

# Bank Robberies and Physical Security in Switzerland: A Case Study of the Escalation and Displacement Phenomena

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*A comparison of two samples of banks in Switzerland, 152 that had experienced a robbery between 1979 and 1985 and 152 that had not, suggested that bulletproof screens for tellers reduced the risk of robbery and also the risk of violence during robberies. Contrary to the "escalation" hypothesis, banks that had protected both their tellers and the entrances used by employees did not experience more hostage taking. There was little evidence of displacement during the period from banks to other targets of robbery such as post offices, but there was some evidence that increased security had effected a displacement from more to less protected banks.*

**Keywords:** Target hardening; hostage taking; bank robbery; displacement; Switzerland.

## Introduction

This article examines the influence of situational factors *on* crime, more precisely, the effects of physical security on bank robberies in Switzerland. Target hardening seems effective in reducing the opportunities to perpetrate crime. Landes (1978) has shown, for example, the great impact of screening procedures on aircraft hijacking in the United States. Many researchers have claimed, however, that target hardening will inevitably lead to negative consequences such as displacement of crime to other targets (cf. Albrecht, 1986) or "escalation" to more violent methods (cf. Rengier, 1985). These objections to target hardening are based on the idea that, because the motivation for crime is determined and inelastic, reduction of opportunities will lead only to an adaptation of criminal patterns.

The goal of this present research is to see whether the implementation of physical security in banks in Switzerland has had a deterrent impact on robberies. At the same time, the possible negative effects of target hardening—an escalation of violence in bank robberies, modification of

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the modus operandi, and, finally, displacement to targets other than the banks—will be examined.

## Methodology

This study is based on an analysis of robberies in Switzerland during the period of 1979 through 1985 and takes place in the context of a general analysis of victimology in Switzerland done by Killias (1986). Banks robbed during this period (194 cases of robbery) were sent two questionnaires. The first dealt with the pattern of the attack, and the second dealt with security features and situational aspects of the bank. The response rate was very high (85%), because the Swiss Bankers Association supported the study.<sup>1</sup> In addition, a sample of banks from the same city or region that had not experienced a robbery was chosen. These received the second questionnaire about security features and situational factors. Again, the response rate was high (82%). The final sample consisted of 152 robbed banks (12 questionnaires were returned incomplete) and a comparison sample of 152 banks that were not robbed.

More than 60% of all questionnaires were completed by bank security officers. Most of the rest were completed by branch managers, with a few completed directly by the researchers through a visit to the bank. It was also possible to check the validity of some answers because data about robberies were available through statistics held by the Swiss Bankers Association. These checks generally increased confidence in the reliability and validity of the data.

## Preventive Effects of Physical Security

Table 1 shows the risk of robbery according to the security offered to tellers. "Tellers protected" means that the teller is completely insulated from the public by bulletproof glass—there is no possible physical contact between customers and employees.

It can be seen from Table 1 that the risk of robbery is negatively related to the presence of teller security. However, many protected banks are still robbed, which suggests that physical security does not affect all offenders in the same way. Indeed, Table 2 suggests that protection of the teller has a greater effect on lone offenders than on those operating in a group. In this connection, it is relevant that Servay and Rehm (1986)

<sup>1</sup>The Swiss Bankers Association is a private body encompassing almost all the banks in Switzerland. Its security committee supported the research by writing a letter inviting the banks to complete the questionnaire.

**Table 1.** Risk of Robbery and Protection of the Teller

	Tellers Protected		Tellers Not Protected	
Robbery or attempt	34%	(52)	65%	(100)
Not robbed	66%	(99)	35%	(53)
Total	100%	(151)	100%	(153)

$\chi^2 = 29.1, df = 1, P < .000.$

found when interrogating bank robbers in West Germany that 34% had no advance knowledge about the security features of the banks they had robbed.

The fact that some perpetrators seem to not care about security does not mean that security is worthless in deterring bank robberies. It is quite possible that many more robberies would be perpetrated in the absence of teller protection. Moreover, protection of the teller is associated with an important decrease in the success rate for holdups—this exceeds 89% in cases when tellers are not protected and decreases to less than 37% when they are protected. Thus, protection of the teller reduces the risk of victimization and increases the failure rate for the robbery.

**Table 2.** Protection of the Teller and the No. of Robbers

No. of Robbers	Tellers Protected		Tellers Not Protected	
One	47%	(37)	20%	(14)
More than one	53%	(42)	80%	(55)
Total	100%	(79)	100%	(69)

$\chi^2 = 11.5, df = 1, P < .000.$

## Change in the Modus Operandi

A central question related to increased physical security is whether this simply results in changed modus operandi of offenders. The fact that a number of protected banks were still victimized could imply that robbers have changed their methods, including the use of more violence, in the presence of security.

Table 3 shows the relation between the protection of the teller and a "violence" variable, which covers the victim having been injured, assaulted, tied-up, or taken hostage. Contrary to expectations, protection of the teller is associated with less violence during the holdup. This negative correlation is contrary to the "escalation" hypothesis.

**Table 3.** Protection of the Teller Area and "Violence"

Violence	Tellers Protected	Tellers Not Protected
Yes	39% (12)	61% (47)
No	61% (19)	39% (30)
Total	100% (31)	100% (77)

$\chi^2 = 4.4$ ,  $df = 1$ ,  $P < .1$ .

One other important aspect of the modus operandi is hostage taking outside the bank prior to the assault, which provides the opportunity to penetrate the bank during nonworking hours. Only robbers operating in groups adopt this strategy. *Table 4* shows the modus operandi of only those robberies committed by groups in relation to the security of the bank. "Maximum protection" refers to the fact that both the teller and the employee entrances to the bank have been protected (the latter by cameras, guards, or magnetic card readers).

As shown in *Table 4*, robbers operating in groups attack mostly banks that are not completely protected. Moreover, they very rarely take hostages, and when they do, this seems unaffected by the security features of the bank. Equal numbers of robberies involving hostages are committed against banks with or without "maximum protection." There is, therefore, little evidence that maximum protection has induced a new type of holdup; rather, it appears that maximum protection is particularly effective in the case of classical holdups. It is possible that developing hostage-taking skills may be beyond the capacity of the average robber.

In summary, there is no evidence that increased security has produced escalation of violence and, moreover, that the risk of injury for tellers may have been reduced. There is also little evidence that increased security has led to increased hostage-taking prior to the holdup. Buchler and Leineweber (1986) arrive at the same conclusion in their study of 900 bank robberies in West Germany:

**Table 4.** Modus Operandi and "Maximum Protection"

Modus Operandi	"Maximum Protection**"	
	Yes	No
Hostages taken <sup>1</sup>	38.5% (5)	5% (4)
Classical	61.5% (8)	95% (76)
Total	100% (13)	100% (80)

$\chi^2 = 14.3$ ,  $df = 1$ ,  $P < .1$ .

\*Hostages taken prior to the holdup and outside of bank.

There is no evidence of an increase in violence in bank robberies; the only change resulting from the new security technology is the potential escalation of a bank robbery to include the taking of hostages. But this has at no time reached alarming proportions and in fact has levelled off in the last ten years (p. 151).

## Displacement Beyond the Banking Sector

The displacement hypothesis asserts that if the opportunities decrease in one sector, such as banks, robbers would select other targets affording similar opportunities. In Switzerland, these are post offices, railway station ticket offices, and cash-in-transit. To verify if the reduction of opportunities in the banking sector resulted in displacement to these other targets, the proportion of robberies by type of targets between 1979 and 1985 has been calculated in *Table 5*.

As shown in *Table 5*, the proportion of robberies by type of target has fluctuated somewhat during the 7 years. For railway station robberies, this did not fluctuate much—between 5% and 15%—during the period. The proportion changes rather more for the post offices, however, the maximum was almost 50% of attacks and the minimum 29%. The same is true for the bank robberies, which varied between 26% and 44%.

The total number of robberies has increased from 74 in 1979 to 119 in 1985, but there is no real evidence

**Table 5.** Breakdown of Robbery Targets, 1979-85

	1979	1980	1981	1982	1983	1984	1985
Banks	44%	40%	26%	29%	30%	38%	39%
Post offices	29%	38%	49%	32%	43%	34%	40%
Railway stations	10%	5%	10%	13%	14%	15%	13%
Cash-in-transit	17%	17%	15%	26%	13%	13%	8%
Total	100%	100%	100%	100%	100%	100%	100%

of any displacement among different types of targets during this period. One possible exception is that there may have been displacement of robberies from banks to cash-in-transit. From 1979 to 1982, the proportion of robberies against banks decreased from 44% to 29%; however, there was an increase of robberies against cash-in-transit from 15% to 26%. From 1983 to 1985, the proportion of robberies against cash-in-transit decreased to 8%, while for bank robberies it increased again to 39%.

One reason why there may have been little displacement from banks to railway stations or post offices is that the average "take" for a robbery is much greater for banks—by a ratio of nearly five to one for post offices and 10 to one for railway stations. An offender would need to rob five post offices or 10 railway stations to have the same return as on a holdup. Cash-in-transit is the only substitute where the expected "take" is higher than for the banks.<sup>2</sup>

Robberies of cash-in-transit can be easily perpetrated when the carrier is simply a bank clerk without special training or protection, as was usually the case in Switzerland until 1982/1983. The reduction in the number of these robberies since 1983 has resulted from improved security. The banks have issued a new policy recommending the use of outside security contractors or their own security guards for transferring cash.

In sum, examination of the various sectors of the cash market does not suggest that the security measures implemented in banks have resulted in displacement of robberies to the railway stations or to post offices. The only sector that may have experienced displacement has been cash-in-transit, at least until 1983.

## Displacement Within the Banking Sector

It was shown in *Table 5* that the proportion of bank robberies has increased since 1983. This increase seems to be explained by an increase in attacks by lone offenders. These have committed 27% of bank robberies for the period 1979-1982, whereas for the second period, 1983-1985, they account for more than 40%

<sup>2</sup>These ratios have been calculated by dividing the total amount stolen during robberies by the number of robberies for each sector. The average take for robberies of banks was Swiss francs (Sfr.) 120,000; for cash-in-transit, Sfr. 150,000; for post offices, Sfr. 28,000; and for railway stations, Sfr. 12,000. These data were provided by the Credit Suisse Bank and the Swiss National Railways, and the ratios must be regarded as estimates.

of the total robberies. This rate of increase (48%) is almost the same as is the increase in the total number of bank robberies between 1982 and 1985 (i.e., from 35 to 47 cases).

Based on data for the period 1979-1985, the number of robberies perpetrated by offenders operating in groups remains stable. As these offenders prefer to attack banks with less security, nonprotected banks now have a relatively higher risk of robbery than before because they have become less numerous. In 1979, almost 50% of the banks sampled did not have teller protection, and these accounted for 58% of the total robberies. In 1985, this same category represented only 25% of all banks, but had suffered 39% of the attacks. Increased security has thus effected a displacement of robberies from more to less protected branches. The fact that the robbery of these branches is still possible explains why there has been no displacement to robberies of railway stations and post offices, targets that remain easy, but ones that offer much smaller rewards to the robber.

The opportunities for illegal cash transfer can be considered as a market where the demand derives from the criminal and the supply from the banks. As the supply is reduced by implementing security measures, so will the equilibrium change (until demand equals supply). When opportunities are reduced in one sector (the banks), some criminals can adapt themselves to this new environment by choosing their targets more carefully. It seems that they have the ability (skills) to change. But, it also is true that when security features are implemented the "costs" of a robbery become higher, and some robbers will not have the skills to adapt to this change.

## Conclusions

It was found that increased security has reduced the risk of robbery for protected banks. But this reduction has not reduced the overall number of bank robberies committed, partly because some robbers, particularly those operating alone, seem not to care about security. However, increased security does reduce the robber's chances of success, without at the same time promoting violence. In fact, the risk of injury for a teller appears smaller in protected banks. These results cast doubt on the "escalation" hypothesis. There is some evidence of displacement, but only within the banking sector and not to other targets, such as post offices and railway booking offices, which are easier but not as profitable targets for the robber.

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## References

- Albrecht, P. A. (1986) Pravektion als problematische Zielbestimmung im Kriminaljustizsystem. *Kritische Vierteljahrsschrift fur Gesetzgebung und Rechtswissenschaft*, 1, 55-82.
- Buchler, H., & Leineweber, H. (1986) *Bankraub und technische pravektion*. Wiesbaden: Bundeskriminalamt.
- Killias, M. (1986). Les Romands face au crime, (1.830-0.83). Fond National de la Recherche Scientifique, IPSC, Lausanne.
- Landes, U. L. (1978) An economic study of U.S. aircraft hijacking 1961-1976. *Journal of Law and Economy*, 2, 1—32.
- Rengier, R. (1985). Kriminologische Folgen der Bekämpfung des Bankraubs durch technische Pravektion. *Monatsschrift fur Kriminologie und Strafrechtsreform*, pp. 104f.
- Servay, W., & Rehm, J. (1986) *Bankraub aus Sicht der Tater, Taterleitende Faktoren bei Raububerfallen auf Geldinstitute*. Wiesbaden: Bundeskriminalamt.

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