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Bank Mergers: Prices Paid to Marriage Partners

FEDERAL RESERVE BANK of PHILADELPHIA

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. . . State-run lotteries are catching on as revenue raisers, but questions remain regarding their efficiency and long-range benefit to the public.

Declining Membership in the Fed

. . . Commercial bank membership in the Federal Reserve System is dwindling, and if this continues, the Fed's ability to execute an effective monetary policy could be seriously undermined.

Bank Mergers:
Prices Paid to Marriage Partners

. . . With considerable bank merger activity in the Third Market, area bankers are keenly interested in evaluating the "marriage proposals" of prospective partners.

On our cover: The State House of New Jersey is a prominent fixture of the skyline of Trenton, the capital city. The building occupies a landscaped plot between State Street and the Delaware River. What remains of the original structure, built around 1792, is now part of the present building. After a fire in 1885, the present front portion and rotunda with the golden dome and lantern were erected in 1889.

(Photo courtesy of the New Jersey Department of Environmental Protection.)

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Lotteries: Can the Public and State Both Win?

By Ronald D. Watson

Pick the right number, play the right horse, draw the right card. For 50¢ you can become an instant millionaire. The lure of easy money is intoxicating. It's all so simple, and sooner or later you're sure to be a winner. Everybody's a winner!

At least, that's what state budget officers along the East Coast hope people will think. Until very recently money has been tight at the state government level, and the public's gaming impulses are being eagerly tapped by legislators anxious to raise revenues without hiking existing taxes. State lotteries, nonexistent a decade ago, are catching on as the "newest" non-Federal source of funds open to state governments (see Box).

Although Pennsylvania and New Jersey have demonstrated the money-making power of lotteries, questions remain regarding the reasons for the lotteries' effectiveness in raising money and whether it's appropriate for a state government to use lotteries for raising revenue. Lottery payoffs to bettors are, as a rule, rather poor, and other betting opportunities are available to most players. Why, then, is a lottery so attractive to the bettor, and why does it offer such revenue potential to the states? Apart from the inevitable moral questions of linking state financing to gambling,[1] the effect of a lottery on the distribution of wealth might also be considered. The cost of providing money to a state through the lottery may not be borne evenly by all strata of society. To the extent that the lottery causes

[1] No attempt will be made to judge the "moral" costs (if any) to the individual or society of legalizing this form of gambling.

A NOT-SO "NEW" SOURCE OF FINANCING

A decade ago New Hampshire broke the ice on using lotteries in public financing, but it was a long way from being the first public body to employ gambling to raise money. As long ago as the sixteenth century, lotteries were common in Western Europe as national revenue sources. In England the lottery was started during the reign of Elizabeth I. The use of lotteries was widespread until the first half of the nineteenth century when opposition to this "disreputable" source of funding caused some countries to outlaw it.*

The Pilgrims hadn't even seen Plymouth Rock when the development of the Americas started to become influenced by the lottery. In 1617 the Virginia Company of London received authorization to support its Jamestown settlement with lotteries and eventually all 13 colonies were using lotteries as a source of voluntary taxation. In most instances the colonies restricted the use of lotteries to public benefit projects. Money was raised for the French and Indian War and the American Revolution through lotteries.** Money from lotteries was also used to establish and support many of the country's earliest colleges including Harvard, Princeton, and Yale.

The abuse of lotteries during the Civil War led Congress to pass restrictive legislation in 1868 and to outlaw them completely in 1893. Some thought was given to legalizing lotteries as a means of raising money during the Depression, but enabling legislation was never passed. The Irish Sweepstakes was started in 1930, and has developed a substantial following in the U. S. since then. However, it lacks the appeal of convenient local betting opportunity. Therefore, the U. S. had no major lottery between 1893 and 1963 until New Hampshire started the most recent series of lotteries.

* Mabel Walker, "The Lottery—A Perennial Panacea," *Tax Policy* 30 (Nos. 4-5), p. 2 (published by the Tax Institute of America).

** Sam Rosen and Desmond Norton, "The Lottery as a Source of Public Revenue," *Taxes*, September 1966, pp. 617-19.

redistribution of wealth within a society, are those changes socially desirable? Could these same revenues be raised more efficiently by some other method? In short, does a state-run lottery benefit the public?

THE STATE AS A LOTTERY IMPRESARIO

A lottery is a game of chance in which there are many bettors but only one *sure* winner—the organizer, who, in this case, is a state government. State lotteries—like state liquor stores—are government businesses that are run for profit. The state is simply selling a service to its citizens. And, like any other business, the state attempts to maximize its net revenues from the lottery by trying to find the ideal combination of ticket price, drawing frequency, and prize payoffs. Since states legislatively assure that their lotteries are "the only [legal] games in town," these net proceeds are more appropriately referred to as monopoly profits. This profit is roughly equivalent to a gambling tax such as the one that states collect on pari-mutuel betting.

The Objectives of a State Lottery. The lottery must be evaluated as an institution with

diverse objectives. First and foremost, it raises money to run the state government. Normally, the money is earmarked for special uses such as aid to the elderly or to education. Many of these uses promote income redistribution by transferring wealth to the less prosperous sectors of our society. A corollary objective is raising these revenues without raising taxes. The state may make a monopoly profit on the game, but this does not engender the same antagonism as a new or higher tax.

The second objective of some state lotteries has been to vie with, and eventually snuff out, the "numbers racket." The "numbers" have flourished despite their illegality, and lottery officials aim to channel into state coffers some of the money now headed for underworld pockets.[2] However, this objective is secondary to raising revenues for the state. If it were the main objective, the lottery would have been made more attractive to the bettor by providing a much higher prize payout than it currently offers.

Satisfying Those Objectives. A low-priced lottery with frequent drawings has proven itself to be an effective money-raiser (see Box). This year Pennsylvania expects to raise nearly $60 million from its lotteries, and New Jersey is aiming for $70 million. However, these amounts still represent only about 2 percent and 2½ percent of their respective state revenues. About the same amount of revenue might be raised, for example, by a .3 percent increase in the Keystone State's income tax rate or a ½ percentage point increase in the Garden State's sales tax rate. Raising the same money through a broad-based tax would be less complicated, but a state would be put in the position of increasing involuntary taxes rather than simply profiting from a state-owned monopoly. That's not an easy move for legislators to make when the lottery is a viable alternative.

At best, lotteries appear to have made only a small dent in the numbers racket. Published estimates of a 15 percent drop in the betting in New Jersey's numbers game[3] are probably just educated guesses, but there seems little reason to believe that state lotteries haven't captured *some* of that traffic. The Garden State's Daily Lottery was clearly designed to compete directly with the numbers. It uses the same structure as the numbers—small bets (50¢) daily winners, and daily payoffs—and is legal. Some of the business now going to the Daily Lottery was taken away from the Weekly Lottery, but taken together the two games generate more sales than the Weekly Lottery had by itself. This doesn't prove that the new business is being siphoned from the numbers, but a portion of the increased sales probably comes from that source.

Because of their revenue-raising capabilities and their modest competitiveness with the numbers, state lotteries can now be rated a qualified success in accomplishing their stated objectives. But, what about the concerns that were voiced when lotteries were first being considered? Have the potential bad effects also occurred?

A primary complaint against lotteries is that they exploit people's lack of understanding of the likelihood of winning. Presumably, if the bettor understood the odds, he wouldn't play the game. In addition, both the effect that a lottery has on the distribution of income shares and the efficiency with which it raises funds must be examined

[2] It is interesting to speculate about whether states, which are willing to use lotteries to compete with organized crime for the profits from gambling, might also be willing to extend both the logic and the competition to other activities which are sometimes considered morally objectionable.

[3] "Everybody Wants a Piece of the Action," *Newsweek*, April 10, 1972, p. 50.

THE SEARCH FOR A WINNING FORMULA

In 1964 New Hampshire was the first state to reestablish a lottery. The organizers of this venture argued, apparently to the satisfaction of the Justice Department, that the lottery operated entirely within the state's boundaries and did not violate that 1893 congressional prohibition of lotteries. The New Hampshire lottery was originally slated to feature semi-annual drawings with earnings earmarked for state support of education. Tickets, selling for $3 each, were available only at the state's horseracing tracks and its liquor stores.

Planners hoped that the state would realize close to $4 million in revenues from this venture, and the state's "take" in 1964 was $4.8 million. Unfortunately, interest waned and subsequent years saw revenues drop to the $1.8-2 million range.

New York was quick to seize the idea and by 1967 had a lottery in full-scale operation. In an effort to reach a bigger betting market than New Hampshire had been able to tap, tickets were priced at $1 and drawings were held monthly. However, ticket distribution was handled through banks, hotels, and public offices and was inconvenient to a sizeable segment of the betting public. Again revenues were well below expectations. It remained for New Jersey to show everyone how to produce a money-making lottery.

The planners of New Jersey's lottery undoubtedly benefitted greatly from seeing the mistakes New York and New Hampshire made. However, they deserve credit for realizing that both of the earlier games excluded the real betting market. The ticket price was relatively high and the reinforcement of winning or losing too far removed to motivate the bettors.

Large amounts of money could only be raised by appealing to a more active bettor. The organizations which operate illegal "numbers" games have known this for a long time. There is a substantial proportion of the population that's interested in games with low cost per play and frequent opportunities to win. The numbers game, as played in any big city, provides daily action for as little as ten cents per play.

At first, New Jersey didn't move into direct competition with the numbers games, but aimed at a slightly more casual betting market with a 50¢ ticket and a weekly drawing. The success of the combination was astonishing. Sales exceeded projections by more than 200 percent and the contribution to the state's coffers from the first year of operation was approximately $60 million.

The success of the New Jersey scheme was too much for Pennsylvania to resist. By the spring of 1972, its lottery was also in full swing using essentially the same 50¢ ticket/weekly drawing formula that New Jersey had parlayed to such advantage. Initial sales and revenues were double the projected levels.

Besides Pennsylvania, Connecticut, Massachusetts, Michigan, Maryland, and South Dakota have also joined the stampede to lotteries as a new money machine. Furthermore, both New York and New Hampshire have redesigned their lotteries along the lines of New Jersey's.

The most recent step in this process of refining the lottery for its revenue potential has been the development of the daily lottery. New Jersey now operates such a game arguing that it serves not only as a revenue producer but also competes head to head with the numbers racket. However, the lottery will probably have to provide a much higher payoff if it is to replace the illegal streetcorner action. So far, its safety and legitimacy haven't been enough to make more than a small dent in the numbers take. Besides, playing a game that isn't quite legitimate seems to be half the fun for some bettors.

carefully. That new state revenue is coming from someone's pocket. It's possible that the money is originating with the same group of people our government's tax and transfer payment programs (such as welfare services) are designed to help. It's also possible that there are more efficient ways to collect this revenue than through a lottery. However, an analysis of both major objections requires an understanding of the structure of the game and of its appeal as a bet.

THE BETTING MAN'S LOTTERY

If two friends bet $1 on the flip of a coin, they would be engaging in a "fair" bet.[4] One man's loss would exactly equal the other's gain, and no one other than the two bettors would stand to gain anything from the transaction. Mathematically, the lottery, like all other organized gambling activities, is an "unfair" bet! It can't possibly be a "fair" bet if the state is going to make any money. The attractiveness of the game to a bettor depends, in part, on *how unfair* it is.

One way of measuring the attractiveness of a bet is by computing the "expected winnings" of that bet.[5] The greater the difference between the cost of placing the bet and the expected winnings from it, the less attractive the game. This is a measure of the amount of money wagered which is returned to the players in the form of prizes. For most state lotteries the expected winnings on a 50¢ bet are between 18 and 25¢. In other words, the bettor can expect to win back less than half the cost of the lottery ticket. (See Appendix for a more complete explanation of the probability structure of lotteries and the tax effects of staggering the payment of major prizes.)

To the bettor this means just one thing—his chances of winning much money are slim. While there is always the chance of hitting a big prize, the odds are very much against it.

The Alternatives. The lottery doesn't seem on the surface to be a very reasonable place to wager money, but what are a bettor's alternatives? Outside of office football pools and friendly card games, the three primary

[4] A bet is defined as "fair" when the probable winnings equal the probable losses.

[5] "Expected winnings" are defined as the sum of all the different payoffs in a lottery, each multiplied by the probability of receiving that payoff. For example, if it costs $1 to play a game which requires that a player with one guess pick the single winning number from the series 1 through 10, he could expect to win one time out of ten on average. If the payoff from winning is $6, then the expected winnings of the bet are computed by multiplying the probability of each payoff by the amount of the payoff . . . $(1/10) \times (\$6) + (9/10) \times (\$0) = 60¢$. Since a player must pay $1 to participate and he can only expect to win 60¢ on the bet, the net expected value of playing the game is negative ($ .60 - $1.00 = -$ .40), and the bet is unfair.

outlets for organized betting would be casinos (Nevada or the Caribbean), horse-racing, and the numbers racket. Casino gambling offers the bettor the best odds of the three, but it isn't very accessible to most people.

At a racetrack the bettor must compete against the experienced racing buff. This may reduce his chance of winning much money. In addition, both the track and the state take a percentage of the total betting pool before it's redistributed to the winners, so this isn't a fair bet either. However, playing the horses offers a higher expected payoff for the bettors as a group than the lottery. At most tracks between 80 and 85¢ of each $1 bet is left in the pool to be paid to winning tickets. If the bettor has at least average ability at picking winners, he can expect to win nearly twice as much per dollar bet at the track as in a lottery. Unless the gambler lives in a state offering off-track betting, however, there are other costs associated with making these bets (transportation to the track, admission, the bettor's time). Further, the pleasures of betting at a racetrack may be different than those of placing a lottery bet, so the comparison of payoffs is imperfect at best.

The other common alternative is the "numbers," a game normally restricted to urban residents. It generally pays a return to the player of 400:1 for a winning number selection. Since the odds against picking the right number are 1,000:1, the expected winnings from this game are 40¢ per $1 bet—roughly the same as the lottery.[6] However, the numbers game is different in several important respects. First, it offers a daily action that can be followed very closely. (The New Jersey Daily Lottery has moved in this direction.) Second, numbers playing can be tailored to the player's personality and pocketbook. Almost any size bet is possible, and the player can select a *favorite* number rather than taking one at random as is necessary in a state lottery. That option may make the game more interesting, so Pennsylvania has recently started a new version of its game that allows players to select their own number. Finally, the numbers can be played on credit, and the winnings, though taxable, can't be traced. State lotteries don't offer credit (yet), and the winnings are fully taxable.

In general, it appears that the odds in these bets are about as good as they have to be to attract players. For most people a casino is a relatively costly and inconvenient place to gamble, so its odds must be reasonable to attract bettors. The racetrack is more accessible but still inconvenient and time-consuming. Therefore, it can afford to pay off at lower rates than a casino's, but its odds must still exceed a lottery's. The numbers' expected payoff is similar to a lottery's (before taxes)—well below the odds available at a track—but both are convenient, accessible, and require no major investment of time or energy.

The Lure of the Lottery. All of these bets are unfair, but people make them anyway. Why? They certainly don't want to lose money even though that's the most likely outcome of the bet. Bettors derive pleasure from a wager on several levels. Many just enjoy the diversion of the game. In addition, there's pleasure (and displeasure) involved with the actual winnings and losses from playing it. Finally, there's the potential pleasure of the change that winning one of the biggest prizes would make in one's life. The pleasure derived from a lottery win should not, in theory, match the displeasure associated with a highly probable loss of the price of a ticket.[7] This is true for a

[6] Jim Riggio, "Freddy the Number Writer Bucks the Lottery," *Philadelphia*, May 1972, p. 180.

[7] Economists call this pleasure "utility." In principle, the extra utility derived from a fixed amount of money

mathematically *fair* bet, and it should be especially true for an unfair bet like a lottery.

However, many people evaluate the risks and payoffs in a lottery on the basis of how happy a big win would make them relative to the unhappiness associated with the more likely small loss of the ticket price. Losing 50¢ occasionally does little to alter a man's basic wealth unless he is very poor, but winning a million dollars will change his whole life. As a result, the chance to win an enormous amount of money can take on a value quite out of proportion to the pleasure of the actual dollars won. This might not be true for all people, but it does seem to affect the behavior of some.[8]

This, then, is the lottery's appeal. It isn't a sound bet mathematically, but people will continue to play it for its entertainment value and the long-shot chance it gives them to win the big prize and break out of their current life-style. Viewed in terms of its potential for bringing the bettor pleasure rather than just more money, it can be understood as a rational purchase for some people. The lottery is a cheap, convenient escape. If the bettor loses, the cost was low, and it was fun to think about for a while. But if he wins big, it's burn the mortgage, take a trip, even quit the job—a whole new life!

THE TAX COLLECTOR'S LOTTERY

With the revenue potential and betting appeal of the lottery established, the questions of who ends up supplying the state with these new revenues and how much is spent to collect the money must be confronted. Also, the whole rationale for having government agencies, rather than private enterprise, operate this business should be reexamined. States may wish to operate their own lotteries to keep them free from suspicion of corruption. But the same risks apply to racetracks—and they have been left in private hands.

Who Pays? A major problem in assessing the appropriateness of using state-run lotteries to raise money is determining who buys the tickets. An important objective of many government taxation and spending programs, aside from providing common services, is redistributiong income. Many projects are designed to favor society's poorer citizens, but the progressive effects of government spending are offset, or even negated, if the methods used to raise money fall more heavily on the poor than on the wealthy. Lotteries have long been subject to the criticism that they are regressive. It is argued that the poor are the primary purchasers of tickets. The government, by setting up a lottery, is simply profiting from sales to the poor in order to redistribute income to these same poor.

However, focusing on regressivity in this way confuses three issues: are the poor buying most of the tickets, what part of their budget are they using to buy lottery tickets, and are the poor better off if they

will tend to decline as more wealth is acquired. For example, if a person has no money and someone gives him $1,000, that money will probably give him substantial pleasure. However, if he is given $1,000 ten times, his pleasure at receiving the tenth gift of $1,000 might well be less intense than what he felt upon receiving the first $1,000. The amount of the gift is the same in both cases, but the pleasure associated with obtaining that extra $1,000 frequently depends on how much the recipient already has. In the same vein if a person earns $10,000 a year and has no other wealth, he might be willing to make a fair bet in which he could win or lose $1, but he would probably be less willing to make an equally fair bet in which he could win or lose $5,000. The disutility of the loss would outweigh the utility of the gain.

[8] Friedman and Savage demonstrate that the purchasing of insurance and making unfair bets run counter to the standard diminishing marginal utility curve for wealth. See Milton Friedman and Leonard J. Savage, "The Utility Analysis of Choices Involving Risk," *Journal of Political Economy* 56 (1948): 279-304.

have a lottery on which to spend some of their money?

The first issue hinges on the income characteristics of the bettors who support lotteries. Many have argued that the poor buy a disproportionate share of the tickets, but available survey evidence doesn't support this claim.[9] New York and New Jersey have both surveyed lottery players and nonplayers in their states in an attempt to profile their ticket buyers. Both surveys disclosed that purchasers are drawn heavily from the ranks of the middle class and that lotteries are not patronized exclusively by the poor. In each survey the median family income for ticket buyers was near $10,000. Furthermore, the proportion of survey respondents earning less than $5,000 per year, who neither bought tickets nor intended to buy them, differed little from the same breakdown for other income groups.

Neither of these surveys attempted to determine accurately the amount of money each income group was likely to bet. Therefore, they provide no evidence on whether the poor spend "too much" of their incomes on lottery tickets. However, the surveys undermine the notion that most lottery players are poor. The lottery is a game which appeals to a wide spectrum of the population but primarily to middle-income groups. The poor certainly contribute to the state's lottery revenues but probably not to the extent that they benefit as a group from state government income-redistribution programs.

[9] Public Hearings on Assembly Concurrent Resolution No. 32 (state lottery) before the New Jersey Assembly Committee on Taxation, March 5, 1969, Trenton, New Jersey. Testimony of Dr. Samuel A. Jeanes, General Secretary of the Lord's Day Alliance of the United States and Legislative Chairman of the New Jersey Council of Churches, pp. 16-18, and *Report of the New Jersey State Lottery Planning Commission,* February 9, 1970, pp. 48-69.

The objective of income redistribution could be furthered if gambling tax laws were altered to increase their incidence on the wealthy. Racetracks already accomplish part of this objective, since they tap higher income bettors than the lottery or the numbers. The logical extension of using taxes on gambling as a source of revenue would be to tax legalized casino-style games. Atlantic City has already been discussed as an East Coast Las Vegas.

The second issue is the one of substituting lottery tickets for other goods or services. The impact that these purchases have on the spending patterns of a bettor is unclear. Buying tickets clearly reduces the income available for other needs, so something has to go. Among the possible occurrences, the anticipation of winning a prize might cause the bettor either to save less money or to indulge less in other means of escape such as alcohol. There is simply no information currently available to suggest which substitutions are most likely to occur as a result of lottery purchases.

However, the final factor to consider is the welfare of the consumer, before and after legalization of a lottery. To offer him the choice of buying or not buying lottery tickets may be more important to his welfare than whether the proceeds of the sale are subsequently used to promote egalitarian social goals. This is as true for the poor as for any other group of purchasers. Further, even if the poor purchase more than their share of lottery tickets, these purchases would be evidence that lottery tickets are preferred to other goods and services on which these people are equally free to spend their money. Thus, the gambler is better off (in his own eyes) as a result of making this purchase than he would have been otherwise.

Efficiency. The other common objection to the use of lotteries for public revenue purposes is the uncertain efficiency of raising

revenues through a government business enterprise. The cost of operating a lottery is very high relative to the amount of money actually raised for public purposes. For each 50¢ ticket sold in New Jersey, about 24¢ is paid in prizes, 2½¢ is paid as a commission to the seller, 4½¢ is spent on other expenses, and about 19¢ is channeled into the state's treasury. To put it another way, the state is spending roughly 7¢ to collect 19¢ in additional revenues. No broad-based tax costs anywhere near that amount to collect, so if the lottery's sole function is to raise money, then this is a very costly way to do it.

However, the lottery has a function other than pure revenue generation. It's a unique service which the state has decided to supply to consumers, and the volume of ticket sales indicates that those consumers are very happy to have this option open to them. Collecting a tax has no comparable consumer service by-product. As a result, it would be unfair to compare the costs of collecting lottery money with the cost of collecting an income or sales tax.

To judge the efficiency of raising this revenue through a state-run lottery, it is necessary to compare the 7¢ per ticket that the state spends to operate its lottery with the costs incurred by private companies operating competing lotteries for profit. If the state were to legalize the offering of lotteries (by reputable firms) and tax each game at the rate of 19¢ per 50¢ ticket sold, competition for the gambler's money would force the lottery operators to offer better and better prizes until costs and some minimum level of profit were just being met. We don't know how much operating costs could be squeezed if the lotteries were privately run, but it seems unlikely that the state agencies controlling lotteries have as strong an incentive to be efficient as private companies which must risk their own capital to produce the service. As long as the states retain a monopoly control over their lotteries, we'll never know. If racetracks can be operated by private enterprise, why can't lotteries? As long as states can develop adequate controls to assure proper accounting for revenues, the objectives of raising revenues and competing with the numbers may be served even better than they are at present.

ON BALANCE

The lottery seems to have some major drawbacks. It's a poor bet that imposes a relatively heavy cost on the bettor. The revenue-generating process may be mildly regressive and inefficient. At best, it seems to have been only moderately successful in competing with the numbers. The effect that lottery betting has on the hopes of the poor and the basic purchasing patterns of the bettor remains unclear. In light of these drawbacks, should lotteries be retained?

Yes. The lottery is a service that states can use to generate revenues and which the gambling public stands ready to buy. The buyer may not know his odds perfectly, but almost everyone knows that the deck is stacked against him. Yet he buys anyway—willingly—to get a chance at the pot of gold.

The purchase of a ticket is completely voluntary. Those who object to paying the state for the chance to play a lottery need not participate. As long as the lottery doesn't prey on ignorance, people should be allowed to spend their money on lottery tickets if they wish. Why should a man be denied the chance (no matter how slim) to become an instant millionaire. . . . ? ■

APPENDIX

PRIZES, PROBABILITIES, AND TAXES IN THE NEW JERSEY LOTTERY

The Game. The structure of a lottery is not always evident to the bettor. The price of a ticket is known and the top prizes are well-publicized. However, the probabilities of a payoff are less clear. The prize structure of the New Jersey Weekly Lottery is a good indicator of the payoffs for a 50¢ bet.

The game is run in two phases: the Weekly phase and the Millionaire Drawing phase. Tickets for the lottery are sold for each weekly drawing. The tickets are numbered from 0 to 999,999 and several million are sold each week. The Weekly phase operates by selecting a winning number between 0 and 999,999 and awarding prizes to tickets which show various combinations of digits in the prize number. If five million tickets are sold in a given week there will be five tickets outstanding for each number. For each winning number, there will be five winners—one for each million tickets sold. Some of the weekly "winners" are awarded cash prizes and others merely win the chance to have their ticket entered in the second phase of the lottery—the Millionaire Drawing. Once at least 25 million tickets have been sold, a Millionaire Drawing is held, and the cycle is repeated. Table 1 demonstrates the combined chances of being a winner in either the Weekly Lottery or the Millionaire Drawing.

The Table shows two salient facts. First, the bettor can expect to receive less than 25¢ in prizes for each 50¢ he bets. Of $12,500,000 actually wagered, a maximum of $6,193,500 will be awarded in prizes. Second, at most only one ticket out of 833 is a cash winner. In a full cycle of 25 million tickets sold, only 30,000 tickets win cash prizes. Nearly half a million ticket holders have the thrill of having their tickets included in the Millionaire Drawing, but only one in 100 of these actually win anything. Most other state lotteries have structures that are quite similar in design though the details may differ considerably. Few offer as high an expected payoff as New Jersey's.

TABLE 1

SCHEDULE OF PRIZES–N. J. WEEKLY LOTTERY

WEEKLY PRIZE	NUMBER OF WINNERS PER MILLION TICKETS	TOTAL WINNERS PER 25 MILLION TICKETS	TOTAL PRIZES AWARDED
$50,000	1	25	$1,250,000
4,000	9	225	900,000
400	90	2,250	900,000
40	909	22,725	909,000
	1,009	25,225	$3,959,000

In addition, 18990 tickets out of each million qualify for entry into the Millionaire Drawing. From the 474,750 tickets that became eligible for the Millionaire Drawing the following winners are drawn.

PRIZE		NUMBER	TOTAL
$1,000,000	($50,000 per year—20 years)	1	$1,000,000
200,000	($20,000 " " —10 years)	1	200,000
100,000	($10,000 " " —10 years)	1	100,000
10,000		27	270,000
500		475	237,500
100		4,270	427,000
		4,775	$2,234,500

Total Prize Money = $ 6,193,500
Total Amount Bet = $12,500,000

Taxes. Major prizes in state lotteries are generally spread out over a ten- or twenty-year period to reduce the amount of tax the winner must pay. However, the fact that the state can use the money, *interest free*, until it is finally paid out makes one wonder if this delayed payment scheme is truly designed to help the buyer. To examine this question a million dollar prize was analyzed, first as a taxable lump sum and second as a payment staggered over twenty years. The comparison assumes that the prize winner is married and already has a taxable income of $8,000 per year. In addition, the winner "income averages" in computing his Federal income tax obligation on the winnings.

TABLE 2

TAX IMPLICATIONS OF LUMP SUM VERSUS STAGGERED PRICE PAYMENTS

	$1,000,000 lump sum	$50,000/year
Taxable Income	$ 8,000	$ 8,000
Lottery Prize (in tax year)	1,000,000	50,000
Total Taxable Income	$1,008,000	$58,000
Federal Income Tax	580,452	13,964—year 1
(of which $1,380 is the tax payable on the recipients $8,000 earnings)		18,392—year 2 20,732—year 3 21,240—years 4-20
Net Tax on Winnings	579,072	12,584—year 1 17,012—year 2 19,352—year 3 19,860—years 4-20
After-tax Value of the Prize	$ 420,928	$37,416—year 1 32,988—year 2 30,648—year 3 30,140—years 4-20

The yearly prize appears more attractive if it is to be received for 20 years, because the winner will get a *total* of $613,432 in after-tax prize money rather than the $420,928 available from the lump sum prize. However, a prize received immediately could be placed in a tax-exempt interest-bearing investment at a return between 5 and 6 percent, so the comparison shown above needs to be modified by discounting the 20-year prize payment stream to its equivalent lump sum current value. The value of these payments in current dollars when discounted at 5 percent is $385,563 and at 6 percent they are worth only $355,528. That means that if the prize winner were to invest his winnings at between 5 and 6 percent, he would be better off receiving the lump sum after-tax payment of $420,928 than the payments staggered over a 20-year period.

The state would be worse off because by delaying payments on the grand prizes, it reduces the effective cost of these prizes. If, for instance, the state had to pay 5 percent to borrow money, the effective cost of paying the million-dollar prize over 20 years would be trimmed to $623,110 in current dollars. It is in the best interests of the state to pay the prize in installments, while it's in the best interests of the winners to receive the prize immediately unless they are unable to invest at a tax-free rate above 4 percent. ■

Declining Membership in the Fed

CHART 1

COMMERCIAL BANK MEMBERSHIP IN THE FEDERAL RESERVE SYSTEM IS DWINDLING.

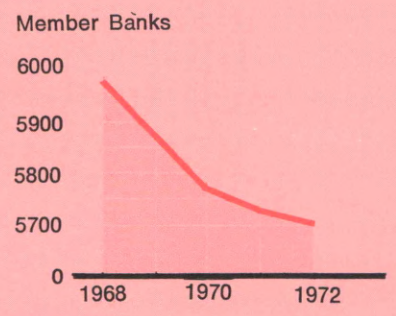


CHART 2A

ALTHOUGH A FEW NEWLY CHARTERED BANKS JOIN THE FED EACH YEAR, MOST DECIDE TO OPERATE OUTSIDE THE SYSTEM. . .

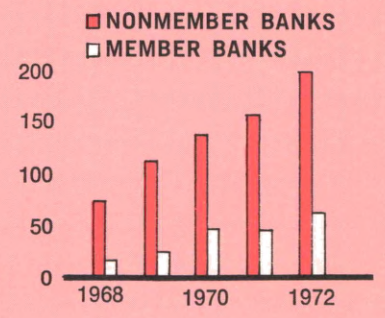


CHART 2B

HOWEVER, THESE GAINS ARE OFFSET BY ABSORPTION OF MEMBER BANKS THROUGH MERGERS AND CONSOLIDATIONS.

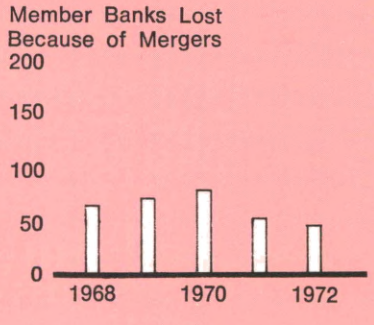


CHART 3

THE CHIEF CAUSE OF DECLINING MEMBERSHIP IS CONVERSION OF MEMBER BANKS TO NONMEMBER STATUS BECAUSE MANY BANKS FIND THE COST OF MEETING THEIR RESERVE REQUIREMENTS IS LOWER UNDER STATE REGULATIONS.

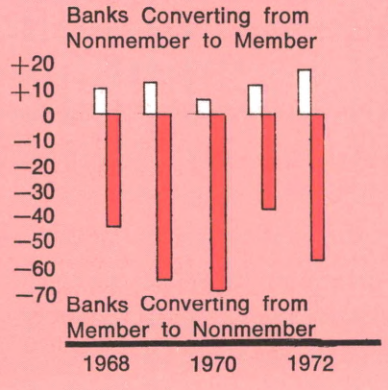
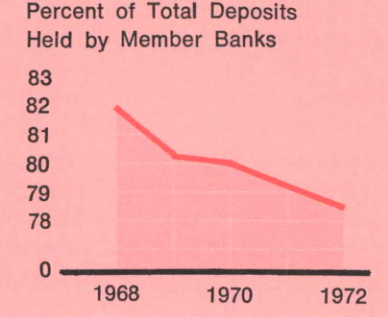


CHART 4

EVEN THOUGH MORE THAN THREE-QUARTERS OF THE COUNTRY'S BANK DEPOSITS CURRENTLY REMAIN WITHIN THE SYSTEM, THE FED'S ABILITY TO CARRY OUT AN EFFECTIVE MONETARY POLICY MAY BE SUBSTANTIALLY WEAKENED IF MEMBERSHIP CONTINUES TO DECLINE.



Source: *Annual Reports of the Board of Governors of the Federal Reserve System,* 1968-72.

Bank Mergers: Prices Paid to Marriage Partners

By Jerome C. Darnell

What's your bank stock "worth" if another banker comes courting with matrimony in mind? If you're the suitor, how big must the prize be to win the object of your affection?

Merging is the "in thing" for bankers in some areas of the country. And few places harbor so many marriage-prone bankers as Pennsylvania and New Jersey. For example, more bank marriages, somewhere around 250, occurred during the past decade in Pennsylvania than in any other state in the Union. The Keystone State alone accounted for about one out of every six bank mergers over this span of time. During the same period the Garden State ranked fourth with about 100 mergers.

Although bankers in these two states have contributed more than their fair share to keep "marriage license dispensers" from turning idle, there's been little organized effort to study the terms of trade which merging partners negotiate. Most marriage-minded bankers want to know: How can marriage proposals be evaluated? And, what's the "going rate" in bank mergers?

In a nutshell, it appears that the typical bank has been led to the altar for a price nearly twice that of its book value. Furthermore, selling banks have received stock worth two dollars in earnings of the acquiring bank for each dollar in earnings surrendered. On the average, these prices are probably about in line with what they should be, based on the "present value" approach to bank bartering. Apparently banks merged in Pennsylvania have done a better preening job than their New Jersey counterparts be-

cause two out of three ways to evaluate marriage agreements showed higher premiums being paid in Pennsylvania.

SMALL BANKS MOST POPULAR ELIGIBLES

Before looking at the various ways of sizing up merger terms, some background on the banks involved is needed. Our inquiry concerns mergers in the Third Federal Reserve District during the past five years. The Pennsylvania portion of the District (the eastern two-thirds of the state) had 60 mergers during that time, and the New Jersey portion (the southern half of the state) had 22. The number of District mergers ranged from a low of 11 in 1968 to a high of 22 in 1970.

Nearly half of the *acquiring* banks were fairly large, having in excess of $100 million in deposits (see Chart 1). However, only two banks with over $500 million in deposits made acquisitions, one bank accounting for two of the three mergers. The most active acquisition size was in the $100-$250 million deposit range.

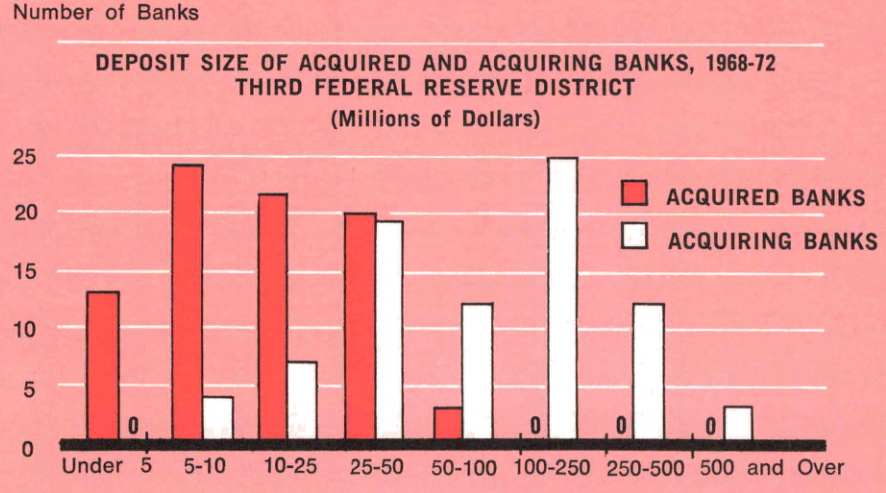
On the bride's side of the altar, one out of every six *acquired* banks was quite small, having deposits of less than $5 million (all of them in Pennsylvania). Only three banks with over $50 million in deposits were acquired. The median deposit size was slightly over $10 million. In the aggregate, acquiring banks added about 10 percent to their deposits via wedding bells during the past five years.

A CONCEPTUAL WAY OF EVALUATING MERGERS

The acquisition of a bank is an investment decision. Whether buying a share of stock,

CHART 1

SMALL BANKS ARE THE MOST LIKELY TO BE ACQUIRED



AVERAGE DEPOSIT SIZE AT TIME OF MERGER	Pennsylvania (millions)	New Jersey (millions)
ACQUIRED BANKS	$ 17.7	$ 17.3
ACQUIRING BANKS	147.4	152.5
NUMBER OF MERGERS	60	22

a new factory, an apartment building, or a new home, the investor must decide if the expected stream of future earnings (discounted properly to account for the time value of money) equals the amount of current outlay.

In practice, the decision is not as simple as the process may seem. First, there's the problem of accurately estimating the size and timing of future income. *When* the cash flow materializes is critical because a dollar of earnings today is worth more than a dollar of earnings received five years from now. Second, because money has a time value, a "present value" must be attached to the future earnings. This conversion is accomplished by selecting a discount rate and applying it to the expected cash flow.

Prudent investors should be willing to pay the present value, as they see it, for an investment opportunity. In other words, an acquiring bank would pay up to an amount equal to the discounted future earnings that the acquired bank would bring it. The trick, of course, is to project the acquired bank's contribution to the consolidated bank's future earning power. A bank's past earnings are a guide to what the future may bring. Past earnings must be tempered, however, by the fact that, after consolidation, more efficient use of the acquired bank's resources could generate an even larger stream of earnings.

A second problem in deriving present values is selection of the appropriate discount rate for converting estimated future earnings to their current worth.[1] It is generally felt that the appropriate discount rate is what the acquiring bank must pay to attract more capital. The higher the rate, the lower present values will be, causing a lower price to be offered for the acquired bank. If the buyer feels the acquisition is risky regarding future income, he can apply a higher discount rate, thereby lowering the present value and the amount offered.

ALTERNATIVE WAYS OF EVALUATING MERGER TERMS

The present value approach for determining the price to offer a marriage partner is the appropriate conceptual way of sizing up merger terms. The problem is that data necessary to develop present values are not readily accessible, so some alternative approaches are often used.

Bankers and stock analysts speak fondly of merger terms based on how much "premium" is offered for the acquired bank's stock, with the premiums being expressed as a percentage of some base. But the trouble is that no consensus on calculating premiums has yet been reached. In the absence of a "best method" for premium calculation, three of the most commonly used ones are described and then compared in order to give a more comprehensive picture of the mergers negotiated in the Third District. All three have their advantages as well as disadvantages.

Book-to-Book Premiums. Ask most bankers the "value" of their bank stock, and they will likely tell you its "book value." Thus within the banking fraternity, the most common way of figuring merger premiums, book-to-book,[2] is to look at the offering

[1] The process for converting future income into present value is simply to total each year's net income, discounted by the appropriate interest rate. That is:

$$\text{Present value} = \frac{\text{Net Income for Year 1}}{(1 + r)} + \frac{\text{Net Income for Year 2}}{(1 + r)^2} + \ldots + \frac{\text{Net Income for Year n}}{(1 + r)^n}$$

(where r equals the discount rate and n equals the number of years)

[2] This premium is derived by taking the per share book value of the acquiring bank times the exchange

price in relation to the acquired bank's book value.

Book value per share is obtained by taking the sum of capital, surplus, undivided profits, plus reserves for contingencies, and then dividing them by the number of shares outstanding. Hardly infallible measures of bank stock worth, book values are essentially conservative estimates of the difference between tangible assets—cash, loans, securities, real estate, equipment—and tangible liabilities, including deposits and borrowed funds. The major shortcoming of book value as a measurement is that it does not include a "going concern" value—the bank's future earning power. Nevertheless, book values have three outstanding features: they're readily understood and widely used; they're not influenced by general stock market trends; and they're not as variable as market prices.[3]

Implied Cash-to-Book Premiums. Bank owners should not be as concerned with the *book value* of the shares they receive as with the *market value*—that is, the price investors are willing to pay for the stock. Market prices ordinarily gauge the "going concern" value of a bank (in a sense, the stock's market value is its "present value"). Thus, calculation of premiums based on *implied cash-to-book*[4] is an attempt to make the transaction more realistic in terms of the received shares' actual worth.

Implied cash is the amount a shareholder would supposedly receive if he sold his shares to the acquiring bank at the agreed exchange ratio rather than accept a stock-for-stock swap. Also, implied cash would be the amount the shareholder would realize theoretically if he accepted the stock-for-stock swap and then sold his new shares on the market.

There is one serious drawback to basing premiums on market prices. The size is often biased upward if the shares of the acquiring bank are not traded frequently, which is invariably the case where small acquiring banks are concerned. When infrequent trading is the rule, the new shares received by the owners of selling banks could not be dumped on the market in large quantities without driving the price down from the latest bid quotations.

Moreover, because of sporadic trading, market prices of smaller banks are not reliable indictors of true worth because demand for just a few shares could produce a substantial jump in the market price. Only when the market for the acquiring bank's stock has sufficient depth to support volume trading does the implied cash-to-book premium become a more reliable indicator in judging the merits of the transaction.

Listing in a national quotation service probably indicates sufficient trading for the market price of the stock to be a reliable gauge of its value. Unfortunately, only one out of five acquiring banks in the Third District had a national listing at the time of merger. Thus, there are reasonable grounds to be suspicious of most of the implied cash-to-book premiums presented here.

ratio and then subtracting the per share book value of the acquired bank. The difference (book value received minus book value sold) is then divided by the per share book value of the acquired bank.

[3] Book values under discussion differ from those often quoted by bankers because the book values are "adjusted." That is, half of the bad debt reserve maintained by banks in case a loan goes sour has been added to the book value calculation. The bad debt reserve is accumulated over a period of years and is not necessarily related to the creditworthiness of the current loan portfolio. Therefore, the addition of one-half the loan reserve is an attempt to correct for overly cautious accounting practices, an adjustment often made by stock analysts.

[4] This premium calculation merely substitutes the *market price* of the acquiring bank's stock at the time of the merger agreement in place of its book value.

Income-to-Income Premiums. One could marshal a large group of bank stock specialists who would argue that neither of the two methods presented so far is very useful in evaluating merger terms. They would urge using income-to-income premiums[5]—a comparison of *income received* with *income sold*. Income per share indicates what the earning history of the acquired bank has been and furnishes perhaps the best guide to future earnings. The main concern in judging the deal, these experts suggest, should not be with book or market value but rather with the size of the income stream the shares received from the acquiring bank supposedly represent. Therefore, income-to-income computations try to weigh the relative earning power of the merger partners. The process falls short of the present value approach, however, because no attempt is made to adjust future earnings for the *time* when they are received.

If accounting practices among banks were uniform, income-to-income premiums could be a reliable way to judge the merits of a transaction. However, accounting differences exist, and these noncomparable practices, along with policy decisions regarding when security gains and losses will be incurred, can distort income data considerably. Another problem with the income-to-income measure is that it does not reflect variations in income from one year to the next. Thus, evaluating merger offers based only on income-to-income also has its shortcomings. Combining this measure with other premium calculations, however, provides a useful checkpoint for sizing up the marriage agreement.

[5] This premium is computed by taking the acquiring bank's per share net operating income times the exchange ratio and subtracting the acquired bank's net operating income per share. This difference is then divided by the acquired bank's net operating income per share, giving a premium expressed as a percentage of the acquired bank's per share earnings.

WHAT IS THE "GOING RATE" IN BANK MERGERS?

Let's look at the recent mergers in Pennsylvania and New Jersey and see how premiums compare. Chart 2 shows the average premium for each of the three methods of computing premiums.

Two Premium Measures Higher in Pennsylvania. Chart 2 contains a surprise for some observers of the Pennsylvania and New Jersey merging scene. The conventional wisdom has been that New Jersey banks have received higher premiums in the marketplace. During the past five years, however, Pennsylvania banks have received bigger carrots on two premium measures—book-to-book and income-to-income. Garden State banks have garnered the bigger ones when premiums were calculated as implied cash-to-book.

Acquired banks in Pennsylvania marched down the aisle to the tune of a 100 percent book-to-book premium on the average, while New Jersey banks only received a premium equivalent to a third of their book value. In other words, selling banks in Pennsylvania have received shares from the buying banks having book value equivalent to twice the book value surrendered. In New Jersey, banks have sold for 1.3 times book value.[6] The average selling price for mergers in the two states combined was 1.8 times book value.

Merger terms are more favorable for selling banks in New Jersey when the premium

[6] These findings are at odds with those reported by Paul S. Nadler. He has stated that New Jersey banks were frequently able to obtain three times book value. Apparently his sample was based either on New Jersey mergers in the Second Federal Reserve District, or spanning a different time period, because only one out of 22 New Jersey mergers in the Third Federal Reserve District in the past five years went for a price as high as three times book value. See his article, "What's Your Bank Worth?" *Bankers Monthly*, December 15, 1972, p. 12.

CHART 2

BOOK-TO-BOOK AND INCOME-TO-INCOME PREMIUMS HIGHER IN PENNSYLVANIA

Percent

is judged by an implied cash-to-book standard. On this score, New Jersey banks chalked up premiums of 141 percent compared with 115 percent for their Pennsylvania counterparts. The primary reason is that New Jersey banks have been selling at prices substantially above book value, while Pennsylvania banks have not been selling so high above it. Likewise, New Jersey banks have been selling for higher price-earnings ratios than Pennsylvania banks. Overall, the average premium in the two states was 122 percent, roughly a half more than the book-to-book premium.

The last premium measure in Chart 2, income-to-income, was also about three times higher in Pennsylvania than in New Jersey, comparable to the book-to-book premium. Acquiring banks in Pennsylvania were willing to trade $2.31 in earnings for each $1.00 in earnings from the acquired banks. New Jersey banks only handed over $1.40 in earnings for each $1.00 of acquired earnings.

Another way of expressing the income-to-income premium is to consider price/earnings ratios (P/E). Absorbing banks have been paying income-to-income premiums of 106 percent, which is the same as paying a P/E premium of the same magnitude. To illustrate, acquiring banks in both states sold for an average P/E multiple of 12.4. In turn, they offered stock swaps making the P/E multiple of acquired banks equal to 25.5. Although paying smaller income-to-income premiums for their acquisitions, New Jersey's acquiring banks have been selling at higher P/E multiples than Pennsylvania's. On the average, acquiring banks in New Jersey sold at a P/E ratio of 15.8, while their counterparts in Pennsylvania were only commanding 9.4. Higher P/E ratios for New Jersey's acquiring banks, then, seems to be the key to the heftier implied cash-to-book premiums paid in its mergers.

Mergers of Unequals Likely to Yield Higher Premiums. Focusing on the *average* size of premiums is helpful in understanding the atmosphere of bank merger terms. However, examining only the state and District averages will not show whether premiums are associated with the size of the marriage partners. Also, such averages tell nothing about the variability or trend of premiums.

To see if there are differences in the terms offered, depending on the size of the marriage partners, samples of combinations were selected for analysis: (1) large banks exchanging vows with small banks, (2) large banks with medium-sized banks, (3) two medium-sized banks, and (4) two small banks. The average premiums paid in these situations are presented in Chart 3.

Mergers with greater size discrepancies between partners tend to yield higher premiums to acquired banks when computed by the book-to-book and income-to-income methods. Mergers of large banks with small banks have yielded book-to-book premiums roughly twice the size of those paid when the partners are more comparable in size—medium/medium banks and small/small banks. Likewise, income-to-income premiums for both large/small and large/medium cases yield approximately four times larger premiums than those negotiated in small/small situations. In contrast, the highest implied cash-to-book premiums were paid by the large/medium combinations, with large/small marriages yielding the lowest premiums.

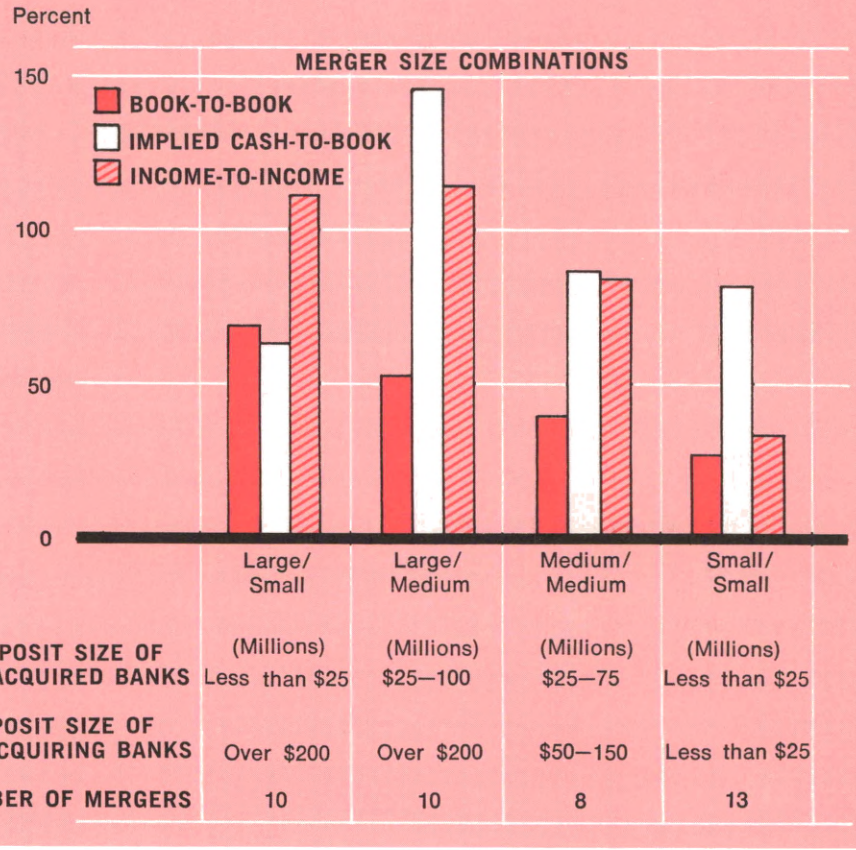
Premiums Vary Widely, but Show a Strong Upward Trend. Premiums paid in individual cases are subject to wide variation, regardless of how they're measured. Some mergers have been negotiated calling for book-to-book swaps as high as six to eight times the book value of the acquired bank. But don't conclude that premiums are paid in every case. Discounts have been the rule in about one out of every six cases over the past five years. Sometimes they have gone as high as 50 percent of book value and up to 25 percent on an income per share basis. However, discounts have not been as prominent in the past two years as in previous times.

Like other prices these days, premiums are on the upswing in the Third District. Measured by any of three ways, the prices paid for banks were roughly twice as large in 1971 and 1972 as back in 1968.

This upsurge may be explained a number of ways. One may be the dwindling supply of eligible marriage partners, especially in Pennsylvania where organization of *new*

CHART 3

AVERAGE PREMIUMS PAID TO SHAREHOLDERS OF ACQUIRED BANKS



banks is rare. Because of better market information on the going rate for banks, small bankers are stiffening their demands for higher prices, realizing they hold a valuable market-entry franchise. Still another may be that larger banks are more obsessed with growth for the sake of growth and are willing to sacrifice some near-term earnings in order to project higher deposit growth rates. Indications are the upward trend will continue.

WHY ARE PREMIUMS PAID IN BANK MERGERS?

As noted earlier, the price one should be willing to pay for an investment is based on the present value of the future income stream. Since it's difficult to unearth the necessary facts for calculating present values, bank merger terms are ordinarily evaluated in terms of the price paid in relation to a book value or some current earnings

base. Thus, it often appears that, when a negotiated price calls for an exchange of stock having book value twice that of the shares surrendered, a premium of 100 percent has been paid to the selling stockholders. But if the premium were calculated on present value, would it still be 100 percent? Probably not, because the present value of most banks should be greater than their book value.[7]

But even if the present value of the acquired bank is one and a half times book value, why would an acquiring bank pay double the book value for an eligible marriage partner?[8] The answer apparently lies in the fact that the acquiring bank has placed a higher present value on the earnings stream than the selling bank attaches to its own future income. And there are several reasons why the buying bank might arrive at a higher (different) present value than what the selling bank would.

Present Value as Seen by the Seller. Selling banks have a different perspective on the present value of their future earnings because they see themselves as small, independent entities with limited growth opportunities, competing in a big pool of much larger fish. They may be located in a stagnant economic area. They may have management succession problems. Attracting ample capital is difficult and costly.

Thus, selling banks may feel that they do not have the potential to increase earnings over the years by more than, say, 4 to 6 percent annually. Because capital is difficult to secure, the discount rate to apply to future earnings is higher than normal. Under these circumsances, the present value current owners would attach to the bank might be fairly low. Perhaps the "true worth" of the bank, as they see it, is not much above the current book value. Therefore, any offer as high as two or three times book value would appear to them as a real windfall.

Present Value as Seen by the Buyer. Consider the deal from the buyer's side. He approaches the merger from an entirely different perspective. The acquiring bank does not look upon the seller as a small, independent entity but as an integral part of a much bigger machine, fully capable of competing with other large banks. The buyer may feel that with aggressive lending policies it can fuel the local economy and make it grow faster. The buyer does not have management succession problems and raising outside capital is less of a problem.

Perhaps the acquiring bank feels the seller has been an inefficient operator and profits can be bolstered with better management practices. For example, it may view the acquired institution mainly as a source of deposits, expecting to make more loans at other offices which promise greater returns. The buyer may feel there is some latent market opportunity that is waiting to be exploited. Maybe the seller has been a pesky competitor that the buyer wants to remove from the market, although the regulatory agencies approving bank mergers try to monitor these situations closely. The buyer may be obsessed with deposit growth more than earnings in order to keep its ranking among big banks in the state. All of these factors may interact to cause the buyer to

[7] It is not difficult to understand why bank stock, or any share of a company for that matter, may sell for more than its book value. If a bank is worth more as a living institution than a dead one, its present value should be more than its book value, assuming, of course, that book value is a reliable measure of the quality of its tangible assets and liabilities. In other words, a *living* institution has "going concern" value over and above a dead one's liquidation value. Add to this "going concern" value such things as location, established customers, loyal employees, stability of operation, an essential community institution, and the inescapable conclusion is that an operating bank's present value is greater than its book value.

[8] The premium in this instance would be 33 percent based on the present value.

project earnings at a growth rate of 7 to 10 percent. Since capital is raised more easily by the big bank, the discount rate applied to the earnings is lower.

To top it off, the buyer has another consideration that does not enter the seller's figuring. That is, the cost of entering the market with a completely new operation *(de novo)* is very high. The expense of building is high, filing of applications is time-consuming and approval uncertain, and market acceptance is not assured.

Studies on the cost of entering markets *de novo* are sparse, but bankers have some rules of thumb they believe are valid. One rule is that on the average a new operation in a previously untapped market usually needs about two to three years to break even. It may take as long as five years before start-up costs are recovered and the bank begins to generate a cumulative stream of black ink. If the new operation is achieved through branching, as opposed to market entry with a newly chartered bank, then the time to reach sustained profitability will ordinarily be shorter.

Start-up costs in banking are high because bank relationships, once established, change slowly. A new market entrant faces an extremely difficult chore of luring customers away from their current bank connections. Getting a toehold often depends on how many enemies existing banks have made over the years in the local community. For this reason, rapidly growing areas are typically much easier to penetrate because of the new blood entering the banking market veins and having no established banking affiliation.

Clearly, then, acquiring banks have several other factors to weigh carefully in determining the present value of a bank up for sale. Generally, these are considerations that lead them to attach a higher present value to the bank than what the current owners deem it to be. Thus, when the absorbing bank offers to exchange stock having book value twice that of the surrendered book value, the buying bank thinks it's getting a real bargain, while the seller considers it a windfall.

WRAPPING UP BANK WEDDINGS

In a well-behaved market, premiums should reflect the intensity of the demand for eligible banks, which is ultimately based on the present value buyers and sellers attach to banks. The price paid also hinges on the supply of available banks. The average size of premiums noted in the Third District generally seem to be in line with what would be expected. There are a number of good opportunities for making profits in banking. Furthermore, the supply is restricted, with entry alternatives costly. Prices ranging from two to three times book value do not seem out of line on the average. Nor do they seem out of step with what others have observed.[9]

Two out of three frequently used premium computations were higher for Pennsylvania mergers than for New Jersey ones, contrary to the hunches of some. The variability of premiums has been large, a number of mergers consummated at several multiples of book value. Often these high prices are best explained by the high cost of *de novo* market entry, in some cases bad business judgment, or in others the frenzy of bank merging. When discounts have been encountered, it usually reflects a distress sale, often a bank that has genuine management succession problems or is located in a stagnant area. ■

[9] For example, the Keefe Bank Stock Index has recently shown that bank stocks sold for around one and a half times "adjusted" book value. And these were for sales of noncontrolling blocks of stock. So premiums of two or more times book do not seem unreasonable when one considers that mergers involve the complete exchange of all stock.

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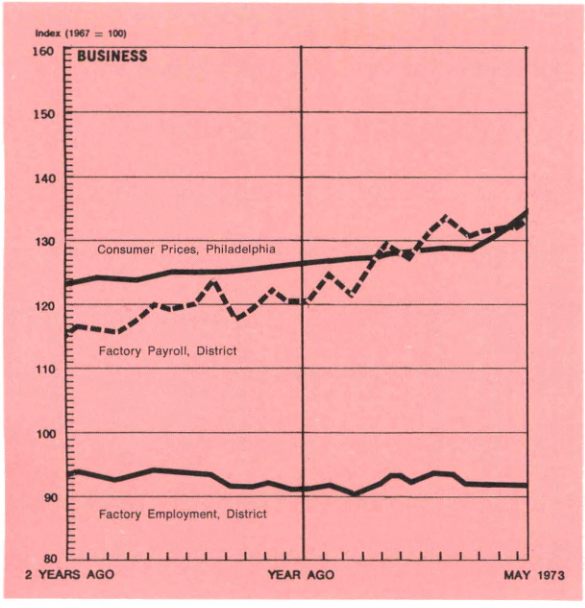
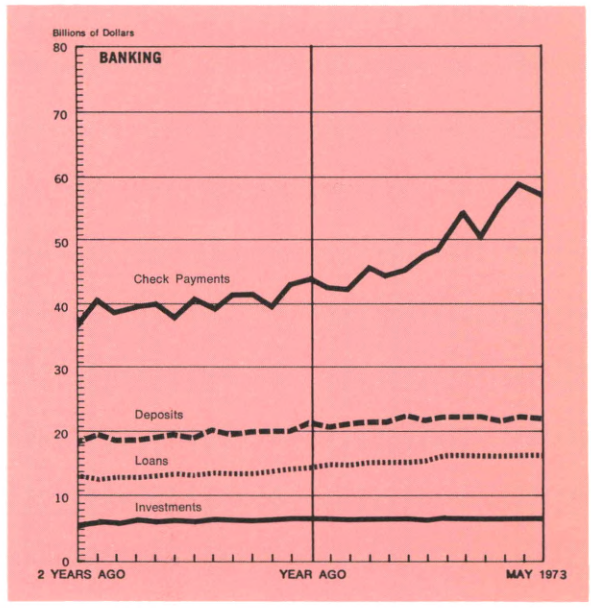
Available in English is a film strip on Regulation Z, Truth in Lending, for showing to consumer groups. This 20-minute presentation, developed by the Board of Governors of the Federal Reserve System, is designed for use with a Dukane project that uses 35mm film and plays a 33 RPM record synchronized with the film. Copies of the film strip can be purchased from the Board of Governors of the Federal Reserve System, Washington, D. C. 20551, for $10. It is available to groups in the Third Federal Reserve District without charge except for return postage.

Persons in the Third District may direct requests for loan of the film to Truth in Lending, Federal Reserve Bank of Philadelphia, Philadelphia, Pennsylvania 19101. Such requests should provide for several alternate presentation dates.

FOR THE RECORD...





SUMMARY

	Third Federal Reserve District			United States		
	Percent change			Percent change		
	May 1973 from		5 mos. 1973 from	May 1973 from		5 mos. 1973 from
	mo. ago	year ago	year ago	mo. ago	year ago	year ago
MANUFACTURING						
Production	.....	.....	.....	0	+10	+10
Electric power consumed	+ 3	+ 6	+ 7	.....	.....	.....
Man-hours, total*	0	+ 2	+ 3	0	+ 7	+ 7
Employment, total	0	+ 2	+ 2	0	+ 5	+ 5
Wage income*	+ 1	+10	+11	+ 1	+13	+14
CONSTRUCTION**	− 7	+25	− 2	+ 7	+ 4	+12
COAL PRODUCTION	− 1	− 4	− 7	+ 2	− 3	− 4
BANKING (All member banks)						
Deposits	+ 1	+ 6	+ 8	+ 1	+11	+12
Loans	+ 1	+13	+16	+ 1	+23	+22
Investments	− 2	− 2	+ 1	− 1	+ 1	+ 3
U.S. Govt. securities	− 4	− 6	− 3	− 3	− 8	− 3
Other	− 1	0	+ 3	+ 1	+ 5	+ 7
Check payments***	− 3†	+30†	+32†	N/A	N/A	N/A
PRICES						
Wholesale	.....	.....	.....	+ 2	+13	+10
Consumer	+ 1‡	+ 6‡	+ 5‡	+ 1	+ 5	+ 5

*Production workers only
**Value of contracts
***Adjusted for seasonal variation

†15 SMSAs
‡Philadelphia

LOCAL CHANGES

Standard Metropolitan Statistical Areas*

	Manufacturing				Banking			
	Employment		Payrolls		Check Payments**		Total Deposits***	
	Percent change May 1973 from		Percent change May 1973 from		Percent change May 1973 from		Percent change May 1973 from	
	month ago	year ago	month ago	year ago	month ago	year ago	month ago	year ago
Wilmington	+ 1	+ 5	+ 2	+15	+ 4	+ 15	+ 2	−88
Atlantic City	0	+10	− 2	+13	−13	+ 8	+ 5	+15
Bridgeton	− 1	− 1	N/A	N/A	N/A	N/A	+ 4	+16
Trenton	0	+ 3	− 2	+ 8	− 5	+201	− 1	+ 4
Altoona	− 3	− 1	+ 4	+ 6	+ 1	+ 11	+ 2	+13
Harrisburg	+ 1	+ 7	+ 3	+19	− 6	+ 15	− 7	+15
Johnstown	0	+ 1	+ 2	+10	−12	+ 6	+ 2	+14
Lancaster	0	+ 6	+ 1	+14	−10	+ 86	+ 2	+16
Lehigh Valley	0	+ 4	+ 2	+15	− 5	+ 28	+ 2	+12
Philadelphia	0	+ 1	0	+ 8	− 3	+ 26	+ 2	+ 9
Reading	0	+ 1	0	+12	− 5	+ 17	0	+19
Scranton	0	+ 2	+ 3	+10	− 9	0	+ 2	+11
Wilkes-Barre	0	− 1	− 1	+ 4	− 6	+ 25	+ 1	+23
Williamsport	+ 2	+ 4	+ 2	+12	− 2	+ 41	− 2	+25
York	+ 1	+ 2	+ 2	+12	−14	− 41	+ 2	+14

*Not restricted to corporate limits of cities but covers areas of one or more counties.
**All commercial banks. Adjusted for seasonal variation.
***Member banks only. Last Wednesday of the month.

FEDERAL RESERVE BANK of PHILADELPHIA
PHILADELPHIA, PENNSYLVANIA 19101

business review

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