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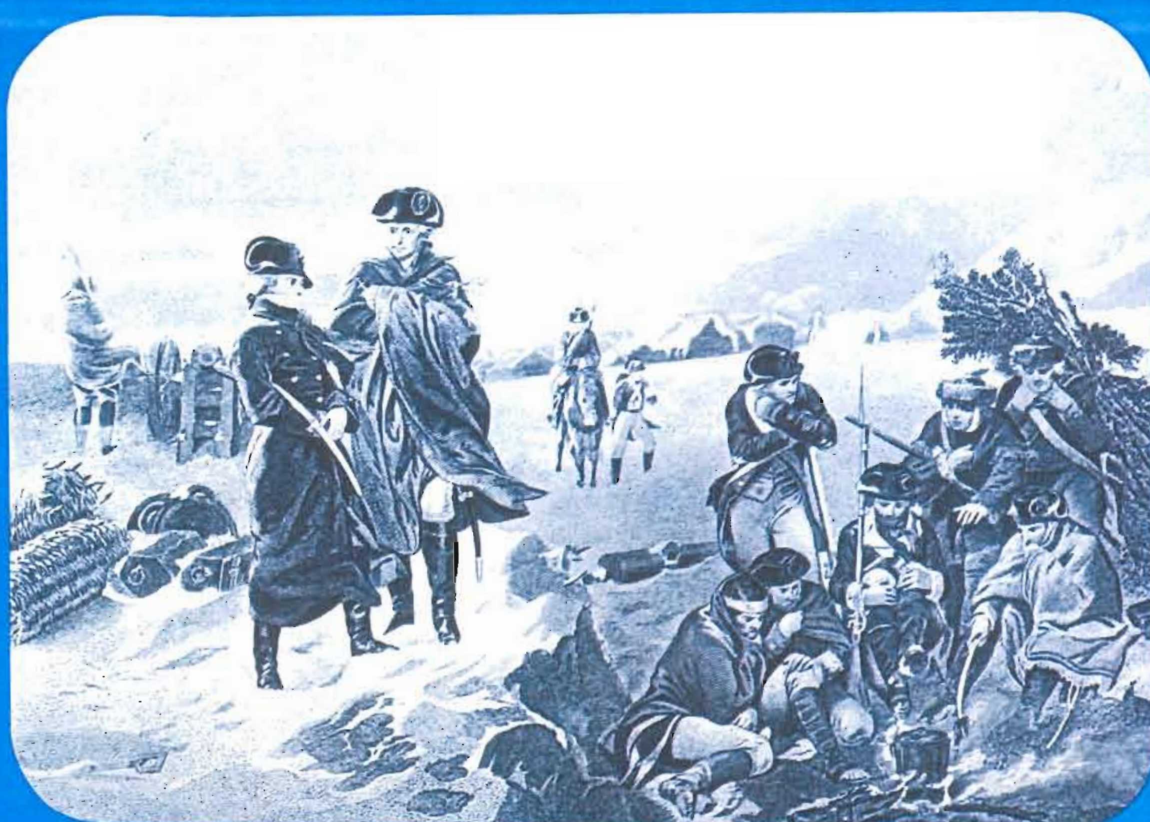
BUSINESS REVIEW

september/october 1976



FEDERAL RESERVE BANK of PHILADELPHIA

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Business Review September/October 1976

On Our Cover: *Lafayette and Washington Inspect Huddled Troops During the Terrible Winter at Valley Forge.* Steel engraving by Henry Bryan Hall (1808-1884) after a painting by Alonzo Chappel (1828-1887). Photograph courtesy of the New York State Historical Association, Cooperstown, New York.

Born in London, Hall came to the United States and settled in New York in 1850, where he established himself as an engraver and painter. A specialist in portraiture, Hall painted Napoleon III from life and worked on the engraving of Sir George Hayter's "Coronation of Victoria" as well as etching American heroes for collectors in New York and Philadelphia.

Chappel was born in New York and developed a considerable reputation as a painter there. His illustrations of American military scenes enjoyed wide circulation in the last century.

Lafayette, portrayed in this engraving as a serious young man, was only nineteen when he came to America in the summer of 1777 and was appointed major general by the Congress. Washington was appalled at the distribution of honorary commissions to visitors from abroad, but Lafayette learned quickly. He rode with Washington at the Brandywine in September, sustaining a wound in the leg, and accompanied him into winter quarters three months later.

Valley Forge was poverty in the midst of plenty. There were no shortages in the surrounding countryside or in nearby Philadelphia, yet neither the Congress nor the populace would support Washington's freezing, starving troops. Lafayette followed his commander's example in subsisting as many soldiers as he could out of his private fortune.

BUSINESS REVIEW is edited by John J. Mulhern and produced in the Department of Research. Comments on articles are welcome and should be addressed to their authors.

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The Economics of Bank Security

By Timothy H. Hannan*

A man walked into a Hollywood bank recently with the intention of holding it up. Although temporarily successful, he was apprehended before long as a result of overlooking the little problem of a getaway: he had only one leg and he walked on crutches. In Las Vegas, another stickup man found it impossible to melt into a crowd after his crime. As a dwarf, and a burly one at that, he was easy to spot.

Many observers believe that the problem of bank crime is getting worse, and bizarre incidents such as these must make bankers and enforcement officials fear that almost everyone is getting into the act. According to the FBI, the number of bank robberies jumped from under two thousand to over four thousand and bank larcenies doubled between 1969 and 1975. The raw figures say that bank crime has been rising, and the future appears to offer only more of the same.

Reports of bank crime trends have led to increased public concern over the adequacy of bank security measures. Calls for tighter bank security are not new to bankers. In 1968, an earlier wave of public concern led to the passage of the Bank Protection Act, which established minimum standards and imposed penalties on banks that didn't comply. To the surprise of many, however, the Act has not brought a reduction in bank crime, and questions are being raised again about the desirability of higher standards and tougher enforcement.

But before reacting to public pressure, it's useful to find out what story the figures really tell. After all, they can be read in several ways, and they may show on close inspection that the increase hasn't been as dramatic as it might seem at first glance. Further, there are matters of cost and benefit to be considered

*The author, who holds a Ph.D. from the University of Wisconsin, specializes in banking and urban economics. He joined the Philadelphia Fed's Department of Research in 1974.

here. It may be possible to eliminate some bank crime at a reasonable cost; but the cost of reducing it drastically may be too high to justify the effort. Finally, while government standards for bank security may have some role to play, requirements that are unduly uniform may restrict bank managers' flexibility to an unreasonable extent. Unless security standards can accommodate the different circumstances of individual banks, they may impose an undue burden on bank managers and the banking public.

BANK CRIME INCREASES: A CLOSER LOOK AT THE NUMBERS

Some people talk as if the rise in bank crime were almost vertical. But, as Chart 1 shows, the picture isn't that simple. Both robberies and the bank crime total were slightly higher in 1970 than in 1969 and higher still in 1971. Robberies were up again slightly in 1972, though the bank crime total was down that year. Both were down the next year, with the total falling almost to 1970 levels. The figures went up again in 1974, rising above 1971 levels, but not by much. The biggest rise of all came in 1975, when the bank crime total jumped up to over five thousand from the previous year's thirty-five hundred. But this was one isolated year. Thus, while bank crime has been trending upward since the beginning of the decade, the message isn't as clear as many people believe.

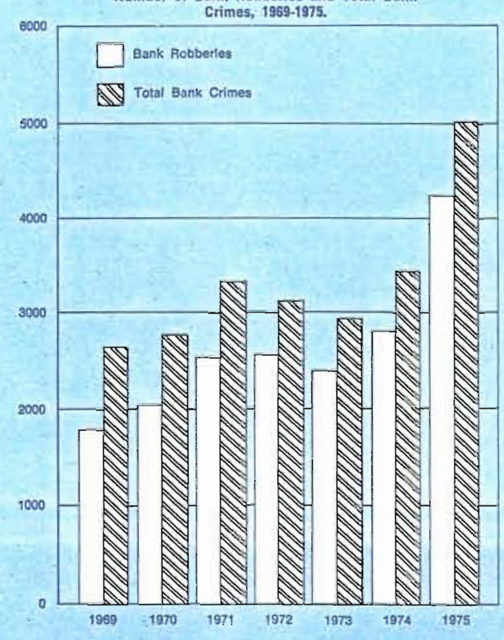
Why Any Increase? Thieves prey on banks because, as Willie Sutton said, that's where the money is. The monetary rewards from a successful bank robbery can be quite high. But that doesn't account for the present increase. Why is there more bank crime now than there used to be? And why did bank crime soar in 1975?

Some of the causes of bank crime are causes of other kinds of crime, and nearly all kinds of crime have been trending upward. The increase in robberies of chain stores, for example, has been almost twice the increase of similar crimes against financial institutions. Some criminologists believe that the rising

CHART 1

THE TREND IN BANK CRIME, THOUGH UPWARD, ISN'T STEEP . . .

Number of Bank Robberies and Total Bank Crimes, 1969-1975.



SOURCE: American Bankers Association, Insurance and Protection Division.

incidence of heroin addiction and the recessionary decline in job opportunities account for part of the crime-rate increase. The shortage of legitimate job opportunities coincided closely with increased criminal activity in 1975.

Like other criminals, bank robbers have to balance the reward of success against the risk of capture and punishment. According to a recent study (see Box), bank robbers are aware of risk and cope with it by scanning the horizon for the best possible targets and victimizing bank offices that offer the biggest take and the least prospect of being caught. Recent changes in the structure of the banking system may have altered the relation of the robber's rewards to his risks, making robbery and other kinds of bank crime less

BOX

AN ECONOMIC APPROACH TO BANK THEFT

Perhaps not all bank robbers act out of calculation alone, but at least one investigation has discovered a method in their madness. According to Tim Ozenne, who recently conducted a major study of the economic aspects of bank robbery, thieves have available to them a large number of targets or theft opportunities, and some of these are likely to be profitable.* Even ill-gotten gains are not free; theft requires the expenditure of time, energy, and perhaps other scarce resources. For this reason, according to Ozenne, thieves tend to choose from their array of opportunities only those targets that offer the highest returns for the risk of being caught and punished. Thus both bank security *and efficient law enforcement* are important deterrents to attacks on banks.

This simple observation points to important economic relations in the real world of bank theft. According to Ozenne, ill-gotten return from theft, adjusted for the prospect of being caught and punished, tends toward equality across targets. If targets in one area are characterized by net returns to theft that are higher than those prevailing across the way, thieves will tend to shift their activity out of the one area and into the other. With stricter law enforcement, the average take tends to be higher. This observation is consistent with the fact that lowering the net return to robbery causes robbers to abandon the less remunerative targets, leaving the higher paying targets to be victimized. And it's reinforced by another finding: states that record the lowest number of bank robberies per banking office also tend to record the highest average take. These findings together tend to show that while making bank robbery more difficult will reduce the number of robberies by discouraging marginal crimes, it won't have as great an effect on crimes against more remunerative targets.†

*Tim Ozenne, "The Economics of Bank Robbery," *Journal of Legal Studies* 3 (1974), pp. 19-51.

†For a more detailed discussion of the economics of criminal behavior see Timothy H. Hannan, "Criminal Behavior and the Control of Crime: An Economic Perspective," *Business Review*, Federal Reserve Bank of Philadelphia, November 1974, pp. 3-9.

risky. The most important of these changes is the growth of branch banking.

Banks have branched out at an unprecedented rate over the last decade, increasing the total number of bank offices by more than fifty percent nationwide. No longer are banks the imposing downtown fortresses they once were. They've moved a large part of their volume to suburban offices with a warmer, friendlier atmosphere for doing business. While the change of style and location has brought increased convenience to garden-variety banking customers, it also has provided more targets for tough customers that the banks would rather not be serving. Located outside high-density areas and with easy access to high-speed roads for quick getaways, suburban branch banks offer an attractive prospect to people bent on making illegal withdrawals.

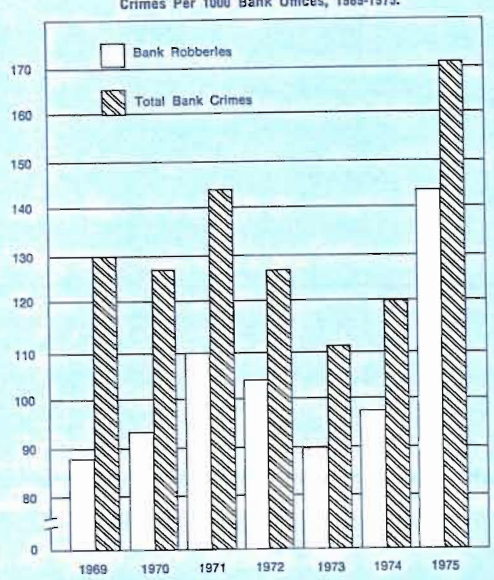
The growth of branch banking has changed the shape of the industry, and failing to feed it into the analysis of bank crime statistics can give us an incomplete picture of the situation. Chart 2 graphically represents the growth in bank crime and branch banking. It shows a fall-off in the bank crime total from 1969 to 1973 broken by a high in 1971; the total then trends up in 1974 but remains below the levels from 1969 through 1972. The bank robbery figures begin to rise in 1970, fall back in 1972, and rise moderately in 1974. Both figures are up sharply in 1975. But this rise may be explained by a rapid decline in the number of openings for legitimate work during 1975.

In short, when the bank crime figures are adjusted for industry growth, the trend in bank crime appears even less alarming for the period 1969-74. And the 1975 situation, though it doesn't look good, may be just a

CHART 2

AND AFTER ADJUSTMENT FOR THE INCREASE IN BRANCH OFFICES, THE UPWARD TREND IN BANK CRIME FLATTENS OUT.

Number of Bank Robberies and Total Bank Crimes Per 1000 Bank Offices, 1969-1975.



SOURCES: American Bankers Association, Insurance and Protection Division; Board of Governors of the Federal Reserve System, Annual Reports 1969-1975.

one-year phenomenon on which no policy deliberations should be based.

Putting the figures into perspective may dispel the air of crisis from the bank crime discussion. And it may help legislators and regulators avoid being stampeded into premature action. But it doesn't get to the basic questions—how much security banks should have and what, if anything, government should do to make sure they have it.

HOW MUCH SECURITY?

Banks take steps to thwart criminals because successful crimes impose a cost on banks. A bank that operates in a high-crime area may suffer losses both directly, through removal of funds, and indirectly, through higher insurance premiums.

The bank manager who wants to reduce his loss from crime has several alternatives. He may install alarms and surveillance cameras, or hire guards, or give his bank a fortified look. Ingenuity would extend the list. His choice should depend upon considerations of cost and effectiveness. But no matter which way he goes, it's sure to cost money. How much will be saved by spending a thousand dollars, or two or three thousand, for additional bank security? Perhaps not enough to make the investment worthwhile. If left to himself, the bank manager may decide to risk more frequent robberies and pay higher insurance premiums. In any case, he has to weigh the gain of reducing bank crime against the cost of prevention.

All businesses have to consider the cost and benefit of spending more on crime prevention. The cost is the expenditure made for security, and the benefit is the forestalling of losses. At least one recent study has found that businesses actually do make greater efforts to protect themselves where the prospect of loss from crime is relatively high and security measures relatively cheap.[1] There's reason to believe that banks do the same.

Setting the Level. These considerations lead to the following criterion for bank security: the level of security maintained by banks should be increased only as long as the additional savings (however defined) justify the additional cost. Savings in this case can be thought of as the reduction in damages caused by crime. Besides reducing the loss of funds and damage to bank property, increased security can reduce the number of deaths and physical injuries that result from robberies. And, to the extent that it deters bank crime, increased security can save associated police, court, and correctional costs.

The amount of bank security indicated by this criterion may not do away with successful bank robberies because the cost of security measures may be substantial. Would it really be reasonable to eliminate all bank crime if,

[1]See Ann P. Bartel, "An Analysis of Firm Demand for Protection against Crime," *Journal of Legal Studies* 4 (1975), pp. 443-478.

for example, it took half the gross national product to do so? Successive reductions in bank crime may require disproportionately increasing outlays for security, and eliminating all bank crime simply may not be worth the cost required to do it.

Do Banks Pick the Appropriate Level of Security? Neither the occurrence nor the increase of bank crime proves that banks are deficient in security. The extreme cost of prevention may justify allowing some bank crime to occur. Even an increase in bank crime need not indicate that bankers are choosing inadequate levels of security. Bank crime may increase dramatically for many reasons, and while a big increase may indicate that banks should improve security, it generally does not mean that they should improve it to the extent that no increase in crime occurs.

It has been suggested that the availability of insurance keeps bankers from investing in a high enough level of security. Banks carry insurance on their losses. The most common kind is the bankers' blanket bond, which covers losses from burglary, embezzlement, forgery, larceny, and theft, as well as providing robbery protection. Banks can buy other policies to insure losses not covered by the blanket bond. Many contend that because banks rely on such insurance, they have little financial incentive to spend money to hire guards and install needed protective devices. In other words, because of insurance, at least part of the loss from bank crime is avoided by the banks. As a result, they fail to protect themselves adequately.

This *moral hazard* issue, however, is common to many areas of insurance, and insurance companies generally deal with it by employing such devices as deductibles, minimum prevention requirements, and variable premiums. The deductible provision excludes some initial amount of loss from coverage, so that the victim bears some of the loss and hence still has an incentive to protect himself. Minimum prevention standards require the insured to take certain preventive measures, such as the installation of a burglar alarm system, in order to remain eligible for coverage. Finally, insurance premiums can be set at high levels for firms with heavy losses or poor security protection—an additional incentive to reduce crime loss. The use of devices such as these sharply reduces, although it may not eliminate, the tendency of insurance to foster laxity in security precautions.[2]

The possibility that banks may not bear certain losses from bank crime may be a more important reason for concern over the adequacy of bank security measures. If some of the costs of bank crime are not considered by bank managers because those costs are not borne by their own banks, then it's not likely that banks, left on their own, would invest enough in security.

Examples of such costs are not hard to find. If a bank fails as a result of a major bank crime, people other than the bank's stockholders and management may bear some of the loss. Nor do banks bear the full cost of death and physical injury to bank personnel and customers. And then there are the often considerable police, court, and correctional costs required to apprehend, convict, and punish perpetrators of bank crimes—crimes that might never have occurred if bank security measures had been tighter. The avoidance of such costs of doing business is regarded by many economists as an important justification for governmental action.[3] But if government action is necessary because bankers don't take the full cost of bank crime into account, what policy options are available to correct the situation?

[2]Perhaps because of such insurance devices, Ann Bartel has concluded from a recent study of firm security decisions that insurance generally is not used as a substitute for private protection. For more details, see Bartel, "An Analysis of Firm Demand for Protection against Crime."

[3]One might ask whether the justification for government intervention in bank security affairs doesn't apply to all other commercial establishments. If bankers don't take adequate security precautions because they don't bear all the losses from criminal attack, can't the same be said of someone who owns a department store or an all-night restaurant?

The question here is one of cost. The cost that bank crimes impose on the public may be relatively high in

A BLUEPRINT FOR POLICY

Policy should aim for just that level of bank security at which the savings justify the cost, but all parties' savings and costs should be figured in, not just the banks'. And it's clear that the level of security that fits one bank may be inappropriate to another. It may be desirable for banks in low-crime areas located next to police stations to invest very little in bank security, for the savings from the higher security levels may not justify the cost. At the opposite extreme, it may be desirable for a large bank facing a serious crime problem to invest in the most comprehensive, up-to-date security systems.

There are two ways to achieve the desired level of bank security. The first would require individual bank decisionmakers to take the full consequences of their decisions into account. This might involve charging bankers for the losses that other members of society incur as a result of bank crime—a charge that would make it the bankers' interest to choose higher levels of security protection. Whatever its drawbacks, this approach has the distinct advantage of enabling each bank to make its own security decision after considering its own unique situation.

The more usual government approach, however, is the mandatory guideline. An example of this approach is the Bank Protection Act of 1968, which requires banks to appoint security officers, formulate approved security plans, and install certain minimal devices and procedures. Establishing guidelines is a more direct approach to bank protection. It can lead to less than satisfactory results, however, if security requirements are set too high or too low or if they fail to account for the diversity of banking organizations and bank crime problems. A guideline that requires every bank to install a surveillance camera and hire an armed guard, for example, may be inadequate for banks with major crime problems but excessive and needlessly expensive for banks with only minor difficulties. Inflexibility—always a problem when centralized regulation replaces decisionmaking by managers who have a first-hand knowledge of the situation—can result in a considerable economic loss.

HASTE MAKES WASTE

The policymaker has good grounds for approaching the subject of bank crime with caution. The raw figures on crime trends can be deceiving and generally do not serve as a sound basis for policy. Even when the story they tell is clear, they don't indicate how much or what kind of security a bank should invest in. That has to be determined in each case by an analysis of cost and benefit, and the analysis should take account of everyone who gains or loses from bank security decisions. Since security measures are not costless, requiring more security than is justified by crime reduction works out to a net loss. The mere occurrence of bank crime, or even an increase, is not a good argument for ever tighter security requirements.

Different banks have different crime problems, and guidelines won't work efficiently unless they reflect this basic fact. Strict reliance on a few rules could lead to too much security in some cases and too little in others. It's safe to expect bankers to protect themselves whether or not the government issues guidelines. And it's just possible that the wrong kind of guideline would do as much harm as no regulation at all.

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comparison to losses from crimes against other commercial establishments. Bank failures, which could result from successful bank crimes, long have been recognized to have extraordinarily wide-ranging effects. Further, since large sums of money usually are at stake, bank crimes usually require a larger expenditure of criminal justice resources. Indeed, it's not uncommon for the FBI to spend more money investigating a bank robbery or burglary than was taken during the offense. In the case of a recent Maryland bank crime, for example, the cost of investigation alone exceeded a quarter of a million dollars.

Though the administrative cost of government intervention in bank security decisions also can be quite high, one can argue that intervention is less costly in the case of banks because the regulatory apparatus already is in place. For all these reasons, the argument for government intervention in bank security decisions need not justify similar intervention elsewhere.