



Bureau of Justice Statistics

Cross-National Studies in Crime and Justice

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Contents

1. Introduction	iv
<i>David P. Farrington, Patrick A. Langan, Michael Tonry, and Darrick Jolliffe</i>	
2. England and Wales	1
<i>David P. Farrington and Darrick Jolliffe</i>	
3. United States	39
<i>Patrick A. Langan</i>	
4. Australia	75
<i>Carlos Carcach</i>	
5. Canada	119
<i>Brandon C. Welsh and Mark J. Irving</i>	
6. Netherlands	151
<i>Catrien C. J. H. Bijleveld and Paul R. Smit</i>	
7. Scotland	187
<i>David J. Smith</i>	
8. Sweden	219
<i>P.-O. H. Wikström and Lars Dolmén</i>	
9. Switzerland	239
<i>Martin Killias, Philippe Lamon, and Marcelo F. Aebi</i>	

Aims

The main aim of this chapter is to summarize trends in crime and justice in Switzerland between 1985 and 1999 and to investigate some possible explanations of them. The six serious offenses studied are burglary, motor vehicle theft, robbery, serious assault, rape, and homicide. The key questions addressed are similar to those stated in the chapter on England and Wales. These questions were addressed using police and conviction statistics as well as victimization survey data.

Description

Switzerland, situated in the heart of Western Europe, originates from an alliance of rural and urban republics (cantons) which dates back to the 14th century. Conquests during the early 16th century led to Switzerland developing into a multi-lingual country, with German, French, Italian, and Romansh speaking areas. Formally independent and neutral since 1648, Switzerland became a federal state in 1848, with a constitution heavily inspired by the model used in the United States of America (USA), which leaves the cantons ("states") largely autonomous, particularly in matters of criminal justice. Since the occupation during the Napoleonic wars (1798-1814) and a short civil war (in 1847), Switzerland has not seen any more armed conflict on its territory.

Populated by a population of 7 million (in 2000), with some 46% Catholics and 40% Protestants, Switzerland has one of the highest proportions of immigrants in Europe (20%). Traditionally most immigrants have come from southern Europe and, more recently, predominantly from Balkan countries and areas outside of Europe.

Despite the lack of natural resources, Switzerland has developed, over the 20th century, to become one of the most affluent countries in Europe. Since the 1950's there has been a shift

from emigration (mostly to the USA) to massive immigration. Although Switzerland's largest cities are relatively small (Zurich has a population of just over 330,000), most of the population live in urbanized (suburban) areas. Less than 5% are employed in agriculture, and less than 10% live in "real" rural areas (towns with less than 1,000 population).¹ The unemployment rate was 2.4% in 1999, and according to the 2000 International Crime Victim's Survey (ICVS), 80% of households have at least one car and 29% have at least two cars.

The criminal justice system

Switzerland had in the course of its legal history been under the influence of French, German, and Austrian-Hungarian criminal legislation. After having long been a cantonal matter, the substantial criminal law was unified in 1937. The criminal code, which entered into effect in 1942, has been a fairly independent codification, innovating upon and melting various concepts from neighboring countries (Killias, 2001b).

Switzerland's system of prosecution and criminal justice has remained widely a cantonal matter. In general the Western cantons (including a few German-speaking ones) have remained under the influence of the French tradition, with a juge d'instruction (or examining magistrate) as a key figure who operates independently of the prosecutor (procureur).

In the majority of the German-speaking cantons and in the Italian-speaking canton of Ticino, the function of the examining magistrate is performed by a local prosecutor (Staatsanwalt), as is the case in Germany and Italy (Piquerez, 2000; Schmid, 1997). Before the courts the accusation is represented by the prosecutor,

¹ Statistical information is from *Annuaire statistique de la Suisse - 2001*, Zurich: Editions "Neue Zürcher Zeitung."

especially in important cases (with longer sentences expected), in which the canton's chief prosecutor or one of his or her deputies intervenes regularly. In minor cases, however, the court is left alone with the defendant and his or her counsel, and the court examines the facts on the grounds of the evidence presented by the accusation in writing. Usually, the interrogation of parties and witnesses is led by the court's chairperson. Although cross-examination does exist in theory, it rarely plays more than a complementary role during hearings.

In sum, the Swiss system follows the inquisitorial tradition of the European continent, with a focus on truth rather than on formal issues. The European Convention of Human Rights (which plays a great role in the daily practice before Swiss courts) has increased respect of formal principles, but not to the extent that courts or prosecutors would accept convictions based on evidence which may have been gathered without violation of rights of the defendant, but where they doubt the facts to be true.²

A distinctive feature is also the limited discretion left to examining magistrates, prosecutors, and police officers (Killias, 2001b). Whenever they feel the facts justify a reasonable suspicion that an offense has been committed, they are, except for Geneva and a few other cantons, obliged to prosecute. These officials also are obliged to consider facts which might discharge a suspected person; several magistrates and prosecutors have been convicted for failure to share with the court evidence favorable to the defendant. A corollary of this system of compulsory prosecution are the offenses whose prosecution is conditional, according to the criminal code, on a

² That is true even in the case of guilty pleas which, except for minor offenses, never relieve the court from hearing the case and the evidence (see Langbein 1974, concerning German law).

formal complaint of a victim (or any other party having this quality according to the law).

Method

Data on crime, victimization, and punishment

This section outlines the data collection methods available in Switzerland. Since 1942 the registration of convictions has been a federal matter. Since 1984 data have been recorded on a database which includes full details on convictions (offenses included in the verdict) and sentences imposed.³ As in the majority of European countries (*European Sourcebook*, 1999), a conviction is recorded in the registers and, therefore, in the statistics only after appeal. However, conviction statistics do not include minors (person convicted for offense committed before age 18). In comparison to other continental countries, Swiss data are less inclusive in this respect. Since the focus in this paper will be on trends and not on cross-country comparisons of convictions, this should not be a major concern.

Since 1984 a related database has contained information on every person who enters the correctional system in connection with a custodial sentence. This database provides information on how long prisoners have served under a particular conviction (Rônez, 1997) and is regarded as one of the most sophisticated databases in continental Europe at present.

The same cannot be said of Switzerland's police statistics, which are far from satisfactory. Federal level police data on offenses and suspects have been available since 1981; however, statistics are limited because they are based on a compilation of data

³ The specific rules on the registration of misdemeanors are of no concern in the present context. Convictions for any of the six offenses under consideration are registered under all circumstances (Killias 2001b, n° 1466-1469).

provided by cantonal police departments (see Killias, 2001a, n° 217-223). Furthermore, there is no standardization of data collection procedures or written rules on how to record and count offenses. It is likely that while some departments count offenses at the "output" (that is, when the police transfer the file to the examining magistrate), other departments count offenses at an earlier stage. There are also discrepancies in counting procedures (as detailed in the *European Sourcebook*, 1999, 80-84). For example the 30 victims of a mass "suicide" of a sect in 1995 (many of whom were actually murdered) were counted as one "case" in the cantons of Valais and Fribourg, whereas the Zurich police probably would have recorded the total number of victims. Beyond these differences some cantons have developed more detailed statistics, such as the canton of Zurich, which provides approximately one-third of the offenses which appear in the federal statistics. For the following trend analyses, the Zurich statistics will be used to make reasonable estimates, whenever the federal statistics are insufficiently detailed.

The present research

The first national crime survey of Switzerland was conducted in two phases in 1984 (French-speaking cantons) and in 1987 (German-speaking cantons and Italian-speaking canton).⁴ The overall sample comprised 6,505 respondents. The survey had a few innovative features (Killias, 1989). It was one of the first major victim surveys conducted using computer-assisted telephone interviews (CATI). The use of CATI made it possible to collect data from a large sample of respondents (n=6,505), because of a high telephone penetration rate and sophisticated computer

⁴ The survey was conducted in two phases because of political difficulties. Since crime rates were fairly stable between 1984 and 1987, the impact of the split was likely to be minimal.

technology. The response rate was 71% in the German-speaking cantons and 60% in the Latin cantons. The reference period was defined in a way that allowed victims to mention, in the first round, any victimization that came to mind. If respondents mentioned one of the crimes listed in the screener, they were asked follow-up questions to determine more precisely the timing of the incident (whether it took place during the current year, the previous year, or earlier). These questions allowed telescoping to be reduced, by separating the definitional part of questions on offenses, from their temporal and spatial location. To test the reliability of CATI interviews, face-to-face interviews were conducted with a sub-sample of respondents who had already been interviewed using CATI. CATI interviews were found to be highly reliable and there was found to be a very moderate effect of the response rate on the results.⁵ Beyond these methodological aspects, the first survey of this type in Switzerland included many questions on lifestyle, risk, and other independent variables.

The Swiss survey was used in the development of what became the ICVS; for example, the questions on the temporal and spatial aspects of incidents were based on the Swiss questions. The ICVS also drew on the methodology (for example, questions) of the British and Dutch crime surveys. Respondents were interviewed using CATI, thus keeping costs relatively low and allowing the use of reasonably large samples.⁶ Criticism of the ICVS led to an extensive methodological experiment in the Netherlands. Two parallel victimization surveys (CATI versus telepanel) were conducted to determine whether they yielded

⁵ As in other tests differences were not large since refusals were mostly related to the inconvenience of an interview and not to the theme of the survey. Due probably to higher motivation as a result of personal experience, cooperation was slightly better among victims.

⁶ The costs of a CATI interview can be estimated to be at about 20% to 25% of a personal interview.

similar victimization rates, and indeed found this to be the case (Scherpenzeel, 1992).⁷ In addition the CATI sample was randomly split into two sub-samples. This was to compare the ICVS approach in locating incidents in time with the more conventional model of asking respondents directly about incidents experienced during "the last 12 months" and others, as is the case in many European surveys (for example, the British Crime Surveys).⁸ It was found that in the latter case, serious crimes were often telescoped into the reference period, although they had occurred long before. For robbery and burglary, the rates were 2.2 and 2.5 times higher than was observed using the ICVS model.⁹ It can be concluded that Scherpenzeel's (1992) experiment provides support for the use of CATI as an interview method in victimization surveys, and to the way the ICVS and the Swiss national crime survey had dealt with the problem of telescoping.¹⁰

The first Swiss national crime survey was followed by the ICVS of 1989 and 1996, in which Switzerland participated with sample sizes of 1,000 respondents.¹¹ The response rates were 68% in 1989, and 56% in 1996. In 1998 a second national crime survey was conducted, with a sample of 3,041, followed by a third national crime survey in 2000, with a sample of 4,234

⁷ Survey completed on a computer at home. This method shares many features of mail surveys, but allows higher response rates and offers better control over the way the questionnaire is completed.

⁸ That is asking first about victimizations experienced over the last 5 years and then only when more precisely eventual incidents had occurred (with a special focus on the current and the last year).

⁹ Telescoping effects were weaker for less serious offenses, such as bicycle thefts, which tend to be more rapidly forgotten, than serious forms of victimization.

¹⁰ This problem was addressed in the National Crime Victimization Survey in the USA, through bounding the interviews within the panels. Nowhere in Europe has this expensive method been adopted (Killias, 1993).

¹¹ In the following trend analyses, the two parts of the first survey will be related to 1985 (that is, the year between the two waves).

respondents. In the surveys of 1998 and 2000, booster samples were taken from certain city areas, to overrepresent the immigrant communities and thus to allow more detailed analysis of this group in the population. The 2000 survey formed also part of the last ICVS.

The present paper uses only weighted and national data. The response rates for both the 1998 and 2000 surveys were around 60%.¹² The screeners used in the various sweeps differed slightly for a few offenses; therefore rates were made comparable with minor adjustments (using responses to follow-up questions). The 1998 and 2000 screeners were identical, with minimal deviations from the 1996 version.

Comparability

Switzerland's definition of the six offenses under consideration has followed the continental tradition. Please refer to the *European Sourcebook of Crime and Criminal Justice Statistics* (1999) for a more detailed description of the offense definitions.

There are several categories of homicide; however, this paper is concerned only with the overall concept of intentional homicide (which follows the standard definition). The data used here include all forms of intentional killing of a person, but exclude attempted homicide.

For the offense of bodily injury and assault, there are three categories.¹³ In Swiss law (like in the laws of other continental countries), there is no equivalent to the offense of serious

¹² In 1998 and 2000 the computation is less straight forward than in former surveys due to the replacement of households with consenting respondents by new ones if the demographic characteristics of all available household members were already over represented in the sample. According to various ways of treating these cases, the response rate varies in 2000 from 54% to 65%.

¹³ Sections 122, 123, and 126 CC.

assault found in English law. First-degree bodily injury includes only life-threatening injuries or those which leave the victim permanently and seriously disabled. Fewer than 50 offenders are convicted of this offense per year, compared with more than 1,000 convictions annually for second-degree assault. Third-degree assault includes cases in which the victim has suffered pain but has not been injured. For the sake of comparability, the present study will use data for the categories of first-degree bodily injury and second-degree assault only.

Robbery is defined as theft with violence. Therefore, taking something from another person without physically aggressing him/her (as in the case of bag-snatching) is considered to be theft and not robbery. In contrast, the definition of rape is similar to the definitions of many other countries. Rape now also includes spousal rape and the use of severe psychological pressure.

A major problem of comparing the Swiss conviction data with the standard stems from the absence, under almost all continental laws, of the concepts of burglary and motor vehicle theft. Whereas joyriding is a special offense, according to the Road Traffic Act, stealing a car or any other vehicle with the intent to keep or sell it is considered theft, as is stealing valuables from premises or a closed building.¹⁴ There are a few continental countries whose laws consider burglary as an aggravated form of theft, but Switzerland is not among them.¹⁵ To have something comparable we use conviction, custody, sentence length, and time

¹⁴ The police data used here refer to a national police file of "missing" motor vehicles. These data do not include cases of joyriding if the vehicle is located within 1 or 2 days.

¹⁵ European Sourcebook - 1999, 123, 124. Only four Western European countries are able to provide data on convictions for vehicle theft and burglary.

served data concerning more general forms of aggravated theft (sections 139.2 and 139.3 Criminal Code); since most burglars are convicted for these forms of aggravated theft, these data may provide an approximate measure of sanctions imposed upon burglars.

The Swiss criminal code has been amended many times, and some of these changes have affected the offenses under consideration in this paper. For example, in 1990 the definitions of first-degree murder and bodily-injury were revised; however, as these amendments were concerned with technical details, they have no statistical impact. In 1992 the definition of rape was amended to include marital rape and rape using strong psychological pressure. In 1995 the definitions of theft and robbery were technically amended, although this does not have any major implications for conviction statistics. However, the downgrading of minor theft (of goods below the value of US \$200) to a misdemeanor (to be prosecuted upon the formal complaint of the victim only), led to a decrease of police-recorded offenses of theft (including muggings).

Survey and police-recorded offenses

The number of victim-survey offenses, comparable population figures (number of households), and the probability of reporting to the police were obtained from the Swiss national crime surveys (Killias, Lamon, Clerici, and Berruex, 2000). The 2000 national crime survey estimated that there were 34,377 robberies in 1999 and that 50% of these were reported to the police. Since there was an estimated 5,562,873 persons age 16 or older in 1999, the survey robbery rate was 6.18 per 1,000 population at risk; disregarding repeat offenses about 1 in every 162 persons was robbed in 1999. All crime survey figures, of course, have confidence intervals around them. For example the 95% confidence interval

for the robbery rate in 1999 was 3.82 to 8.54 per 1,000 population. Confidence intervals are narrower for the other three offenses, which are more prevalent.

Swiss survey crime rates for burglary and vehicle theft are per 1,000 households, while rates for robbery and assault (wounding) are per 1,000 population age 16 or older. Vehicle theft figures refer to completed thefts only. Population estimates came from the Federal Office of Statistics.

The main change in the Swiss crime survey was the addition of new screening questions for domestic violence (see Kesteren and others, 2000). This caused an increase in the number of victim-survey offenses of assault. For comparability they are not included in the crime trends.

In order to link offenses and offenders, the average number of offenders per offense is needed. This is because one offense committed by two offenders can lead to two convictions (if both offenders are convicted). Thus, the number of offenders at risk of conviction is the number of offenses multiplied by the average number of offenders per offense. This number was computed using the formula $N=V*O$, where V was the number of victims in the whole population and O was the number of offenders per offenses (according to victims' accounts).

O was difficult to compute for some offenses, although it was relatively simple for robbery and assault. The data from the 1996, 1998, and 2000 national crime surveys were used. The average of these survey measures was used to extrapolate the number of offenders per offense in 1985 and 1988, because the relevant information had not been collected at that time. For burglary and vehicle theft, the surveys did not provide any indication of this measure. If the number of suspects according to the federal police statistics is related to the number of offenses

known to the police, the rate is extremely low (0.1), because of the high percentage of uncleared offenses. Therefore, the number of offenses known for clearance (as indicated in the Zurich police statistics) was weighted, assuming that known suspects are more reasonably related to cleared offenses. This provided a more plausible O . For the computation of the following rates, these adjusted O 's will be used. In the case of rape and homicide, only completed offenses were considered. The average over all years was used in estimating probabilities. Thus O was 1.0 for burglary, 1.3 for vehicle theft, 1.8 for robbery, 1.7 for assault, 1.1 for rape and 1.0 for homicide.

V was easily computed using the survey measures on burglary, vehicle theft, robbery, and assault; the rates were extrapolated to the whole population or the total number of households. For completed homicide national police data was used. For rape survey measures were considered unreliable, and police statistics were considered to suffer from underreporting. Therefore the police data were weighted for the reported rape rates for all the ICVS samples used in the 1989, 1992, and 1996 sweeps in the USA, Canada, England and Wales, Scotland, the Netherlands, France, and Switzerland. The total sample included 12,415 females. Of the 50 cases of completed rape, 46 had been reported to the police (see Enescu, 1999). It was assumed that the reporting of rape to the police has remained relatively stable and that reporting among the Swiss respondents occurred in about the same proportions as respondents in the combined sample for the seven countries. The police-recorded rape cases have been divided by .46 for all years, in order to get a more realistic estimate of the number of offenses (V). This approach yields V 's which increase in the case of rape, fluctuate in the case of homicide, and show trends similar to what has been observed above for the remaining

survey measured offenses. The number of offenders, based on survey measures, who could have been convicted (*N*) varies accordingly over time.

The *number of offenders who could have been convicted, based on police-recorded offenses (M)*, is identical to *N* in the case of homicide, rape, and vehicle theft. Homicide was measured using police-recorded offenses only; however, no adjustments were necessary for rape and vehicle theft, because there is no discrepancy between survey definitions and those applied by police statistics. In the case of robbery and burglary, adjustments of police-recorded offenses were necessary, because survey measures did not include, among other things, commercial robberies and burglaries. For assault the survey measure had also been larger than the criminal law concept of bodily injury, as applied in police and conviction statistics.

The *absolute number of convictions (C)* is known from statistics for all offenses. However, as previously explained, there is under Swiss criminal law no equivalent to the Anglo-Saxon concept of burglary. Therefore convictions for aggravated theft (section 139.2 and 139.3 Criminal Code) will be used. For vehicle theft we use data concerning temporary "theft" of motor vehicles (section 94 Road Traffic Act).

When the number of convictions (*C*) is related to the number of offenders who could according to police data have been convicted (*M*), the probability of conviction (per 1,000 offenders, *X*) seems to vary considerably according to offense type. The chance of being convicted is around 1% for robbery, and between 1% and 2% (on average for the 5 years considered) for assault. For rape the chance of conviction fluctuates between 9% and 15%, and for homicide it is between 50% and 100%. It should be noted that for less frequent offenses, such as homicide, the odds of being convicted

may vary erratically due to the time lag; as previously stated convictions are recorded only after appeals and may, therefore, relate in any given year to acts actually committed during preceding years.¹⁶ Beyond such particularities it seems that the odds of being convicted have moderately decreased for rape, whereas there appears to be no consistent trend for robbery. In terms of "order of magnitude", it seems, however, that the odds have remained fairly stable, with much more variation across offenses than over time.

Convictions

In order to conform to the standard for the common analysis, the number of convictions have been related to the number of offenses. Throughout Europe conviction statistics apply a principle offense rule, and multiple offenses are recorded only once (*European Sourcebook, 1999*). In the case of a person convicted of killing two people, only one conviction for murder will, therefore, be counted in the statistics. Compared to Germany and other countries, Swiss conviction statistics are more detailed as they record also convictions for secondary offenses (for example robbery in addition to murder). However, offenses committed by multiple offenders will be counted only once for any type of offense committed. Therefore, for example, the number of convicted robbers will not match the number of robberies cleared by the police, since the multiple number of robberies committed by a particular offender (and cleared by the police) will lead to just one conviction for robbery, irrespective of the number of offenses of which the defendant has been found guilty. If the court finds an offender also guilty of rape or drug trafficking, these additional offenses will be recorded in Swiss conviction statistics, but again

without giving the number of offenses per type of crime.

Given these features of conviction statistics in Switzerland and more generally in continental Europe, an attempt was made to relate the number of convictions also to the number of suspects. Both are person measures and both count the same person only once per offense type, although some double counts are possible in police statistics given their limited consistency.

Sentences

In Switzerland offenders found guilty of multiple offenses at any one time will receive one overall sentence, which reflects the seriousness of the principle offense (Killias, 2001b). Sentences in cases in which defendants have been convicted at the same time of more than one offense are difficult to relate to any particular offense type. For example the gross average sentence length for assault (serious and ordinary) varied during 1984-98 between 91 and 152 days; if cases in which offenders had been convicted of additional offenses were excluded, the average net sentence length dropped to 14 to 30 days. For theft alone the average net sentence varied between 15 and 21 days, whereas it was between 61 and 91 days if cases where offenders had been convicted of theft and other offenses were included. Assuming that the patterns of multiple offending have changed little over time, it is possible to tentatively indicate overall trends. The same problem (and solution) applies to the concept of time served in prison.

¹⁶ This explains why in 1995 the odds of a conviction for homicide seem to exceed 100%.

Results

All surveys provided prevalence data. The number of incidents (during the last year) was recorded according to the same procedure from 1989 to 1999, but not for 1984 to 1987. Therefore incident rates were calculated by using estimates based on the prevalence rate for 1984/87, and the average number of incidents per victim derived from the other surveys. All incidents experienced abroad were excluded.¹⁷ The rate of offenses reported to the police (according to the respondent) needed to be extrapolated, since follow-up questions have been asked for the "last" incident only, as in the case of ICVS and many other similar questionnaires.¹⁸ All rates are given in the spreadsheet (tables 1 to 6). To determine whether crimes were increasing markedly over time, it was decided for each country to correlate crime rates with years. For Switzerland correlations are strong, but mostly based on 5 years only. Therefore, they are not included here.

Survey crime rates

Based on the national victim survey, the residential burglary rate per household decreased between 1985 and 1988 (from 9 to 7 per 1,000 households), then more than doubled between 1988 and 1997 before decreasing by around 25% (figure 1a). The vehicle theft rate decreased between 1985 and 1999 (from 198 to 16 per 1,000 households; figure 1b). The robbery rate increased between 1985 and 1995 (from 4 to 7 per 1,000 population age 16 or older) then

decreased by about a third between 1995 and 1997 and then increased by 40% between 1997 and 1999 (figure 1c). The assault rate increased between 1985 and 1995 (from 15 to 41 per 1,000 population age 16 or older), then almost halved between 1995 and 1997, before increasing to almost 1995 levels in 1999 (figure 1d).

¹⁷ For this reason the rates given below may slightly differ from ICVS sources. The proportion of victimizations experienced in foreign countries is substantial among Swiss respondents and for certain offenses. According to the most recent data, 1 robbery in 3 and about 1 in 10 sexual victimizations have been experienced abroad.

¹⁸ Multiplied by incidence/prevalence rate.

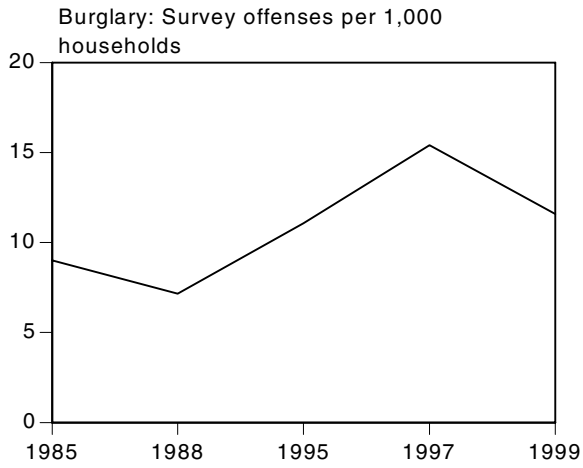


Figure 1a

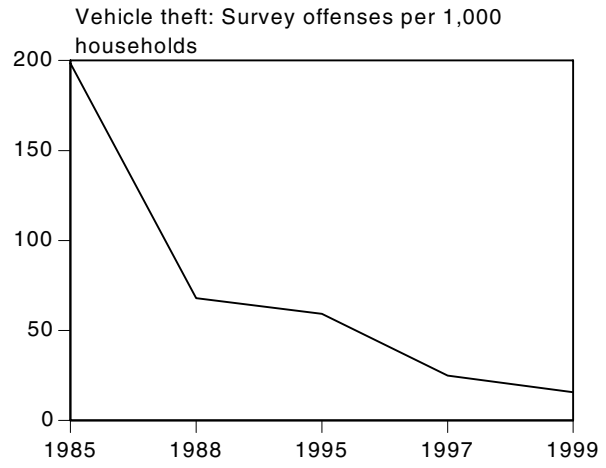


Figure 1b

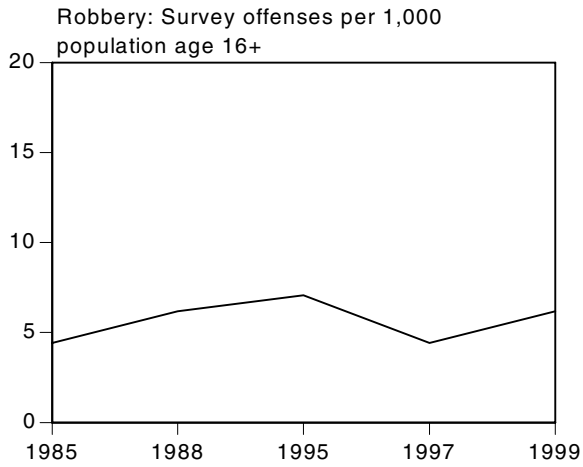


Figure 1c

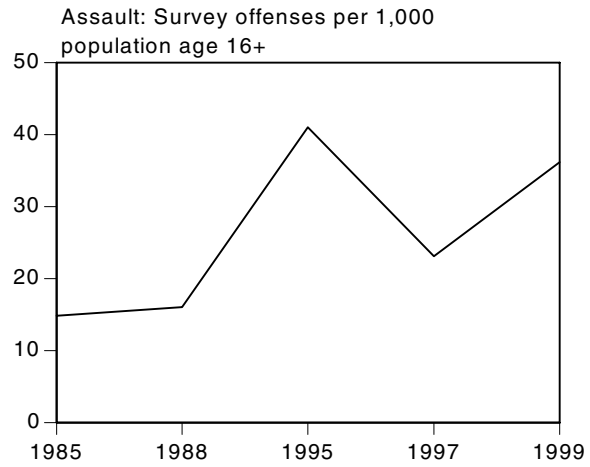


Figure 1d

Recorded crime rates

Like the survey burglary rate, the police-recorded residential burglary rate almost doubled between 1985 and 1997 (from 2.63 to 4.37 per 1,000 population), and decreased by 12% up to 1999 (figure 2a). Recorded crime rates are shown for all years from 1985 to 1999. The vehicle theft decreased between 1985 and 1999 from 16.2 to 11.0 per 1,000 population (figure 2b). The robbery rate increased between 1985 and 1993 by 44% (from 0.31 to 0.56 per 1,000 population) then decreased by 32% until 1995 and increased again by 18% (figure 2c). The assault rate increased from 1985 to 1999 by 42% (from 1.1 to 1.9 per 1,000 population) (figure 2d). The police-recorded rape rate decreased by 43% between 1985 and 1994 (from 0.24 to 0.17 per 1,000 females) and then increased by 26% until 1999 (figure 2e). The homicide rate increased from 1986 to 1990 by three-quarters (from 0.009 to 0.017 per 1,000 population) and decreased by 56% between 1990 and 1999 (figure 2f). In general changes in survey crime rates were highly correlated with changes in recorded crime rates (table 7).

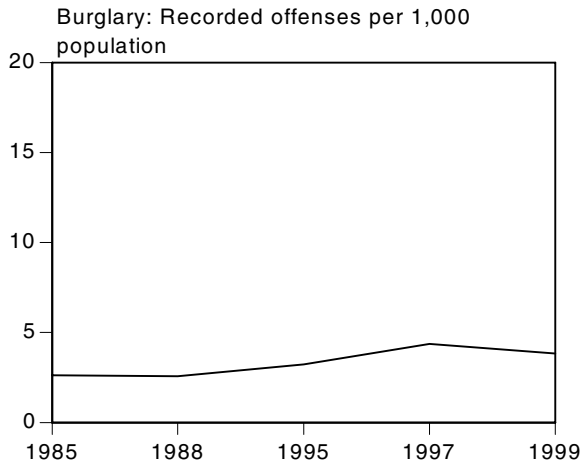


Figure 2a

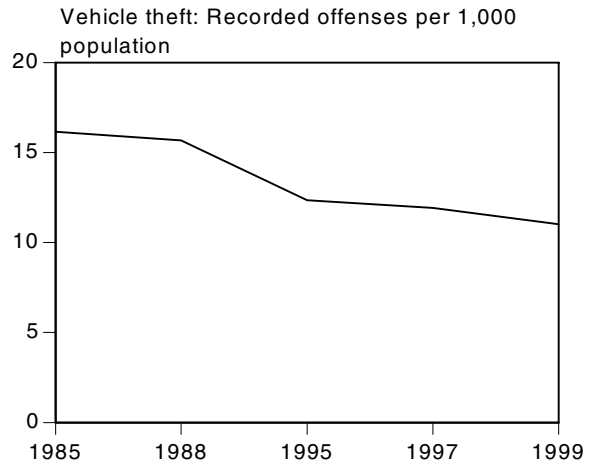


Figure 2b

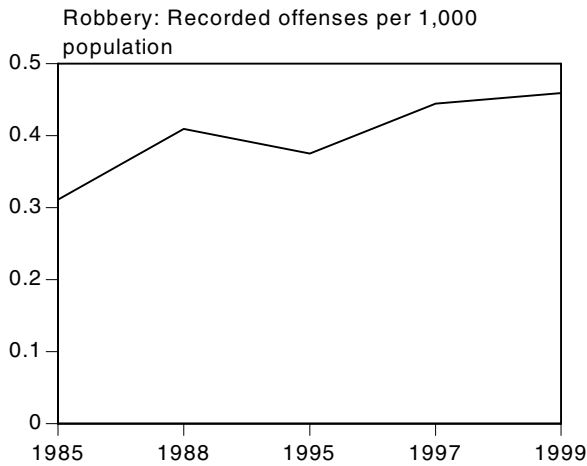


Figure 2c

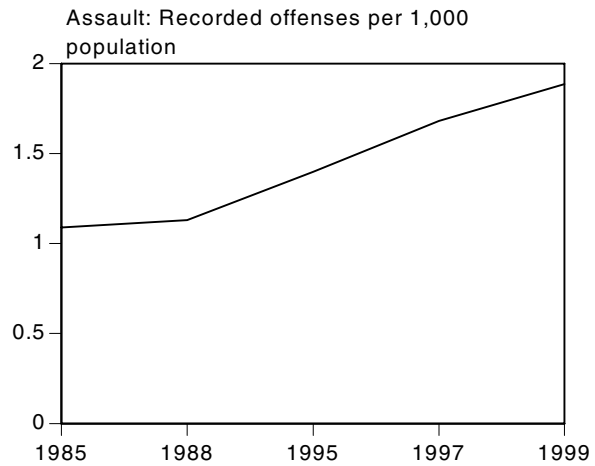


Figure 2d

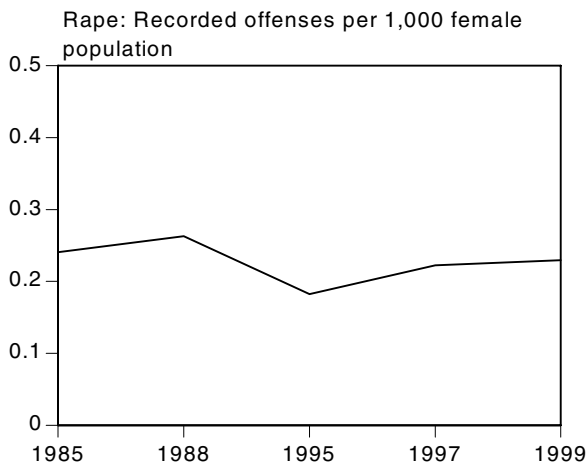


Figure 2e

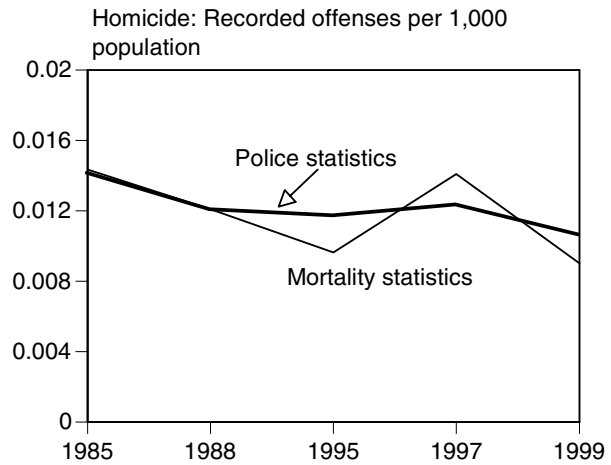


Figure 2f

Reporting crimes to the police

According to victims the probability of burglaries being reported to the police decreased from 83% to 74% between 1985 and 1998 and increased by 5.5% in 1999 (figure 3a). This probability stayed very stable for vehicle theft (mean 90%) and for assault (mean 28%) (figure 3b and 3d), decreased sharply between 1985 and 1995 (from 59% to 24%) for robbery and then increased until 1999 (figure 3c).

Recording crimes by the police

The probability of the police recording a residential burglary that was reported to them increased from 1985 to 1988, from 86% to 100%, then decreased in 1995 to 76% and increased until 1999 to 94% (figure 3a). The probability of the police recording a vehicle theft tended to increase in two steps, from 1985 to 1995, from 22% to 55%, and until 1999 to 100% (figure 3b).

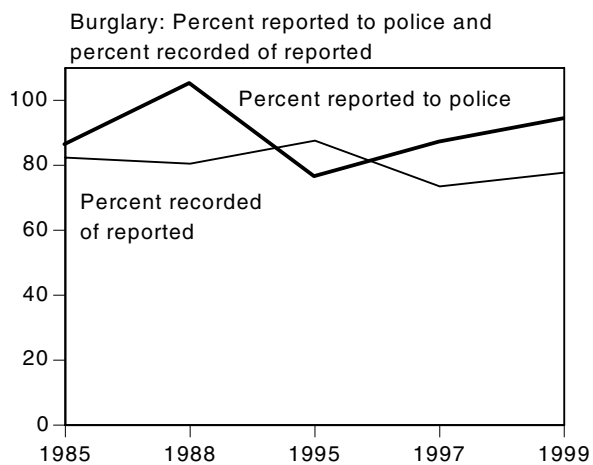


Figure 3a

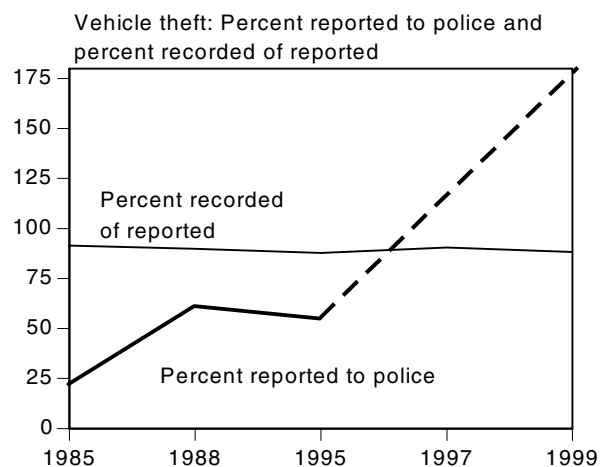


Figure 3b

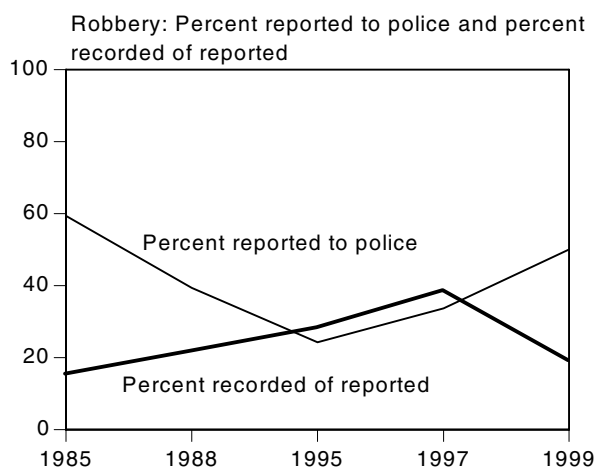


Figure 3c

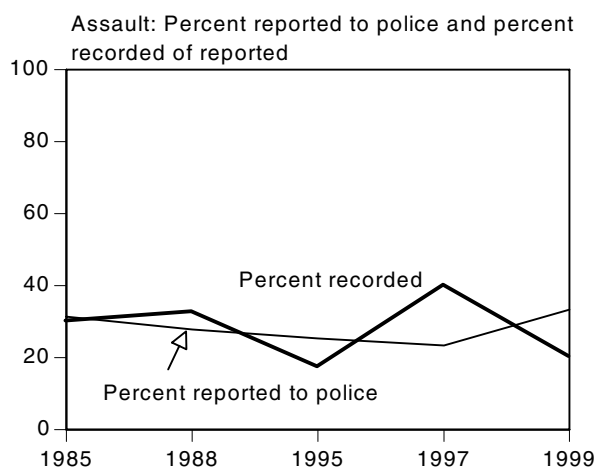


Figure 3d

Conviction rates

The conviction rate for residential burglary decreased between 1985 and 1999 from 0.20 to 0.13 per 1,000 population age 10 or older (figure 4a), for vehicle theft from 0.49 to 0.36 (figure 4b), for robbery from 0.11 to 0.09 with an increase between 1992 and 1994 to 0.11 (figure 4c). The conviction rate for assault increased between 1985 and 1999 from 0.19 to 0.25 (figure 4d). For rape the conviction rates fluctuate between 0.024 and 0.040 (figure 4e) and for homicide there is an increase between 1985 and 1999 from 0.011 to 0.013.

Custody rates

The population custody rate (persons sentenced to custody per 1,000 population) for residential burglary, vehicle theft, and robbery decreased from 1985 to 1999, from 0.08 to 0.05 for burglary (figure 4a), from 0.12 to 0.08 for vehicle theft (figure 4b), and from 0.04 to 0.02 for robbery (figure 4c).

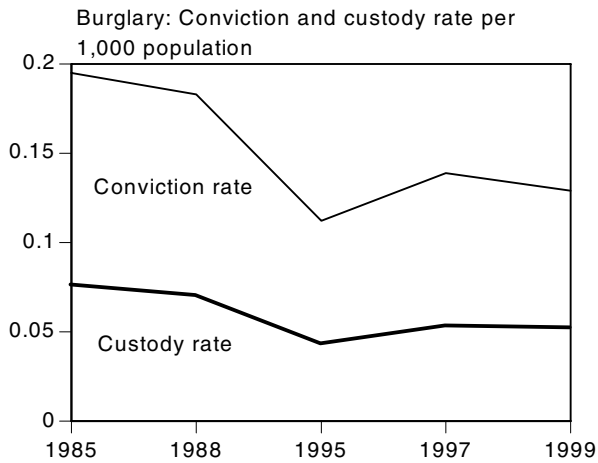


Figure 4a

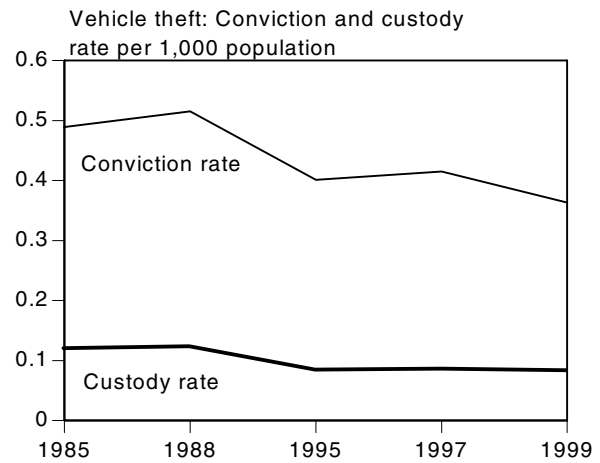


Figure 4b

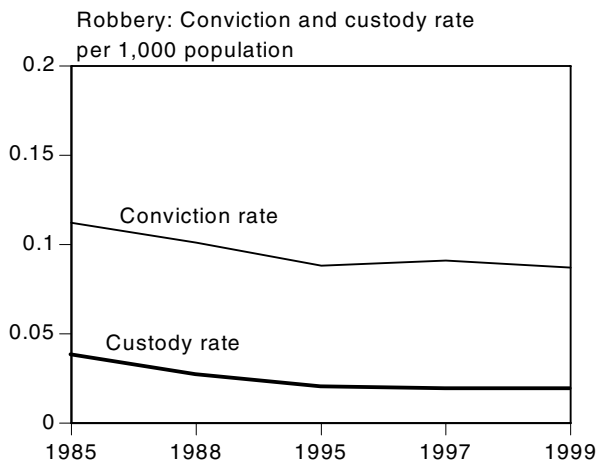


Figure 4c

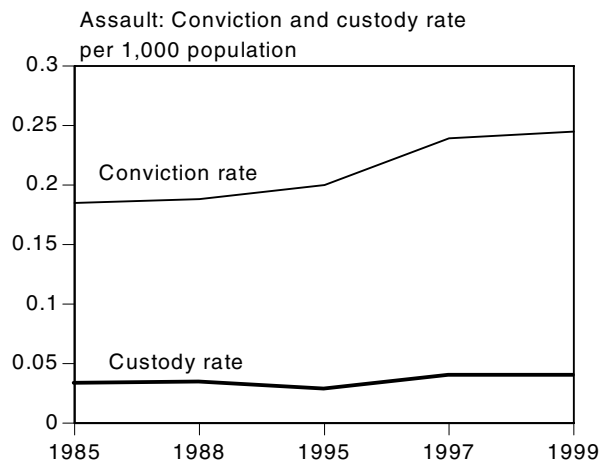


Figure 4d

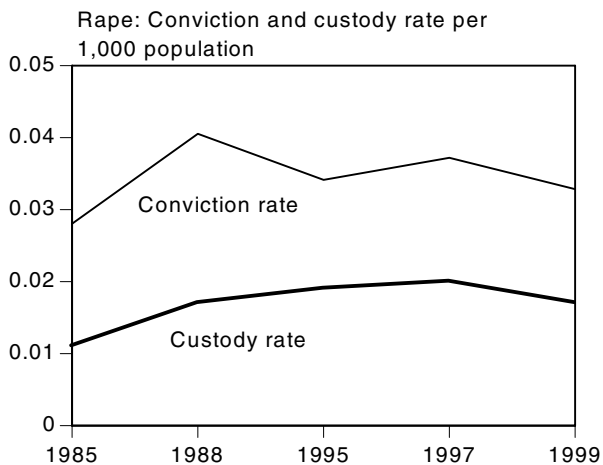


Figure 4e

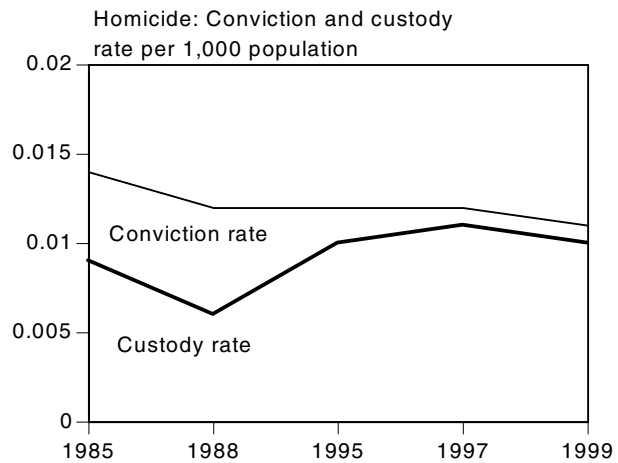


Figure 4f

Probability of an offender being convicted

The number of convictions per 1,000 residential burglary offenders increased between 1985 and 1988, from 14.9 to 17.8 before decreasing to 9.7 in 1999 (figure 5a). The number of convictions per 1,000 vehicle thieves increased sharply from 1985 to 1999, from 4.2 to 35.7 (figure 5b). The trends per 1,000 robbers or assaulters are less consistent. The number of convictions decreased from 1985 to 1995, from 12.2 to 6.4 for robbers and from 18.5 to 8.5 for assaulters, then increased in 1997 to 10.2 for robbers and to 18.3 to assaulters, before decreasing in 1999 to 6.9 for robbers and to 12.3 for assaulters (figure 5c and 5d). The number of convictions per 1,000 rapists increased from 1985 and 1995, from 91.3 to 146.6 before decreasing until 1999 to 112.1 (figure 5e). The number of convictions for homicide offenders decreased from 1985 to 1988, from 735.5 to 567.1, increased sharply in 1995 to 1,080.3, decreased in 1997 to 983.1 and finally increased in 1999 to 1,098.6 (figure 5f).

Probability of an offender receiving custody

The probability of a residential burglary offender receiving a custodial sentence increased between 1985 and 1988 (from 5.8 to 6.8 incarcerations per 1,000 burglars) but then decreased to 3.9 in 1999 (figure 5a). The probability of a vehicle thief receiving a custodial sentence increased dramatically between 1985 and 1999 (from 1.1 to 8.1 incarcerations per 1,000 offenders; figure 5b). The probability for a robber receiving a custodial sentence decreased from 1985 to 1999, from 4.1 to 1.5 incarcerations per 1,000 offenders (figure 5c). The probability of an assaulter receiving a custodial

sentence decreased from 1985 to 1995 (from 3.3 to 1.2 incarcerations per 1,000 offenders) but then increased in 1997 to 3.0 and finally decreased in 1999 to 2.0 (figure 5d). The probability of a rapist receiving a custodial sentence increased from 1985 to 1995 (from 36.1 to 80.4 incarcerations per 1,000 offenders) but then decreased to 59.6 incarcerations per 1,000 offenders in 1999 (figure 5e). The probability of a homicide offender receiving a custodial sentence decreased from 1985 to 1988 (from 581.9 to 451.1 incarcerations per 1,000 offenders) and then increased dramatically in 1999 to 830.7 (figure 5f).

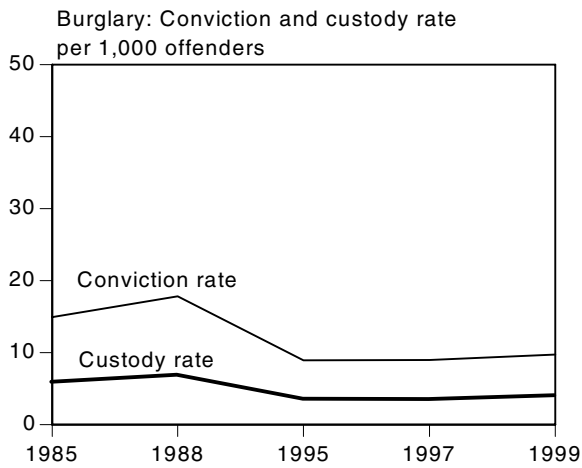


Figure 5a

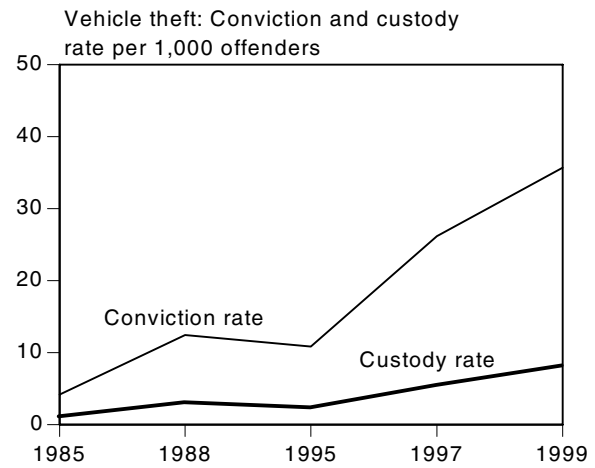


Figure 5b

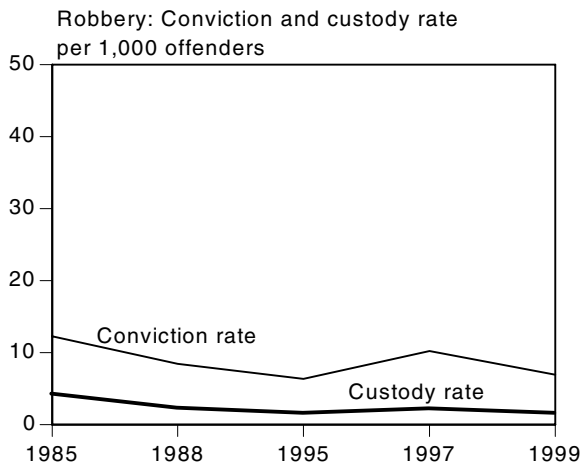


Figure 5c

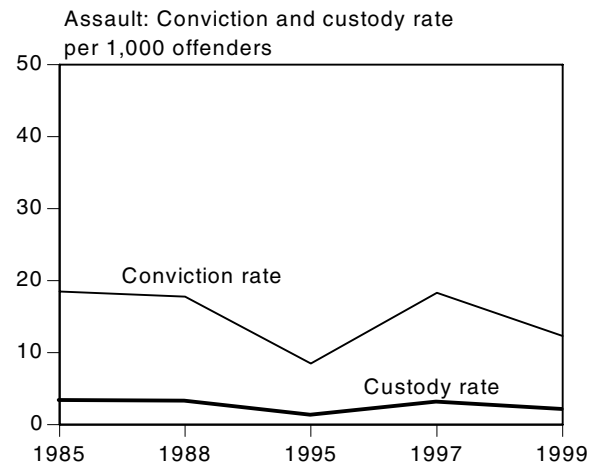


Figure 5d

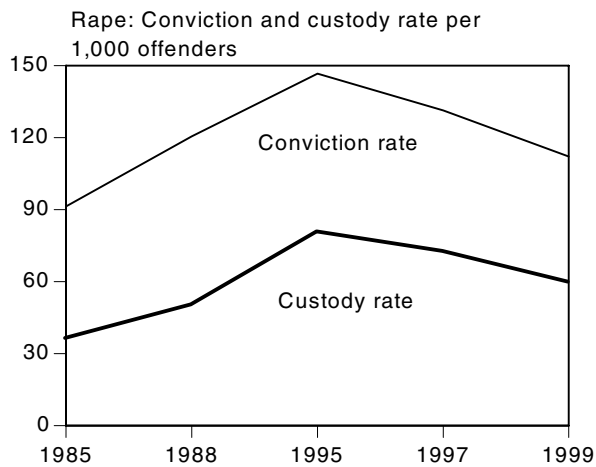


Figure 5e

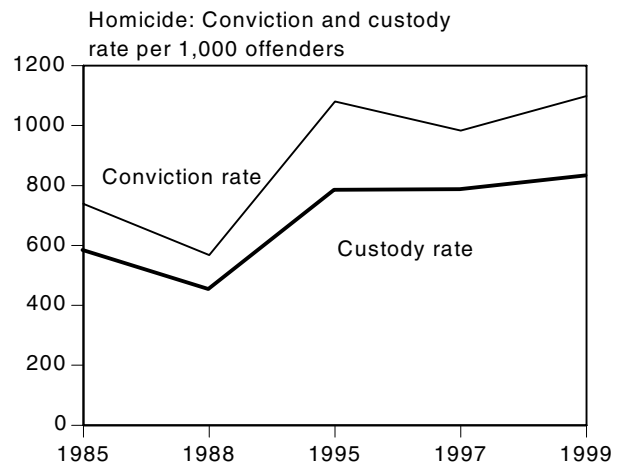


Figure 5f

Probability of custody after conviction

The probability of receiving a custodial sentence after a conviction for residential burglary and for homicide did not change markedly from 1985 to 1999 (figure 6a and 6f). For vehicle theft (figure 6b) there is a small decrease from 1985 to 1999, from 0.24 to 0.23.

Percentage of sentence served in custody

The percentage of a burglary sentence that was served in custody increased regularly from 51% in 1985 to 82% in 1999 with just one decrease to 67% in 1997 (figure 6a). The percentage of a vehicle theft sentence that was served in custody increased from 76% in 1985 to 100% in 1999 (figure 6b). From 1995 to 1999, the percentage is more than 100% probably because data on time served may relate to persons sentenced in preceding years. The percentage of a robbery sentence that was served in custody increased from 37% in 1985 to 74% in 1997 and decreased to 69% in 1999 (figure 6c). The percentage of an assault sentence that was served in custody increased from 43% in 1985 to 72% in 1988, but then decreased to 56% in 1995 and increased to 100% in 1999 (figure 6d). The percentage of a rape sentence that was served in custody increased regularly from 36% in 1985 to 68% in 1999 with a small decrease in 1997 to 52% (figure 6e). The percentage of a homicide sentence that was served in custody increased from 17% in 1985 to 70% in 1997 and stay constant in 1999 to 66% (figure 6f).

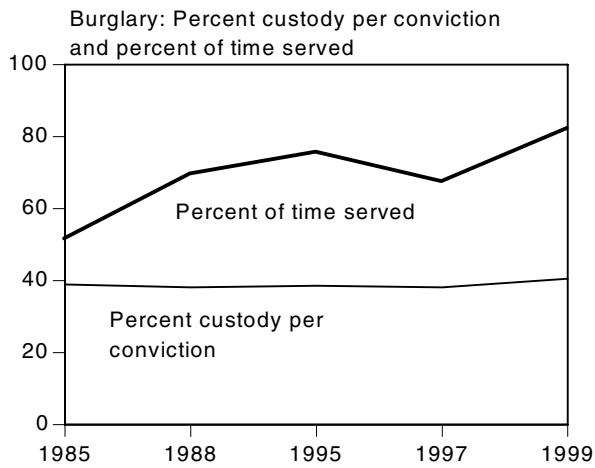


Figure 6a

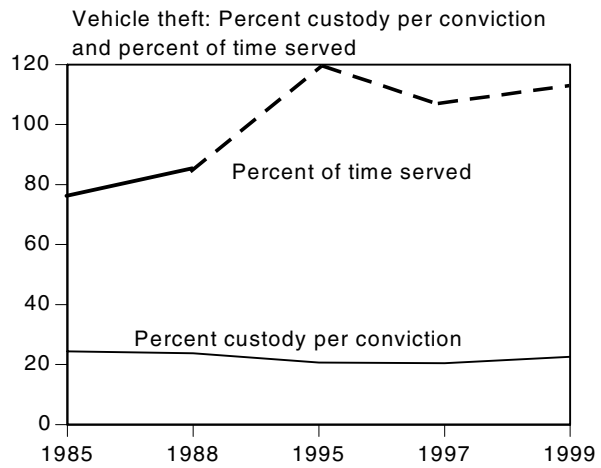


Figure 6b

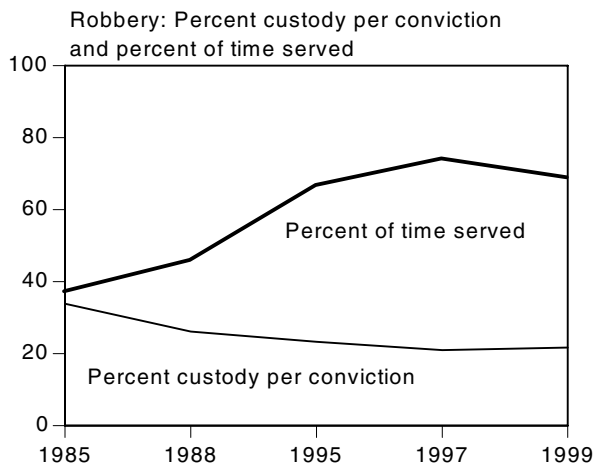


Figure 6c

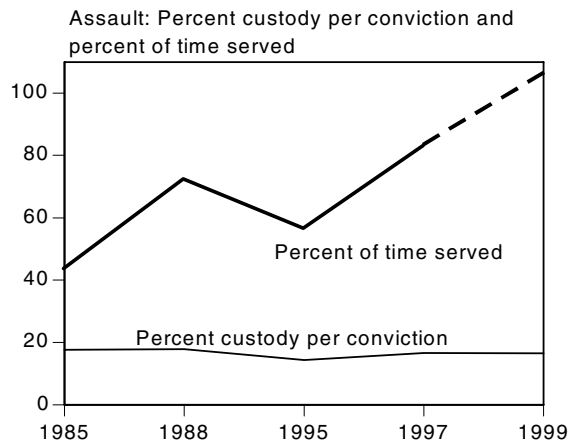


Figure 6d

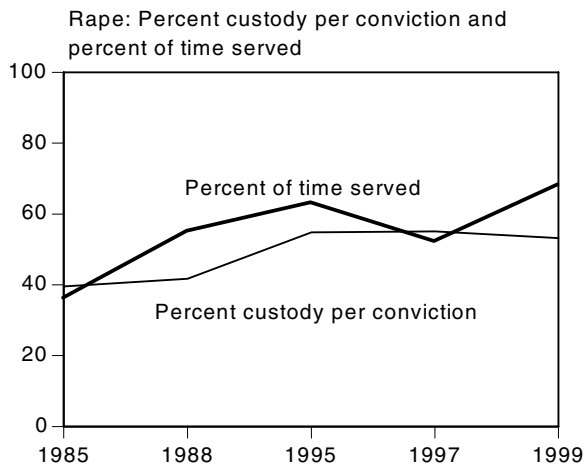


Figure 6e

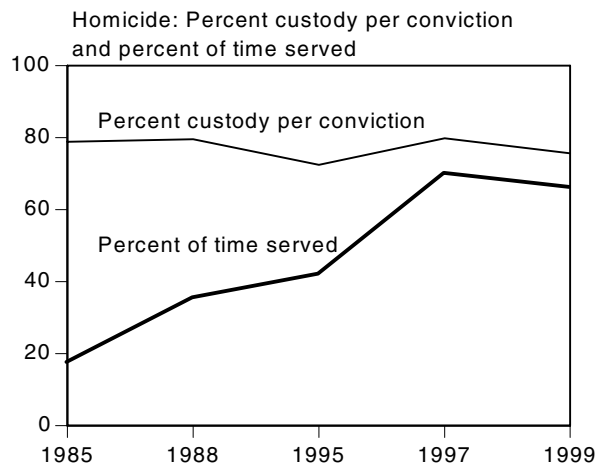


Figure 6f

Average sentence length

The average length of custodial sentences for burglary fluctuates between 22.9 months in 1985 and 19.1 months in 1999 (figure 7a). The average length of custodial sentences decreased from 11.2 months for vehicle theft and from 44.0 months for robbery in 1985 to 8.3 months for vehicle theft and 30.0 months for robbery in 1997 but then increased to 9.4 months for vehicle theft (figure 7b) and to 35.6 months for robbery in 1999 (figure 7c). The average sentence length for assault decreased from 15.2 months in 1985 to 13.0 months in 1988, increased to 16.5 months in 1995 and decreased to 11.7 months in 1999. The average sentence length for rape decreased from 46.3 months in 1985 to 40.5 months in 1988 but then increased regularly to 49.7 months in 1999 (figure 7e). The average sentence length for homicide fluctuates with the shortest sentence length in 1988 at 92.8 months and the longest in 1995 at 117.1 months (figure 7f).

Sentence length is somewhat misleading under continental criminal law. Unlike Anglo-Saxon judges who often impose a sentence for every offense for which the defendant has been found guilty, continental courts mete out a global sentence for all offenses together. In case of a conviction for multiple offenses, the global sentence will, therefore, mostly reflect the most serious offense. Thus sentence length will be inflated particularly for less serious offenses, especially if they coincide with serious crimes (table 10). For example in the case of assault, the average sentence for offenders found guilty of this offense only is 75 days in 1999, whereas it is 356 days if offenders are included who were simultaneously found guilty of additional offenses.

Average time served

The average time served in custody after sentence for burglary increased from 11.8 months in 1985 to 17.5 months in 1995, then decreased to 13.1 months in 1997 before increasing to 15.6 months in 1999 (figure 7a). The average time served for vehicle theft increased from 8.5 months in 1985 to 11.3 months in 1995 before decreasing to 8.9 months in 1997 and increasing to 10.5 months in 1999 (figure 7b). The average time served for robbery increased from 16.3 months in 1985 to 24.5 months in 1999 (figure 7c). The average time served for assault increased irregularly from 6.6 months in 1985 to 12.5 months in 1999 (figure 7d). The average time served for rape increased from 16.6 months in 1985 to 28.1 months in 1995, but then decreased to 24.8 months in 1997 before increasing to 33.9 months in 1999 (figure 7e). The average time served for homicide increased constantly from 19.1 months in 1985 to 65.5 months in 1997 and decreased slightly to 63.8 months in 1999 (figure 7f).

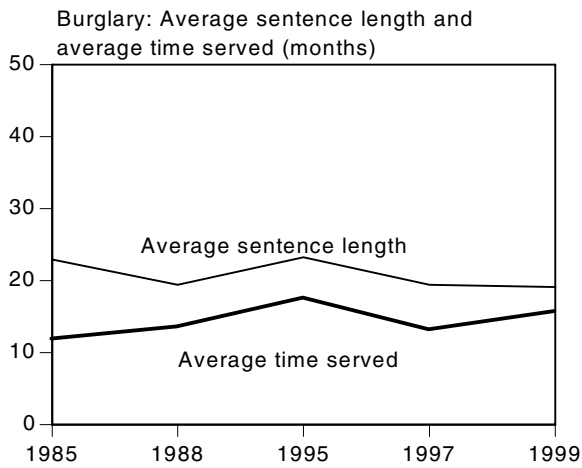


Figure 7a

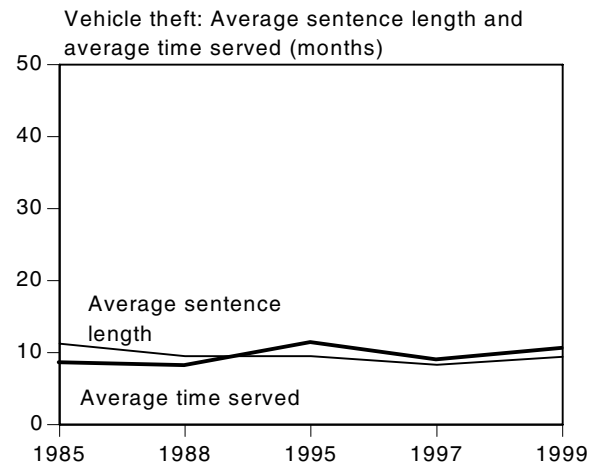


Figure 7b

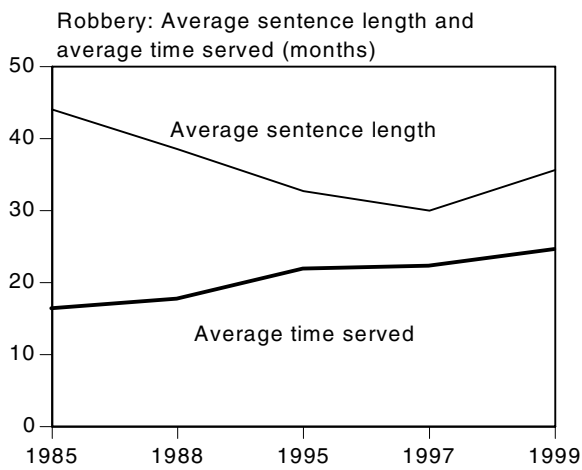


Figure 7c

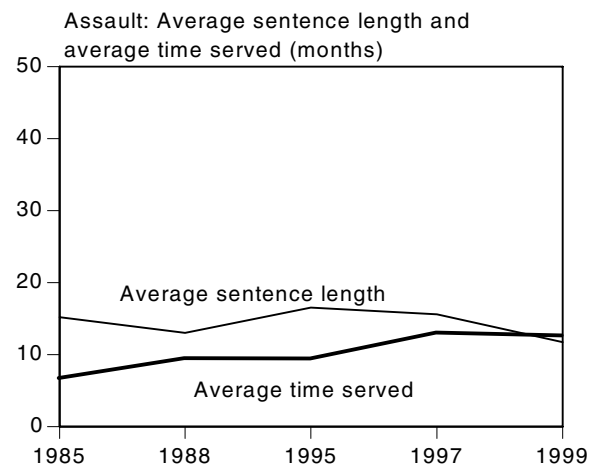


Figure 7d

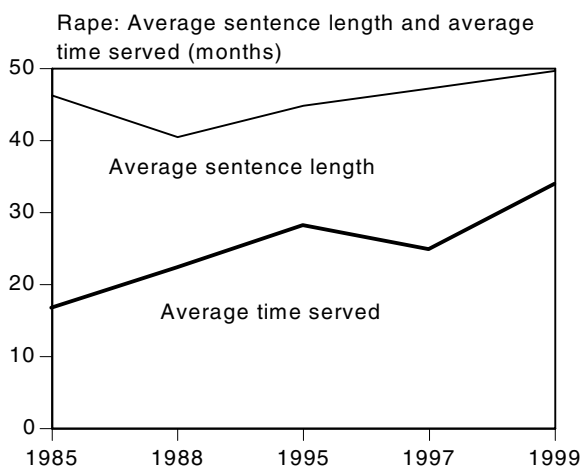


Figure 7e

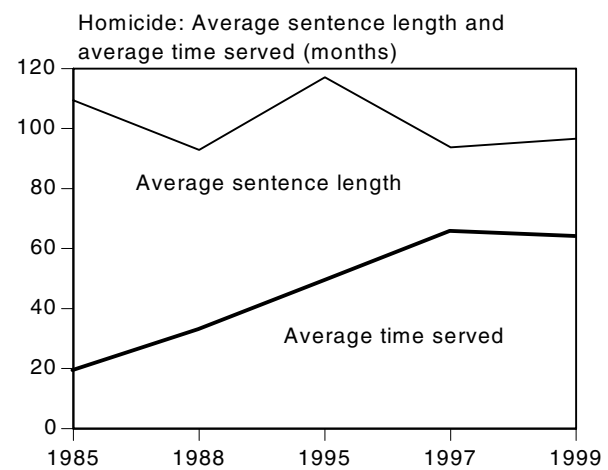


Figure 7f

Average time served per conviction

The average time served per conviction for burglary increased from 139 days in 1985 to 206 days in 1995 but then decreased to 152 days in 1997 before increasing to 193 days in 1999 (figure 8a). The average time served per conviction fluctuates around the mean of 64 days for vehicle theft and of 153 days for robbery (figure 8b and 8c). The average time served per conviction for assault increase, although not regularly, from 35 days in 1985 to 63 days in 1999. The average time served per conviction increased sharply from 200 days in 1985 to 547 days in 1999 for rape, and from 457 days in 1985 to 1,467 days in 1999 for homicide (figure 8e and 8f).

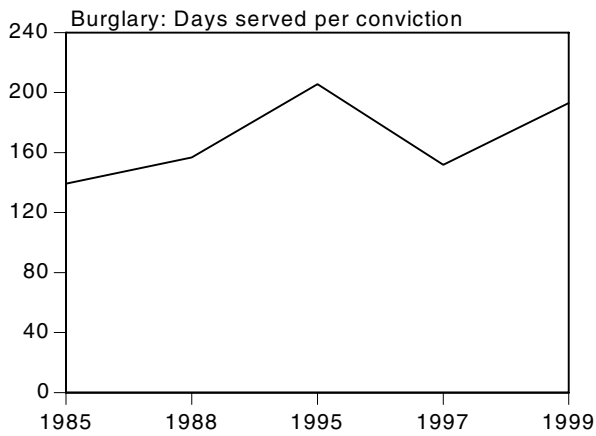


Figure 8a

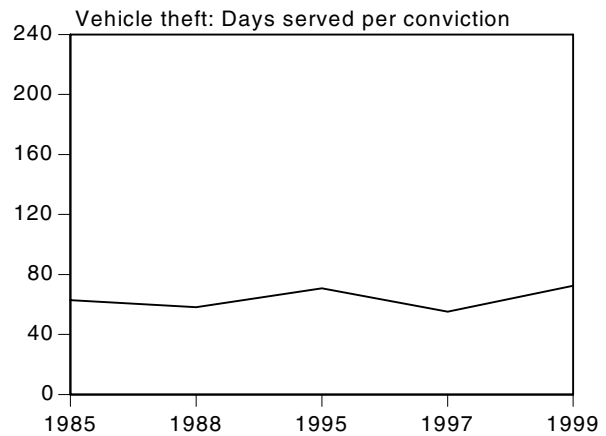


Figure 8b

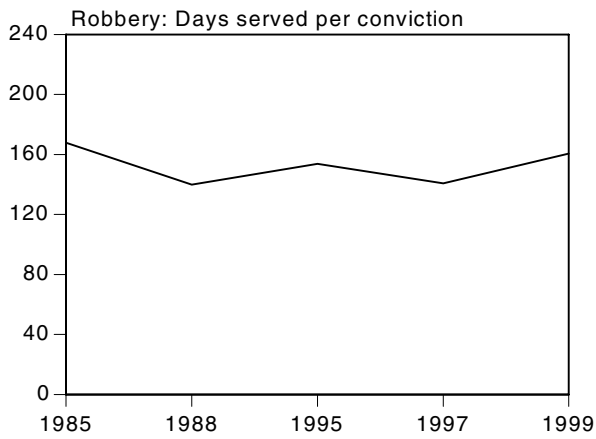


Figure 8c



Figure 8d

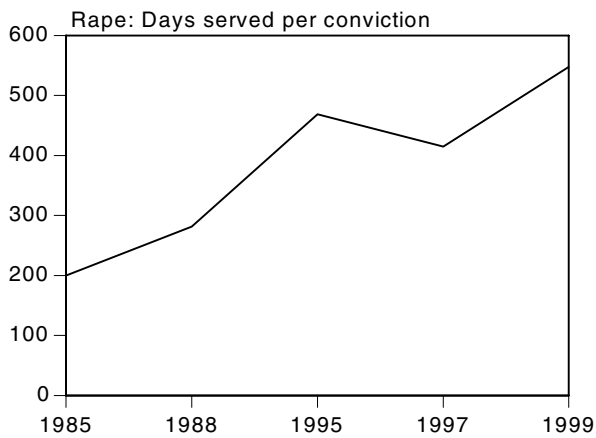


Figure 8e

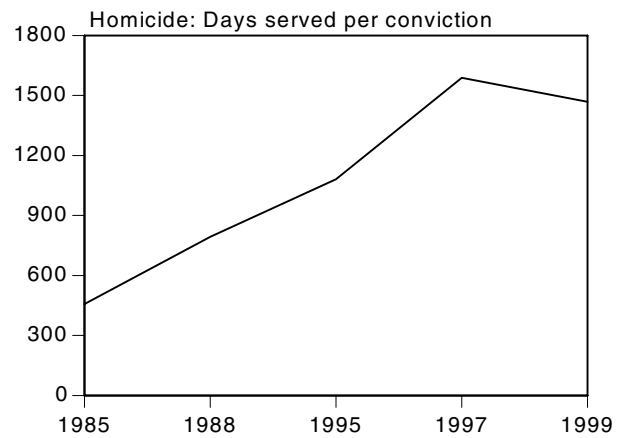


Figure 8f

Average time served per offender

The average time served per burglary offender increased from 2.1 days in 1985 to 2.8 days in 1988 but then decreased to 1.4 in 1997 before increasing to 1.9 days in 1999 (figure 9a). The average time served per vehicle thief increased from 0.3 days in 1985 to 2.6 days in 1999 (figure 9b). The average time served per robber decreased from 2.1 days in 1985 to 1.0 days in 1995 but then increased to 1.4 days in 1997 before decreasing to 1.1 days in 1999 (figure 9c). The average time served per assaulter fluctuated with the lowest figure in 1995 (0.3 days) and the highest in 1997 (1.2 days; figure 9d). The average time served per rapist increased sharply from 18.3 days in 1985 to 68.8 days in 1995, but then decreased to 54.5 in 1997 and increased again to 61.3 in 1999 (figure 9e). The average time served per homicide offender increased from 337.5 days in 1985 to 1,612.3 days in 1999 (figure 9f).

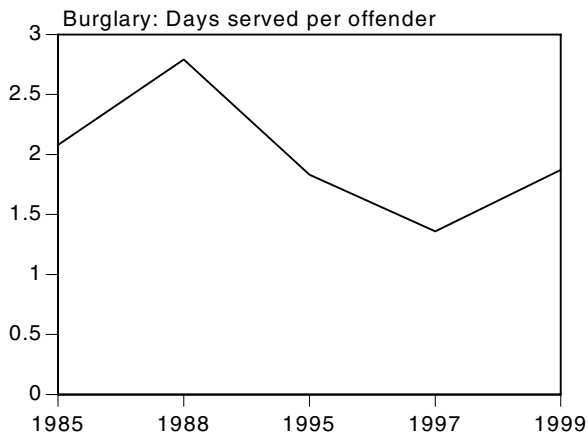


Figure 9a

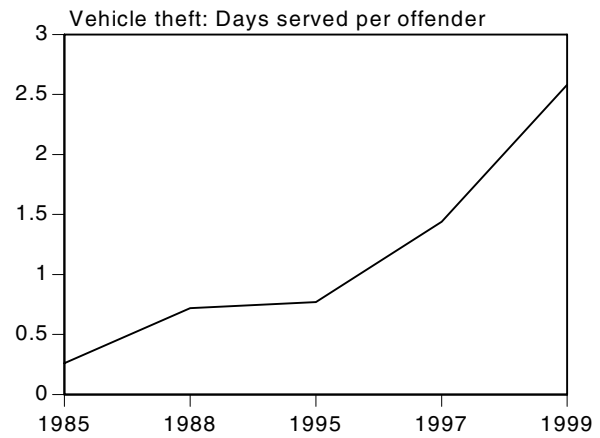


Figure 9b

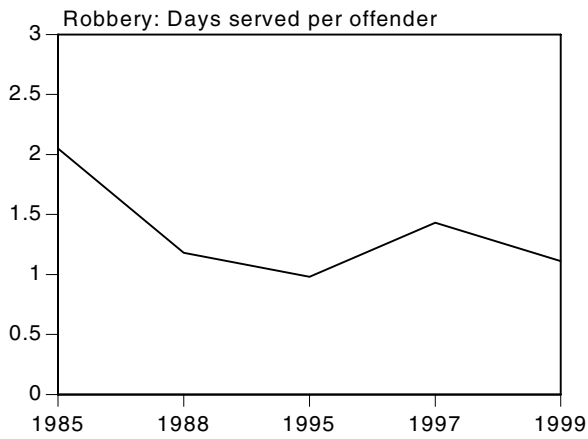


Figure 9c

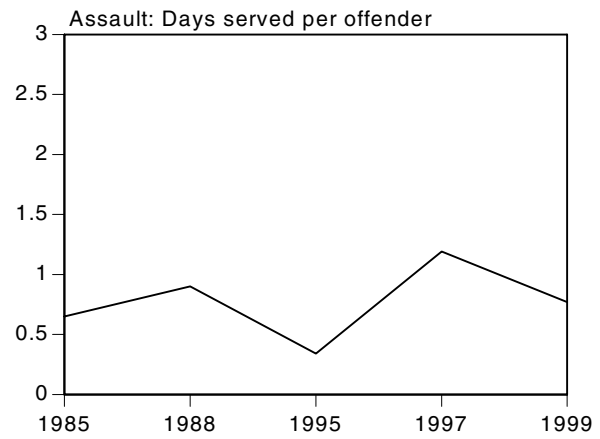


Figure 9d

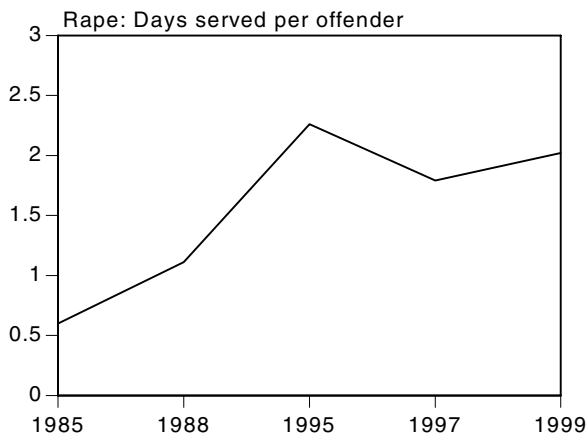


Figure 9e



Figure 9f

Discussion

Methodological issues

Generally speaking burglary and all personal offenses have substantially increased between the late 1980's and 1995. When appropriate adjustments were made, the increase in police statistics matched by and large the trends in crime surveys. From 1995 to 1997 all crimes against the person dropped substantially, and increased again in 1999 to about the 1995 levels. This erratic change in survey trends is not matched in police data. The first question which comes to mind is whether survey methods might account for these changes.

The answer is that this is an unlikely cause, for survey methods did not change between 1995 and 1999. The screeners were, besides a few details without interest here, identical; all sweeps used CATI; and response rates were very similar. It is true that a different company conducted the surveys of 1989 and 1996 (from those in 1998 and 2000), but that would not explain why the increase from 1997 to 1999 was about as large as the drop from 1995 to 1997. The questionnaires in 1998 and 2000 were identical in all details (as far as measures of crime are concerned).

Survey measures of burglary and motor vehicle theft followed, in line with police statistics, remarkably different trends from crimes against the person. Whereas theft of motorcycles continued to decrease, burglary peaked in 1997 and decreased in 1999. Bicycle theft followed a trend similar to what was observed for offenses against the person. In conclusion it seems unreasonable to attribute these changes to methodological problems.

Discrepancies between survey and official measures of crime

The federal police statistics give a higher burglary rate than the survey rate, because the federal police statistics category of burglary includes not only commercial burglaries, but also theft from vending machines, telephone boxes, ticket machines, parking meters, and others. The Zurich police statistics were used to weight the federal police data for the proportion of residential burglaries according to the statistics for Zurich. The resulting trend is lower than what victims declared having reported to the police (as one would expect), and by and large follows survey trends.

The rate for vehicle theft (for example, cars, motorcycles, and mopeds) was given per 1,000 vehicle-owning households. As surveys provided data on the number of owners, it was possible to extrapolate, using survey information and household statistics, the number of households with vehicles for all years. The dramatic drop in the survey vehicle theft rate during the late 1980's was probably influenced by a change in the law, which made compulsory the wearing of crash helmets.

The police data shows a similar trend, though it is less pronounced, possibly because minor incidents often went unrecorded, particularly during the 1980's, when many vehicles were located rapidly. The reduction in the popularity of mopeds among juveniles is likely to have affected joyriding more than actual theft; a factor which could explain why police-recording seems to have increased in recent years. Interestingly, theft of bicycles which is not discussed here shows a different trend, which is more similar to the trends of personal offenses (Killias, Lamon, Clerici, and Berruex, 2000).

The number of robberies experienced in Switzerland is not large enough to provide reliable annual rates, even with relatively large samples. In order to reduce this problem, the annual rates were computed on the basis of the 5-year rates. This produced more stable trends, which are in line with those of other personal offenses which are indeed very similar (Killias, Lamon, Clerici, and Berruex, 2000).

Survey definitions of robbery include bag snatching and other forms of "mugging." In order to adjust police measures to survey indicators, such incidences (legally considered as theft) were also included. On the other hand, commercial robberies were excluded, using detailed information from Zurich police statistics and weighting the federal data accordingly.¹⁹ Whereas survey measures include only incidents experienced by persons age 16 or older, the police data (and related population figures) refer to the total population.²⁰

The survey measures are annual rates of assault and threats. The police data include first-, second-, and third-degree cases of bodily injury, plus threats, extortion, and deprivation of liberty, in order to reach a maximum of consistency with survey measures of assault (which could include experiences legally qualifying for any of these other criminal code sections).²¹ Since police measures are by far lower than survey estimates for assault/threats, it was decided to include in the police data robberies, assuming that some victims

¹⁹ Only robberies committed in public places (streets) were included.

²⁰ It is not possible to exclude from the police figures incidents experienced by victims younger than 16.

²¹ Criminal Code sections 180 (threats, menaces/Drohung), 181 (forcing somebody to do or to tolerate something, contrainte/Nötigung), 156 (extortion, extortion/Erpressung) and 183 (deprivation of liberty, séquestration-privation de liberté/Freiheitsberaubung und Entführung).

might have indicated attempted robberies or muggings under the heading of assault/threat.

Despite the inclusion of a number of related offenses which might be listed under the survey measure of assault, the gap between police data and survey measures seems dramatic. This undoubtedly is due to the fact that second- and third-degree bodily injury is prosecuted on the formal request of the victim only. In practice this probably leads the police to record reported offenses only when the suspect is known and when the victim insists on prosecution.²²

Switzerland is one of the countries where, in the case of assault, the number of suspects matches by and large the number of recorded offenses (Council of Europe, 1999), whereas in countries where recording occurs at an earlier stage, the number of offenses typically exceeds by far the number of suspects. Research in England and Wales has shown that the police record less than 40% of reported offenses against the person (Burrows, Tarling, Mackie, Lewis, and Taylor, 2000).

Since the limited resources of the police do not allow an increase in output beyond certain limits within a short time, it is not surprising that the massive changes in trends of survey measures between 1995 and 1999 are not reflected in the output statistics of the police. Particularly during the years with open drug scenes, the police had a conservative policy of recording personal offenses, according to many police sources. The 1995 rates of police-recorded offenses are,

²² An observational study conducted in Southern Germany some 25 years ago (Kürzinger, 1978) has shown that theft is recorded in over 90% of cases, whereas that rate drops to 30% in cases of assault. This may well depict the situation in Switzerland as well.

therefore, probably substantially too low.

Rape is measured in this paper only according to police statistics. Although survey measures for rape alone would be unreliable, it may be noteworthy that, combined survey measures of sexual offenses against females show a trend similar to what has been observed for assault, robbery, and bicycle theft (Killias, Lamon, Clerici, and Berruex, 2000). It is possible that, once more, the output data given in police statistics do not reflect real short-term fluctuations in trends.

According to the federal police statistics, completed homicide has remained relatively stable over the entire period. Given the unclear counting rules in the federal police statistics, it was decided to also present homicide trends according to mortality statistics (figure 2f), which overall matched well police counts of completed homicide. Rather than being an instrumental crime, homicide is, in Switzerland and other parts of continental Europe, mostly related to conflicts in personal life with many murderers committing suicide after the act (Massonnet, Wagner, and Kuhn, 1990).

Alternative explanations

Property offenses

According to survey crime rates residential burglary increased markedly up to 1997 and then decreased. A similar trend was seen for adjusted police-recorded residential burglary. For vehicle theft, survey crime rates and police-recorded vehicle theft were similar, showing a marked decrease up to 1999.

Burglary, motor vehicle theft, and personal crime not only follow different

trends, but differ in situational respects. Burglary provides access to small amounts of cash, jewelry, silver, and all kinds of household equipment. Traditionally, electrical equipment such as televisions, video recorders, and music systems were most frequently stolen. This is even reflected in the ICVS question concerning the punishment the respondent considers appropriate for a burglar who steals a color television. This pattern has lost most of its importance, and in future ICVS sweeps, it might be necessary to formulate that question in a more contemporary way. Televisions and other electrical household equipment have lost most of their former value on local secondhand markets (Felson 2000, 1997).

However, the fall of the Berlin wall brought the poor and the wealthy parts of the continent into close proximity. Given the short geographic distance, various forms of exchange between the two sides was immediate. Beyond new lines of transportation for drugs and other illegal goods, exportation of prostitutes, and cheap labor, attractive markets emerged for the exportation of secondhand products from Western Europe. Used cars, televisions, and personal computers and others — goods which were no longer as attractive as before on western secondhand markets — went east.

Police reports also observe increasing burglaries in factories and storehouses of boutique chains, beauty shops, and others where the burglars depart with the stocks of a full season. All this shows that burglary has changed in character since 1990, moving from an occasional activity of local offenders to a large-scale trans-border industry. In line with these developments, the proportion of suspects of Swiss nationality has dropped, in absolute figures,

by 70% since 1983, according to Zurich police statistics, whereas foreign nationals have increased by more than 200% since 1990 (Killias, Lamon, Clerici, and Berruex, 2000). Whereas burglary has shown decreasing trends in the United States and in Britain over most of the 1990's, Switzerland has, with other European countries (Killias and Aebi, 2000), continued to experience increasing trends, along with the expansion of trans-border crime which compensated the drop in local burglaries. The recent drop according to police statistics and survey measures, may reflect saturation of eastern secondhand markets, as well as possible effects of police measures against trans-border crime in several eastern European countries who are seeking to join the European Union.^{23,24}

This market explanation may apply also to car theft and, more generally, to motor vehicle theft, but some additional explanations based on routine activities may be in order. Joyriding with cars may have become increasingly difficult over the last 20 years due to the advances of security technology. With motorcycles and mopeds, joyriding has become a risky crime to engage in, once the wearing of crash-helmets has become compulsory in 1987 (Dell'Ambrogio, 1992). Similar trends were observed by Mayhew, Clarke, and Elliott (1989) in Germany and in England and Wales. The continuing downward trend of motorcycle and moped theft may be due to reduced attractiveness of these means of transportation among adolescents. Eventually, some displacement

²³ That jewelry and silver have recently become prime targets of burglars, according to police sources, might reflect a shift in opportunity structures. Such valuables might still be in demand in Eastern Europe, and they are less difficult to transport (and conceal).

²⁴ According to observations such as in Poland, stolen cars need to be moved further and further to the East, whereas they used to be sold in Western Poland a few years ago.

to bicycle theft may have occurred, in line with the high popularity of mountain bikes among young people in recent years. After a sharp increase (by more than 100%) between 1988 and 1995, bicycle thefts have dropped along with crimes against the person in 1997, and moderately increased again in 1999 (table 2).

Personal offenses

According to the survey crime rates, robbery and assault increased markedly up to 1995, decreased in 1997, and increased again in 1999. Similar trends of police-recorded robbery have been observed. For assault, police-recorded crime rates showed a more steady increase.

Excluding cases of domestic violence (which are hard to measure with crime victimization surveys), robbery, assault, sexual offenses and bicycle theft, commonly occur in public areas such as streets.²⁵ It is therefore reasonable to look for an explanation of the trends, at the level of what goes on in public areas. In urban areas with a high concentration of activities related to drugs and prostitution, offenders are likely to find many potential victims, a fact which attracts more offenders (Wikström, 1985). In 1999 a local crime survey in Zurich found that the rate of local resident street-crime victimization was around 10 times higher in Zurich's "problem" areas than in the most privileged areas of the city (Killias, 2001a). Thus the size and the deterioration of such inner city areas may play a crucial role in overall crime levels.

Furthermore, the existence of large open drug scenes was certainly among

²⁵ Although the Swiss (and ICVS) questionnaires of 1998 and 2000 made special efforts to identify them as well.

the major factors in the increase in street crime in Switzerland's cities between 1989 and 1995 (Eisner, 1997). Open drug scenes were very much influenced by the extension of medical assistance to addicts in a few city centers. This led to a concentration of addicts and of dealers in city centers. According to unpublished Zurich police data (see Killias and Uchtenhagen, 1996), 73% of cleared muggings and 35% of cleared burglaries were committed by addicts in 1995.

In 1994 with the support of the Federal Government, a heroin prescription program for a small number of addicts began. A few weeks later "needle-parks" in Zurich and other cities were closed. From 1995 and 1996 the heroin prescription program was made available to 800 addicts. Simultaneously methadone substitution was extended to roughly 15,000 addicts. The total number of regular consumers of heroin being estimated at about 25,000, a substantial proportion of all heroin addicts became, thus, admitted to a substitution program.

These programs had two consequences: (1) a dramatic drop in criminal involvement among recipients of heroin and, to a lesser extent, among those enrolled in methadone programs (Killias, Aebi, Ribeaud, and Rabasa 1999; Killias and Rabasa, 1998);²⁶ and (2) an immediate reduction in the concentration of addicts in Switzerland's urban centers.

Both consequences may have contributed to a reduction in crime. On one hand, reduced delinquency among

²⁶ According to police, self-report, and victimization data (collected regularly from the addicts in heroin treatment), street crime dropped by 50% to 90%, with serious offenses showing larger decreases.

addicts (that is at the micro-level) diminished the number of motivated offenders, a fact that is clearly born out in the 1998 and 2000 surveys since, according to accounts of robbery victims, the proportion of addicts among the offenders had dropped from 23% in 1993-97 to 10% in 1995-99.^{27,28} The reduced concentration of addicts may have diminished the attractiveness of offending in certain urban areas. This improvement may have been responsible for the drop not only in robberies but also in assault and sexual aggression — two offenses in which, according to Swiss data (Killias and Rabasa, 1998), addicts were not particularly involved. It is feasible that both effects may have reached a major impact on macro-level crime rates between 1996 and 1997.

The recent increase in 1999 is yet hard to explain. Since according to victim accounts the proportion of addicts among the offenders was lower in 1999 than in 1997, a return of the drugs-crime link is unlikely to have been the cause. A possible explanation is that recent migrations may have changed the shape of urban centers in 1999, and led again to increased concentration of social problems in certain areas.

Within Western Europe Switzerland received by far the highest number of refugees from the Balkan area, particularly during the winter and spring of 1999.²⁹ Although conviction rates have been relatively high among refugees in general over recent years (Eisner,

Manzon, and Niggli, 1998; Office fédéral de la statistique, 2000), little evidence is yet available to support such a hypothesis.³⁰ However, the proportion of offenders whom the victims of violent crime perceived as being of foreign origin has increased between 1987 and 1999 from 33% to 63% in the case of robbery, from 40% to 52% for sexual aggression, and from 19% to 55% for assault (Killias, Lamon, Clerici, and Berruex, 2000).³¹

These proportions match more or less what is shown by police statistics. It is thus not impossible that recent demographic changes may be at the origin of a new deterioration in urban centers, and, indirectly, of the sudden increase in crime observed in several cities — and nationwide — in 1999.

An alternative (but not necessarily competing) explanation would be that youth (gang) violence increased over the last few years. Detailed analysis of trends in victimization shows indeed that violence against teenage boys has disproportionately increased over the last 2 years.

Punishment

Trends in convictions for burglary and robbery decreased markedly per population and per offender and increased for homicide and rape (markedly only per offender). For assault there is an increase per population but a decrease per offender, while the opposite is true for vehicle theft.

The probability of custody following a conviction decreased slightly in the case of robbery, assault, and rape, possibly reflecting a more critical attitude among judges towards imprisonment in the case of property offenders in general (Killias, Aebi, Kuhn, and Rônez, 1999). The picture is more stable or slightly increasing for the other offenses.

The reader may wonder that a rather large percentage of persons convicted of intentional homicide are not actually imprisoned. This is not related to therapeutic measures, since they are, in all but exceptional and quantitatively negligible cases, counted as custodial sentences. The reason is that under Swiss law custodial sentences may be suspended if the defendant has killed in self-defense or under mitigating circumstances.^{32,33} The custody rate per 1,000 offenders was highly negatively correlated with all survey and recorded crime rates.

The average sentence length, average time served, and the percentage of sentence served in custody were not consistently related to survey or recorded crime rates. The average number of days served per conviction also had no consistent relationship to rates, but the average number of days served per offender were highly negatively correlated with rates for all offenses.

²⁷ Drug addicts were mostly involved in drug trafficking, robbery, mugging, bicycle theft, and personal theft.

²⁸ Given the low absolute numbers (n=75 in 1993-97 and n=110 in 1995-99), the victim accounts of offender characteristics were analyzed using 5-year rates. No such question was asked in the surveys conducted before 1998.

²⁹ Officially about 160,000 people from Kosovo alone, not including illegal immigrants, in a population of about 7 million.

³⁰ According to conviction records 15% of male asylum seekers age 18 to 29 are convicted per year, compared to 4% of the resident foreign male population and 3% of Swiss males of the same age.

³¹ By far the most important criterion of identification was language or accent, a fact that does not surprise in a country where accents play a central role in daily life. Thus foreign origin means in the present context a social fact rather than a legal status.

³² If self-defense is admitted the defendant will be acquitted. However, in many cases the judge finds that the defendant's reaction was excessive. In this case the homicide will no longer be considered as justified, but the self-defense situation in which the defendant has acted will be a seriously mitigating circumstance.

³³ For example the fact of having played a secondary role in the killing of the victim (notably as an accomplice).

If the probability of being convicted influences the behavior of potential offenders, the number of convictions per 1,000 offenders should predict the crime rate rather than the reverse. "Conviction Rate/Offense A" indicates predictive correlations with the crime rate in one year predicting the number of convictions per 1,000 offenders in the next year ("crime first") (bottom of tables 8 and 9). "Conviction Rate/Offense B" indicates predictive correlations with the number of convictions per 1,000 offenders in one year predicting the crime rate in the next year ("crime second").

No real explanations could be taken with correlations between either Conviction Rate/Offense A or Conviction Rate/Offense B and survey or recorded crime rates.

Correlations vary between survey and recorded crime rates and the custody rate per 1,000 offenders and the number of days served per offender, for the "crime first" (A) and "crime second" (B) conditions (tables 8 and 9). There was no consistent tendency for the probability of punishment in one year to predict the crime rate in the next year or the reverse.

When the trends in convictions and time served per offender are related to crime rates, no clear picture emerges. It is true that robberies and assaults reached a peak in 1995 when the "costs" following such offenses seem to have fallen to a minimum. In terms of deterrence, however, it would not be easy to explain why this drop in "costs" was followed by a substantial drop in robberies and assaults in 1997, rather than by an increase. In 1999 the "costs" associated with robbery but not for assault dropped again; despite that, both offenses increased in 1999 (over 1997) to about the same extent. The "costs" of homicide increased apparently a lot over the years, but no similar trend is visible in recorded offenses. Rape increased somewhat over the years, although the trend in "costs" is rather stable, despite a few erratic fluctuations.

Even more important may be a methodological problem, since trends in "risk of punishment" (risk of conviction/ sentence length) depend also on the denominator. In order to conform to the common model, we have estimated the number of offenders using estimates derived from crime surveys. This denominator has the disadvan-

tage of yielding apparently lower risk rates every time survey measured offenses increase, and to show an apparent increase, when, according to the survey, crime is decreasing. Thus the denominator may lead to partially circular conclusions. If the number of convictions is divided by the number of offenders known to the police, the sometimes strong variations in "costs" of offending tend to disappear. The data for assault illustrate this problem in more detail (figures 10a and 10b).

Of course, it is hard to decide whether risk of conviction should be related to offenders known to the police, or to those in the population according to survey estimates. Obviously the two denominators yield different results. Survey estimates of offenders might reflect better the actual risk of criminal behavior in a given society, whereas police-recorded offenders give a more accurate picture of the way the criminal justice system reacts to crime. As assault data illustrate the criminal justice system's way of dealing with offenders might have been subject to less variation over time than the preceding analyses suggest.

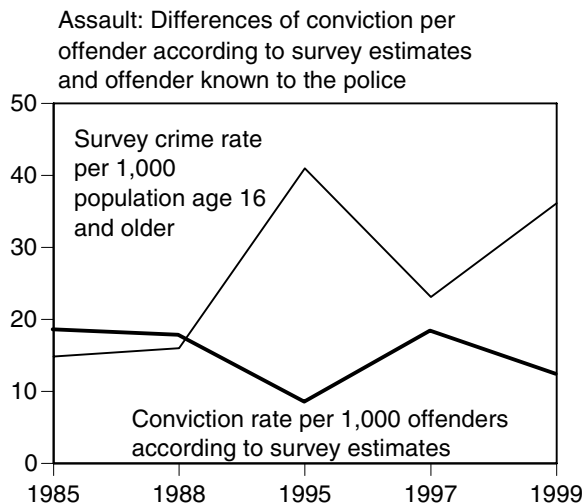


Figure 10a

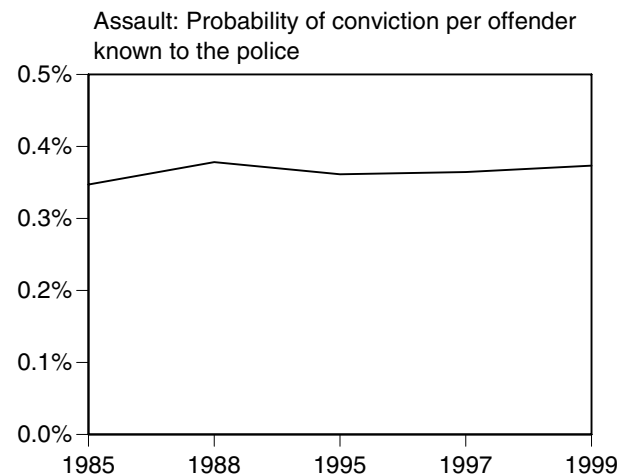


Figure 10b

Conclusion

Langan and Farrington (1998) have raised the challenging issue whether the responses of the criminal justice system will affect crime rates. Cusson (1993) had presented a similar argument in a thought-provoking paper a few years earlier. Despite the plausibility of the “cost of crime” hypothesis, readers may conclude that the Swiss experience was inconclusive in this regard. Although crime rates as measured by surveys seem to have reacted to changes in the “costs” of crime, several problems run counter to such a straight forward conclusion. As has been shown our measures of “risk” of punishment are sensitive to the choice of the denominator, which for example is much more stable if convictions are related to offenders known to the police, rather than survey-based estimates of numbers of offenders.

Beyond these methodological issues there are alternative explanations which may account for the observed changes in Swiss crime trends. Routine activities and changes in black markets offer competing and equally plausible explanations. Ironically it seems as in face of the “pros” and “cons” of the “cost of crime” hypothesis, our data behaved along Switzerland’s long-standing policy of neutrality.

Table 1. Burglary

	1985	1988	1995	1997	1999
Survey offenses	23,936	19,875	33,844	48,372	37,277
Households	2,659,550	2,779,700	3,060,050	3,140,150	3,220,250
Survey/ 1,000 households	9.00	7.15	11.06	15.40	11.58
Offenders/offense	1.0	1.0	1.0	1.0	1.0
Probability reported/offense	0.824	0.805	0.876	0.735	0.778
Reported offenses	19,723	15,999	29,647	35,553	29,001
Comparable recorded	16,994	16,822	22,636	30,923	27,312
Probability recorded/offense	0.710	0.846	0.669	0.639	0.733
Probability recorded/reported	0.862	1.051	0.764	0.870	0.942
Recorded offenses	16,994	16,822	22,636	30,923	27,312
Population	6,455,896	6,566,799	7,019,019	7,081,346	7,131,888
Recorded/1,000 population	2.63	2.56	3.22	4.37	3.83
Persons convicted	1,119	1,072	698	876	817
Population age 10+	5,745,747	5,844,451	6,246,927	6,302,398	6,347,380
Convicted/1,000 population	0.195	0.183	0.112	0.139	0.129
Offender population (N)	23,239	19,297	32,859	46,964	36,192
Offender population (M)	74,966	60,302	78,236	97,843	84,167
Offenders/conviction	67.00	56.24	112.11	111.69	103.02
Probability conviction/offender	0.015	0.018	0.009	0.009	0.010
Convictions/1,000 offenders	14.92	17.78	8.92	8.95	9.71
Number sent to custody	435	409	269	334	331
Custody/1,000 population	0.076	0.070	0.043	0.053	0.052
Probability custody/conviction	0.389	0.381	0.385	0.381	0.405
Probability custody/offender	0.0058	0.0068	0.0034	0.0034	0.0039
Custody/1,000 offenders	5.80	6.78	3.44	3.41	3.93
Sentence length	22.9	19.4	23.2	19.4	19.1
Time served	11.8	13.5	17.5	13.1	15.6
Proportion served	0.514	0.695	0.755	0.673	0.821
Days/conviction	139.19	156.76	205.45	151.75	192.85
Days/offender	2.08	2.79	1.83	1.36	1.87

Table 2. Vehicle theft

	1985	1988	1995	1997	1999
Survey offenses	527,667	189,020	181,124	78,055	50,527
Households	2,659,550	2,779,700	3,060,050	3,140,150	3,220,250
Survey/ 1,000 households	198.40	68.00	59.19	24.86	15.69
Offenders/offense	1.3	1.3	1.3	1.3	1.3
Probability reported/offense	0.915	0.898	0.878	0.905	0.882
Reported offenses	482,816	169,740	159,027	70,640	44,565
Comparable recorded	104,228	102,953	86,615	84,434	78,599
Probability recorded/offense	0.198	0.545	0.478	1.082	1.556
Probability recorded/reported	0.216	0.607	0.545	1.195	1.764
Recorded offenses	104,228	102,953	86,615	84,434	78,599
Population	6,455,896	6,566,799	7,019,019	7,081,346	7,131,888
Recorded/1,000 population	16.145	15.678	12.340	11.923	11.021
Persons convicted	2,808	3,011	2,507	2,613	2,306
Population age 10+	5,745,747	5,844,451	6,246,927	6,302,398	6,347,380
Convicted/1,000 population	0.489	0.515	0.401	0.415	0.363
Offender population (N)	675,414	241,945	231,839	99,911	64,675
Offender population (M)	675,414	241,945	231,839	99,911	64,675
Offenders/conviction	240.53	80.36	92.47	38.24	28.05
Probability conviction/offender	0.00	0.01	0.01	0.03	0.04
Convictions/1,000 offenders	4.16	12.44	10.81	26.15	35.66
Number sent to custody	685	715	516	534	522
Custody/1,000 population	0.119	0.122	0.083	0.085	0.082
Probability custody/conviction	0.244	0.237	0.206	0.204	0.226
Probability custody/offender	0.0010	0.0030	0.0022	0.0053	0.0081
Custody/1,000 offenders	1.01	2.96	2.23	5.34	8.07
Sentence length	11.2	9.5	9.5	8.3	9.4
Time served	8.5	8.1	11.3	8.9	10.5
Proportion served	0.759	0.851	1.194	1.071	1.123
Days/conviction	62.94	58.18	70.80	55.18	72.44
Days/offender	0.26	0.72	0.77	1.44	2.58

Table 3. Robbery

	1985	1988	1995	1997	1999
Survey offenses	22,227	31,653	38,666	24,381	34,377
Population age 16+	5,035,599	5,122,103	5,474,835	5,523,450	5,562,873
Survey/ 1,000 households	4.41	6.18	7.06	4.41	6.18
Offenders/offense	1.8	1.8	1.8	1.8	1.8
Probability reported/offense	0.593	0.393	0.242	0.336	0.5
Reported offenses	13,181	12,440	9,357	8,192	17,188
Comparable recorded	2,010	2,683	2,629	3,144	3,270
Probability recorded/offense	0.090	0.085	0.068	0.129	0.095
Probability recorded/reported	0.152	0.216	0.281	0.384	0.190
Recorded offenses	2,010	2,683	2,629	3,144	3,270
Population	6,455,896	6,566,799	7,019,019	7,081,346	7,131,888
Recorded/1,000 population	0.311	0.409	0.375	0.444	0.459
Persons convicted	645	593	551	575	551
Population age 10+	5,745,747	5,844,451	6,246,927	6,302,398	6,347,380
Convicted/1,000 population	0.112	0.101	0.088	0.091	0.087
Offender population (N)	39,546	56,316	68,793	43,378	61,162
Offender population (M)	52,660	70,417	86,755	56,475	79,924
Offenders/conviction	81.71	118.76	157.43	98.18	145.04
Probability conviction/offender	0.01	0.01	0.01	0.01	0.01
Convictions/1,000 offenders	12.24	8.42	6.35	10.19	6.89
Number sent to custody	218	155	128	120	119
Custody/1,000 population	0.038	0.027	0.020	0.019	0.019
Probability custody/conviction	0.338	0.261	0.232	0.209	0.216
Probability custody/offender	0.0041	0.0022	0.0015	0.0021	0.0015
Custody/1,000 offenders	4.14	2.20	1.48	2.12	1.49
Sentence length	44.0	38.5	32.7	30.0	35.6
Time served	16.3	17.6	21.8	22.2	24.5
Proportion served	0.370	0.457	0.665	0.739	0.687
Days/conviction	167.77	139.85	153.77	140.81	160.67
Days/offender	2.05	1.18	0.98	1.43	1.11

Table 4. Assault

	1985	1988	1995	1997	1999
Survey offenses	74,751	81,954	224,468	127,628	201,068
Population age 16+	5,035,599	5,122,103	5,474,835	5,523,450	5,562,873
Survey/ 1,000 households	14.84	16.00	41.00	23.11	36.14
Offenders/offense	1.7	1.7	1.7	1.7	1.7
Probability reported/offense	0.313	0.278	0.253	0.233	0.333
Reported offenses	23,397	22,783	56,790	29,737	66,956
Comparable recorded	7,030	7,420	9,810	11,907	13,450
Probability recorded/offense	0.094	0.091	0.044	0.093	0.067
Probability recorded/reported	0.300	0.326	0.173	0.400	0.201
Recorded offenses	7,030	7,420	9,810	11,907	13,450
Population	6,455,896	6,566,799	7,019,019	7,081,346	7,131,888
Recorded/1,000 population	1.089	1.130	1.398	1.681	1.886
Persons convicted	1,062	1,100	1,249	1,504	1,555
Population age 10+	5,745,747	5,844,451	6,246,927	6,302,398	6,347,380
Convicted/1,000 population	0.185	0.188	0.200	0.239	0.245
Offender population (N)	129,697	142,195	389,468	221,443	348,866
Offender population (M)	57,431	61,955	147,834	82,108	126,388
Offenders/conviction	54.10	56.34	118.39	54.61	81.26
Probability conviction/offender	0.018	0.018	0.008	0.018	0.012
Convictions/1,000 offenders	18.48	17.75	8.45	18.31	12.31
Number sent to custody	187	196	178	249	257
Custody/1,000 population	0.033	0.034	0.028	0.040	0.040
Probability custody/conviction	0.176	0.178	0.143	0.166	0.165
Probability custody/offender	0.0033	0.0032	0.0012	0.0030	0.0020
Custody/1,000 offenders	3.26	3.16	1.20	3.03	2.03
Sentence length	15.16	12.99	16.50	15.58	11.70
Time served	6.58	9.37	9.30	12.92	12.49
Proportion served	0.434	0.722	0.564	0.829	1.067
Days/conviction	35.23	50.80	40.34	65.08	62.79
Days/offender	0.65	0.90	0.34	1.19	0.77

Table 5. Rape

	1985	1988	1995	1997	1999
Recorded offenses	793	885	654	804	837
Female population	3,305,419	3,362,201	3,593,738	3,625,649	3,651,527
Recorded/ 1,000 households	0.240	0.263	0.182	0.222	0.229
Offenders/offense	1.1	1.1	1.1	1.1	1.1
Offender population	860	959	709	871	907
Persons convicted	79	115	104	114	102
Male population age 10+	2,803,925	2,852,092	3,048,500	3,075,570	3,097,522
Convicted/1,000 male population	0.02800	0.04049	0.03409	0.03717	0.03281
Offenders/conviction	10.95	8.30	6.82	7.62	8.92
Probability conviction/offender	0.091	0.120	0.147	0.131	0.112
Convictions/1,000 offenders	91.3	120.5	146.6	131.2	112.1
Number sent to custody	31	48	57	63	54
Custody/1,000 male population	0.011	0.017	0.019	0.020	0.017
Probability custody/conviction	0.395	0.416	0.548	0.551	0.531
Probability custody/offender	0.0361	0.0501	0.0804	0.0723	0.0596
Custody/1,000 offenders	36.06	50.07	80.40	72.29	59.55
Sentence length	46.26	40.47	44.84	47.21	49.68
Time served	16.64	22.26	28.11	24.76	33.86
Proportion served	0.36	0.55	0.63	0.52	0.68
Days/conviction	199.76	281.41	468.93	414.96	547.34
Days/offender	18.25	33.90	68.75	54.44	61.34
Months/offender	0.60	1.11	2.26	1.79	2.02

Table 6. Homicide

	1985	1988	1995	1997	1999
Recorded offenses	91	79	82	87	76
Population	6,455,896	6,566,799	7,019,019	7,081,346	7,131,888
Recorded/ 1,000 households	0.014	0.012	0.012	0.012	0.011
Offenders/offense	1.0	1.0	1.0	1.0	1.0
Offender population	89	78	81	85	75
Persons convicted	66	44	87	84	82
Population age 10+	5,745,747	5,844,451	6,246,927	6,302,398	6,347,380
Convicted/1,000 population	0.011	0.008	0.014	0.013	0.013
Offenders/conviction	1.35	1.76	0.93	1.02	0.91
Probability conviction/offender	0.74	0.57	1.08	0.98	1.10
Convictions/1,000 offenders	738.50	567.11	1,080.32	983.12	1,098.62
Number sent to custody	52	35	63	67	62
Custody/1,000 population	0.009	0.006	0.010	0.011	0.010
Probability custody/conviction	0.788	0.795	0.724	0.798	0.756
Probability custody/offender	0.5818	0.4511	0.7823	0.7842	0.8307
Custody/1,000 offenders	581.85	451.11	782.30	784.15	830.66
Sentence length	109.4	92.8	117.1	93.7	96.6
Time served	19.1	32.8	49.1	65.5	63.8
Proportion served	0.174	0.353	0.419	0.699	0.660
Days/conviction	456.97	793.07	1,080.41	1,588.86	1,467.59
Days/offender	337.47	449.76	1,167.19	1,562.03	1,612.31
Months/offender	11.09	14.79	38.37	51.35	53.01

Table 7: Correlations between survey and recorded crime rates

	Survey rate			Recorded rate					
	Motor vehicle theft	Robbery	Assault	Burglary	Motor vehicle theft	Robbery	Assault	Rape	Homicide
Survey rate									
Burglary	-0.52	-0.31	0.37	0.96	-0.77	0.51	0.75	-0.51	-0.24
Motor vehicle theft		-0.43	-0.58	-0.71	0.81	-0.94	-0.78	0.25	0.90
Robbery			0.69	-0.19	-0.28	0.20	0.09	-0.38	-0.69
Assault				0.43	-0.81	0.35	0.62	-0.81	-0.73
Recorded rate									
Burglary					-0.87	0.72	0.89	-0.39	-0.47
Motor vehicle theft						-0.73	-0.94	0.61	0.76
Robbery							0.81	0.03	-0.82
Assault								-0.34	-0.73
Rape									0.26

Table 8: Correlations with survey crime rates

	Motor vehicle			
	Burglary	theft	Robbery	Assault
Consumption/population age +15	-0.80	0.87	-0.19	-0.70
Percent population age 15-24	-0.80	0.84	-0.29	-0.79
Percent population male age 15-20	-0.69	0.88	-0.45	-0.80
Percent male unemployed	0.91	-0.60	0.01	0.57
Number vehicles/population	0.66	-0.92	0.35	0.73
Police strength/population	0.65	0.42	-0.46	-0.52
Percent reported	-0.55	0.66	-0.51	-0.04
Percent recorded	-0.47	-0.79	-0.12	-0.78
Conviction rate/population	-0.63	0.64	-0.53	0.46
Conviction rate/offender	-0.85	-0.80	-0.72	-0.95
Custody rate/population	-0.64	0.71	-0.46	-0.05
Probability (custody/conviction)	0.03	0.66	-0.38	-0.88
Custody rate/offender	-0.87	-0.78	-0.72	-0.97
Sentence length	-0.23	0.91	-0.24	0.07
Time served	0.13	-0.42	0.34	0.41
Percent served	0.24	-0.78	0.23	0.35
Days served/conviction	0.13	-0.12	-0.09	0.16
Days served/offender	-0.95	-0.76	-0.85	-0.51
Conviction rate/offense A	-0.24	-0.67	0.44	0.50
Conviction rate/offense B	-0.60	-0.77	0.53	0.30
Custody rate/offense A	-0.19	-0.62	0.12	0.41
Custody rate/offense B	-0.61	-0.72	0.40	0.28
Days served/offense A	-0.95	-0.70	0.45	0.74
Days served/offense B	-0.23	-0.85	0.36	0.69

Table 9: Correlations with recorded crime rates

	Motor vehicle		Robbery	Assault	Rape	Homicide
	Burglary theft					
Consumption/population age +15	-0.92	0.98	-0.83	-0.97	0.48	0.77
Percent population age 15-24	-0.88	0.98	-0.73	-0.90	0.65	0.74
Percent population male age 15-20	-0.76	0.91	-0.70	-0.75	0.68	0.77
Percent male unemployed	0.84	-0.78	0.45	0.64	-0.74	-0.35
Number vehicles/population	0.82	-0.96	0.88	0.95	-0.41	-0.88
Police strength/population	0.26	0.82	-0.38	-0.61	-0.37	1.00
Conviction rate/population	-0.67	0.96	-0.77	0.98	0.24	-0.20
Conviction rate/offender	-0.83	-0.82	-0.77	-0.35	-0.66	-0.55
Custody rate/population	-0.67	0.97	-0.86	0.74	-0.42	-0.11
Probability (custody/conviction)	0.21	0.76	-0.89	-0.35	-0.75	0.49
Custody rate/offender	-0.83	-0.78	-0.77	-0.40	-0.79	-0.52
Sentence length	-0.46	0.69	-0.70	-0.30	-0.35	0.28
Time served	0.20	-0.73	0.77	0.90	-0.43	-0.76
Percent served	0.45	-0.93	0.76	0.85	-0.38	-0.72
Days served/conviction	0.23	-0.43	-0.53	0.80	-0.58	-0.72
Days served/offender	-0.85	-0.81	-0.64	0.28	-0.74	-0.71
Conviction rate/offense A	-0.38	-0.96	-0.54	-0.02	0.33	-0.91
Conviction rate/offense B	-0.77	-0.83	-0.11	-0.32	-0.49	-0.07
Custody rate/offense A	-0.32	-0.92	-0.88	-0.04	0.05	-0.94
Custody rate/offense B	-0.79	-0.83	-0.34	-0.41	-0.25	-0.23
Days served/offense A	-0.87	-0.88	-0.35	0.29	0.14	-0.90
Days served/offense B	-0.46	-0.89	-0.12	0.32	-0.26	-0.57

Table 10 : Sentence length (in days) for all offenses, by cumulative versus simple convictions in 1999

	Days		Days
Burglary only	161	Burglary (among other offenses)	580
Vehicle theft only	20	Vehicle theft (among other offenses)	285
Robbery only	751	Robbery (among other offenses)	1,083
Assault only	75	Assault (among other offenses)	356
Rape only	845	Rape (among other offenses)	1,511
Homicide only	2,131	Homicide (among others offenses)	2,939

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