemize its deductions rather than take the standard deduction. For simplicity, we assume throughout that households do not itemize.[2] Thus, a family of two would subtract $8,900 (5,000 + 2 x 1,950) from AGI in order to compute its taxable income.

After taxable income is computed, the tax liability is found by using the information in Table 2. The first column shows the various *total* income categories; the second shows the corresponding *taxable* income categories (found by subtracting $8,900); the third column has the marginal tax rate applied to each dollar of taxable income within that bracket; and the fourth column shows the associated average tax rates. To understand how the schedule works, consider a family of two whose AGI is $50,000. Assuming that the family takes the standard deduction, its taxable income is $41,100. According to Table 2, the family must pay 15 percent of its first $29,750 of taxable income ($4,462.50) and 28 percent of each dollar between $29,750 and $41,100 ($3,178). The family's tax liability is therefore $7,640.50. The family's *average* tax rate with respect to total income is 15.3 percent ($7,640.50/$50,000). Its *marginal* tax rate is 28 percent, because for each additional dollar of earnings its tax liability goes up by 28 cents.

By looking only at the marginal rates in Table 2, which drop from 33 percent to 28 percent as income rises, one might be tempted to conclude that people whose total incomes fall in the $80,800-$158,150 range bear a heavier

TABLE 2

Tax Liabilities, 1988 (Married Couple with Standard Deduction)

Total Income	Taxable Income	Marginal Tax Rate	Average Tax Rate
$0 - 38,650	$0 - 29,750	15%	0% - 11.5%
$38,650 - 80,800	$29,750 - 71,900	28%	11.5% - 20.1%
$80,800 - 158,150	$71,900 - 149,250	33%	20.1% - 26.4%
$158,150 -	$149,250 -	28%	26.4% - *

*Special rules apply to the taxpayer in this bracket: 1) he computes 28 percent of total personal exemptions; 2) he computes 5 percent of taxable income above $89,560; and 3) he adds the lesser of these two amounts to 28 percent of taxable income. The resulting sum is his tax liability.

[2]In reality, the likelihood that a family itemizes deductions increases with its income. Hence, the actual pattern of tax payments is likely to be less progressive than suggested by calculations based on this assumption.

tax burden than those with higher incomes and that the tax system is therefore regressive. This conclusion is wrong because it ignores the distinction between average rates and marginal rates. For example, based on the table, the tax liability of a family with total income of $300,000 is $82,600, giving it an average tax rate of 27.5 percent. This exceeds the average tax rate in the $80,800-$158,150 bracket. Thus, even though the richer family has a lower marginal tax rate, its *average* tax rate is higher.[3]

EDGEWORTH'S MODEL OF OPTIMAL TAX PROGRESSIVITY

Now that progressivity has been defined, we are ready to think about how progressive a "good" income tax should be. F.Y. Edgeworth examined this question almost a century ago.[4] Making several assumptions about the goals of the government and about personal behavior, he deduced what the optimal tax system should look like. Let's begin by stating Edgeworth's assumptions.

The *first assumption* offers a standard for judging whether the tax structure is "good." Edgeworth assumed that the satisfaction of every person in society depends only upon his or her level of income. Economists use the slightly archaic term "utility" to describe the amount of satisfaction or pleasure that people obtain from income. Edgeworth assumed that the goal of society is to collect whatever taxes have to be raised in such a way that the sum of individuals' utilities is as high as possible. Roughly speaking, this corresponds to the goal of obtaining the "greatest good for the greatest number."

The *second assumption* concerns the relationship between the amount of income a person receives and his level of satisfaction. Edgeworth assumed that if two individuals have the same income, then they also have the same level of utility. That is, people are all capable of receiving the same amount of pleasure from the same amount of spending. Edgeworth also assumed that the more income a person has, the higher his level of satisfaction. When income increases, however, utility increases at a decreasing rate. According to this assumption, when your income doubles, you become happier, but not twice as happy. This seems quite sensible. If you give a billionaire another billion dollars, chances are that he will value the second billion a lot less than he did the first.

A numerical illustration of this concept is provided in Table 3. It shows the amount of utility corresponding to various amounts of income for two individuals, Romeo and Juliet. According to the table, when Romeo's income increases from $1 to $2, his level of satisfaction

TABLE 3
Income and Utility in Edgeworth's Model

Income	Romeo's Utility	Juliet's Utility
$1	500 "utils"	500 "utils"
$2	800	800
$3	1,000	1,000
$4	1,100	1,100
$5	1,105	1,105
$6	1,106	1,106

[3]As noted earlier, these calculations probably overestimate the extent to which tax payments are progressive, because of the assumption that everyone takes the standard deduction. See Joseph A. Pechman, *Federal Tax Policy*, fifth edition (Washington, D.C.: The Brookings Institution, 1987), for some estimates that take itemized deductions into account.

[4]See F.Y. Edgeworth, "The Pure Theory of Taxation" (1897), reprinted in *Readings in the Economics of Taxation*, Richard A. Musgrave and Carl S. Shoup, eds. (Homewood, IL: Richard D. Irwin, 1959) pp. 258-96.

increases by 300 "utils." When income goes from $2 to $3, his satisfaction again increases, but this time by only 200 "utils." Similarly, for each dollar increase in his income, Romeo's level of satisfaction continues to increase, but by successively smaller amounts. Note also that for each income level, Juliet has the same amount of satisfaction as Romeo. This reflects the assumption that people are capable of receiving equal pleasure from income.

The *last assumption* is that the total amount of income is fixed. People continue to earn the same amount of income regardless of the tax system.

Edgeworth's Result. Suppose now that the government has a certain amount of tax revenue it must raise by taxing people's incomes. Given the three assumptions, how should it proceed? For concreteness let us suppose that: 1) the society is composed of two citizens, Romeo and Juliet; 2) Romeo's income is $3 and Juliet's is $5; and 3) the government needs to raise $2 in taxes.

Before any taxes are raised, Romeo's level of satisfaction is 1,000 (corresponding to an income of $3) and Juliet's is 1,105 (corresponding to an income of $5). Hence, the sum of their utilities is 2,105. Now recall that the government's goal is to collect the $2 of tax revenue so as to leave the sum of their levels of satisfaction as large as possible. From whom should the government collect the first dollar? Let's consider both possibilities:

1. *Government collects the first dollar from Romeo.* His income falls to $2 and his utility to 800. Juliet's level of satisfaction stays at 1,105. The sum of their utilities is *1,905.*
2. *Government collects the first dollar from Juliet.* Her income falls to $4 and her level of satisfaction to 1,100. His income stays at $3 and his utility at 1,000. The sum of their levels of satisfaction is *2,100.*

The answer is clear—the first dollar should be raised by taxing Juliet, because this leaves the total level of satisfaction higher than if Romeo were taxed. Intuitively, this makes perfect sense. Because Juliet starts out being richer than Romeo, she places less of a value on her last dollar than he does. Therefore, taking the dollar away from her creates the smallest decline in the *sum* of their utilities.

The government still needs to raise one more dollar. Who should be taxed? At this stage, Romeo's income is $3 and Juliet's is $4. The same logic as before suggests that, once again, Juliet should pay the dollar—the loss of her fourth dollar causes less harm than would Romeo's loss of his third dollar. Thus, in the simple society we have set up, the entire tax burden should be paid by Juliet.

This numerical example correctly captures the implications of Edgeworth's three assumptions for tax policy: taxes should be set in such a way that the after-tax distribution of income is as equal as possible. In particular, income should be taken first from the rich because the amount of pleasure they lose is smaller than that of the poor. If the government requires more revenue even after complete equality has been reached, then the additional tax burden should be distributed evenly.

Edgeworth's model, then, implies a radically progressive tax structure—incomes are leveled off from the top until complete equality is reached.

CRITIQUE OF EDGEWORTH'S MODEL

The policy implications of this result are breathtaking, so the assumptions behind it require careful scrutiny.

First, the model assumes that the goal of the tax system is to make the sum of the levels of satisfaction as high as possible. Implicit in this notion is the idea that incomes are common property that can be redistributed as the society sees fit. This view has been attacked by some political philosophers, particularly libertarians. They argue that how "society" should redistribute income via the tax system is a meaningless question because "society" per se

has no income to distribute. Only *people* receive income, and the sole possible justification for government redistribution is when the pattern of property holdings is somehow improper. (For example, if the rich obtained their wealth by literally stealing from the poor, then the resulting distribution of property would be deemed "improper.") In the libertarian view, evaluating a tax system according to what it does to the sum of utilities is not a sensible approach.

Second, the validity of assuming that people with the same level of income receive the same amount of pleasure from that income is fundamentally impossible to determine. It simply cannot be known, because pleasure cannot be measured objectively. One possible defense for this assumption is that it should be treated not as a psychological statement, but as an *ethical* one. Specifically, in designing a redistribution policy, government ought to act *as if* people are the same in this sense, whether they are or not.

Finally, consider the last assumption— that the total amount of income in the society is fixed. The size of the pie does not change as the government redistributes its pieces. Suppose, however, that an individual's level of satisfaction depends not only on income but on leisure as well. Each person chooses how much leisure to surrender (how much to work) to maximize his own well-being. Taxes will generally change people's work decisions and diminish total real income. For example, taxing Juliet may make her decide to work less and thereby earn $3 instead of $5. The government must then tax both Romeo and Juliet to raise $2 in revenue. The greater an individual's marginal tax rate, the greater the impact on incentives and the larger the decrease in income.

Thus, a society whose goal is to make the total level of satisfaction as high as possible faces an inescapable dilemma. On one hand, it prefers a progressive tax system to bring about equality in income. However, the high marginal tax rates associated with a progressive system reduce the total amount of income available. The optimal tax system must take into account the costs (in terms of lost real income) of achieving more equality.

So even if we are willing to accept that people with the same incomes have the same level of satisfaction, we cannot conclude that the best tax policy is to level off incomes from the top. The optimal policy depends on how the tax system affects people's behavior.

Do these criticisms of Edgeworth's assumptions mean that his analysis was silly or worthless? Certainly not. His work made a vital contribution by introducing the idea that the structure of the optimal tax system should be logically *deduced* from a set of underlying assumptions, not merely asserted as a first principle. He presented a rational argument for a progressive tax system and provided a foundation for further thinking about this issue.

MODERN STUDIES

One of the most vexing problems with Edgeworth's analysis is the assumption that the total amount of income available to society is fixed. Confiscatory tax rates are assumed to have no effect upon the amount of output produced. More realistically, suppose that an individual's level of happiness depends not only upon income but upon leisure as well. As noted above, the increased equality brought about by a more progressive tax will come only at the cost of a lower level of efficiency. An optimal income-tax system finds the best trade-off between equality and efficiency. In Edgeworth's model, there is no trade-off, because the cost of obtaining more equality is zero. This explains his prescription for a perfectly egalitarian outcome.

A Linear Income Tax. How much is Edgeworth's result changed when work incentives are taken into account? Nicholas Stern studied a model similar to Edgeworth's, but he assumed that individuals make choices between

spending their time earning money and spending their time at leisure.[5] To simplify the analysis, Stern assumed that a person's tax liability is a fixed percentage (t) of income minus some rebate:

$$\text{Tax} = t \times \text{Income} - \text{Rebate}$$

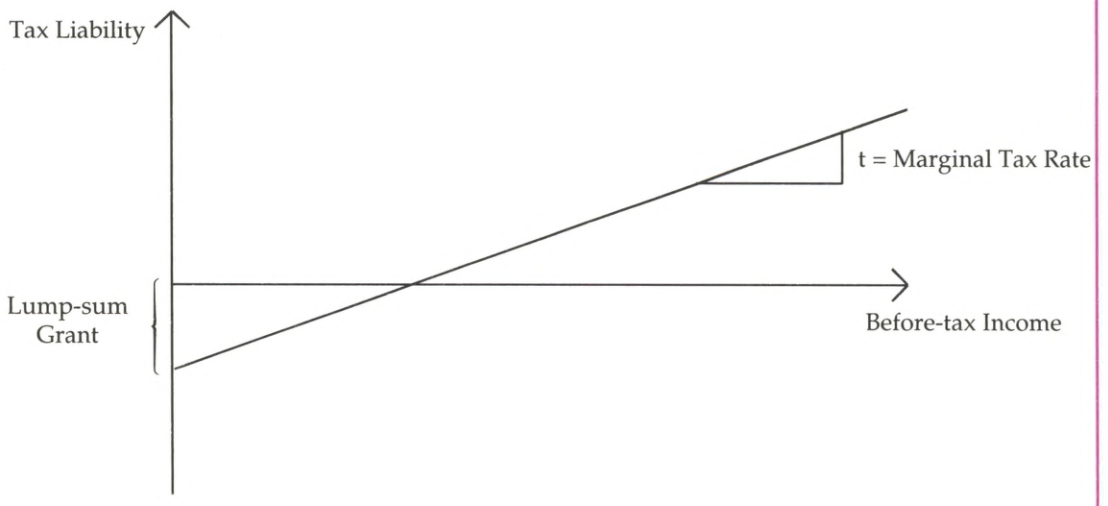
For example, suppose that the rebate is \$3,000 and t = .25. Accordingly, a person with income of \$20,000 would have a tax liability of \$2,000 (-\$3,000 + .25 x \$20,000). A person with an income of \$6,000 would have a tax liability of minus \$1,500 (-\$3,000 + .25 x \$6,000). Such a person would receive a \$1,500 grant from the government.

The significance of this formula is best understood by graphing it. In the graph below, income is measured on the horizontal axis and tax revenues on the vertical. When income is zero, the individual's "tax burden" is negative—he receives a lump-sum grant from the government of \$3,000. When t x income equals the rebate (\$3,000), the individual has zero income-tax liability. Note that for each additional dollar of income, the individual must pay \$0.25 to the government. That is, the marginal tax rate is 0.25.

Because the geometric representation of this equation is a straight line, it is referred to as a linear income-tax schedule—or, more popularly, a "flat tax." It is important to remember from our earlier discussion that even though the marginal tax rate for a linear tax schedule is constant, the schedule is progressive in the sense that the higher an individual's income, the higher the proportion of income paid in taxes. Just how progressive depends on the precise level of the rebate and the marginal tax rate (t). A higher marginal tax rate along with a larger rebate, holding total tax revenue constant, entails a more progressive tax system. However, higher marginal tax rates also create

[5]See Nicholas H. Stern, "On the Specification of Models of Optimum Income Taxation," *Journal of Public Economics* 6 (July/August 1976) pp. 123-62.

A Linear Income Tax



larger disincentives to work. The optimal-income-tax problem is to find the "best" marginal tax rate—the value that maximizes the sum of utilities subject to the constraint that a given amount of revenue (above the required rebates and grants) be collected.

Stern assumes a modest labor-supply response to taxes—a 10 percent decrease in the after-tax wage rate leads to a 1 percent decrease in hours worked. He finds that a value for t of about 19 percent makes the total level of satisfaction as high as possible. This is considerably less than the value of 100 percent implied by Edgeworth's analysis. It is, incidentally, also much smaller than the actual marginal tax rates found in many Western countries. (For example, we saw above that marginal tax rates in the United States go as high as 33 percent.) Even quite modest incentive effects appear to have important implications for optimal marginal tax rates.

More generally, Stern showed that the more responsive that labor supply is to the after-tax wage, the lower the optimal marginal tax rate, other things being the same. Intuitively, the "cost" of redistribution is the work disincentives it creates. The more responsive the supply of labor to changes in the after-tax wage, the higher the cost of redistribution, so that less should be done.

This description of Stern's results may convey a somewhat false sense of precision as to what economists really know about the optimal tax system. After all, as pointed out above, there are many controversial value judgments behind the notion that the goal of taxation should be to maximize the sum of individuals' satisfaction levels. Moreover, there is substantial uncertainty about the behavioral responses that are crucial to measuring the trade-off between efficiency and equity. No one is quite sure just how responsive labor supply is to changes in the wage rate. Nevertheless, it is extremely informative to have explicit calculations of what the optimal tax rates would be under alternative sets of assumptions.

A Nonlinear Income Tax. We noted earlier that Stern restricted himself to studying linear income-tax schedules, in which the marginal tax rate is constant. There have also been analyses of general tax schedules that allow marginal tax rates to either increase or decrease with income. One most surprising result is that maximization of social welfare requires the marginal tax rate to be zero at the very top of the income scale.[6]

To see why, suppose that the richest person is Mr. Hughes, who currently has an income of exactly $1 billion and who faces a positive marginal tax rate on his billion-and-first dollar. Now suppose the marginal tax rate on the billion-and-first dollar is reduced to zero. Knowing that if he earns another dollar he will get to keep it all, Hughes may decide to do so. If he does, it makes him better off. The government is no worse off, because it still collects the same amount of revenue as before. Similarly, no other taxpayer is made worse off. In short, Hughes is better off and no one else's welfare has decreased. Social welfare, which is the sum of each person's level of welfare, has therefore increased. Of course, Hughes may choose not to earn the extra dollar. In that case, no harm is done—the status quo is simply maintained.

One must be very cautious in drawing policy implications from this result. The very richest person in society may have an extremely high income even compared to other wealthy people. Hence, zero is probably a poor approximation to the optimal marginal income-tax rate, even for most people in the highest 1 percent of the income distribution. Moreover, note that this result pertains to the *marginal* tax rate facing the richest individual. It says nothing about the *average* tax rate. It is possible to

[6]See Jesus Seade, "On the Shape of Optimal Tax Schedules," *Journal of Public Economics* 7 (1977) pp. 203-35.

collect very high taxes from an individual on income earned before the last dollar and thus have a high average rate even though the marginal rate is very low.

The contrast between this result and income-tax systems in the real world is striking. Far from having zero marginal tax rates at the highest incomes, actual tax systems tend to tax these incomes at the highest rates. Under the U.S. federal personal income tax, the marginal tax rate at the top of the income scale is now 28 percent; at times it has been 90 percent. It is interesting to note, however, that marginal tax rates under the current law do decline at the very top of the income scale (see Table 2).

State Income Taxes. So far we have been assuming that the income tax is a single tax that is levied at the national level. In fact, 43 states and several cities levy their own income taxes. In 1986, the states collectively raised $67.5 billion from personal income taxation, about 29.6 percent of their total tax collections. The structures of these taxes vary greatly across states. For example, in North Dakota there are eight brackets; in the top bracket (over $50,000 of taxable income) the marginal tax rate is 12 percent. In Pennsylvania, there is only one rate: 2.1 percent.

Does optimal tax theory provide insights as to how the state tax systems should be structured? To begin thinking about this problem, note that we have implicitly assumed that the only possible behavioral response to increased taxes is a change in work effort. We have not contemplated another possibility—if taxes become too high, people may leave the country altogether. One does indeed hear stories about people who become "tax exiles" in order to escape income taxes. Nevertheless, for a country like the United States, the assumption that emigration is not affected by the tax code is sensible.

However, the scope for interstate mobility is quite substantial. If the state income tax in New York becomes too high, it is not all that costly for some people to move to New Jersey or Pennsylvania. In terms of our earlier discussion, when a state income-tax system becomes more progressive, there will tend to be *two* effects that reduce total real income within the state: some citizens will leave the state and those who stay may change their work effort. In effect, redistribution is more costly for a state than for a national government. Hence, the optimal progressivity for a state income tax is likely to be less than for a national tax.

SOME CAVEATS

The optimal tax models described here are very simple, and it is not hard to think of ways in which they could be made more realistic. For example, the models ignore the fact that income taxes affect not only earnings but also nonlabor income, such as interest and dividends. Thus, increases in the tax rate create disincentives to save as well as to work. Such disincentives may lower the amount of investment. Economists have examined optimal tax progressivity in models with savings.[7] Although these models are more complicated than the ones considered here, the basic thrust is the same—the optimal income tax depends on the trade-off between efficiency and equity.

Another possible drawback with the analysis is that it assumes that each person's level of satisfaction depends only on his or her *own* level of income and leisure. It might be the case, however, that people are altruistic—their own well-being increases when someone poorer than themselves becomes better off. To the extent that this is the case, over some range of tax rates it may be possible to achieve both more efficiency and more equity by raising taxes on the rich. However, whether such al-

[7]See, for example, Mervyn A. King, "Savings and Taxation," in *Public Policy and the Tax System*, G.A. Hughes and G.M. Heal, eds. (London: George Allen and Urwin, 1980) pp. 1-35.

truistic feelings are present is hard to determine.

We must also emphasize that optimal tax theory is meant to be *prescriptive*, not *descriptive*. That is, one cannot claim that the theory correctly characterizes existing tax systems. There is no reason to expect the political process to lead to a tax system that is optimal in the sense of maximizing the sum of people's satisfaction levels. Pork-barrel politics and the pleadings of special-interest groups may have a greater impact on tax legislation than the search for the best trade-off between efficiency and equity.

In conclusion, the theory and computation of optimal tax rates continue to be of great interest to economists. However, this line of research cannot be expected to produce a blueprint for "the" optimal tax system. As has been stressed, the answer depends to a large extent upon value judgments, and the tools of economics do not provide definitive answers to ethical questions. However, the literature on optimal taxation makes an important contribution. It permits us to analyze, in a systematic way, the implications of alternative ethical and behavioral assumptions and to discuss tax policy within a coherent framework.

How Will Third District Banks Fare in the 1990s?

*James J. McAndrews**

The new decade, the last of this millennium, is sure to bring changes to the banking industry. In the states of the Third Federal Reserve District—Pennsylvania, New Jersey, and Delaware—some changes that will affect banking are predictable. Certain legislative and regulatory changes will take effect in the next few years. The evolution in banking technology and services will continue. And factors in our national economy, including demographic trends and business cycles, indicate a new environment for banking firms. What will these changes mean for banks in the Third District?

The changing environment involves greater geographic freedom for banks in this district and elsewhere; at the same time, banks will face new rules, particularly with regard to their capital positions. Banking itself is evolving. The bank loan is becoming a security that is tradeable. Large firms can easily borrow in the commercial-paper market for their short-term funding needs. And people can choose to place their deposits among a variety of institutions, including nonbank money-market funds.

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These aspects of the changing banking scene suggest that banks everywhere face increasing challenges to their prosperity. Third District banks prospered in the 1980s. How well are they positioned for the 1990s?

THIRD DISTRICT BANKING PERFORMANCE IN THE 1980s

Third District banks enjoyed good profits and growth in the 1980s relative to the rest of the nation. This performance is encouraging for two reasons. First, strong bank profits indicate that a bank can better withstand an unexpected decline in its assets' values, and to that extent, strong profits signal enhanced safety and soundness of these banks. Second, growth of banks (in terms of assets *and* new banks), combined with strong profits, suggests that banks are efficiently meeting their customers' demands for more and better banking services.

New Entrants into Banking. A measure of a market's profitability is the rate of entry and exit in the industry. If the industry is highly profitable and few barriers to entry exist, there will be less exit from, and more entry into, the industry; on the other hand, low profits discourage potential entrants and current producers from continuing in the industry.

From the beginning of 1980 through midyear 1989, 933 U.S. commercial banks failed. Only one such failure occurred in the Third District over the same period. Moreover, entry into Third District banking has been increasing. From 1980 through midyear 1989, 69 new banks were chartered in the Third District. Of these, 34 were special-purpose banks operating under the limited banking charters of Delaware.[1] Of the remaining 35 entrants, 33 were chartered in 1987, 1988, and the first six months of 1989 alone: 21 in Pennsylvania, 10 in New Jersey, and two in Delaware. Correspondingly, the rest of the nation saw 573 new entrants and 486 bank failures in 1987, 1988, and the first six months of 1989. For that period, total entry for the Third District amounted to about 10 percent of banks existing in 1988, while for the rest of the nation the corresponding figure was around 3 percent. This flurry of regional entries, most of which have occurred in the Philadelphia metropolitan area and near Princeton, New Jersey, indicates that the market has perceived strong opportunities for profit in the Third District.

Growth in Assets. From year-end 1980 to midyear 1989, combined assets of the Third District's banks grew 94 percent in nominal terms while those for the rest of the nation grew 71 percent. Commercial-bank employment in the Third District grew 1 percent over the period, twice the pace of employment growth in banks nationally.

The above figures for the Third District exclude Delaware's special-purpose banks, whose growth has been a notable development in Third District banking. These banks are chartered under the Consumer Credit Bank Act (CCBA), the Financial Center Development Act (FCDA), and the International Bank Act (IBA).[2] Passed in 1981 and 1983, this legislation gave the FCDA, CCBA, and IBA banks

[1]For more information on the Financial Center Development Act and the Consumer Credit Bank Act, see Janice M. Moulton, "Delaware Moves Toward Interstate Banking: A Look at the FCDA," this *Business Review* (July/August 1983).

[2]CCBA and FCDA banks engage primarily in credit-card operations, wholesale commercial lending, trust business, and cash management. IBA banks are Edge Act subsidiaries of commercial banks. An Edge Act Corporation (typically a subsidiary of a commercial bank) is established to engage in international banking or foreign financial transactions. Edge Act subsidiaries provide various advantages to their parent banks. For example, they can originate and earn income in low-tax states instead of high-tax states, and in operations abroad they may engage in both commercial and investment banking (in contrast to the regulation of a conventional foreign branch of a U.S. bank).

attractive tax rates. Growth in these banks has been swift. There were 34 such banks in 1988, employing 14,456 people. All had strong earnings growth throughout the 1980s.

Significantly, the relatively faster asset growth for the Third District's banks was not achieved at the expense of profitability or soundness of assets. Profitability is seen in three measures: return on assets, which provides a rough measure of how well a bank is managing the assets in its portfolio; return on equity, which gauges how much the bank's owners are earning on their investment; and net interest margin, a measure of the average rate of interest earned by a bank on its earning assets, such as loans, minus the average rate the bank pays on its liabilities, such as deposits.

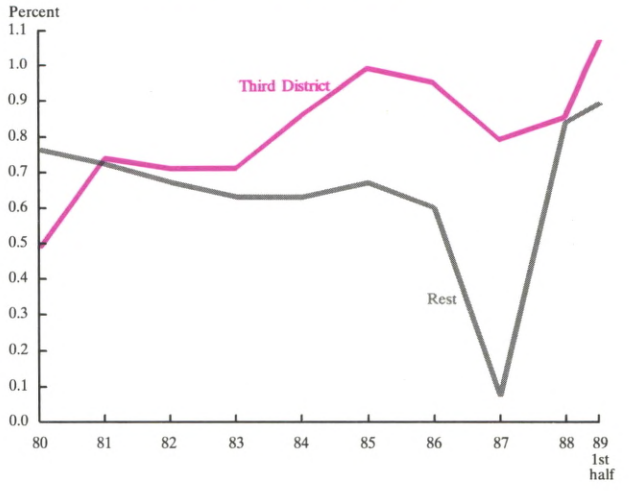
By each of these measures, Third District banks (not counting the special-purpose FCDA, CCBA, and IBA banks) have outperformed the rest of the nation in every year since the early 1980s (Figures 1–3). This holds true for all size categories of banks. Notably, the return on assets and equity was lower during the 1980s for the Pennsylvania banks than for their counterparts in New Jersey and Delaware. This is due, perhaps, to the stronger economic growth experienced by New Jersey and Delaware during the decade. It also appears that the arrival of the special-purpose banks did not hurt the profitability of the existing commercial banks in Delaware.

The relative soundness of banking assets can be judged by how many go sour during their lifetime. By several measures, Third District banks have judged the creditworthiness of their customers well. Loans made by banks are charged off if there is no expectation of recovering them. Although loans made in one year may go bad many years later, the recent history of loan charge-offs by banks in the district and in the nation suggests that the district's banks have benefited from having a loan portfolio of significantly higher quality (Figure 4).

While the Third District banks and the rest of the nation's banks had comparable levels of

FIGURE 1

Return on Assets



Note: Return on assets is calculated as the sum of net income of all banks in the sample as a percent of the average of the beginning- and end-of-year assets of all the banks in the sample. (This method of averaging weights banks by their size and is different from the method used in *The Regional Banking Scene*, a publication of the Federal Reserve Bank of Philadelphia.) In 1988, there were 283 banks in the Third District sample and 12,733 in the rest-of-the-nation sample. Excluded from the Third District's averages are the special-purpose banks in Delaware. Data for 1989 include the first six months only.

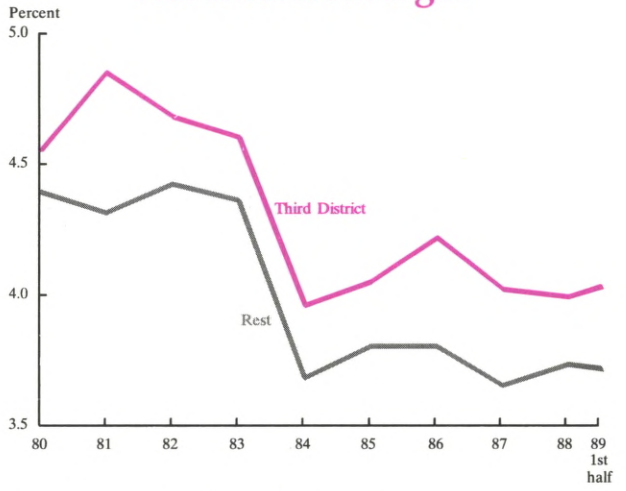
Source: Federal Financial Institutions Examination Council, Quarterly Reports of Condition and Income for Insured Commercial Banks

FIGURE 2
Return on Equity

Note: Return on equity is calculated as net income as a percent of the end-of-year equity capital for all banks in the sample.

Source: Federal Financial Institutions Examination Council, Quarterly Reports of Condition and Income for Insured Commercial Banks

FIGURE 3
Net Interest Margin



Note: Net interest margin is calculated as the difference between interest income (adjusted for taxable equivalence on tax-exempt state and local securities) and interest expense, expressed as a percent of the beginning- and end-of-year assets for banks in the sample.

Source: Federal Financial Institutions Examination Council, Quarterly Reports of Condition and Income for Insured Commercial Banks

charge-offs in the early 1980s, the Third District has had significantly fewer charge-offs since 1981. This reveals, albeit after the fact, a dramatic difference in loan quality between the two groups.

The relatively better charge-off performance of the Third District is reflected in virtually all categories of loans and bank sizes. Third District performance is superior in noncurrent loans (loans being paid more than 90 days late) and in banks' loan-loss provisions, which are meant to buffer problems expected with future loan repayments.

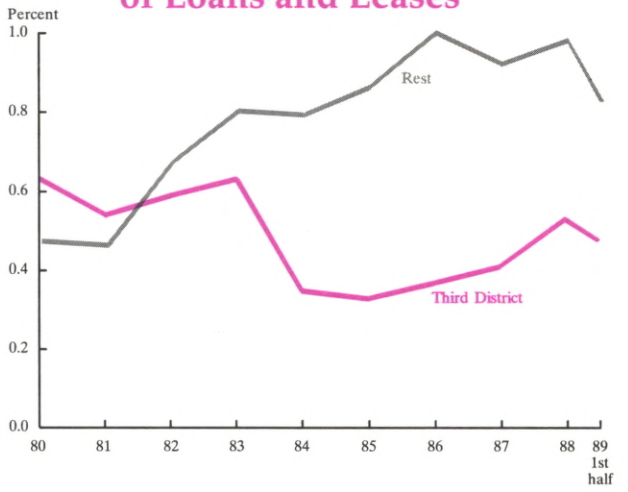
The Region's Economy Has Been Prosperous. Several reasons account for the district's good performance in the 1980s. The regional economy has become increasingly diversified and is no longer as dependent on manufacturing as it was in the 1970s. Increased diversification means that downturns in one industry have much less impact on the region's economic health. In par-

ticular, the region has not suffered as much as other parts of the nation from the downturns that plagued the agriculture and energy sectors during the 1980s.

In addition, employment growth in the region has been fairly strong since 1982, and the area thus has enjoyed relatively low rates of unemployment. Although the region began the decade with higher unemployment than the nation and suffered sharply in the 1982 recession, its unemployment rate has been below the nation's since 1985 (Figure 5). The unemployment rate seems to have leveled off in 1989, however.

FIGURE 4

Charge-offs as a Percentage of Loans and Leases



Note: Charge-offs are calculated as a percentage of the average of the beginning- and end-of-year loans and leases of all banks in the sample.

Source: Federal Financial Institutions Examination Council, Quarterly Reports of Condition and Income for Insured Commercial Banks

Signs of the region's strong economic performance in the past decade are provided by other indicators as well. Real per-capita gross state product of the three-state region increased more than real per-capita GNP for the United States in the period from 1980 through 1988, according to Commerce Department estimates.

A further indicator is the median value of houses. The National Association of Realtors estimates the median value of existing single-family homes for the nation and for major metropolitan areas. The NAR figures show that the median value of a home in Philadelphia increased 93.8 percent over the 1980s, to $104,100 from $53,696, while that for the nation rose 50.8 percent, to $88,700 from $58,800. Since homes often represent the collateral on real estate loans and other types of loans, their increase in value can enhance the security of a bank's existing loan portfolio, thereby suggesting that banks' risk has been reduced during the 1980s.

So, according to the economic indicators, it appears that this region has experienced a stronger recovery from the 1982 recession than has the nation as a whole.

REGULATORY CHANGES AND MARKET RESPONSES

The recent good performance of the Third District banking industry carries with it no promises of a favorable future. Regulatory changes that will affect banking are coming at the state, national, and international levels. They include:

— greater geographic deregulation at the state and regional levels;

— higher deposit-insurance assessments for all members of the Federal Deposit Insurance Corporation;

— phase-in of international risk-based capital guidelines;

— implementation of the free-trade agreement with Canada; and

— removal of cross-border barriers in European banking.[3]

New Freedoms at the State Level. In 1990, nationwide interstate banking will be allowed in all three states of the Third Federal Reserve District. New Jersey's trigger date was January 1, 1988; the dates for Pennsylvania and Delaware are March 4, 1990, and June 1, 1990, respectively. The new laws allow out-of-state banks and bank holding companies to acquire or merge with an in-state bank in the Third District, as long as the out-of-state entity comes from a state that grants reciprocal privileges to the Third District state in question.[4] These changes substantially relax the geographic restrictions on Third District banks.

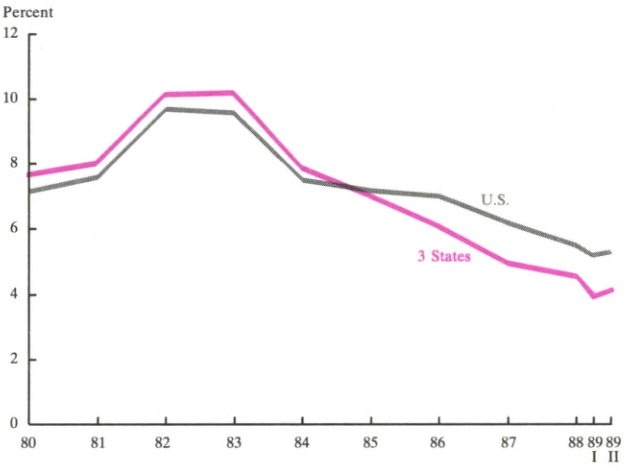
In addition, full intrastate branching by Pennsylvania banks will be allowed in 1990. Since 1982, Pennsylvania banks have been allowed to branch in adjacent counties and in those counties contiguous to adjacent counties. Furthermore, multibank holding companies have

[3]Other proposals by regulatory agencies affecting banking include the pricing of daylight overdrafts, an increase in the amount of revenue a subsidiary of a bank may generate through the underwriting of corporate debt issues, and new rules that would revise the standards by which the Comptroller of the Currency determines a bank's solvency, giving a more prominent role to equity capital. A variety of additional changes have been discussed, but are not yet definite.

[4]All of the Third District states—Delaware (DE), New Jersey (NJ), and Pennsylvania (PA)—offer each other reciprocity. The following 17 states currently offer reciprocity to NJ and will offer it to DE and PA sometime in 1990: Alaska, Arizona, Idaho, Louisiana, Maine, Michigan, Nevada, New Mexico, New York, Oklahoma, Oregon, Rhode Island, S. Dakota, Texas, Utah, Washington, and Wyoming. Illinois will begin offering reciprocity to Third District states this year, and California, Colorado, and Nebraska will do the same in 1991. As of the beginning of 1990, Ohio is the only out-of-district state offering reciprocity to all three Third District states. Two states, Kentucky and West Virginia, already offer it to NJ and PA and will add DE in 1990. Maryland currently offers it to DE and PA, but not to NJ.

FIGURE 5

Unemployment Rates



Note: The three-state average is the average of the unemployment rates for Delaware, New Jersey, and Pennsylvania.

Source: Bureau of Labor Statistics, *Employment and Earnings*, Tables A-3 and D-1, various years

been allowed within Pennsylvania since 1982. Between 1982 and 1986 they were restricted to holding four subsidiary banks at most; since 1986 they have been allowed to hold as many as eight subsidiary banks; and in 1990 there will be no restriction on the number of bank subsidiaries a multibank holding company can hold.

Greater Freedom Can Mean a More Competitive Industry. In general, an industry with fewer geographic restraints is more likely to achieve an efficient number of suppliers—and an efficient provision of services—than one subject to such restrictions. For example, if there are common operating costs in banking that can be spread over multiple bank locations (thereby making a network of banks less costly to operate than the same number of banks independently), there may be a concentration of banking assets into fewer banks once geographic restrictions are lifted. The transition to the more concentrated industry occurs when the generally smaller firms fail to earn a sufficient rate of return on their equity and larger firms expand profitably into the smaller firms' service areas. Hence, the greater concentration expected to result when geographic restraints are lifted will be due to competitive market forces and will likely be associated with more competitive prices and better banking services.

There are reasons to believe that these economies of scale exist in banking, at least to some extent. For example, by expanding geographically, sufficiently large banks can more easily stabilize their earnings by averaging their investment outcomes over a larger, more diverse area. Experience shows that statewide banking concentration is higher in states with fewer restrictions on branching and multibank holding companies.

The five-firm deposit concentration ratio, which measures the degree to which larger firms play a role in a particular area, increased in Pennsylvania from 38 percent in 1980 to 50 percent in 1988. This compares with an average five-firm deposit concentration ratio of 72 percent in the 25 states that allow statewide branching and an average of 51 percent in states that, like Pennsylvania, allow multibank holding companies and limited branching.[5]

Since banks in Pennsylvania have taken advantage of the 1982 partial liberalization of branching, the further liberalization allowed under statewide branching should not change bank behavior dramatically, but rather should boost banking companies' recent efforts to expand their service areas. A recent example of the increasing concentration likely in Pennsylvania is the planned acquisition of First Pennsylvania Corporation (of Philadelphia) by CoreStates Corporation (also of Philadelphia).

Furthermore, Pennsylvania bank holding companies have taken advantage of the multibank provisions of the 1982 law. In 1988, there were more than 25 multibank holding companies in Pennsylvania, one with seven banks, one with six, and two with five. Finally, acquisitions from outside the district are likely: National Westminster Bancorp, the New York affiliate of the British bank, entered New Jersey shortly after that state permitted entry by New York banks. It has announced an interest in acquiring a large Pennsylvania bank holding company soon after full interstate banking becomes effective for Pennsylvania this year.

Statewide deposit concentration also increased in New Jersey in the 1980s. The five-firm deposit concentration ratio for that state increased from close to 36 percent in 1980 to 56 percent in 1988. There have also been mergers in response to the removal of barriers to interstate banking in New Jersey. Since regional interstate banking has been allowed, six out-of-state bank holding companies either have acquired banks in New Jersey or have established

[5]See Stephen A. Rhoades, "Concentration in the Local and National Markets," *Interstate Banking*, Quorum Books (1985).

new banks there. Two of those entrants arrived in 1988 as a result of the national reciprocity that first allowed New York banks and bank holding companies to enter New Jersey.

The greater geographic freedom for Third District banks will have several effects. First, the number of potential competitors for an individual bank will increase, as indeed may the number of actual competitors who enter from out of state. Since banking has been a profitable activity in the Third District, its banks are attractive acquisition targets to out-of-state bank holding companies. This increase in competition should enhance consumer well-being because of increased rivalry for the banking market and also because banks have more freedom in choosing the optimal size of their operations. It is likely that some of the least efficient Third District banks may suffer from the increased competitive pressure. By taking advantage of economies of scale, for instance, banks will become larger in size and be able to charge lower prices for their services and offer more convenience to customers in the services they do provide. The experience of increasing concentration in Pennsylvania and New Jersey seems to indicate potential cost savings in larger banking organizations.

New Federal Legislation for Thrifts. In the Financial Institutions Reform, Recovery, and Enforcement Act of 1989, the new federal law designed to resolve the problems of the savings and loan industry, deposit-insurance premiums for commercial banks are slated to increase from 0.0833 cents per dollar of insured deposits to 0.12 cents in 1990 and 0.15 cents in 1991. After 1995, the FDIC can increase rates up to a maximum of .325 cents per dollar of insured deposits. This law further liberalizes the banking marketplace by allowing bank holding companies to purchase healthy S&Ls.

The increase in the deposit-insurance premium may hurt some small banks disproportionately because of their relatively greater reliance on insured deposits for funding and their lesser reliance on off-balance-sheet activities (which don't require deposits for funding). In the Third District, for example, a few smaller banks would actually become unprofitable because of the premium increase (unless they change their loan or deposit rates). The premium increase will also expand the advantages of nonbanking firms that offer bank-like services, such as money-market funds.

The new ability of bank holding companies to purchase healthy S&Ls, combined with the greater geographic freedom soon to be allowed in the Third District, may lead to further concentration in the overall financial marketplace, as well-capitalized bank holding companies acquire thrifts in order to diversify services and purchase well-established deposit networks. The savings and loan industry has been in better condition in the Third District than in other parts of the country, and therefore the area's S&Ls are attractive acquisition targets for out-of-state bank holding companies.

International Regulatory Changes. The Basel Accord, in which the 10 leading industrialized nations—the so-called Group of Ten— agreed to new guidelines for banks' risk-based capital, is being phased in over a period of three years. Transitional standards are to be adopted by banks by year-end 1990, and final standards are to be in place by year-end 1992.[6] Under these new standards, the amount of capital that banks will be required to hold against assets will vary by type of asset. Five different risk weights will be assigned to assets; for example, commercial and industrial loans will be assigned to the highest risk class, while cash will be in the lowest risk class. Furthermore, off-balance-sheet items, currently requiring no

[6]For a complete description of the risk-based capital standards, see "International Convergence of Capital Measurement and Capital Standards," Basel Committee on Banking Regulations and Supervisory Practices (July 1988).

capital backing, will be subject to capital requirements.[7]

The new risk-based capital requirements are meant to reduce the exposure to risk that the banking system creates for the FDIC and the public. By requiring banks to increase their capital when they engage in off-balance-sheet activities, these requirements will tend to increase the costs of off-balance-sheet activities. That the demand for these services seems to have increased and shows no signs of weakening, however, suggests an established place for them. For example, from 1984 through 1988 the value of standby letters of credit increased 22 percent nationally and 116 percent in the Third District; the amount of interest rate swaps rose nearly 400 percent nationally and 577 percent in the Third District; and loan sales increased 472 percent nationally but only 7 percent in the Third District.[8] Use of these services will continue to grow in the future (see *Off-Balance-Sheet Items*, p. 22).

The new capital requirements place a renewed emphasis on equity capital. Currently, banks can count allowances for loan losses as capital for most purposes, but this practice will be curtailed under the new guidelines. Since Third District banks have, on average, a higher proportion of equity relative to loan-loss reserves than the rest of the nation's banks, Third District banks will have more freedom in choosing assets among different risk classes. Furthermore, while off-balance-sheet activities of Third District banks have grown quickly in recent years, they are still small relative to the money-center banks. Few, if any, Third District banks will have to raise capital because of the imposition of the risk-based capital requirements; however, many money-center banks, more affected by the risk-based capital requirements, will have to refocus their activities or raise capital. These changes indicate that the relatively well-capitalized banks will be better able to take advantage of the greater freedoms in store for the coming decade.

Increased Opportunities in Canada and Europe. Two specific changes illustrate the increasing globalization of financial markets and its effect on Third District banks. During this decade, the free-trade agreement between the U.S. and Canada, which became effective in 1989, will remove all tariffs between the two countries by 1999. Access by U.S. firms, including banks, to the Canadian marketplace will improve. In particular, the subsidiaries of U.S. banking firms operating in Canada will no longer face market-share limitations, and U.S. financial institutions will be able to acquire securities firms in Canada.

The implications for Third District firms are particularly favorable. According to a 1989 study, 23.3 percent of the Mid-Atlantic region's manufacturing exports go to Canada.[9] Third District banks can facilitate this expanded trade by providing commercial letters of credit and other services. This is especially true for Pennsylvania banks, because of Pennsylvania's proximity to Canada. They will also be able to expand directly into Canada with more ease. An American bank that enters Canada will be able to establish a nationwide branch network.

Also carrying implications for U.S. banks is the European Community's decision to fully integrate its markets. By the end of 1992, tariffs

[7]For a more detailed look at an early version of the risk-based capital guidelines that were finally adopted, see Janice M. Moulton, "New Guidelines for Bank Capital: An Attempt to Reflect Risk," this *Business Review* (July/August 1987).

[8] Loan sales tend to be concentrated in the very largest banks.

[9]See Tim R. Smith, "Regional Export of Manufactured Products," Federal Reserve Bank of Kansas City *Economic Review* (January 1989). The Mid-Atlantic region comprises Pennsylvania, New Jersey, Delaware, New York, Maryland, and the District of Columbia.

Off-Balance-Sheet Items

A balance sheet is an accounting statement of the bank's assets and liabilities at some moment in time, usually at the end of an accounting period, such as a year or a quarter. An *off-balance-sheet* item is one of many diverse financial instruments that obligate the bank to acquire certain assets or liabilities in the future if particular conditions are met.* Included in this group are loan commitments, lines of credit, standby and commercial letters of credit, interest rate swaps, and loan sales. In general, banks earn fee income from providing these various services. And since the off-balance-sheet items do not require the booking of an asset, they require no corresponding funding by a liability. They do, however, expose the bank to risks.

— A *loan commitment* obligates a bank to lend a certain amount to a particular borrower at a specified interest rate. Until the loan is made, the commitment does not enter the balance sheet. The loan commitment involves risk because if the conditions for a loan commitment are fulfilled, the bank is forced to make loans it might otherwise not wish to make. This will put the bank at risk of default.

— Letters of credit are, in effect, insurance commitments for a bank customer. The *standby letter of credit* obligates the bank to provide payment in the event that the bank customer fails to pay some obligation of its own; the *commercial letter of credit* allows a bank customer to provide the letter of credit as guarantee of payment. When the customer is dealing with a party who cannot verify the customer's creditworthiness but who knows that the bank is creditworthy, the letter of credit can facilitate transactions. If a customer fails to make a payment guaranteed by a letter of credit, the bank must quickly extend credit to fulfill its obligation, exposing itself to default risk.

— *Interest rate swaps* are contracts that obligate the bank to exchange, for a customer, one stream of interest payments, perhaps one whose rate is tied to the variable Treasury bill rate, for one whose interest rate is fixed. An interest rate swap can either expose a bank to interest rate risk or reduce a bank's interest rate risk, by acting as a hedge against preexisting interest rate risk in the bank's portfolio.

— *Loan sales* involve the removal of a loan from the asset side of a bank's ledger through its sale to another institution. Loan sales can be used by banks to reduce their interest rate risk by better matching the durations (average maturities) of their assets and liabilities. Even in a sale without recourse—that is, a sale of a loan in which the buyer of the loan accepts all default risk—there is some risk to the bank, since the buyer of the loan can make a claim for recourse that would have to be decided by the courts.

*For more information on banks' use of off-balance-sheet items, see Benjamin Wolkowitz and others, "Below the Bottom Line: The Use of Contingencies and Commitments by Commercial Banks," Staff Study 113, Board of Governors of the Federal Reserve System (January 1982).

among EC-member countries will be removed and common tariffs for nonmember countries will be established. Apparently, the debate over how non-EC-owned banks should be treated is being resolved in favor of national treatment. As long as the U.S. is willing to allow EC-owned banks to operate in the United States under U.S. rules, then U.S. banks in Europe will be able to operate in Europe under European rules. This will allow U.S. banks

gaining a foothold in any one EC country to have access to all EC countries.

The European banking market is highly competitive, so it is unlikely that American banks will rush to establish branches there. However, a few Third District banks have branches in Europe, and some subsidiaries of Delaware's IBA banks are also located in Europe. The charters of these banks will allow them more freedom after 1992.

ECONOMIC AND DEMOGRAPHIC ENVIRONMENT

Regulatory changes here and abroad are not the only factors likely to influence the performance of Third District banks in the 1990s. Local economic and demographic changes should have a noticeable impact as well.

The nation's economy enjoyed relatively steady growth since 1982. But will this growth continue in the 1990s? The current expansion is beginning its eighth year, which is long by historical standards. Although this expansion may continue for a long time to come, many economists feel that a slowdown in the nation's economy is likely in the early 1990s. Moreover, the nation's demographic profile is shifting in more predictable ways. By the mid-1990s, members of the "baby boom" generation will be well established in their peak earning and saving years, and there will be fewer new entrants into the labor market.

Can Loan Quality Be Maintained? There are indications that the U.S. economy's long expansion may be slowing after nearly eight years. The expansion of seven years is more than twice as long as the typical U.S. business-cycle expansion. Many economists predict that growth will be slow in the early 1990s, and some expect a recession. When economic activity slows, and especially during recessions, the number of nonperforming loans increases and there is generally greater risk of business failures and, therefore, a greater risk for defaults on loans.

The economies of the three Third District states have done well during this expansion but are now slowing. Loan quality now poses a challenge to the district's banks. This is especially important for area banks, since the loan-to-deposit ratio for the Third District (excluding Delaware's special-purpose banks) stood at 82 percent at the end of 1988, compared to 76 percent for the rest of the nation. The higher ratio for the Third District reflects its banks' increasingly aggressive lending policies throughout the 1980s. Up through 1982, the beginning of the recovery, the Third District and the rest of the nation had lower and more similar loan-to-deposit ratios—in 1980, for example, their ratios were 66 percent and 67 percent, respectively. Since loans are generally considered more risky than alternative bank assets, such as Treasury bills, the high loan-to-deposit ratio indicates that, should a recession occur, Third District banks might be more exposed to the resulting defaults or nonperforming loans than they were in 1980.

A related concern is that if a recession were to occur, the incidence of consumer loan defaults would increase. Although Third District banks as a whole are not overly dependent on consumer loans, the Delaware special-purpose banks do hold a large part of their portfolios in consumer loans. At the end of 1988 these banks held 64 percent of their assets in consumer credit-card loans. The net charge-off for this group of banks in 1988 was 3 percent, compared to about 0.5 percent for the non-special-purpose banks in the district.

During the 1975-76 recession, provisions for loan losses, which are an expense of a bank, increased nationally more than 50 percent from year-earlier levels; during the 1980 recession, they increased by about 20 percent. Given the increased use of credit generally, a recession in the early 1990s that raised loan losses by such magnitudes could threaten the continued profitability of Third District banks.

The Impact of Demographics. The average age of the U.S. population is increasing. This

demographic trend reflects the large "baby boom" generation and the subsequent years of fewer births. The baby-boomers are now in their work years and thus in their saving years, as well. The aging of this group will mean increased savings in this decade. On the other hand, the Third District states are projected to experience below-average population growth, as well as a shrinking number of people in the 16-to-24 age group—a trend that is expected to last longer in Pennsylvania than in the nation. This slower-than-average population growth will likely portend slower-than-average economic growth in the 1990s for the Third District. Owing to the declining number of labor-force entrants, banks in this district will likely face relatively higher labor costs than banks nationally. District banks may respond by making relatively greater use of automation and electronic banking in order to hold down their labor costs.

A CHANGING BANKING MARKETPLACE

Important changes have occurred in the technology and business strategies of the banking industry in recent years. Banks are facing increased competition from such sources as money-market funds and firms' direct sale of short-term commercial paper to the public. Financial and technological innovations are helping banks respond to these pressures and, at the same time, are inducing greater reliance on fee-for-service income.

Financial Innovations. The financial innovations that banks have helped develop and popularize include interest rate swaps, the securitization and sale of bank loans, and other off-balance-sheet activities. These activities generate fee income for banks. Banks are relying on fee income to a greater extent to offset the erosion of their interest income due to the increasing competition from banks and certain nonbanks.

This greater reliance on fee income is most clearly seen in the increase in off-balance-sheet activities. There is no direct link between the off-balance-sheet activities and current funding sources, such as deposits. For example, firms pay explicit fees for letters of credit, interest rate swaps, and other off-balance-sheet items; by selling loans, an individual bank can hold fewer loans than it originates, which makes the bank less reliant on deposits than it otherwise would be.

Such changes suggest even more specialization by banking firms in the future. Some may specialize in gathering deposits and be content to purchase loans from other banks that specialize in loan originations. Still others may specialize in the data-processing services required for electronic banking. Since banks face more specialized competitors—as they do in money-market funds on the deposit side and the commercial-paper market on the loan side—they must tailor their competitive responses to the marketplace.

Technological Innovations. Along with recent financial innovations have come technological shifts in the industry involving automatic-teller machines (ATMs), point-of-sale systems, automated clearing houses, "expert systems" software to assist decisionmaking (such as the evaluation of a loan application), and increasingly sophisticated back-office operations. With the continued decline in the cost of computer hardware and software, and with labor costs likely to rise in the Third District, the use of such automated systems is likely to increase.

In the Third District, an example is the MAC (Money Access Center) ATM network, a wholly owned subsidiary of CoreStates Financial Corporation of Philadelphia. It is now the second-largest retail electronic funds transfer (EFT) network in the nation, after the New York Cash Exchange network. Early in 1988, the MAC network purchased the CashStream network from Mellon Bank of Pittsburgh, thereby becoming Pennsylvania's sole EFT network.

Recently MAC has been expanding its point-of-sale business, as well. It appears that there are large cost savings, both for the consumer and the producer, in larger EFT networks. The large size of the MAC system may well be a preview of networks we will see nationwide in years to come. Furthermore, MAC's strong growth and the increasing concentration in EFT networks exemplify both the drive toward increased specialization and the increased reliance on fee income and automated banking systems.

CONCLUSION

As the new decade begins, Third District banks are facing fewer restrictions on their behavior and therefore more challenges to their success. Third District banks have responded to geographic deregulation by expanding their branch networks and their holding-company networks. Given the coming of nationwide interstate banking, the liberalized rules on ownership of thrift institutions by bank holding companies, and the relative profitability of Third District banking, we can expect out-of-state bank holding companies to enter the Third District states. Because this entry will entail increased competition for the banking market, we can expect enhanced services by banks.

The expanded opportunities in Canada and Europe should increase the involvement of Third District banks in these locations. Banks in the district are well capitalized and enjoyed relatively profitable—and safe—loan portfolios in the 1980s. They are in a strong position to withstand both a slower economy, should the pace of activity continue to slow, and the rise in loan defaults that typically accompanies such a slowdown. However, if the Third District economy were to experience a substantial slowdown, its banks would experience a period of retrenchment in earnings and loan quality.

With other financial institutions now more able to compete directly with banks, the trend toward increased sophistication of financial services and competitive strategies will continue. Finally, because the region's rate of population growth is slowing, banks in the district can expect a continued tight labor market, and this will spur an even greater reliance on automated banking.

Philadelphia/RESEARCH

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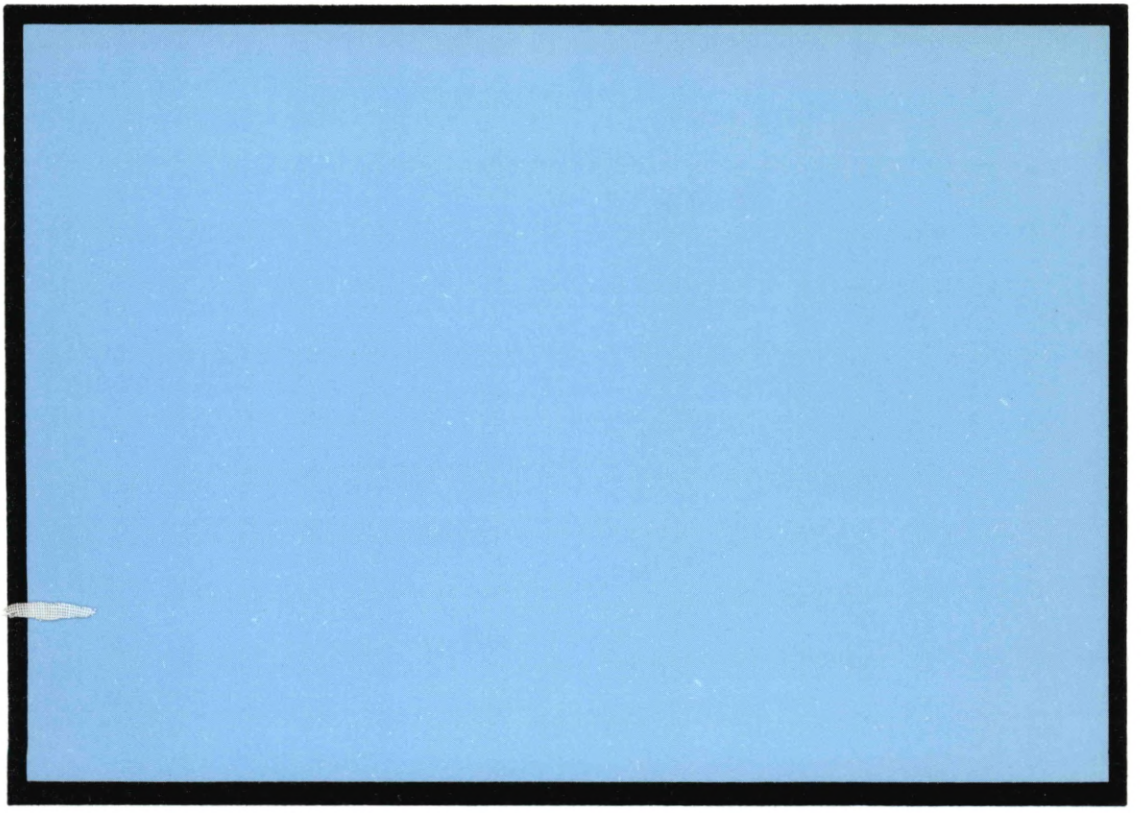

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