Kauko Aromaa and Markku Heiskanen (eds.)

Crime and Criminal Justice Systems in Europe and North America 1995-2004

Helsinki 2008

Foreword

The current report is the sixth of its kind in the HEUNI series of reports on the United Nations Surveys on Crime Trends and Operations of the Criminal Justice Systems in Europe and North America, presenting data for the ten-year period 1995-2004. The analysis ahs been carried out by an international working group. We are particularly grateful for the UNODC for its generous help in providing the working group in making the data available and also proving other support to the work.

The working group consists of the following international experts: Professor Marcelo Aebi (Switzerland), Dr. Anna Alvazzi del Frate (UNODC), Mr. Kauko Aromaa (HEUNI), Professor Beata Gruszczynska (Poland), Dr. Markku Heiskanen (HEUNI), Mr. Steven Malby (UNODC), Professor Ineke Haen Marshall (United States), Dr. Paul Smit (Netherlands), and Mr. Roy Walmsley (England). Ms. Mirjam van Gammeren has also participated in the work on one chapter. Mr. Sami Nevala (HEUNI) and Ms. Minna Lindqvist (HEUNI) have contributed to the validation of the data.

The working group has convened three times. The kick-off meeting of the project was organised in Helsinki in conjunction with HEUNI's 25-year anniversary seminar in January 2007, drafting and discussing the overall design of the work. The second meeting was held in Bologna in September 2007, during the Annual Conference of the European Society of Criminology, monitoring the progress of the work, and the third meeting was held in Vienna in January 2008, where draft manuscripts were shared and discussed.

HEUNI wishes to express its heartfelt appreciation to the members of the working group for their time, expertise and dedication to the cause of international comparisons.

The views expressed in the texts are those of the authors and do not necessarily reflect the views of the organisations with which the authors are affiliated.

Helsinki 25 March 2008

Kauko Aromaa

Director, HEUNI

Contents

1   Introduction

Kauko Aromaa

The United Nations Surveys on Crime Trends and the Operations of Criminal Justice Systems collect basic information on recorded crime and on resources of criminal justice systems on the Member States. Its mandate being Europe and North America, HEUNI has analysed and reported on the surveys for this part of the world from the very beginning. For the First and Second surveys, HEUNI published the report *Criminal Justice Systems in Europe. Report of the Ad Hoc Expert Group on a cross-national study on trends in crime and information sources on criminal justice and crime prevention in Europe* (1985). For the Third Survey, the report was *Criminal Justice systems in Europe and North America*, edited by Ken Pease & Kristiina Hukkila (1990). For the Fourth Survey, two reports were prepared, named *Crime and Criminal Justice in Europe and North America 1986-1990*, and *Profiles of Criminal Justice Systems in Europe and North America*, both edited by Kristiina Hukkila (1995). For the Fifth Survey, a similar solution was adopted, resulting in the publications *Crime and Criminal Justice in Europe and North America, 1990-1994* (1998) and *Profiles of Criminal Justice Systems in Europe and North America, 1990-1994,* (1999) both edited by Kristiina Kangaspunta et al. For the Sixth Survey, the report was *Crime and Criminal Justice Systems in Europe and North America 1995-1997*, edited by Kauko Aromaa et al. (2003).

The present volume represents a new approach, combining the 6th, 7th, 8th and 9th Surveys in one. This reflects the situation where the United Nations have introduced a shorter time rhythm to the subsequent Surveys, as described in the final chapter of this volume. As the Surveys are now carried out biannually, analysing and reporting each survey separately and in reasonable detail has begun to consume a much larger amount of resources, in particular if the reports are to be made available for users without undue delay. The timeliness of comparative data has always been a significant problem. Inevitably, collecting the responses for Member States, validating the responses, making a reporting plan and recruiting a reporting group, analysing the data and writing up the report are stages that are necessary but time-consuming, thereby inviting ostensive delays of several years so that the reports following this procedure are always providing data that do not refer to the current year or the one before but to the situation 4-5 years back in time.

For many, this delay would seem to be too long for an up-to-date assessment of the situation, whether globally or for one region only. This

dilemma has been partially resolved by the UNODC in that they publish some data from the country responses on their website as soon as they are made available by the Member States. The advantage is that the delay is as short as it can be under the circumstances, where national responses are the basis. The drawback is that this information is not validated and processed, leaving the potential user without expert assistance when assessing the data. It is highly problematic to publish raw data of this kind without adequate interpretation.

In the current report, an improvement was introduced in that the data analysed and presented stand for a full ten-year time span, with the most recent year being 2004. The ten-year framework encourages the potential user to look at the results in the context of a longer continuum that makes it rather obvious that most data used here are relatively robust and change only quite slowly. This observation provides support to the notion that even if the data can never be fully up-to-date, the earlier data are indeed a reasonable approximation of today – provided that nothing really dramatic has occurred in the countries and regions under scrutiny that would undermine the general rule of relative stability.

We have not reproduced the data collection instruments in this volume. Due to minor changes, each questionnaire is slightly different, and reproducing all of them would have consumed a disproportionate space. The questionnaires can be found in all UN languages at the address http://www.unodc.org/unodc/en/data-and-analysis/Ninth-United-Nations-Survey-on-Crime-Trends-and-the-Operations-of-Criminal-Justice-Systems.html

The report comprises 11 chapters. They are designed to deal with all central issues addressed in the questionnaires, including data from police, prosecution, court, and prison levels. Also resources of the criminal justice systems are analysed. Additionally, juvenile justice is discussed. Furthermore, theoretically relevant contributions analyse what kinds of country clusterings could be feasible to apply on the European context, and an overview of the influence of variable counting rules is provided. Finally, we are given an overview of experiences regarding the international collection of crime data.

The objective of this report is to show potential users of international crime data what they could learn from these, and provide guidance as to restrictions, pitfalls and strengths of the unique set of data that is now available thanks to the countries responding to the UN Surveys.

2 Trends in Criminal Justice System Resources 1995-2004

Beata Gruszczynska and Ineke Haen Marshall

2.1 Introduction

This chapter provides an overview of trends in the resources available to the criminal justice systems in Europe and North America, drawing primarily from the results of the 6th, 7th, 8th and 9th United Nations Surveys of Crime Trends and Operations of Criminal Justice Systems (CTS). Typically, criminal justice resources are conceived of in terms of personnel, budget, expenditures and capital resources (United Nations Interim Report A/Conf.169/1 1994, 18). Although it would be very useful to also have quantitative data on less tangible resources, such as the degree of professionalism, educational quality and the moral integrity of personnel, this information is currently not available, especially not on an international scale. Its limitations notwithstanding, the UN Crime Surveys of Crime Trends and Operations of Criminal Justice Systems collect useful international data on criminal justice personnel and financial resources. Unfortunately, the budgetary information collected in relation to police, prosecution services, courts and correctional institutions is very problematic for several reasons. The financial data are only available for a relatively small number of countries. Also, the financial data are reported in local currency, creating difficulties when there are fluctuating currencies. There have been a few publications reporting on the analysis of financial data on criminal justice collected through the CTS (Spencer 1993; Farrell and Clark 2004); however, problems of interpretation and questionable validity of data have made these attempts highly problematic. In view of the fact that a large part of the budget is spent on personnel, it is reasonable to view the number of criminal justice personnel as an approximation of public expenditures on criminal justice. Therefore, consistent with prior analyses of the resource data collected by the CTS (Marshall 1998; Mayhew 2003), the present chapter does not include financial data but focuses solely on criminal justice personnel.

For the analysis, we include all European countries, except those with very small populations (Liechtenstein, Vatican City and Monaco). We also include three nations which are adjacent to Europe: Georgia, Turkey and Azerbaijan (members of the Council of Europe). In addition to providing data on individual countries, we also report the information by

country clusters.[1] We use the following country groupings: (1) EU 15 – these are the 'old' EU members; (2) EU 10 – the 'new' EU members who joined May 1 2004; (3) 'other Eastern Europe'; (4) 'other western Europe'; and (5) North America (Canada and US). Because of the small size of cluster 4 ('other western Europe', mainly the EFTA - European Free Trade Association countries that do not belong to EU: Iceland, Norway and Switzerland), in some of our analyses we will include this cluster with EU 15.

We need to provide a strong general health warning related to the data reported in this chapter. It is important to point out from the onset that a major handicap in the following analysis is the fact that the data are far from complete. Not only are there a number of countries that never reported any of the requested information, there are relatively few countries that provided data across all four surveys. Since we are trying to make statements about trends and changes in criminal justice resources over the 10 year time period (1995-2004), incomplete data become especially problematic. Therefore, for some of our trend analyses, we include only those countries that had provided data on all four surveys.

This chapter is divided in seven subsections. In the first four sections, comparative data on police, prosecutors, judges, and correctional personnel (most recent 2004 data, as well as trend data on the 1995-2004 period) are used to describe individual countries as well as to make grouped comparisons. This is followed by a brief overview of the size and composition of total criminal justice system work force in Europe and North America. The sixth section zeroes in on the gender balance among criminal justice personnel in the region. We conclude the chapter with an overview and summary of the highlights from the CTS data on criminal justice personnel.

2.2   The police

The number of police personnel is the most expedient, relatively straightforward measure of the capacity or strength of the police force, even though problems arise in classifying functionaries as police (Bayley 1985). The 6th, 7th, 8th and 9th CTS consistently have defined the police or law enforcement sector as any "[P]ublic agencies whose principal

---

[1] EU15: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden, UK: England & Wales, UK: Northern Ireland; UK: Scotland; EU10: Cyprus, Czech Republic, Estonia, Hungary, Lithuania, Latvia, Macedonia, FYR, Malta, Poland, Slovakia, Slovenia; 'Other Western Europe': Iceland, Norway, Switzerland; "Other Eastern Europe": Bulgaria, Croatia, Romania, Turkey, Albania, Armenia, Azerbaijan, Belarus, Georgia, Moldova, Russia, Ukraine; North America: United States and Canada.

functions are the prevention, detection and investigation of crime and the apprehension of alleged offenders." In some countries, these functions are performed by para-military or military forces or national security forces. That is why the person responsible for completing the UN questionnaire is asked to "try to limit as far as possible replies to the civil police proper as distinct from national guards or militia." The questionnaire also specifies that "if there are many local forces, please provide data on those forces if possible." It also indicates that "data concerning support staff (secretaries, clerks etc.) should be excluded from your replies"[2] Starting with the 9th Survey, a separate category has been added: "Total police personnel assigned to the policing of organized crime" (Table 1 in CTS questionnaire; not reproduced in this publication).

Before examining the police data, a few cautions are in place. Some of the police data may be questionable, reflecting the impossibility of summarizing often very complex systems of policing into one single summary measure. Another issue concerns the definition of 'police personnel': does it include civilian personnel also, or is it limited to sworn/uniformed police offers only? The CTS does not include a measure of private security or private policing, which is an important void since the private security industry has grown tremendously over the last few decades. Indeed, in some countries, there are currently more private security agents than public police.

Table 2.1A in Annex of this chapter presents the available data on police personnel (per 100,000) for the 6th, 7th, 8th and 9th CTS. Out of the 44 European[3] and North American countries that we use in our analysis, only 16 countries took part in four sweeps, 11 countries took part in three, 6 countries responded to two of the surveys, 8 only to one and 3 countries (Armenia, Bulgaria and Russia) did not provide any data on police at all. Missing data were a particular problem in 2003 and 2004 (9th Survey) when 19 countries did not send requested data.

2.3 Number of police

Table 2.1 presents the number of police per 100,000 – ranked from highest to lowest - for the year 2004, or the latest year available. The table clearly shows that there are considerable international differences in the size of police forces (the standard deviation is 151).

---

[2] Earlier surveys asked for separate data on sworn/uniform and civilian police personnel. Starting with the 6th Survey, this distinction was no longer made.
[3] The United Kingdom reports data separately for England and Wales, Scotland and Northern Ireland.

Table 2.1. Number of police per 100,000 in 2004 (or latest available year)

Country	Rate	Country	Rate
Georgia	966	Scotland	314
Cyprus	682	Hungary	309
Northern Ireland*	583	Ireland	306
Italy	565	Austria*	304
Macedonia FYR**	484	Germany*	303
Portugal	464	Luxembourg*	293
Czech Republic	463	Spain **	288
Malta	445	Iceland	273
Croatia	436	Ukraine	268
Turkey	429	Poland	264
Azerbaijan*	404	England & Wales	262
Latvia	403	Estonia	260
Slovakia	394	Norway	248
Albania*	375	Netherlands**	225
Greece ***	373	France**	211
Slovenia*	358	Switzerland	211
Belgium	357	Romania	211
Moldova	340	Denmark	195
Lithuania	334	Canada	189
United States*	326	Sweden	189
Belarus	325	Finland	159

* data on 2002,   ** data on 2000,   *** data on 1997

Table 2.1a. Police rates by group of countries

Police2004	Mean	Median	Standard deviation	Minimum	Maximum
All	352.0	319.7	149.4	158.7	965.7
EU 15	317.0	303.2	122.4	158.7	582.6
EU 10	391.1	376.3	123.4	260.0	681.6
Other Western Europe	244.0	247.9	31.5	210.8	273.4
Other Eastern Europe	423.6	389.4	207.3	210.6	965.7
US & Canada	257.8	..	97.0	189.2	326.4
EU 15 + other Western Europe	306.1	290.5	115.9	158.7	582.6

[See footnote 1 for explanation of country clusters]

Half of the countries have a police rate of less than 320 per 100,000 people. The rate varies from a low of 159 in Finland to 966 (or almost 1000) in Georgia. The Scandinavian countries (Norway, Denmark, Sweden, Finland), together with the Netherlands, France, Switzerland and Canada rank among the bottom. The low rate countries are mostly western European nations (with Estonia and Romania as exceptions). This is in contrast to the top one-fourth, where there is a more varied mixture of countries.

Comparing between different country clusters, it appears that – generally – the EU 15 (plus other western) countries have the smaller police force (mean of 317 - or 306 if EU 15 plus other western), followed by the EU 10 countries (391), with the 'other eastern Europe' countries at the top (424). Among Western European countries the lowest rates were in Scandinavian countries (Finland, Sweden, Denmark and Norway); the highest in Northern Ireland, Italy and Portugal – above 450.

The North American group consists of only two countries (Canada and the US), and these two countries appear to differ significantly with regard to the size of the police force. Canada has a low police rate (about 189), close to a number of western European countries, but the US has a much higher rate – about 326.

The EU 10 group also sees considerable variation in the size of the police force: the highest rates were in Cyprus, Czech Republic and Malta (682, 463, 445 respectively), the lowest in Estonia and Poland (about 260).

It is worth to underline that the highest diversity of the police rate was among the 'other eastern European countries' (i.e. those not part of the EU by May 1 2004). This group has both the highest average rate (424) as well as the largest measure of variation (207). Although the countries belonging to this 'other Eastern European' group are spread all over the table ranks, they are mostly concentrated in the higher rankings. Only two countries from this cluster (Ukraine and Romania with 268 and 211

respectively) have less than 300 police offers per 100,000. These relatively high levels of police presence in the previous communist countries in Central and Eastern Europe, are not surprising in view of the fact that a large number of police was important for protection of the government and for keeping citizens in order[4]. The police culture in the former communist countries was radically different from the western countries. The communist regime gave broad powers to police officers; until today, citizens tend to have a much lower appreciation of the police than in western European countries. In this context, it should also be noted that there are significant differences between western countries and former communist countries with respect to registration of offences and offenders. The principle of "low crime rates and high clearance rates" was well known in Central and Eastern European countries, which can have an influence on police statistics even nowadays.

Starting with the 9th Survey, a separate category has been added: "Total police personnel assigned to the policing of organized crime" (Table 1, p. 7 of the CTS questionnaire). Only 15 countries supplied this information; this may mean that the other countries either did not assign police personnel to the policing of organized crime or they did not provide this information. Noteworthy is that there were only two EU 15 countries (Italy and Portugal) that provided this information.

2.4   Trends in police forces

As noted above, there are considerable cross-national differences in the size of the police force. That is understandable in view of the fact that countries differ significantly in the amount of resources available for public safety, the historical importance of police, the range of services which the police is expected to provide, the nature and extent of street crime, and so on. In addition to between-country differences in size of police presence, the number of police also fluctuates within countries over time. With the growing concern about crime and public safety across the western world, one would expect that the number of police has increased across most countries. On the other hand, we also witness a growing reliance on private security forces which would make it reasonable to expect a decline or stabilization in police forces. The CTS allow us to track changes in the size of police forces across Europe and North America. Thus, while the preceding paragraph provided a rather static snapshot picture of variations in size of police force between countries using the most recent year for which data are available, the focus is now

---

[4] Public order was very important in socialistic countries; this was mainly understood as keeping workers or other social groups quiet, e.g. without manifestation.

14

on the dynamics in size of the police force within different regions, using trend data covering a span of 10 years (1995-2004).

It is informative to make international comparisons in fluctuations (trends) as well as actual levels of police personnel. Figure 2.1 below presents available statistics on levels *and* trends in police forces for the different country clusters: EU 15+ other Western countries (1), EU 10 (2), other Eastern European countries (3), and North America (4). Please note that – in order to maintain comparability – we only include those countries for which we have data for all 10 years[5]. That means that the clusters used are incomplete and include not all countries that theoretically belong to them (see footnote 1 for a complete listing of countries) (for example, in Figure 2.1, North America is represented by Canada).

Table 2.2. Mean police rate per 100,000 population for country cluster by year

Cluster*	1995	1997	1998	1999	2000	2001	2002	2003	2004
Cluster 1	277	273	267	269	272	274	276	280	283
Cluster 2	417	417	393	392	391	400	396	400	400
Cluster 3	203	215	307	301	293	284	297	276	275
Cluster 4	188	183	182	181	182	184	186	188	189

*In this figure, clusters are defined as follows:

Cluster 1   EU15 + other Western Europe: Denmark, England and Wales, Finland, Iceland, Italy, Netherlands, Portugal, Sweden, and Switzerland
Cluster 2   EU10: Cyprus, Czech Republic, Estonia, Lithuania, Poland
Cluster 3   Other Eastern Europe: Moldova, Romania
Cluster 4   North America: Canada

---

[5] If we were to include countries with gaps in the data, each year would be represented by a different mix of countries, giving misleading results.
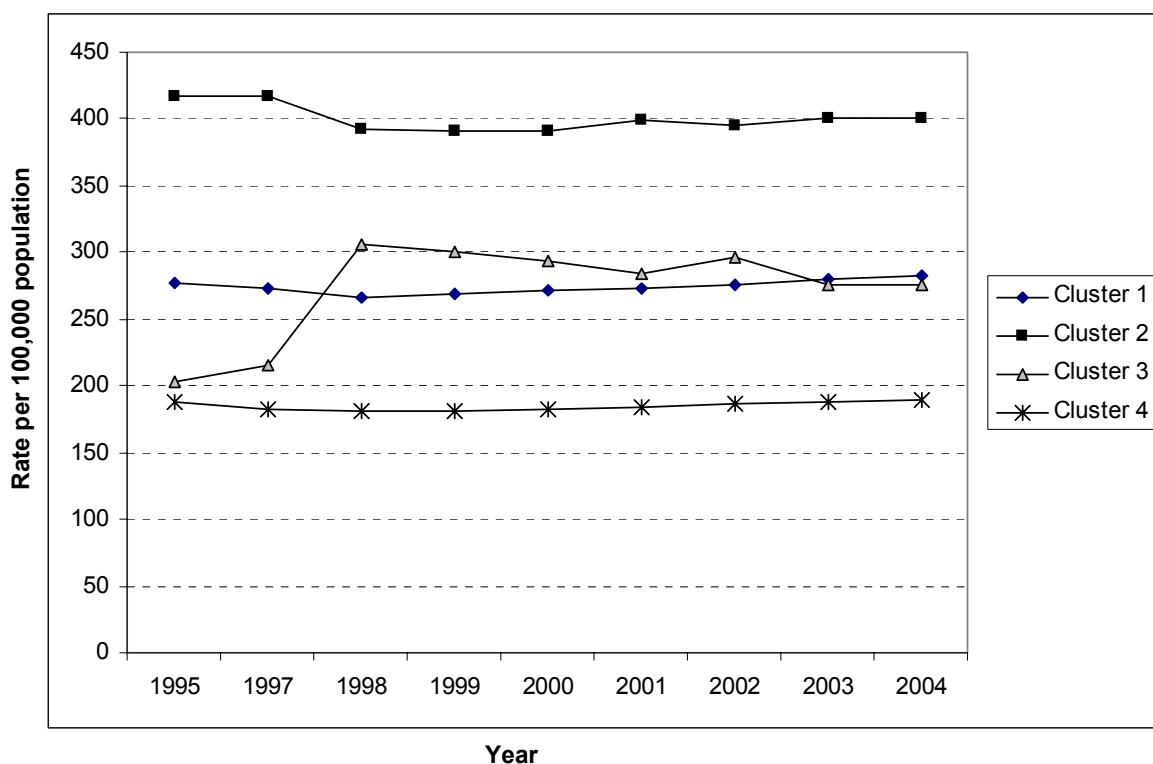
Figure 2.1. Mean police rate per 100,000 population for country cluster by year

Figure 2.1 shows that – over the 1995-2004 time period – there are significant and consistent differences in level of police personnel between different country clusters. This is consistent with what we observed earlier, when we focused only on the most recent data (see Table 2.1). Generally, over the 10-year time period, the EU15 countries are at the lowest level. [The lower rate for North America is based on Canadian data only; if US data had been available for all years and could have been included, the mean rate for the North American cluster most likely would have been closer to the mean EU15 rate]. The highest average rate of the 10 year period is based on countries from EU10 (represented here by Cyprus, Czech Republic, Estonia, Lithuania and Poland). Only two countries (Moldova and Romania) from the 'other Eastern Europe' group provided data for the 10 year period: their combined level appear close to the EU15 level. Second, we find that the average trends for the grouped countries seem rather flat – overall, there are no dramatic fluctuations (but remember that we only work with a small number of countries that have data for all ten years).

2.5   Size of police force and crime rates

Crime rates are 'socially produced' by the police. Although we tend to use police recorded crime as indicators of the level of crime, there is a growing body of work which has documented that crime statistics are the

product of a combination of organizational processes and offending behavior. The amount of registered crimes depends on many factors, one of which is the propensity for reporting, that is society's level of trust and confidence in the police force and its effectiveness. It is also possible that the level of recorded crime is related to the availability of police officers to follow up on citizen complaints and complete the needed paperwork. We explored this possibility by looking at the relationship between national crime rates (as measured by CTS) and rate of police (both per 100,000). Table 2.3 below shows how the countries may be classified based on their level of reported crime and the police rate, using the base quartile measure[6]. Two opposite tendencies are observed: First, low crime rates and relatively high police rates go together (cells 13 and 14, 9 and 10 – mostly Central and Eastern European countries). Second, relatively high crime rates and moderate police rates vary together (cells 3, 4, 7 and 8 – mostly Western European countries). This finding illustrates the complex interrelationship between policing and crime. Rather than drawing the oversimplified – and most likely erroneous – conclusion that there is a cause and effect relationship between the (low) police rate and the (high) crime rate, it makes more sense to conclude that national differences in recorded crime rates reflect a multitude of factors, such as a different crime registration system, and a different propensity for reporting crime to the police. In most central and eastern European countries, for example, the registration system is not very restrictive and very often omits petty crimes in the police statistics[7].

---

[6] Combination of quartiles allows us to compare the "location" of the countries taking into account two variables: crime rate (recorded by police) and police rate (police staff per 100,000 inhabitants).
[7] According to Aebi (2006), Central and Eastern European crime rates were more frequently underestimated than Western European crime rates (Gruszczynska and Gruszczynski 2005).

Table 2.3. Recorded crime rate vs. police rate – quartiles

		Crime rate			
		1Q	2Q	3Q	4Q
Police rate	4Q	(13) Azerbaijan* Cyprus Georgia Macedonia, FYR** Turkey	(14) Croatia Czech Republic Portugal	(15) Italy Malta	(16) Northern Ireland*
	3Q	(9) Albania* Belarus Moldova, Rep.	(10) Greece*** Latvia Lithuania Slovakia	(11) Slovenia* United States of America*	(12) Belgium
	2Q	(5) Spain** Ukraine	(6) Ireland Poland	(7) Austria* Hungary Luxembourg*	(8) Germany* Iceland Scotland
	1Q	(1) Romania	(2) Estonia	(3) France** Norway** Switzerland****	(4) Denmark England & Wales Finland Netherlands Sweden Canada

Note: The data are from 2004, unless otherwise indicated.
*   Both police and crime data for 2002.
**   Both police and crime data from 2000.
***   Both police and crime data from 1997.
****   Police rate from 2004, crime rate from 2003.

2.6   Prosecutors

Comparing the data on prosecutors is even more difficult than comparing the data on the police. Indeed, the nature and size of the public prosecutorial service depends on the legal tradition and justice system, which differs from country to country. Thus, in the analysis of public prosecution service across countries the role and competence of the prosecutor's office ought to be taken into account. The position and power of prosecutors differ considerably between countries. In some countries the competence of public prosecutors include also the imposing of alternative sanctions, playing a role in civil and administrative proceedings, in appeals to higher instances, and controlling the execution

of the court decision. It has to be emphasized that beside the number of prosecutors the organization of the public prosecutor service is also very important[8]. Because of data and time limitations, in the current analysis, we limit our observations to a simple comparison of the size of the prosecutorial staff.

The definition of prosecution personnel has remained constant throughout the 6th–9th UN Surveys: "Prosecution personnel" may be understood to mean a government official whose duty is to initiate and maintain criminal proceedings on behalf of the state against persons accused of committing a criminal offence[9]. Countries were required to provide data excluding support staff (secretaries, clerks etc.). The 9th Survey added a question on "Total prosecution officials assigned to the prosecution of organized crime."[10]

2.7   Number of prosecutors

Table 2.2A (Annex) presents the available data on prosecutorial personnel (per 100,000) for the 6th, 7th, 8th and 9th CTS. Only 13 countries from the European and North American region provided data for all four surveys (Czech Republic, England and Wales, Finland, Iceland, Latvia, Lithuania, Moldova, Portugal, Romania, Slovakia, Slovenia, Sweden and Turkey)[11]. Eleven countries participated in three of the surveys; seven countries completed two of the surveys, and another nine countries only completed one of the surveys. Four countries (Armenia, Austria, Norway and Switzerland) did not send any data on prosecutors.

Data on the number of prosecutors per 100,000 are presented in Table 2.4 below which shows the 2004 rate or the latest year available. Examination of Table 2.4 shows that the top ten countries all are new EU members or other Eastern European countries. Generally speaking, the lowest rates describe the EU 15 countries. For example, in Georgia, Russia, Latvia, Lithuania, Slovakia, and Ukraine the rates were over 20,

---

[8] Various roles and competencies of prosecutors were identified and listed in Evaluation Scheme prepared by CEPEJ (European Judicial Systems 2006).

[9] The additional notes on the CTS questionnaire were as follows: In some countries, a prosecutor is a member of a separate agency, in others, a prosecutor is a member of the police or judiciary. Respondents were asked to indicate the title of the agency in their country under which the prosecutor functions. If more than one criminal justice system operates in the country (e.g. federal/provincial systems or civilian/martial systems), they were asked to provide separate information about prosecutorial functions in each system.

[10] Only a handful of countries provided 2003 or 2004 data on prosecutorial personnel focused on organized crime (Albania, Bulgaria, Italy, Latvia, Lithuania, Malta, Romania, Slovakia, Slovenia and Turkey).

[11] In years 1998 … 2004 the number of countries, which provided data on prosecutors and prosecution were: 22, 24, 26, 23, 26, 28, 28 respectively.

while the rates were below 4 in France, Ireland, Northern Ireland and Malta.

Table 2.4. Number of prosecutors per 100,000 in 2004 (or latest available year)

Country	Rate	Country	Rate
Georgia	34	Scotland	9
Russian Federation*	30	Romania	9
Lithuania	25	Macedonia FYR*	9
Latvia	23	Sweden	8
Ukraine	21	Belgium	8
Belarus	20	Finland	7
Slovenia	20	Canada	7
Moldova	19	Germany	6
Poland	15	Luxembourg*	5
Hungary	15	England & Wales	5
Slovakia	13	Cyprus	5
Estonia	13	Turkey	5
Albania	13	Greece*	4
Croatia	13	Italy	4
Iceland	12	Netherlands	4
Azerbaijan	12	Spain*	4
Denmark*	11	France	3
Portugal	11	Northern Ireland*	2
Bulgaria	11	Ireland	2
Czech Republic	10	Malta	2
United States	10		

*   data for 2002
**   data for 2000
***   data for 1997

Table 2.4a. Statistics on prosecutor rates by group of countries

Prosecutors 2004	Mean	Median	Standard deviation	Minimum	Maximum
All	11.1	9.6	7.7	1.5	33.5
EU 15	5.8	5.3	3.0	1.6	11.2
EU 10	14.0	13.8	7.4	1.5	24.6
Other Western Europe	..				
Other Eastern Europe	16.1	12.7	8.9	4.6	33.5
North America	8.1	..	2.1	6.6	9.6
EU 15 + other Western Europe	6.1	5.4	3.3	1.6	11.8

[See footnote 1 for explanation of country clusters]

There is considerable variation within the different country clusters. Among the EU10, the highest rates were in Latvia, Lithuania and Slovenia – about 20 and more, the lowest in Cyprus – 5 and Malta – 2. When looking at the 'Other Eastern European' group, there is also a relatively high average rate (16), with Turkey providing an exception (4). In the EU15 group of countries, the rates varied from a high (over 10) in Denmark and Portugal, to a low (4 or lower) in France, Ireland, Italy, Netherland, Northern Ireland and Spain[12]. The only country from the 'Other Western European' cluster that provided data was Iceland with a relatively high rate – about 12. The overall higher level of prosecutorial staff in Eastern and Central European countries is most likely a remnant of the influence of the Soviet period which provided the prosecutor (or procurator) with considerable power and a larger variety of functions and authority than western European countries.

2.8   Trends in size of prosecutor service

The dynamics in prosecutor rates can be examined only for the 33 countries that provided at least two data points in the period 1995-2004. In most countries the number of prosecutors has increased.

Figure 2.2 (and Table 2.5) presents statistics on levels *and* trends in size of prosecutorial staff for the different country clusters. Once again, we need to point out that – because we only include countries with complete data – the clusters represent only a fraction of all countries.

---

[12] No data on Austria.

Table 2.5. Mean prosecutor rate per 100,000 population for cluster by year

Cluster*	1995	1997	1998	1999	2000	2001	2002	2003	2004
Cluster 1	10	9	7	8	9	9	9	9	9
Cluster 2	14	15	15	15	15	15	16	18	18
Cluster 3	9	12	13	13	15	15	15	15	14

*In this figure, clusters are defined as follows:

Cluster 1   EU15: Finland, Portugal, Sweden
Cluster 2   EU10: Czech Republic, Latvia, Lithuania, Slovakia, Slovenia
Cluster 3   Other Eastern: Moldova, Romania
Cluster 4   Canada and US: no data available
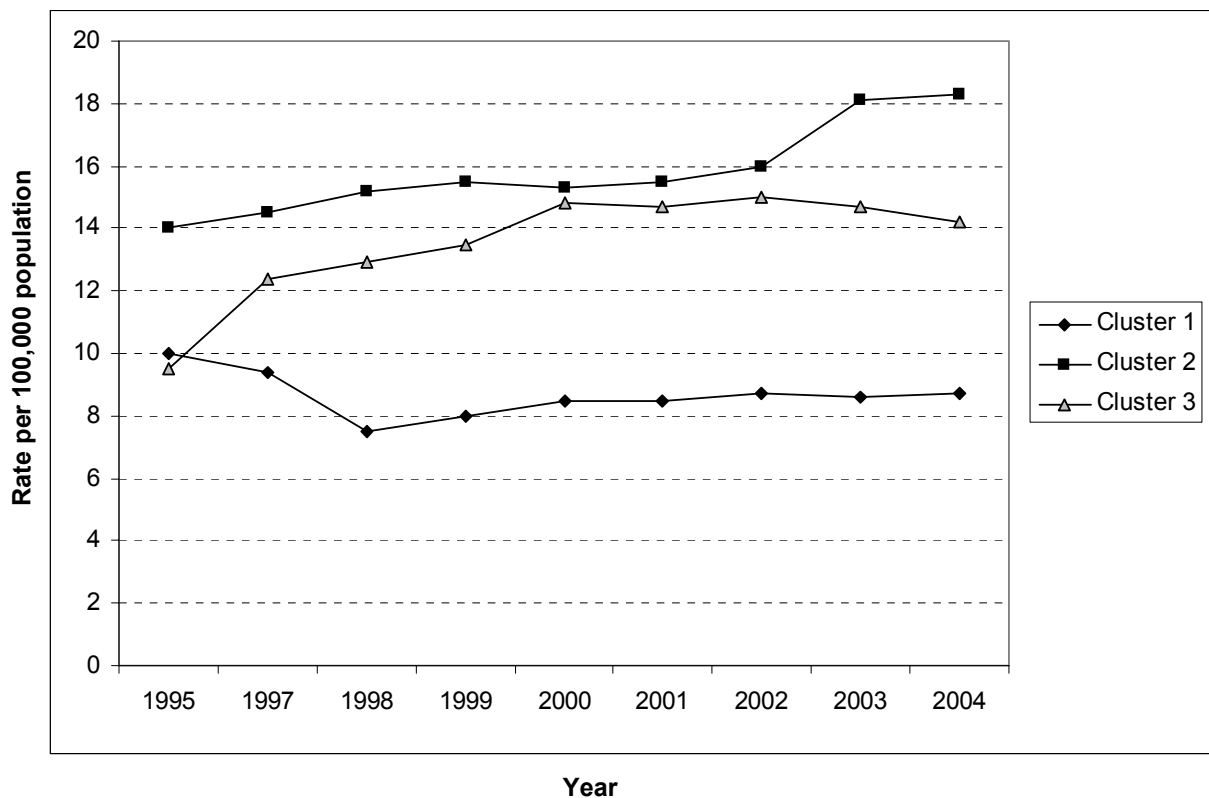
Figure 2.2. Mean prosecutor rate per 100,000 population for cluster by year

Figure 2.2 confirms our earlier observation (see Table 2.4), that the western European countries – on average and over time – tend to have a lower number of prosecutors than the new EU members and some other Eastern and Central European countries. The Western cluster appears to show a rather stable pattern with a relatively flat line after 1998. On the other hand, the clusters representing the new EU member states show a more consistent upward trend.

2.9 Judges

Our caution to take into consideration the particular characteristics of a nation's justice system when evaluating data on police and prosecution services applies equally to counts related to the judicial system. That is, when estimating the size of the judicial workforce, it is essential to keep in mind the distinction between Anglo-Saxon common law and the continental (civil law) system (Kuhry et al. 2004).

The UN instrument specifies a distinction between 'professional judges or magistrates' and 'lay judges or magistrates'. The former group may "be understood to mean both full-time and part-time officials authorized to hear civil, criminal and other cases, including in appeal courts, and make dispositions in a court of law." [Associate judges and magistrates should be included]. The latter group "may be understood to mean persons who perform the same functions as professional judges or magistrates but who do not regard themselves, and are not normally regarded by others, as career members of the judiciary." The 9th Survey added the category 'Total professional judges or magistrates assigned to the judging of organized crime'. Only four countries: Czech Republic, Malta, Slovakia and Turkey provided data on this part of the question.

As was the case for police and prosecutors, data on judges were not provided consistently by all countries. In the 9th CTS, 34 countries provided information on professional judges, in the 8th CTS – 31 countries and 33 countries did so in 7th. Only 18 countries completed data on all 4 of the surveys, 10 countries provided data in three of the surveys, 8 countries in two, and 4 (Greece, Luxembourg, Russia and Switzerland) only in one. Six countries (Armenia, Austria, Greece, Kazakhstan, Netherlands and Norway) did not provide any data on professional judges (see Table 2.3A in Annex for details).

2.10 Number of judges

Table 2.6 represents the number of judges per 100,000 in 2004 (or latest year). Consistent with our observation on police and prosecutorial personnel, there is a high degree of variation in the number of judges per 100,000 population in the countries which provided data.

Table 2.6. Number of judges per 100,000 in 2004 (or latest available year)

Country	Rate	Country	Rate
Russian Federation**	46	Denmark	13
Croatia	43	Italy	12
Slovenia	39	Scotland	12
Macedonia, FYR	32	Ukraine	11
Czech Republic	28	United States**	11
Hungary	27	Albania*	11
Poland	26	Sweden	11
Slovakia	25	Switzerland*	11
Belgium	23	Belarus	10
Greece***	21	France	9
Bulgaria	20	Malta	9
Lithuania	19	Spain**	9
Germany	18	Turkey	8
Estonia	17	Moldova	8
Romania	17	Georgia	8
Luxembourg*	17	Northern Ireland*	7
Iceland	16	Canada*	7
Portugal	15	England & Wales	5
Latvia	14	Azerbaijan	4
Cyprus	13	Ireland	3
Finland	13		

*   data on 2002 (Canada 2003)
**   data on 2000 (US 2001)
*** data on 1997

Table 2.6a. Statistics on judge rates by group of countries

Judges 2004	Mean	Median	Standard deviation	Minimum	Maximum
All	16,2	13,1	10,2	3,1	46,4
EU 15	12,4	12,3	5,6	3,1	22,8
EU 10	21,7	22,0	8,9	8,8	39,1
Other Western Europe	13,4	..	4,0	10,6	16,3
Other Eastern Europe	18,2	11,1	14,4	4,0	46,4
North America	8,8	..	3,2	6,5	11,0
EU 15 + other Western Europe	12,5	12,3	5,3	3,1	22,8

[See footnote 1 for explanation of country clusters]

Half of the countries had fewer than 13 judges per 100,000. Ireland reported the lowest number of professional judges (3 per 100,000), the Russian Federation ranked on top with 46 professional judges per 100,000. The North American group (US and Canada) appears to have the lowest rate of professional judges (9), followed by the 'old' EU15 country cluster (12). EU10 countries, on average, score highest (22), followed closely by 'other Europe' (18). The top 8 high rate countries all come from the EU10 or 'other Eastern Europe' group (Russian Federation, Croatia, Slovenia, Macedonia, Czech Republic, Hungary, Poland, Slovakia). Only two of the EU15 countries belong to the top ten highest rates (Belgium ranks 9th with a rate of 23, followed by Greece with a rate of 21). It is much harder to detect a pattern among the group of countries which are in the lower ranks, scoring less than 10 (France, Malta, Spain, Turkey, Moldova, Georgia, Northern Ireland, Canada, England and Wales, Azerbaijan, and Ireland).

2.11   Trends in number of judges

Figure 2.3 (and Table 2.7) below presents available statistics on levels *and* trends in size of professional judges for the different country clusters. Once again, we need to point out that – because we only include countries with complete data – the clusters represent only a fraction of all countries.

Table 2.7. Mean judge rate per 100,000 population for cluster by year

Cluster*	1995	1997	1998	1999	2000	2001	2002	2003	2004
Cluster 1	17	16	21	21	20	13	13	13	13
Cluster 2	18	20	21	23	23	22	22	23	23
Cluster 3	7	9	9	9	10	10	9	10	10

*For this figure, clusters are defined as follows:

Cluster 1   EU15 plus other Western: Finland, Iceland, Sweden
Cluster 2   EU10:Cyprus, Czech Republic, Latvia, Lithuania, Slovakia, Slovenia
Cluster 3   Other Eastern: Azerbaijan, Belarus, Moldova, Romania
Cluster 4   North America: no data available
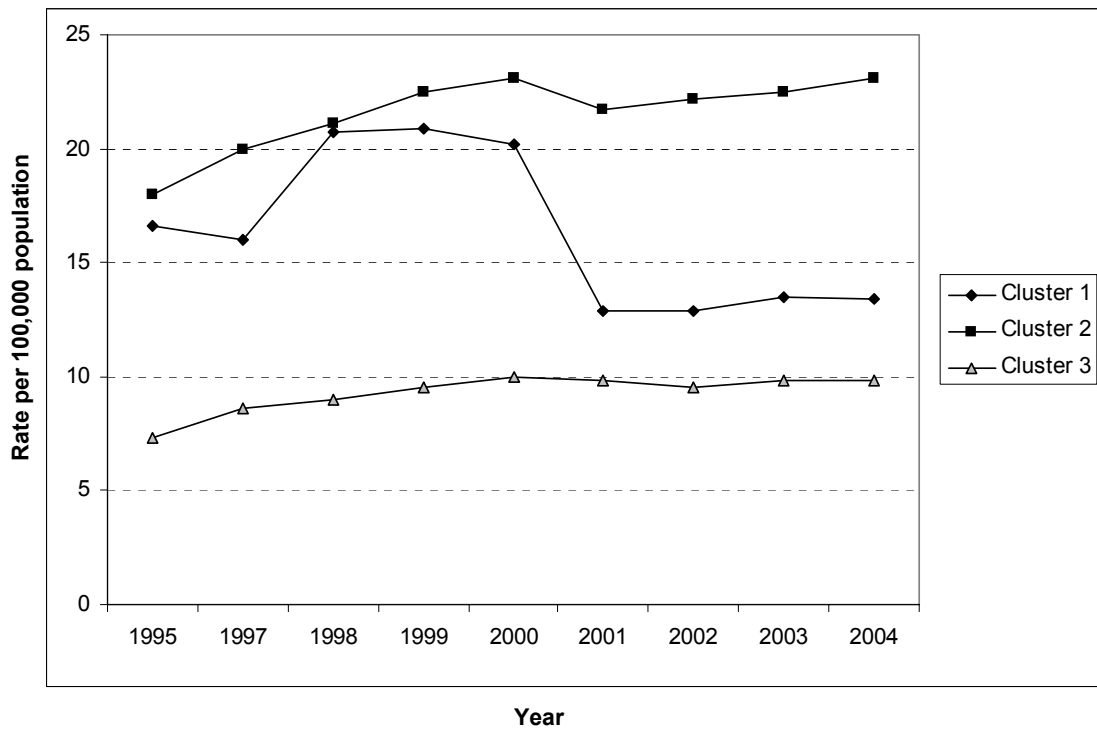
Figure 2.3. Mean judge rate per 100,000 population for cluster by year

Figure 2.3 suggests that EU10 countries (represented here by Cyprus, Czech Republic, Latvia, Lithuania, Slovakia and Slovenia) – over the 1995-2004 time period – show an average higher level of professional judges, as well as a fairly consistent upward trend. This may be explained by the transition period and a greater demand of court decisions in litigation cases. The 'Other Eastern Europe' group (represented by Azerbaijan, Belarus, Moldova, and Romania) likewise shows a (somewhat) upward trend, albeit at a considerably lower average level than the EU10 cluster (reflecting the fact that some of the higher rate countries in this cluster are not included in this part of the analysis,

26

because they did not provide data for the entire 1995-2004 time period. See Table 2.3A in Annex for more details). The trend for Western Europe (represented by Iceland, Finland and Sweden – the only three countries of this cluster that provided data for the entire time period) is less clear. The average level of judges for the Western cluster is higher than for the EU10 countries – which is contrary to our observation made based on Table 2.6 (above), that reflects only the most recent data (rather than the average data for 1995-2004).

2.12 Penitentiary staff

The physical separation of individuals in secure facilities (prisons) is among the most severe penal sanctions available globally. Number, type and quality of correctional institutions are important indicators of the penal climate in a country. Making international comparisons of the level of incarceration (either before or after trial and conviction) encounters all the common problems associated with comparative research in addition to those resulting from national differences in counting detainees, the use of stock versus flow counts, and so on. (See Chapter by Walmsley on incarceration in this publication). In this section, we report on data collected on one fairly simple aspect of the penitentiary system: the size of penitentiary staff. Early CTS instruments asked for data on 'staff of adult prisons (penal and correctional institutions), by sex and function' and the same for juvenile prisons. Later data do no longer ask specifically to distinguish by function. Instead, the instrument states that "[T]he total number of staff includes management, treatment, custodial and other (maintenance, food service etc.) personnel". In the current analysis, we will only include data on adult prisons.

Nineteen countries provided data on penitentiary staff for the 6th, 7th, 8th and 9th surveys; 11 countries reported information on this question in three of the surveys; 6 countries on only two of the sweeps, and 6 countries (Albania, France, Greece, Luxembourg, Northern Ireland and the Russian Federation) reported prison data only once. (See Table 2.4A in Annex for additional information.)

2.13 Size of penitentiary staff

A cursory examination of Table 2.8 suggests that there are tremendous variations in size of the penitentiary staff reported. Half of the countries have a rate of less than 67 penitentiary staff per 100,000 people, with a maximum value of 228 (Russia) and a minimum value of 19 (Greece and Macedonia, FYR). Not surprising in view of the high known levels of incarceration in the United States, this country ranks third (145), after Russia and Northern Ireland (173). (The high rate for Northern Ireland is

based on 1997 data, and should therefore be interpreted with caution.) Other high rate countries – with rates over 100 – are Latvia (118) and Estonia (109), followed by Canada (98). Countries at the lower end of the ranking with regard to prison staff are Greece and Macedonia FYR (both about 19), Azerbaijan (26), Iceland (32), Slovenia (33), Turkey (34), and Bulgaria (36).

Table 2.8. Prison staff per 100,000 in 2004 (or latest available year)

Country	Rate	Country	Rate
Russian Federation*	228	Poland	67
Northern Ireland***	173	Scotland	67
United States*	145	Belarus	65
Latvia	118	Czech Republic	64
Estonia	109	Portugal	61
Canada	98	Romania	57
Slovakia	94	Finland	54
Belgium	90	Croatia	53
Moldova	89	Malta	52
Netherlands*	88	Cyprus	49
Italy	88	Albania*	48
Lithuania	87	Spain	46
Sweden	86	Germany	46
England & Wales	85	France	43
Ukraine	83	Bulgaria	36
Georgia	76	Turkey	34
Ireland	76	Slovenia	33
Denmark	74	Iceland	32
Hungary*	72	Azerbaijan	26
Switzerland*	68	Greece*	19
Luxembourg*	67	Macedonia FYR	19

*   data for 2002 (Canada 2003)
**   data for 2000 (US 2001)
*** data for 1997

Table 2.8a. Statistics on prison staff rates by group of countries

Prison staff 2004	Mean	Median	Standard deviation	Minimum	Maximum
All	72.9	66.6	39.8	18.8	228.0
EU 15	72.5	70.2	33.5	19.1	172.5
EU 10	74.4	69.4	27.3	32.9	118.4
Other Western Europe	50.3	..	25.6	32.2	68.4
Other Eastern Europe	67.9	55.1	55.1	18.8	228.0
North America	121.2	..	33.2	97.7	144.7
EU 15 + other Western Europe	70.1	67.5	32.9	19.1	172.5

[See footnote 1 for explanation of country clusters]

It is hard to find a clear pattern among the different country clusters. As the summary statistics for the grouped data suggest, although there are differences in mean prison staff levels between different clusters, all clusters also show a fairly high level of within-cluster variation. For instance, within the EU15 group, the rates vary between a low of 19 (Greece) and a high of 173 (Northern Ireland), with the ranks of the other EU15 countries to be found across all levels (see Table 2.8). The 'new' EU10 group has a mean rate very close to EU15 (74), but has less internal variation (standard deviation is 27, compared to EU15 standard deviation of 34). That is, Slovenia with a rate of 33 is the lowest ranked country in this group, and Latvia (118) is the highest ranking EU10 country. The other EU10 countries are represented across the entire spectrum of rates: Estonia (109), Slovakia (94), Lithuania (87), Hungary (72), Poland (67), Czech Republic (64), Malta (52), and Cyprus (49). Noteworthy is that the largest amount of variation between levels of prison staff is found in the cluster 'Other Eastern Europe', with an average rate of about 68 (compared to 72 for EU15 and 74 for EU10), and a large standard deviation of 55. This cluster includes countries at the top (Russia – 228), the middle (Moldova – 89, Ukraine – 83, Georgia – 76, Belarus – 65) and the bottom (Bulgaria – 36, Turkey – 34, Azerbaijan – 26).

2.14 Trends in number of penitentiary personnel

Prison staff has increased for most of the countries. Figure 2.4 (and Table 2.9) below presents available statistics on levels *and* trends in size of prison staff for the different country clusters. Once again, we need to point out that – because we only include countries with complete data – the clusters represent only a fraction of all countries.

Table 2.9. Mean corrections personnel rate per 100,000 population for cluster by year

Cluster*	1995	1997	1998	1999	2000	2001	2002	2003	2004
Cluster 1	55	57	59	59	59	60	62	65	66
Cluster 2	78	77	78	80	81	81	79	77	79
Cluster 3	32	51	57	60	64	54	54	58	57

*For this figure, clusters are defined as follows:

Cluster 1 EU15 plus other Western: Denmark, Finland, Iceland, Italy, Portugal, Sweden
Cluster 2 EU10: Cyprus, Czech Republic, Estonia, Latvia, Lithuania, Slovakia, Slovenia
Cluster 3 Other Eastern Europe: Azerbaijan, Moldova, Romania
Cluster 4 North America: no data available
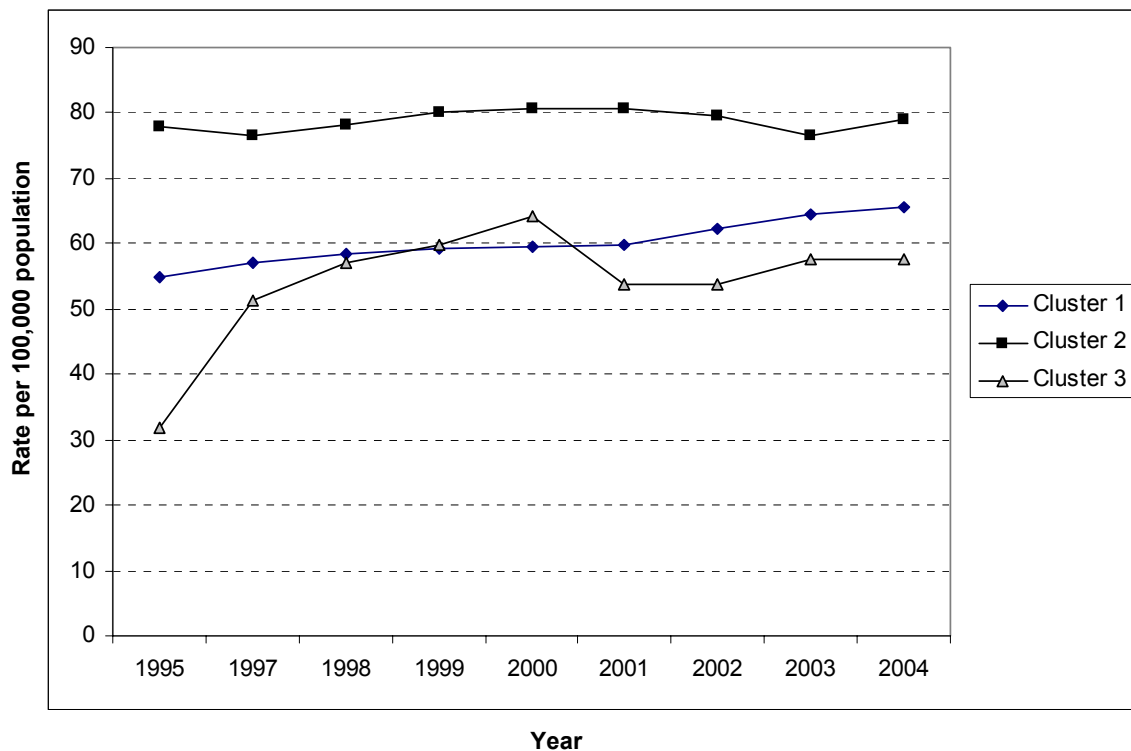
Figure 2.4. Mean corrections personnel rate per 100,000 population for cluster by year

We saw before that the most recent data on prison staff (represented in Table 2.8 above) indicated a slightly higher mean prison staff rate for EU 10 countries (74) compared to EU 15 (72); now we see that Figure 2.8 shows a considerably larger difference in average prison staff rates between EU 15 countries (represented here by Denmark, Finland, Iceland, Italy, Portugal and Sweden) and EU 10 countries (represented by Cyprus, Czech Republic, Estonia, Latvia, Lithuania, Slovakia and Slovenia) for the

1995-2004 time period. Also, the trend line for the EU 10 countries appears rather flat. The trend for the 'other Eastern European countries' (Azerbaijan, Moldova, Romania) shows a more volatile and stronger upward trend.

To conclude this section on prison staff, we need to reiterate two important points which apply equally to the discussions on police, prosecutors and judges. First, it is clear that comparative conclusions about trends are very heavily influenced by the particular mixture of countries that are used to represent different country groupings. If we only limit ourselves to trend comparisons for countries with complete data (as we have done in Figures 2.2, 2.5, 2.7 and 2.9), we tend to get different results than when we limit ourselves to snap-shot one-time comparisons between countries (which we have done in Tables 2.1, 2.4, 2.6 and 2.8 – focusing on 2004 or most recent year available). Second, and perhaps more important, comparative conclusions about levels (of police, prosecutors, judges and prison staff) do not inform us about the quality of criminal justice services. This is very well exemplified by observations about prison staff. A high rate of penitentiary personnel may mean that there is a high prisoner/staff ratio in a country (possibly reflecting an individualized approach to inmate care), but it could also mean that a country has a very large number of inmates (i.e. a high incarceration rate) with – possibly – a relatively low level of staffing.

2.15 Level of prison staff and incarceration rate

Table 2.10 below presents the relationship between prison staff (per 100,000) and the incarceration rate (per 100,000) (both measures are taken from the CTS). Table 2.10 does not provide an unambiguous picture, but it does suggest that countries with a high prison staff rate tend to also have a higher incarceration rate (cells 15, 16, 11 and 12), and countries with a low prison staff rate tend to have a low incarceration rate (cells 5, 1, and 2) There are no countries in cell 13 (low incarceration rate, high prison staff rate) or cell 4 (low prison staff rate, high incarceration rate).

Table 2.10. Incarceration rate and prison staff rate – quartiles

		Incarceration rate			
		1Q	**2Q**	**3Q**	**4Q**
Prisons staff rate	**4Q**	(13)	(14) Italy Netherlands* Northern Ireland*** Canada	(15) Slovakia	(16) Estonia Latvia* Moldova, Rep Russian Federation* United States**
	3Q	(9) Denmark Switzerland*	(10) Belgium* Ireland Sweden	(11) England & Wales Hungary	(12) Georgia Lithuania Ukraine
	2Q	(5) Croatia Cyprus Finland Luxembourg* Malta	(6)	(7) Czech Republic Portugal Romania Scotland	(8) Belarus Poland
	1Q	(1) Albania* Iceland Slovenia	(2) France Germany Macedonia FYR Turkey	(3) Azerbaijan Bulgaria Spain	(4)

Note: data are from 2004, unless otherwise indicated.
* Both data from 2002.
** Both data from 2000.
*** Both data from 1997.

We need much more information to put these observations into context. For example, it would be important to know the capacity of prisons in different countries, and the number of auxiliary support staff. We do not have a way to determine the optimum number of staff for a certain number of inmates in a prison.

2.16 Total criminal justice personnel

In this section, we present an aggregate picture of the total number of people employed as criminal justice personnel (police, prosecutors, judges, and prison staff) per 100,000 for the European and North American region. Two comparisons are made. First, how do countries rank with regard to their aggregate rate of criminal justice personnel

(calculated as the sum total of the rates for police, prosecutors, judges and penitentiary staff). A related question is how countries differ with regard to the proportion of their criminal justice personnel resources spent on either police, prosecution, courts or prisons. We will not present trend data, because the number of countries which provided data for police, prosecutors, judges and prison personnel for the 1995-2004 time period is small.

Table 2.5A (Annex) presents the rates per 100,000 (2004 or latest available) for police, prosecutors, judges, prison staff and the aggregate rate for these different groups combined (right hand column in Table 5A). The new EU members states have the highest overall rate of criminal justice personnel per 100,000 (505), followed by the 'other Eastern Europe' group (488). The EU15 countries have an intermediate position (374), with a considerably higher rate than North America (233). Of course, there is a large amount of variation between the countries in these groups. For instance, Georgia has a rate of 1,083 (mostly because of its high police rate), and Romania has a rate about one-fourth of that (294). Northern Ireland, with a high rate of 764 has almost three times as many people employed as criminal justice personnel than France (266). Figure 2.5 shows the composition of the total criminal justice workforce.
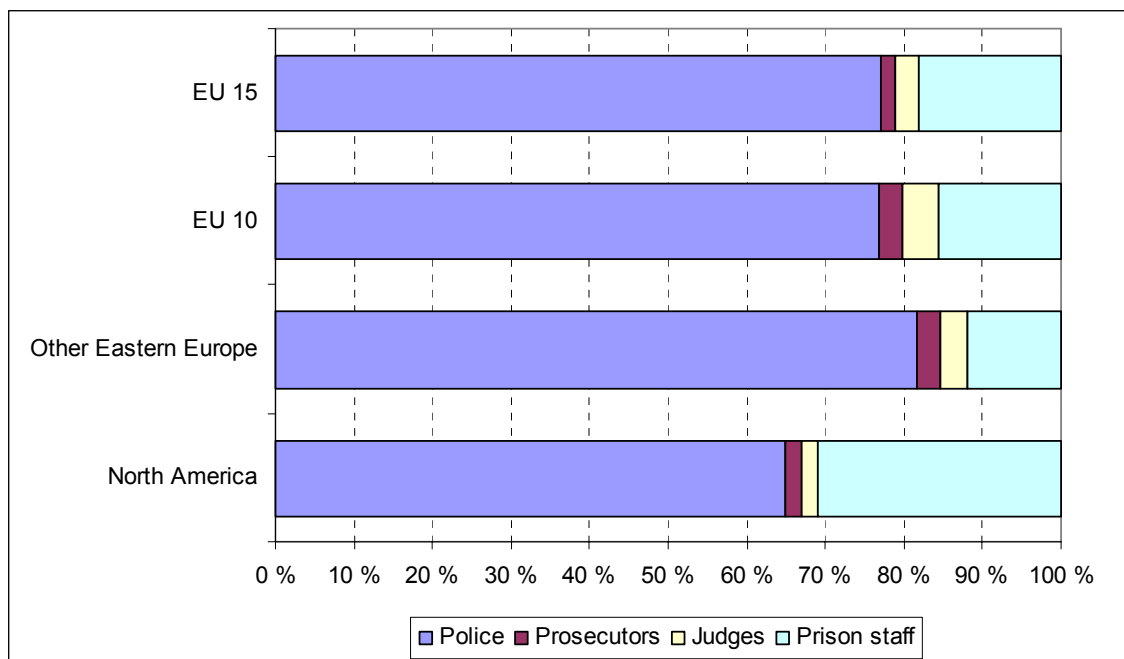
Figure 2.5. Distribution of criminal justice workforce, %

Table 2.11. Structure of criminal justice workforce by group of countries, %*

	Police	Prosecutors	Judges	Prison staff	Total
EU 15	77.1	1.7	3.0	18.2	100
EU 10	76.9	3.0	4.6	15.5	100
Other Eastern Europe	81.7	3.1	3.2	12.0	100
North America	64.9	2.1	2.1	30.9	100

* When data on 2004 were not available the latest available year was used; when data on police, prosecutors, judges and prison staff were not available for the same year, the closest available year was used.

There is no question that – in all country clusters – police makes up the larger part of the criminal justice workforce, varying from a high of 82% ('Other Eastern Europe') to a low of 65% (North America). Conversely, in North America there is – relatively – the highest proportion of criminal justice personnel employed as prison staff (31%), about 2.5 times higher than in 'Other Eastern Europe' (12%). Both prosecutors and judges account for a relatively minor segment of the criminal justice workforce in all countries, with judges being slightly more numerous than prosecutors. Prosecutors and judges appear somewhat more important in the EU10 and 'Other Eastern Europe' clusters than in North America or the EU15 group. Please note that these figures do not reflect differences between countries in actual levels of police, prosecutors, judges and prison staff; rather, they reflect the distribution of personnel within the criminal justice workforce.

2.17 Gender balance in criminal justice

Gender mainstreaming is an important aspect of current EU policies. Adequate representation of females in the criminal justice workforce – aside from issues related to equal opportunity in the workforce – is thought to promote greater sensitivity to victim rights, more concern with domestic violence and sexual assault, and providing role models for female youth, to mention but a few arguments. Although not all countries provided the requested information on the gender composition of the criminal justice workforce, there are sufficient data to conduct several interesting analyses. First, we examine the gender balance in the police, prosecutors, judges, and prison staff separately. Then we focus on the gender balance in the total criminal justice workforce. And, we will also describe – wherever possible – trends and fluctuations in the proportion of females in the criminal justice workforce.

2.18 Female police

Table 2.12 presents the number of women employed in police forces as percentage of total staff, based on the most recent data available. The 10 new EU member states show a relatively high share of female staff in the police force (average level of 16%). The highest share was reported in Estonia (31%), Latvia (22%) and Lithuania (20%). Relatively lower levels were reported in the Czech Republic, Cyprus, Malta and Hungary (13%, 15%, 15% and 17% respectively). Within the EU10 group, Slovenia, Slovakia and Poland reported the lowest share of female staff – between 8% and 11%.

In the other Eastern and Central European countries, the gender balance was distinctly lower (7%). In Azerbaijan and Turkey the share of women in the total police force is approximately 3%, followed by Romania, Belarus and Moldova (5%, 6% and 6% respectively). The highest share of women was found in Macedonia (16%). In Albania, Croatia, Ukraine and Georgia the percentages are about 8-9%.

Western Europe (EU15) has a more gender-balanced police force than the group 'Other Eastern and Central European countries', with on average about 12% of the workforce consisting of females. In Sweden, England and Wales, and Scotland the share of women in total police staff was about 20% – the highest in Western Europe, followed by the Netherlands, Ireland and Northern Ireland (19%, 17% and 16% respectively). In Denmark, Iceland, Belgium, Finland and France the percentages range from 9% to 13%. The lowest share of females in total staff was found in Spain (4% in 2000), Portugal and Italy (about 5%) and in Austria and Luxembourg (about 7%). In Canada, 16% of the police staff was female and in the United States – 10% (US data from 1999).

Table 2.12. Females in police force (most recent available data), %

Estonia	31.2	Malta	14.6	Slovenia	8.0
Latvia	22.4	France	13.3	Greece	7.0
Sweden	20.3	Czech Republic	12.8	Luxembourg	6.8
England & Wales	20.2	Finland	11.3	Austria	6.3
Lithuania	20.1	Belgium	10.7	Moldova	6.1
Scotland	19.7	Poland	10.5	Belarus	6.1
Netherlands	19.2	United States	10.0	Italy	5.3
Ireland	16.9	Georgia	9.9	Romania	5.2
Macedonia, FYR	16.7	Slovakia	9.8	Portugal	4.7
Hungary	16.7	Iceland	9.7	Albania	4.6
Canada	16.5	Denmark	9.3	Spain	3.6
Northern Ireland	15.9	Ukraine	8.8	Turkey	3.0
Cyprus	15.1	Croatia	8.3	Azerbaijan	2.8

Table 2.12a. Females in police by group of countries, %

	Mean	Median	Standard deviation	Minimum value	Maximum value
All	11.8	10.0	6.4	2.8	31.2
EU 15	11.9	11.0	6.1	3.6	20.3
EU 10	16.1	14.9	6.9	8.0	31.2
Other Western Europe	..				
Other Eastern Europe	7.2	14.6	6.0	4.7	20.3
North America	13.3	..	4.6	10.0	16.5

2.19 Trends in gender balance in police

The data suggest that there have been significant changes in the female police rate in many countries. Further scrutiny of data on the 17 countries, that provided complete information allowing for comparisons between 1995 and 2004, affirms that the decade 1995-2004 brought significant changes in the gender balance in the police force. Figure 2.6 provides the 2004/1995 ratio of percentage of females in the police in 17 countries. Only one country (Turkey) experienced no change between 1995 and 2004. Ireland, Lithuania, Iceland, Ukraine and Moldova more than doubled the female presence in the police force. Comparing Figure 2.6 with the data on gender balance in 2004 (or latest data available) (Table 2.12) suggests that this indicator is not consistently related to the rate of change: For instance, Scotland, England & Wales, and Lithuania all have about 20% female participation in the police force, yet these three countries vary with regard to their rate of increase in female participation between 1995 and 2004 (Lithuania 2.4, England & Wales 1.4, and Scotland 0.8)
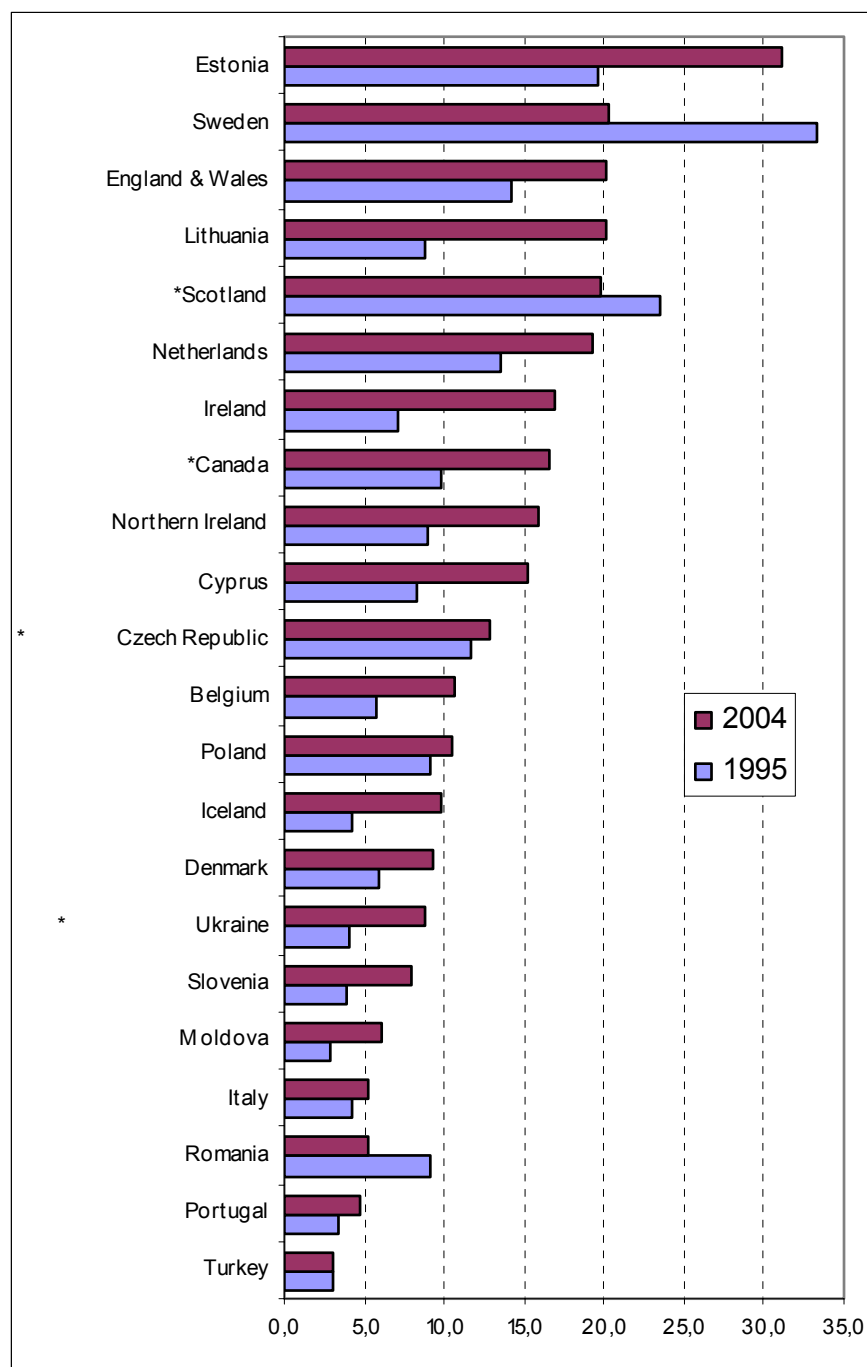
Figure 2.6. Females in police in 1995 and 2004, %

2.20 Female prosecutors

The prosecutorial service is much more gender-balanced than the police. Data on females in public prosecution service in 2004 (or the latest possible period) was made available for 36 countries. The percentage of women in the total staff could not be calculated for: Albania, Armenia,

Austria, Bulgaria, Greece, Netherlands, Norway, Russian Federation, Spain, Switzerland and United States. Table 2.13 provides summarizing data on the percentage of females in the public prosecution service for the grouped countries. (See Table 2.6A in Annex for data on individual countries).

Table 2.13. Females in prosecutor service by group of countries, %

	Mean	Median	Standard deviation	Minimum value	Maximum value
All	40.5	40.5	15.3	4.3	74.2
EU 15	41.2	38.9	9.0	25.0	56.0
EU 10	52.7	53.8	11.2	33.3	74.2
Other Eastern Europe	27.2	51.0	7.8	33.3	59.5

The EU10 countries show – on average – the highest proportion of female prosecutors. Over one-half of the prosecutors in the EU10 countries are female. The percentage of females ranged from 33% (Malta) to almost 75% (Estonia). For Lithuania, the female share is 39%, for Slovakia 48%. For Cyprus, Poland, Czech Republic, Hungary and Latvia, the percentage female was between 50 and 60%.

For the EU15 group, the percentage of female prosecutors ranged between 33% (Italy) and 56% (Scotland). The lowest share of female prosecutors was found in Germany, Luxembourg, Finland and France (between 33-36%). Scotland, England and Wales, Portugal and Denmark exhibited the higher gender balance in the public prosecution service (50-56%) in EU15 countries. A moderate gender balance was found in Belgium, Ireland and Sweden (41-48%).

In Canada, the percentage of women in the prosecutor's service was 44%. Unfortunately, data from the United States were not available.

The lowest gender balance was found in the 'Other Eastern Europe' group of countries. Half of these countries reported that fewer than one in four prosecutors was female. In Turkey and Azerbaijan, only one in 25 prosecutors is female, in Belarus and Moldova – one of four. The highest proportion of females in this group was found in Croatia (about 60%) and Romania (46%).

2.21 Female judges

Table 2.14 provides summarizing data on the percentage of females in the judicial workforce for the grouped countries. Examination of the data in Tables 2.13 and 2.14 suggests quite clearly that the court room is no longer a primarily male bastion in many European countries.

Table 2.14. Female judges by group of countries, %

	Mean	Median	Standard deviation	Minimum value	Maximum value
All	43.1	41.4	18.4	11.4	72.4
EU 15	37.2	36.5	13.3	13.5	54.9
EU 10	56.2	62.9	19.5	11.4	63.4
Other Eastern Europe	42.5	50.5	22.6	11.4	70.5

In half of the countries, women make up more than 40% of the judicial workers. The EU10 countries have the highest proportion of female judges. In almost all of them the percentage of woman among judges is over 50%, with two exceptions – Cyprus (31%) and Malta (12%)[13]. In three of the new EU member states, 7 out of 10 judges are female (Hungary, Latvia, and Slovenia). The other 'Eastern European' group also shows a high level of variation: the proportion of female judges ranges from extremely low (Turkey 10.2%, Azerbaijan 13.3%) to quite high (Romania 65%). We have to keep in mind, however, that this cluster is – per definition – a rather heterogeneous catch-all group, including countries that are not commonly included as 'Eastern European', The 'old' EU member states have the lowest gender balance among judges – on average, about 37%. Within this group of countries, France (61%), Denmark (55%) Luxembourg (54%), Greece (51%), Portugal (46%), Italy (42%) and Belgium (42%) have an above average level of female judges. At the lower end, there are England & Wales (13%), Ireland (19%) and Northern Ireland (15%).

---

[13] The system in Malta and Cyprus is close to the British tradition, where women were rather less frequently employed as judges than in the continental system. The proportion in the UK: England and Wales is equal to 13, Northern Ireland to 15.

2.22 Females among penitentiary staff

Table 2.15 provides summarizing data on the percentage of females in the penitentiary workforce for the grouped countries. Examination of the data suggests that correctional personnel remains predominantly male. A striking observation is that the situation in terms gender equality within the penitentiary staff appears rather alike in most of the countries. On average, a little more than one out of five penitentiary staff are female. In the analyzed groups of countries (EU15, 10 new EU members and other Eastern European countries) – both averages and medians are quite comparable. There is considerably less variation between countries with regard to female penitentiary workers than was found when examining police, prosecutors, and judges. The lowest percentage of females among prison staff is found in Albania (less than 1%), Malta (8%), Czech Republic and Greece (10%). The highest rate is found in Estonia (40%); most other countries report considerably lower rates.

Table 2.15. Females in penitentiary staff by group of countries, %

	Mean	Median	Standard deviation	Minimum value	Maximum value
All	21.5	21.3	9.1	6.2	40.6
EU 15	24.2	25.4	9.0	9.2	36.0
EU 10	20.4	20.8	10.4	7.7	40.6
Other Western Europe	14.4	..	6.9	11.0	40.6
Other Eastern Europe	19.4	25.4	10.9	6.2	36.0
North America	33.0	..			
EU 15 + other Western Europe	24.1	24.0	8.7	9.2	36.0

2.23 Females in the total criminal justice workforce

Above, we examined the gender distribution of police, prosecutors, judges and penitentiary staff separately. In this section, we look at the aggregate picture which will provide a more comprehensive view of gender equity among criminal justice workers. Table 2.16 provides summary statistics for the female share of police, prosecutors, judges and prison staff among all reporting countries in Europe and North America.

Table 2.6A (Female Criminal Justice Personnel, in Annex) provides the most recent available data for the individual European and North American countries. These data are the input for summary Table 2.16 (below), which provides selected statistics on the female share of the

criminal justice staff (police, prosecutors, judges, and prison – in %) for all the countries combined.

Table 2.16. Females in criminal justice workforce, %

	Mean	Median	Standard deviation	Minimum value	Maximum value
Police	11.8	10.0	6.4	2.8	31.2
Prosecutors	40.5	40.5	15.3	4.3	74.2
Judges	43.1	41.4	18.4	11.4	72.4
Penitentiary Staff	21.5	21.3	9.1	6.2	40.6

There is no doubt that – overall – the most gender-balanced branches of the criminal justice workforce are the cadre of judges and prosecutors. As was already noted before, about 4 out of every 10 prosecutors and judges and about 1 out of 5 prison workers are female. The police force remains mostly male (almost 9 out of 10 officers are male). (See the first bar of Figure 2.7 below). Most of the differences (between country clusters and branches of the criminal justice workforce) were already discussed in more detail in the preceding sections. Suffice it now to point out a few of the additional and most obvious differences between country clusters and types of criminal justice staff.

First, the new EU members (EU10) have the highest share of female police, prosecutors and judges, and may be considered to be the most gender-balanced cluster overall. Second, the 'Other European' group appears to have the lowest overall level of female representation in the criminal justice workforce (including the lowest share of female police oficers and female prosecutors). Third, Western European countries (EU15) and North America share the intermediate position. North America has a higher female share of police, prison staff and prosecutors, whereas EU15 has a higher number of women working as prosecutors. Caution is in order here. Remember that the composition of the criminal justice workforce (police, prosecutors, judges and penitentiary staff) varies between countries (see Figure 2.5). Overall, the police represent the bulk of criminal justice personnel, but even in this regard, countries differ. Therefore, we cannot draw any overall conclusions about the gender balance in the total criminal justice workforce without taking the base rates into account (something which we have not done in this analysis).
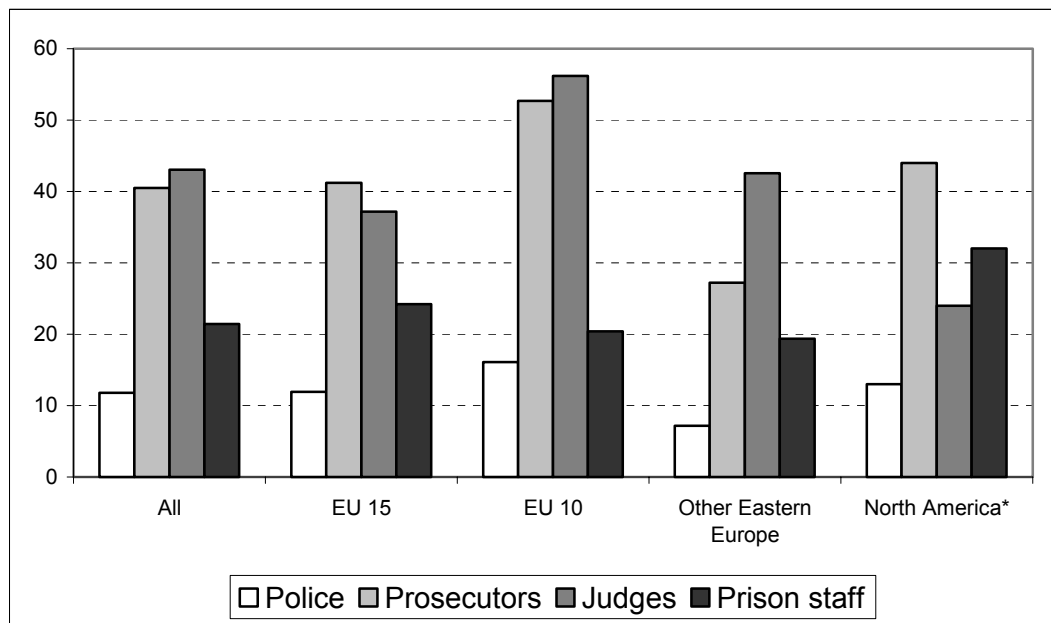
Figure 2.7. Females in criminal justice workforce by country clusters, %

* Data on police include Canada and US, on prosecutors and judges – Canada; on prison staff – US

A final observation may be made about trends in the percentage of women working in the criminal justice workforce. Focusing only on those countries which have data for all four branches of the system, and doing a simple count, 8 counties reported positive growth in all four (police, prosecutors, judges and prison staff) (Denmark, England & Wales, Georgia, Iceland, Italy, Moldova, Portugal and Slovakia) and 11 countries reported mixed (but mostly positive) trends. No country reported only negative changes.

2.24 Summary and conclusions

The 6th, 7th, 8th and 9th CTS data on the criminal justice workforce in Europe and North America provide very basic information about the number and gender of people working as police, prosecutors, judges or prison staff in some 50 countries. Needless to say, one should not mistake the statistics on the size of the police force or the number of judges as a valid indicator of the quality of justice, or even as the best measure of 'criminal justice resources' of a country. As we mentioned in the introduction to this chapter, other matters such as the level of employee training, their dedication and integrity, or the level of professionalisation are likely much more important determinants of the level of security

provided and the quality of justice rendered. Still, a comparative examination of the number of people working as police, prosecutors, judges or penitentiary staff is important because of what it tells us about differences in national priorities, the significance of the historical, legal and political context of national criminal justice practices, and the manner in which countries adjust to a changing social, economic and political environment, including the forces of internationalization and globalization.

The analyses presented in this chapter confirm that there are significant differences between Western European countries (mostly the old EU15), the newer EU member states (EU10), and the rest group of other Central and Eastern European countries. Overall, the EU10 countries and the other Central and Eastern European countries have a larger police force, more prosecutors, and more judges than the Western European and North American countries. The picture with regard to the size of prison staff is less clear, except that the two countries with the highest incarceration rate (Russia and the US) also have the highest prison staff rate. Looking at the growth rate of the different components of the criminal justice work force over a 10-year time period (or shorter, if data were not available), there are no clear regional or geo-political patterns. The dominant trend has been one of stabilization or slight increases, with a few exceptions of declining numbers. The strongest growth overall is seen among prison staff, likely a reflection of the growing trend toward more incarceration in (most parts of) the western world.

The CTS collects information about the gender distribution of criminal justice personnel, a useful tool in the assessment of the degree to which gender mainstreaming has been actualized. The data show that the most gender-balanced branches of the criminal justice workforce are the judges and prosecutors: about 4 out of every 10 prosecutors and judges and about 1 out of 5 prison workers are female. The police force remains mostly male (almost 9 out of 10 officers are male). Once again, we see that there are several significant differences between the different regional country clusters. The new EU members (EU10) have the highest share of female police, prosecutors and judges, and may be considered to be the most gender-balanced cluster overall. The 'Other Eastern and Central European' group appears to have the lowest overall level of female representation in the criminal justice workforce (including the lowest share of female police officers and female prosecutors). Western European countries (EU15) and North America share the intermediate position. North America has a higher female share of police, prison staff and prosecutors, whereas EU15 has a higher number of women working as prosecutors. With only a few exceptions, most countries in the different clusters have shown considerable positive growth in their share of female criminal justice personnel over the last decade. This fact notwithstanding, there remain significant national differences in the level of female representation in the criminal justice workforce, with some countries still lagging far behind, particularly in policing and prison work. In still too

many countries, the stereotype holds that a police officer or a prison guard should be a physically strong man – a stereotype that has long been challenged by the proven importance of training and technique.

We have given many cautionary health warnings throughout the chapter about the quality of the data. Similar warnings have been written by the authors of the other chapters in this publication. Some of the problems with the survey data cannot easily be solved, because they reflect problems intrinsically related to comparative research, such as non-comparable legal definitions and different reporting and recording procedures. We simply do the best we can by trying to be as explicit as possible about the degree to which the data actually reflect these national differences in defining, reporting and recording. However, one particularly important methodological problem plaguing our analysis – as well as that of our colleagues – has to do with something which – in principle – should not be a problem: missing and incomplete data. Not all countries returned the CTS surveys, some countries only returned one or a few, and often, parts of the requested information were left blank. This lack of data seriously undermined our ability to conduct trend analysis over the entire 10-year period. Since only a limited number of countries provided data for the entire 10 year period, our comparison between country clusters also became compromised: only a handful of countries were available to represent an entire grouping. Analyses of data on criminal justice personnel provide interesting and useful insights about international differences and similarities. We genuinely hope that future CTS surveys will be successful in realizing a high return and completion rate.

Finally. Internationalization and globalization, new forms of crime, and new criminal modus operandi are putting growing pressures on the 'resources' of the criminal justice system. It is becoming ever more evident that the mere number of personnel involved in the criminal justice system is not the deciding factor in determining how effective and efficient a country is with regard to security and justice. The most 'resourceful' countries are those that are open to new techniques, proper recruitment, training, and management.

References

Aebi M. F., Aromaa K., Barclay G., Aubusson de Cavarlay B., Gruszczynska B., von Hofer H., Hysi V., Jehle J-M. Killias M., Smit P., Tavares C., (2006). *European Sourcebook of Crime and Criminal Statistics,* Second edition, Boom Juridische uitgevers-WODC, 2003, 268 p., Available on line at: http://www.wodc.nl

Blank J. L. T. (ed.) (2000). *Public Provision and Performance*. Amsterdam: Elsevier.

Blankenburg E. (2000). Legal Culture in Five Central European Countries, WRR Scientific Council For Government Policy, Working Document, W111, The Hague.

Blankenburg E. (2001). *Indicators of Growth of the System of Justice in Western Europe of the 1990s: The legal profession, courts, litigation and budgets*.

Coping with Overloaded Criminal Justice Systems. The Rise of Prosecutorial Power across Europe, Jehle J.-M., Wade M. (eds.) Springer 2006.

European judicial systems. Edition 2006 (2004 data), (2006). European Commission for the Efficiency of Justice (CEPEJ), Council of Europe. Available on line at: http://www.coe.int/t/dg1/legalcooperation/cepej/

Gruszczynska B. and Gruszczynski M. (2005). Crime in Enlarged Europe: Comparison of Crime Rates and Victimization Risks, *Transition Studies Review*, Volume. 12, Issue 2, Sep. 2005, 337-345.

Kuhry B., Smit P., Backbier E. & van der Torre Ab (2004). *Law and order*, Public Sector Performance. An international comparison of education, health care, law and order and public administration, SCP Social and Cultural Planning Office, The Hague.

Marshall I. H. (1998). Operation of the Criminal Justice System. In *Crime and Criminal Justice Systems in Europe and North America 1990-1994*, Kangaspunta K., Joutsen M. & Ollus N. (eds.). Heuni: Publication Series No. 32, 54-114.

Mayhew P. (2003). The Operation of the Criminal Justice Systems, In *Crime and Criminal Justice Systems in Europe and North America 1995-1997*, Aromaa K., Leppä S., Nevala S. & Ollus N. (eds.), Heuni: Publication Series No. 40, 84-149.

Newman G., Howard G., J., Resources in criminal justice (1999). *Global report on Crime and Justice*, New York, Oxford, Oxford University Press.

Annex Tables to Chapter 2

Table 2.1A. Total police personnel per 100,000

Country	1995	1997	1998	1999	2000	2001	2002	2003	2004	Average annual change 1995-2004 in %*
Albania		495				405	375			
Austria						311	304			
Azerbaijan						404	404			
Belarus								354	325	
Belgium	14	14					358	350	357	
Croatia		421				520	448	453	436	
Cyprus	585	611	632	625	618	678	666	662	682	1.7
Czech Republic	428	402	433	438	446	448	459	470	463	0.9
Denmark	197	190	192	193	195	193	192	192	195	-0.1
England & Wales	246	245	244	241	237	235	242	251	262	0.7
Estonia	334	302	282	249	265	260	258	262	260	-2.8
Finland	159	153	155	155	158	160	160	159	159	0.0
France			196	205	211					
Georgia			273	287	261			1058	966	
Germany	303	314	309		292		303			
Greece	367	373								
Hungary			292	297	288	283	287	308	309	
Iceland	227	226	227	230	237	282	286	278	273	2.1
Ireland	301	300	303	306	307			301	306	
Italy	552	537	544	558	559	553	564	562	565	0.3
Latvia			411	404	400	452	441	389	403	
Lithuania	481	510	363	388	364	349	337	345	334	-4.0
Luxembourg						281	293			
Macedonia FYR			417	473	484					
Malta						459	464	462	445	
Moldova	169	188	376	371	369	370	380	342	340	8.0
Netherlands	195	197	196	197	198	203	212	230	225	1.6
Northern Ireland	684	678				614	583			
Norway			234	241	248					
Poland	258	261	255	259	263	263	259	262	264	0.2
Portugal	436	452	454	465	480	450	442	459	464	0.7
Romania	238	242	237	232	218	199	213	210	211	-1.3
Scotland	374	394				300	303	306	314	
Slovakia			369	368	374	386	376	394	394	1.1
Slovenia	197	251	296	306	317	358	358			
Spain	129	127	300	292	288					
Sweden	281	257	186	183	181	181	181	182	189	-4.3
Switzerland	201	203	202	198	202	206	204	206	211	0.5
Turkey	204	227	234	240	246			422	429	
Ukraine	461	468						266	268	
United States	251	256		249		326	326			
Canada	188	183	182	181	182	184	186	188	189	0.1

* calculated if data on 1995-2004 was available for all years.

Table 2.2A. Total prosecution personnel per 100,000

Country	1995	1997	1998	1999	2000	2001	2002	2003	2004	Average annual change 1995-2004 in %*
Albania						12	12	12	13	
Azerbaijan	16	16	15	15	12			12	12	
Belarus						20	20	20	20	
Belgium	7							7	8	
Bulgaria	7	7		10	11			11	11	
Croatia	7	7	7	8	9			12	13	
Cyprus	7	7				4	4	3	5	
Czech Republic	8	8	9	9	9	9	10	10	10	2.7
Denmark	9	10	10	10	10	11	11			
England & Wales	4	4		12	12	12	13	5	5	
Estonia	10	11	11	10	12			13	13	
Finland	5	5	5	6	6	7	7	7	7	4.4
France			3	3	3				3	
Georgia	19	20	23	23	22			33	34	
Germany	7	6					6	6	6	
Greece	4	4								
Hungary			12	13	13	13	13	14	15	
Iceland	6	5			12	12	12	12	12	
Ireland	2	2	2	2	2			2	2	
Italy						4	4	4	4	
Latvia	24	25	26	26	24	25	24	25	23	-0.3
Lithuania	21	21	22	23	23	24	25	25	25	1.7
Luxembourg						5	5			
Macedonia FYR			9	8	9					
Malta								2	2	
Moldova	11	16	17	18	20	20	21	20	19	6.7
Netherlands						4	4	4	4	
Northern Ireland						2	2			
Poland						14	14	15	15	
Portugal	9	10	10	10	10	10	11	11	11	1.6
Romania	8	9	9	9	9	9	9	10	9	1.2
Russian Federation				30	30					
Scotland	6	5				8	9	9	9	
Slovakia	10	11	11	12	12	12	13	13	13	2.6
Slovenia	7	8	8	9	8	8	8	18	20	12.1
Sweden	16	14	8	8	9	8	8	8	8	-6.6
Turkey	5	4	4	4	4		5	5	5	
Ukraine								21	21	
United States		9	10							
Canada			10			12		7		

* calculated if data on 1995-2004 was available for all years.

48

Table 2.3A. Total number of professional judges/magistrates per 100,000

Country	1995	1997	1998	1999	2000	2001	2002	2003	2004	Average annual change 1995-2004 in %
Albania			9	9	9	11	11			
Azerbaijan	3	3	2	2	4	4	4	4	4	4.2
Belarus	8	10	9	10	10	10	10	10	10	2.1
Belgium	12					22	23	22	23	
Bulgaria	12	13		17	20			19	20	
Croatia	25	30	35	38	41			42	43	
Cyprus	9	10	11	12	12	12	12	13	13	4.2
Czech Republic	21	22	23	24	25	26	27	28	28	3.3
Denmark		12		13	12	12	12	12	13	
England & Wales	4	4			6	2	2	5	5	
Estonia	13	15	15	16	17			17	17	
Finland	18	18	25	25	24	13	13	13	13	-3.6
France			11	11	12				9	
Georgia	8	9	6	6	7			8	8	
Germany	27	26	26				25	18	18	
Greece	20	21								
Hungary			24	24	25			26	27	
Iceland	18	17	18	18	17	13	13	16	16	-0.9
Ireland	2	3						3	3	
Italy	14	15				11	12	12	12	
Latvia	10	11	15	15	15	13	13	14	14	4.0
Lithuania	13	14	14	17	18	18	18	18	19	4.8
Luxembourg						17	17			
Macedonia FYR	17	33	32	32	31			31	32	
Malta						9	9	9	9	
Moldova	5	8	10	10	10	9	8	9	8	3.9
Norhern Ireland	3	3				7	7			
Poland						20	20	25	26	
Portugal	12	13	13	14	13	14		14	15	
Romania	12	14	15	15	16	16	16	16	17	3.7
Russian Federation				45	46					
Scotland	5	5				4	4		12	
Slovakia	21	22	22	23	23	24	24	24	25	1.8
Slovenia	34	40	41	43	45	37	39	39	39	1.4
Spain	8	8	8	9	9					
Sweden	14	12	19	20	19	13	12	11	11	-2.8
Switzerland							11			
Turkey	9	9	8	9	8		9	9	8	
Ukraine	14	8	9	9	9			11	11	
United States		4	11	11		11				
Canada			7			6		7		

* calculated if data on 1995-2004 was available for all years.

Table 2.4A. Total number of staff in adult prisons per 100,000

Country	1995	1997	1998	1999	2000	2001	2002	2003	2004	Average annual change in %
Albania						40	48			
Azerbaijan	27	60	59	61	68	31	31	26	26	-0.5
Belarus			61	62	62	62	62	64	65	
Belgium	42	47				67	67	72	90	
Bulgaria	32	34		36	35			35	36	
Croatia						71	50	53	53	
Cyprus	33	32	31	31	30	34	33	33	49	4.5
Czech Republic	79	86	90	95	100	66	64	63	64	-2.4
Denmark	64	65	64	65	65	68	71	70	74	1.6
England & Wales		64	78	79	79	80	79	83	85	
Estonia	155	140	139	139	140	156	131	112	109	-3.9
Finland	52	51	50	49	49	53	54	53	54	0.4
France								42	43	
Georgia	36	48	45	47	55			76	76	
Germany		44				46	46	46	46	
Greece	19	19								
Hungary	60	63	64	68	68	71	72			
Iceland	32	37	29	32	31	32	31	32	32	0.0
Ireland	69	68						76	76	
Italy	76	82	82	83	83	79	81	86	88	1.7
Latvia	76	73	91	92	92	100	118	119	118	5.0
Lithuania	85	88	86	89	87	88	88	85	87	0.2
Luxembourg						65	67			
Macedonia FYR			21	21	19			18	19	
Malta						54	52	53	52	
Moldova	42	62	74	78	78	81	80	89	89	8.8
Netherlands	67	75	77	76	74	82	88			
Northern Ireland	153	173								
Poland						63	64	64	67	
Portugal	43	49	53	52	58	56	60	62	61	3.9
Romania	27	31	38	41	45	49	51	57	57	8.9
Russian Federation						217	228			
Scotland	74	81				75	77	72	67	
Slovakia	79	82	78	79	80	85	86	91	94	1.9
Slovenia	36	34	32	35	36	36	36	32	33	-1.1
Spain	48	50	50	51	52			46	46	
Sweden	64	59	73	73	71	71	75	84	86	3.4
Switzerland	39	42	42	42		71	68			
Turkey	39	40	37	37	38		36	34	34	
Ukraine	48	43	113	101	90			95	83	
United States	122	138	142	143	145					
Canada	98	92	97	99		105	97	96	98	

* calculated if data on 1995-2004 was available for all years.

Table 2.5A. Total criminal justice resources in 2004 or latest. Rates per 100,000

	Police	Prosecutors	Judges	Prisons	Total
Albania	^375.0	12.7	^10.7	^48.5	447.0
Austria	^303.7				
Azerbaijan	^403.8	11.5	4.0	26.1	445.4
Belarus	325.1	20.0	10.2	64.8	420.1
Belgium	356.7	7.7	22.8	90.2	477.4
Bulgaria		10.6	19.6	35.7	
Croatia	435.9	12.6	42.9	53.3	544.7
Cyprus	681.6	5.1	13.3	48.5	748.6
Czech Republic	462.9	10.4	28.2	63.7	565.2
Denmark	194.6	^11.2	12.9	73.7	292.5
England & Wales	262.1	5.2	4.6	85.4	357.4
Estonia	260.0	12.8	17.4	108.9	399.0
Finland	158.7	6.9	13.1	53.5	232.2
France	^^211.0	3.1	9.4	42.9	266.4
Georgia	965.7	33.5	7.6	75.7	1082.5
Germany	^303.2	6.1	18.1	46.0	373.3
Greece	**373.1	**4	**20.5	**19.18	416.7
Hungary	309.2	14.5	26.8	^72.3	422.8
Iceland	273.4	11.8	16.3	32.2	333.6
Ireland	305.5	1.6	3.1	75.6	385.7
Italy	565.3	3.9	12.3	87.6	669.1
Latvia	402.6	23.4	13.9	118.4	558.3
Lithuania	333.7	24.6	19.2	86.7	464.1
Luxembourg	^293.0	^5.4	^16.6	^66.6	381.6
Macedonia	^^483.6	^^8.5	32.0	18.8	542.9
Malta	444.9	1.5	8.8	51.9	507.1
Moldova	339.8	19.3	7.7	89.4	456.1
Netherlands	224.5	3.7		^88.5	
Northern Ireland	^582.6	^1.6	^6.9	**172.5	763.6
Norway	^^247.9				
Poland	263.8	15.2	25.5	66.5	371.1
Portugal	464.2	10.8	14.9	60.6	550.5
Romania	210.6	9.1	17.2	57.0	293.9
Russian Federation		^^30.3	^^46.4	^228.0	
Scotland	314.3	9.1	12.0	66.5	401.9
Slovakia	394.3	13.0	24.7	93.8	525.9
Slovenia	^358.3	19.9	39.1	32.9	450.2
Spain	^^287.9	^^3.6	^^8.5	46.0	346.0
Sweden	188.6	8.4	10.7	86.0	293.7
Switzerland	210.8		^10.6	^68.4	
Turkey	428.6	4.6	8.4	34.2	475.9
Ukraine	268.3	20.8	11.4	82.9	383.4
United States	^326.4	**9.6	#11.0	^^144.6	491.7
Canada	189.2	*6.6	*6.5	97.7	300.0

*   year 2003 substituted   ^^   year 2000 substituted
^   year 2002 substituted   ** year 1997 substituted
# year 2001 substituted   " year 1999 substituted

Table 2.6A. Females in Criminal Justice Workforce

Country	Female CJ personnel per 100 000 Pop.					Female share of CJ staff (%)				
	Police	Prosecutors	Judges	Prison	Total	Police	Prosecutors	Judges	Prison	Total
Albania	^17.4		^2.6	^4.0		^4.64		^24.0	8.3	
Austria	^19.1					^6.3				
Azerbaijan	^11.4	0.5	0.5	3.3	4.3	^2.8	4.3	13.4	12.6	1.0
Belarus	19.8	4.4	5.3	20.8	50.3	6.1	22.0	52.5	32.1	12.0
Belgium	^38.2	3.2	9.5	^14.2	12.7	^10.7	41.6	41.6	21.1	2.7
Bulgaria			12.7	6.8				65.0	18.9	
Croatia	36.1	7.5	27.0	14.0	84.6	8.3	59.5	62.9	26.2	15.5
Cyprus	103.2	2.6	4.3	3.9	114.0	15.1	51.0	32.3	8.0	15.2
Czech Republic	59.2	5.8	17.6	6.4	89.0	12.8	55.8	62.4	10.0	15.7
Denmark	18.1	^^5.1	7.1	26.5	51.7	9.3	^^50.5	54.9	36.0	17.7
England & Wales	52.9	2.8	0.6	28.1	84.4	20.2	53.8	13.5	32.8	23.6
Estonia	81.1	9.5	11.0	44.2	145.8	31.2	74.2	63.4	40.6	36.5
Finland	18.0	2.4	4.8	17.2	42.4	11.3	34.8	36.5	32.2	18.3
France		^^1	^^5.7	10.9		^^13.3	^^37.0	^^49.3	25.4	
Georgia	95.2	8.6	2.9	13.9	120.6	9.9	25.7	38.4	18.3	11.1
Germany		2.1	5.9				34.4	32.7		
Greece	26.0		10.4	**2.1		7.0	**25.0	**50.9	11.0	
Hungary	51.5	8.5	18.9			16.7	58.6	70.5	25.9	
Iceland	26.6	2.8	4.2	7.3	40.8	9.7	23.7	25.5	22.6	12.2
Ireland	51.5	0.7	0.6			16.9	43.8	20.5		
Italy	30.0	1.3	5.1	12.9	49.3	5.3	33.3	41.2	14.7	7.4
Latvia	90.1	13.9	10.1	30.4	144.5	22.4	59.4	72.4	25.7	25.9
Lithuania	67.2	9.7	10.5	23.7	111.2	20.1	39.4	54.9	27.4	24.0
Luxembourg	^20.0	^1.8	^9.0			^6.8	^33.3	^54.0		
Macedonia, FYR	^^80.8	^^3	16.7	3.7	20.4	^^16.7	^^35.3	52.3	19.4	3.8
Malta	64.9	0.5	1.0	4.0	70.4	14.6	33.3	11.4	7.7	13.9
Moldova	20.8	4.2	1.7	19.2	46.0	6.1	21.8	22.4	21.5	10.1
Netherlands	^40.8			^27.9		^19.2			31.5	
Northern Ireland	^92.7	^0.6	^1.0		0.0	^15.9	^37.5	^15.1	9.2	
Poland	27.7	8.0	16.2	11.5	63.4	10.5	52.6	63.3	17.3	17.1
Portugal	21.9	5.6	6.9	15.4	49.7	4.7	51.9	46.0	25.4	9.0
Romania	11.0	4.2		12.1		5.2	46.2	^69.0	21.3	
Scotland	62.0	5.1	4.4	13.3	84.8	19.7	56.0	36.5	20.0	21.1
Slovakia	38.7	6.2	15.1	16.3	76.2	9.8	47.7	61.0	17.3	14.5
Slovenia	^28.7		27.5	8.0	35.5	^8.0	^54.9	70.4	24.4	7.9
Spain			3.1	9.4		^^3.6	38.9	^^36.3	20.4	
Sweden	38.3	3.9	3.0	30.1	75.4	20.3	46.4	28.2	35.1	25.7
Switzerland				4.3					6.2	
Turkey	13.0	0.2	2.4	^3.5	15.6	3.0	4.3	28.2	10.2	3.3
Ukraine	23.7	5.4	3.6	19.9	52.6	8.8	26.0	^^39.9	24.0	13.7
United States				^^47.7		„10.0			33.0	
Canada	31.3	*2.9	1.5		32.8	16.5	*43.9	*23.6		10.9

3 Trends of Recorded Crime

Kauko Aromaa and Markku Heiskanen

3.1 Introduction

Crime trends are often described and monitored on the basis of statistics of police-recorded crime. A standard solution for comparative purposes is to relate the absolute figures to the size of the relevant population, usually expressed as rates per 100,000 of the resident population.

For describing crime rates and crime trends, the use of police-recorded crime is often criticized as being misleading because these data are in reality primarily providing an account of police workloads, as they are by necessity working statistics, not first hand accounts of crime. Police are informed of crimes only if they find about them on their own or if somebody reports them. Furthermore, not all reported and observed crimes are actually being recorded in the police data systems. There is extensive research evidence to show that there is a substantial proportion of any type of crime that remains unrecorded for a number of reasons. On the other hand, differences in national legal definitions of crimes and in the working practices of the police make the international comparisons extremely difficult (see e.g. van Dijk 2008).

Because of such observations, there is a serious need of work that would complement the picture derived from police data. The best known innovation in this respect, also having already gained quite widespread support all over the world, are representative population surveys that measure individual victimisation to a number of common crimes. (Van Kesteren et al. 2000; Van Dijk et al. 2007). Also other approaches to amend the existing data situation have been developed, such as self-report crime surveys, business victimisation surveys, as well as victimisation surveys of special population categories (such as women, minorities, institutionalised persons).

Further development work in this respect is ongoing and necessary. However, despite the partial successes that have already been achieved, the complementary information sources have not yet internationally reached the regular and systematic level that would be required if they should serve as a replacement or a systematic parallel source to what is currently available from police sources. Therefore, even if we understand the limitations and weaknesses of the existing information basis, police-recorded crime remains an important source for crime rate and trend comparisons across countries.

For this report where we describe police-recorded crime rates over the ten-year time span 1995-2004, the validation of the CTS data has primarily been made by comparing figures for each year with those for the previous year. If the difference between two consequent years was much larger than 30 %, the figures have been controlled against the original country response, and if no acceptable explanation to the difference has been found, the observation has been deleted. This procedure results in a situation where we have full and consistent ten-year time series only for a relatively small number of countries.

Consequently, we have in this article tried to improve the time series from other public official sources – figures on police-recorded crime as they have been reproduced in the European Sourcebook of Crime and Criminal Justice Statistics (Aebi et al. 2006; European Sourcebook 2003) and the American Sourcebook of Crime and Criminal Justice Statistics (www.albany.edu/sourcebook.2008). The outcome is clearly more complete[1]. The difference between the original data and the complemented data is minor if compared at aggregate level, i.e. across groups of countries (see Figure 3.1), but at country level the effect is more significant as shown in Table 3.1.

For the purposes of the present analysis, we have aggregated the countries under scrutiny into four categories, using administrative-geographical criteria. The first division is between Europe and North America. Next, Europe was divided into three on the basis of their EU membership history. Thus, the first European group comprises the EU15+3 countries, the second group consists of the most recent EU members of 2004, denoted here as EU+10. The third European group, then, are the remaining countries that were not yet EU members in 2004. The year 2004 is relevant for these groupings since the most recent year in our time series is 2004 (see Annex Table of chapter 4 for detailed classification of countries).

The present analysis reproduces crime rates as follows. First, total police-recorded crime rates are provided. For analytic purposes, total crime is not very easy to interpret. First of all, different recording thresholds in different countries result in non-comparable figures, for example many countries do not record petty crime, misdemeanours etc., while others are doing this. The consequence is that the set of crimes

---

[1] For total crime, data for the following countries were amended: Albania 1995-2003, (2001-2002 deleted); Armenia 2001-2002; Austria 1995-2003; Belgium 1998-2000; Bulgaria 2000-2001; France 1995-1997, 2001-2002; Georgia 20001-2002; Greece 1998-2003; Ireland 2000-2002; Luxembourg 1995-2000,2003; Malta 1998-2000 Sweden 1998-1999; Northern Ireland 1998-2000,2003; Scotland 1998-2003; Ukraine 2001-2002. In this test, the validation has been restricted to comprise the variables: total crime, homicide, assault, robbery, and narcotics crime. Even after this validation, for each variable several blank cells remained.

comprised in "total" crime is not identical across countries. Second, "total" crime figures are dominated by categories of crimes with a high volume, such as minor thefts and other property crimes and traffic offences, and are therefore unable to reflect rates or trends of crimes with a comparatively smaller volume and with a more concrete meaning, the extreme example being homicides and other very serious crimes, as they are typically rare events.

As the interpretation of total crime is ambiguous, we then proceed to monitor some more specific crime categories. In this, we have chosen to focus on crimes against personal integrity. Thus, we monitor the homicide trends, assaults trends, robbery trends, and rape trends. Narcotics offence trends are also treated separately. For other crimes covered by the CTS questionnaire, we provide the time series in a summary figure and summary table.

3.2   Results

Total police-recorded crime

Figure 3.1 and Table 3.1 provide an overview of ten-year trends in police-recorded crime. The trends are shown as comparisons across country groups (Figure 3.1), and across individual countries (Table 3.1). Concerning the crime levels, the old EU member countries together with the three western non-EU countries (EFTA members) (EU 15+3), together with North America, stand out as the high-crime countries in our analysis. The lowest levels are, on the other hand, found in the group that was still outside of the EU in 2004, while the new EU members (EU+10) take an intermediary position. Crime levels, however, are not very well comparable across countries or groups of countries for the well-known reason that recording principles and the scope of recording crimes vary very heavily across countries[2]. Nevertheless, the differences are indeed quite large, indicating that crimes are counted and recorded most comprehensively in EU15+3 and in North America than elsewhere, for it is unlikely that variations of real crime would be so large.

A perhaps more meaningful comparison can be made concerning the trends. The EU15+3 group represents a slightly growing trend 1995-2004, while North America has a decreasing trend until 1999, and after that a very stable overall crime rate. For EU+10, a systematic but small increase over the whole ten-year period is discernible. The remaining eastern European countries show no variations at all for the ten years compared.

---

[2] A detailed overview of such differences is given in Chapter 9 (Aebi 2008) on counting rules.
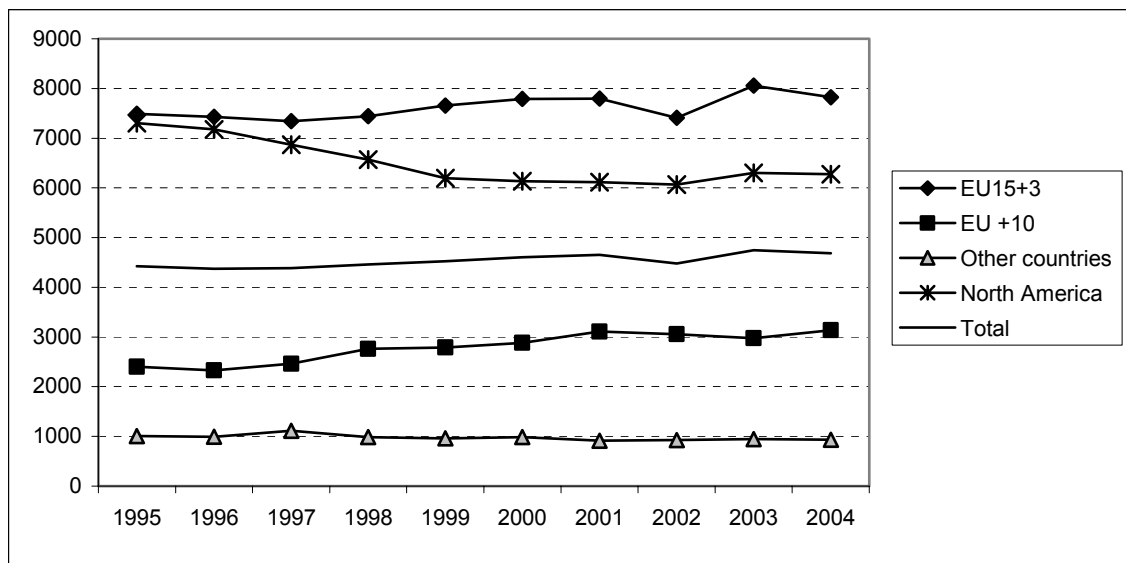
Figure 3.1. Total crimes per 100,000 population in different groups of countries, 1995-2004

Comparisons across individual countries, on the other hand, show that there are quite large variations within all of the country groups described.

Thus, the growth trend for EU15+3 comes about from the aggregation of six countries with a decreasing trend (Denmark, Scotland, Germany, Norway, Luxembourg, and Ireland) with 14 countries having increasing trends. The differences 1995/2004 are also showing very large variations, with a maximum change of +83.8 % for Northern Ireland, and also large changes of more than 30 % for Finland, Belgium, Austria, Greece and Spain[3].

The decreasing trend for North America is shared by both countries in the group, with the USA having experienced a rather large decrease of about 24 %.

The slow growth trend for the group EU+10 is a reflection of a general growth within the country group, where only two countries are showing a moderate decrease (the neighbours Hungary and the Czech Republic), while all but one of the remaining countries show increases of well over 40 %, the exception being Slovakia (+ 14 %).

For the eastern European group of "Other countries", seven are showing moderate decreases of 10-30 %. Of the remaining countries, three display dramatic increases of over 80 % (Croatia, Turkey, and Georgia). Thus, the seemingly stable trend in this country group is

---

[3] Increase / decrease in crime rate may be also caused by changes in legislation; e.g. increase in the Finnish figures is caused by the inclusion of traffic crimes into the criminal code in 1999.

actually concealing a broad range of both falling and growing trends across individual countries.

Table 3.1. Total crimes per 100,000 population in different countries, 1995 and 2004 (or previous year if 2004 is missing)

Countries	1995	2004	Change,%
EU15+3			
Iceland	..	17808	..
Sweden	12982	13940	7,4
England and Wales	9910	10531	6,3
Finland	7472	10375	38,9
Belgium	7081	9805	38,5
Denmark	10309	8807	-14,6
Scotland	10590	8699	-17,9
Netherlands	7911	8164	3,2
Germany	8166	8037	-1,6
Austria*	6049	7881	30,3
Northern Ireland*	4089	7515	83,8
France	6337	6401	1,0
Norway	6559	6305	-3,9
Luxembourg*	6925	5728	-17,3
Switzerland*	4332	5168	19,3
Greece*	3148	4258	35,3
Italy	3957	4197	6,1
Portugal	3256	3988	22,5
Ireland	2846	2477	-13,0
Spain*	1738	2283	31,3
EU +10			
Malta	..	4608	..
Slovenia	1920	4335	125,7
Hungary	4908	4135	-15,7
Estonia	2665	3918	47,0
Poland	2527	3826	51,4
Czech Republic	3636	3447	-5,2
Latvia	1575	2674	69,8
Slovakia	2136	2440	14,2
Lithuania	1676	2436	45,3
Cyprus	619	1057	70,8
Other countries			
Croatia	1348	2582	91,6
Russia*	1857	1907	2,7
Bulgaria	2463	1816	-26,3
Belarus	1282	1682	31,2
Ukraine	1241	1092	-12,0
Romania	1310	1066	-18,6
Moldova	883	756	-14,4
Turkey	404	754	86,7
Kyrgyzstan	893	647	-27,5
Georgia	292	574	96,7
Armenia	312	314	0,8

Table 3.1 continued			
Azerbaijan	260	204	-21,4
Albania*	197	165	-16,2
Kazakhstan	1163	..	..
North America			
Canada	9342	8539	-8,6
United States	5270	4016	-23,8

* 2003, ** 2002, *** 1999

Homicides

The present analysis focuses on completed homicides only. Some countries are recording completed an attempted homicides together, and this is at times causing problems of interpretation. In the current data, this is not a problem. On homicide rates, Figure 3.2 shows that homicide rates have been consistently decreasing in all country groups from 1995 to 2004, with an average decrease of 28 % from 1995 to 2004.

The highest rates are found in the eastern European group of "Other countries". At the end of the ten-year period under scrutiny, in 2004, they were still on a level of about 4.5 per 100,000 in 2004, starting at the level of 6.0 in 1995. Also the countries of EU+10 display high rates, not far from the first group, or 4.0 per 100,000 in 2004. North America lies on third place, with a rate that fell below 4 per 100,000 in the late 1990s. The old EU countries (EU15+3) are finally on a much lower level, with a rate of less than 2 per 100,000 that has been slowly decreasing.
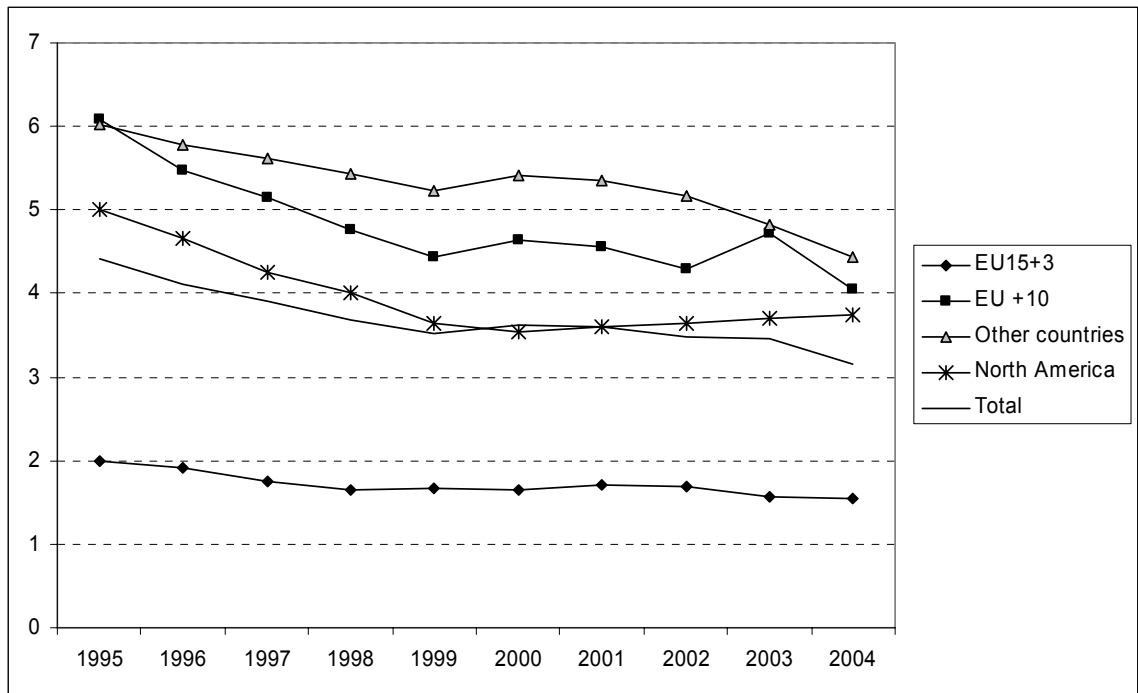
Figure 3.2. Completed homicides per 100,000 population in different groups of countries. 1995-2004

Across individual countries, variations are quite marked. For the eastern European group with the highest homicide rates ("Other countries"), most have a systematically decreasing trend, with only Albania and Russia showing increases. The largest decreases in this group are over 40 % (Bulgaria, Azerbaijan, Croatia).

In the group EU+10, most countries are again sharing the decreasing trend, but two are having a different situation: the Czech Republic (+29.4) and Cyprus (+35.7) display quite significant increases.

In North America, the decrease is a reflection of the significant decrease of 33 % in the USA. Canada, in contrast has seen an increase of more than 10 per cent (11.1 %).

For western European countries (EU15+3), the country trends are very dissimilar, with 12 countries representing decreases, while six countries display increases. Also, the observed changes vary across a broad range, from a 50 % increase in Belgium to a 56 % decrease in Portugal.[4]

---

[4] When comparing changes in homicide rates, it should be kept in mind that, especially in small countries, the annual variation in homicide rates may be caused by random variation due to the small absolute number of the homicides.

Table 3.2. Completed homicides in different countries / 100,000 population. 1995-2004

Countries	1995	2004	Change,%
EU15+3			
Finland	2,9	2,8	-3,4
Scotland	2,5	2,6	4,0
Belgium	1,4	2,1	50,0
Northern Ireland*	1,5	1,9	26,7
Portugal	4,1	1,8	-56,1
France	3,0	1,7	-43,3
England and Wales	1,4	1,6	14,3
Netherlands	1,8	1,3	-27,8
Spain*	1,0	1,2	20,0
Italy	1,8	1,2	-33,3
Greece*	1,4	1,1	-21,4
Switzerland*	1,2	1,0	-16,7
Germany	1,7	1,0	-41,2
Iceland		1,0	
Ireland	1,2	0,9	-25,0
Denmark	1,1	0,8	-27,3
Norway	1,0	0,8	-20,0
Luxebourg		0,7	
Austria*	1,1	0,6	-45,5
Sweden***	1,0	1,2	20,0
EU +10			
Lithuania	13,8	9,4	-31,9
Latvia	11,6	8,6	-25,9
Estonia	16,6	6,7	-59,6
Slovakia	2,4	2,3	-4,2
Czech Republic	1,7	2,2	29,4
Hungary	2,9	2,1	-27,6
Cyprus	1,4	1,9	35,7
Malta		1,8	
Poland	2,2	1,7	-22,7
Slovenia	2,2	1,5	-31,8
Other countries			
Albania*	6,5	8,5	30,8
Belarus	9,3	8,3	-10,8
Kyrgyzstan	11,7	8,3	-29,1
Moldova	8,4	7,8	-7,1
Ukraine	8,5	7,3	-14,1
Georgia	8,3	6,5	-21,7
Turkey		3,9	
Bulgaria	5,9	3,1	-47,5
Azerbaijan	5,8	2,4	-58,6
Romania	3,3	2,4	-27,3
Armenia	3,4	2,3	-32,4
Croatia	3,6	1,9	-47,2
Kazakhstan	15,5		
Russia**	21,4	22,2	3,7

| Table 3.2 continued			
North America			
United States	8,2	5,5	-32,9
Canada	1,8	2,0	11,1

* 2003, ** 2002, *** 1999

Assaults

Assault offences are recorded according to dissimilar principles in different countries. Some countries – and regions – are not recording minor assaults while others are doing this at a much greater accuracy. Consequently, differences in the level of recorded assaults do not have an identical meaning for individual countries.

In the comparison across groups of countries, North America and western Europe are above the average, North America being in its own high level. North America here is represented by Canada since data for the USA were available only for 1995-1999. However, in that period, US rates were consistently more than 10 % higher than the Canadian ones. Thus, North America is in its own class in recorded assaults.

EU15+3, or western Europe, has been recording systematically growing rates of assaults. The increase is quite significant, from a rate of slightly over 300 per 100,000 population in 1995 to more than 500 in 2004, or about 60 per cent. The overall or "total" trend depicted in Figure 3.3 is actually only produced by the increase in western Europe. The other groups of countries have not experienced a growth in recorded assault offences. Part of the western European increase may be due to changes in offence definitions in the period under scrutiny, at least in some countries.

The remaining two groups of countries, that is the group EU+10 and the eastern European non-EU countries, have a very low level of recorded assaults. This may indicate that in these countries, assault offences are defined in a much more restrictive fashion than in western Europe or North America, to the effect that only rather serious assaults, likely connected with bodily injury are recorded as criminal offences in these two groups of countries. The less serious assaults may be recorded also in these countries but as misdemeanours of some kind that are technically not defined as criminal code offences. The trend in both groups of countries is increasing (8% in EU+10, and 58% in non-EU eastern Europe from 1995 to 2004).
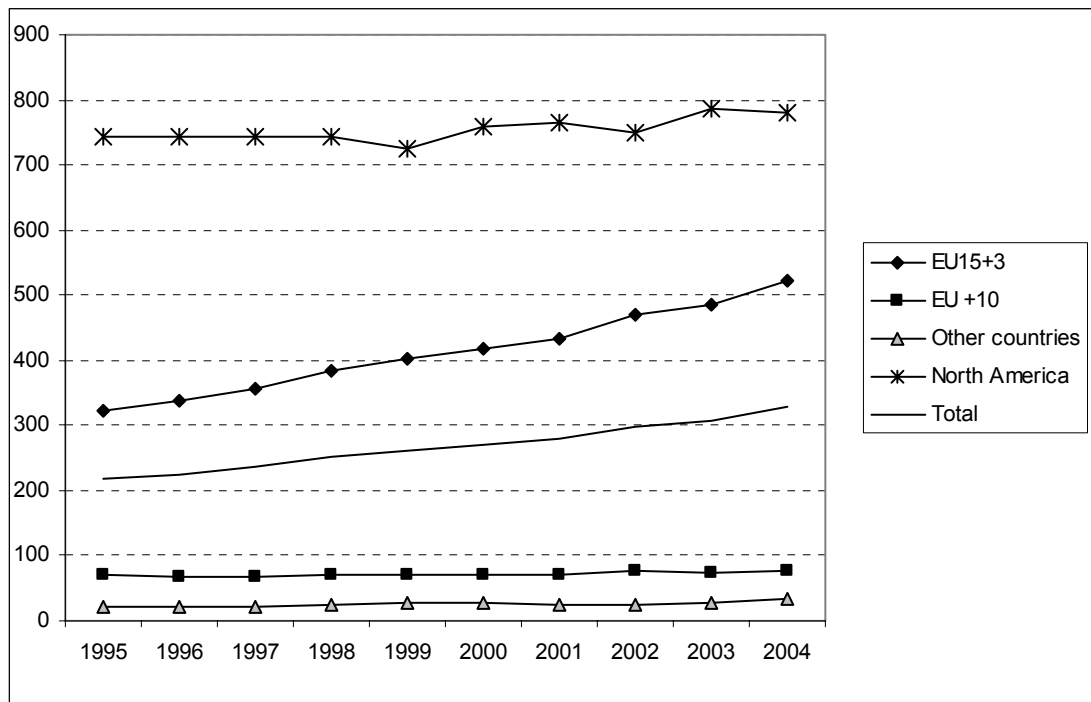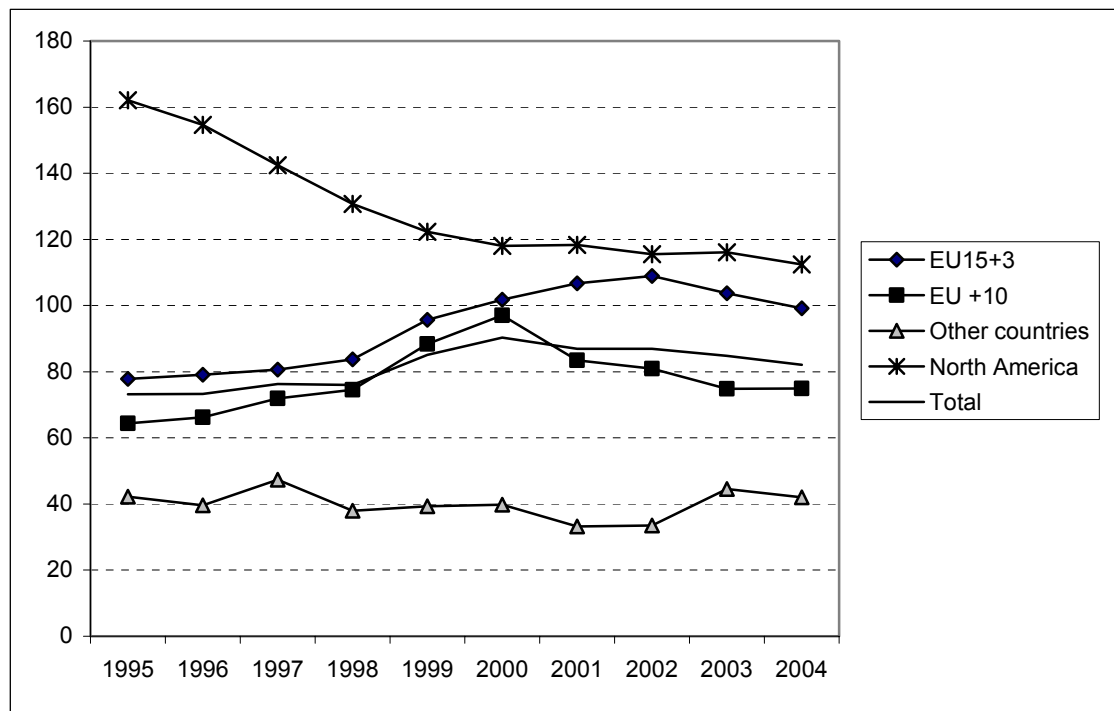
Figure 3.3. Assaults per 100,000 population in different groups of countries. 1995-2004

Robberies

Similar to assault offences, also robberies are subject to somewhat dissimilar criminal code definitions across countries. Consequently, recorded rates or levels of robberies should not be taken at face value. Within countries, and also to a degree within groups of countries, it is likely that changes over time can be given a more valid interpretation, although sometimes also changes in offence definitions may have been introduced in individual countries during the period of analysis.

In North America where the robbery rate was initially very high in comparison, the rate has decreased quite markedly, from 160 to below 120, the change concentrating on the late 1990s to stagnate after 2000. The decrease comes mainly from the crime drop in the USA.

Western Europe, in contrast, started from a level one-half of the North American one. Subsequently, the robbery rate increased to the effect that North American and western European rates came in the 2000s quite close to each other, the North American rate being then only 15 per cent above the western European one.

Figure 3.4. Robberies per 100,000 population in different groups of countries. 1995-2004
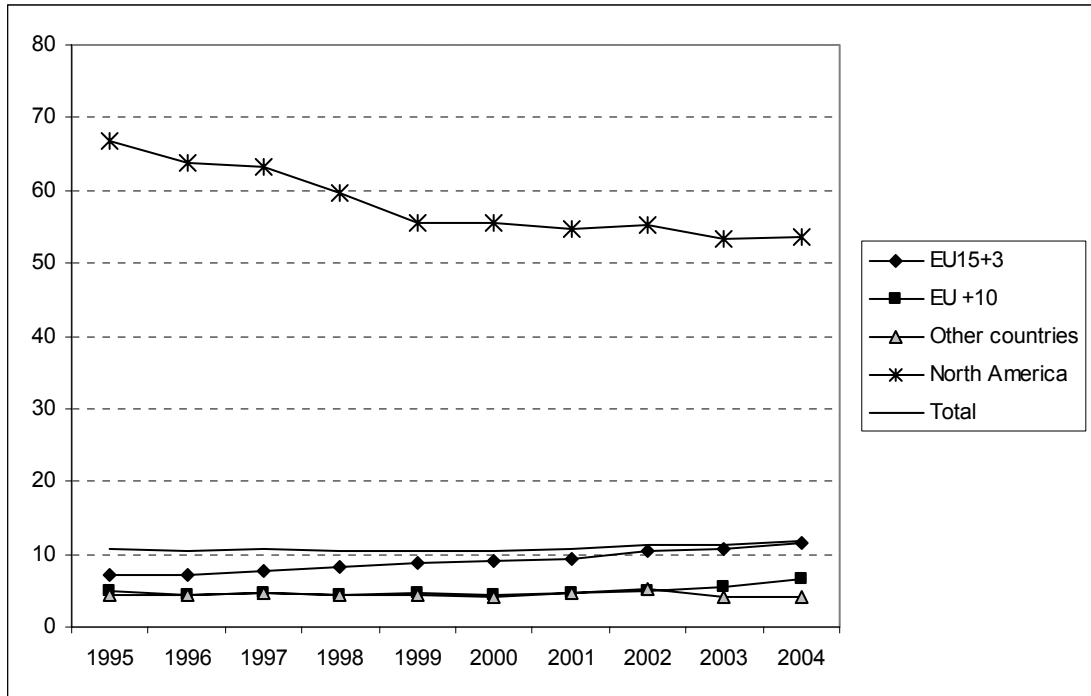
Rapes

Recorded rapes are rare, in part because these offences are not often reported to the police. In this presentation, rape rates have been calculated per 100,000 population, although rapes are mostly committed by males against women. Considering this, the rates could arguably be calculated per female or male population, depending on whether the perpetrator or the victim perspective is preferred. In both cases, rates would be about twice the ones presented here. For consistency of presentation, we have nevertheless presented total population rates also in the context of rape offences.

The difference in the rates in North America as compared with the other groups of countries is dramatic, indicating that the statistical and legal definition of rape is likely to be much broader in North America as compared to the other groups of countries in this review. The North American rate was on a moderate decrease (-25 % from 1995 to 2004). The Canadian rate was twice the US one (2004), or 74 per 100,000 population vs. 33 in the US. Despite the decrease, both rates were still in 2004 at least five times the rate in the other country groups.

The other groups of countries are quite close to each other, on the low end of the scale. However, similar to assaults and robberies,,also here western Europe has higher rates than the remaining two groups. The

western European rate is also increasing, the growth being 39 % from 1995 to 2004. In the 2000s, also the rates in the EU+10 group of countries have been on the increase.

Figure 3.5. Rapes per 100,000 population in different groups of countries. 1995-2004

Narcotics offences

Narcotics offences are on the increase in all country groups in this analysis. Thus, the overall average rate in the countries comprised in this analysis has almost doubled from 1995 to 2004. There is a radical difference between North America and western Europe on one hand, and the two other groups of countries on the other.

North America and western Europe are the two country groups with high narcotics offence rates, showing an increase of about 50 per cent from 1995 to 2004. The two other groups of countries represent an entirely different, low level of narcotics offences. However, in these other two groups of countries, the relative increase is radically larger than in the first two ones with high rates, or more than 500 per cent.

Recorded narcotics offences being very much a product of police attention and activity, the low rates in Eastern Europe are probably reflecting a recent change in the attention that police and other control agencies have devoted to narcotics offences. It has however also been

64

pointed out that there is likely to be also a real change in narcotics markets behind this trend that is a consequence of enhanced European integration after the collapse of the Soviet Union.
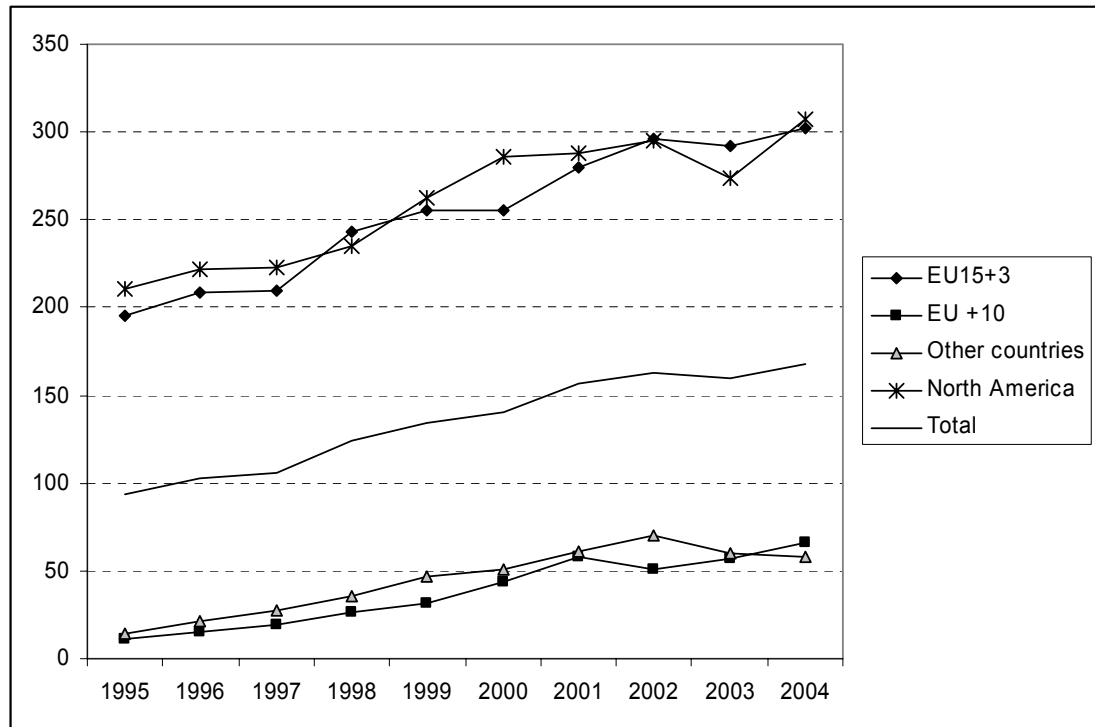
Figure 3.6. Narcotics offences per 100,000 population in different groups of countries. 1995-2004

Property & other crimes

The CTS questionnaire is also collecting data on other types of crime, including burglaries and other property crimes, and also some new crime types of particular interest – bribery and kidnapping. For the latter, many countries have not been able to provide any data.

Burglary

Burglary offence rates are overall decreasing, but level differences are still rather large. The highest recorded burglary rates are found in western Europe, North American rates being somewhat lower. In both of these country groups, the trend is clearly decreasing over the entire ten-year period in the analysis.
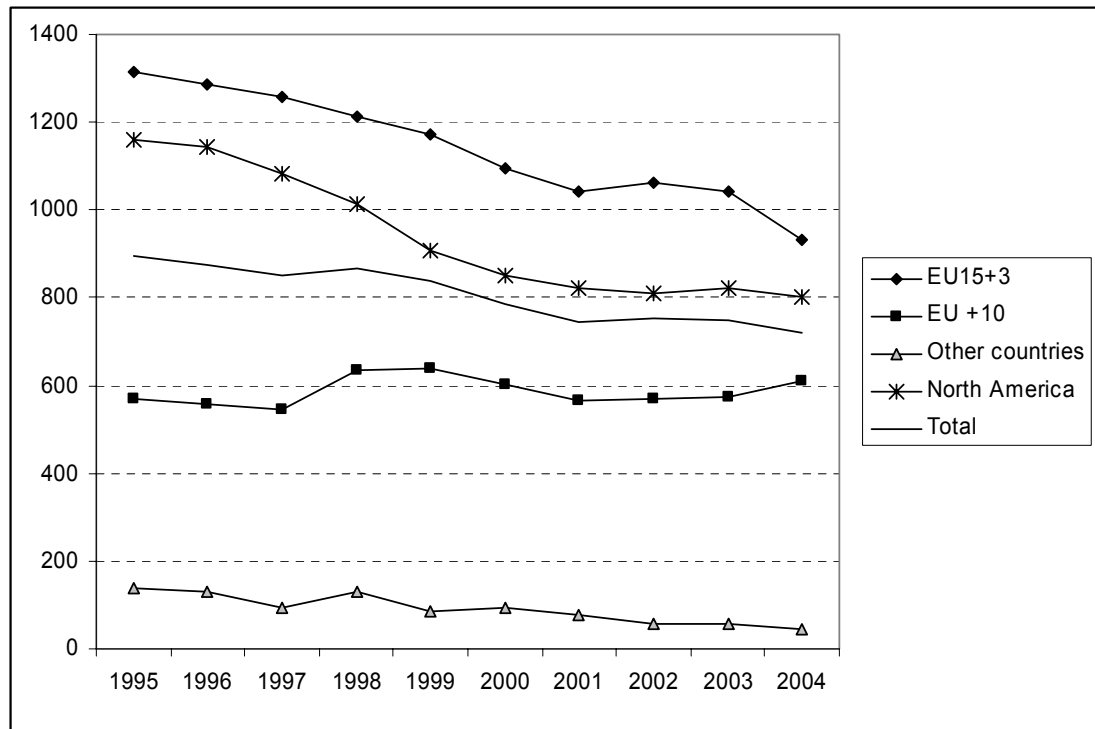
Figure 3.7. Burglaries per 100,000 population in different groups of countries. 1995-2004

In eastern Europe, the picture is different. In the new EU member states (EU+10), the rate is considerably lower than in the high-burglary country groups; the rate is also quite stable over the ten years covered by the analysis but perhaps very slightly increasing. It is still quite high, only 20-30 % lower than the rates of North America and western Europe. This becomes particularly obvious in comparison to eastern Europe, where the burglary rate is only a fraction of that of the other country groups, about one-tenth of the rate in the EU+10 group, and 20-30 times less than the rate in the high-burglary country groups. The recorded burglary rate in eastern Europe was furthermore decreasing; this observation is however hampered by the fact that Romania is the only country to represent this country group in this particular time series.

Other offences

Data for other offences, as derived from our sources, are less representative than the ones presented above. For **theft offences**, we have data for only 20 countries; these display a 2.5 % increase from 1995 to 2004. In western Europe, a 2 % decrease is found, while the new EU member countries (EU+10) have a 30 % increase in the theft rate. This

means that the theft rates of the two country groups are clearly converging, however the rate in western Europe was still about three times the average rate in the new EU member countries (EU+10).

For **fraud offences**, we have data only for 21 countries, and the rates vary across countries, indicating dissimilar offence definitions but also probably differences in patterns of fraud offences. From 1995 to 2004, the average rate has decreased by 9 %.

Embezzlement data were provided by only 13 countries. For these, a 42 % increase was found from 1995 to 2004.

Of **bribery offences**, only 11 countries replied. Eastern European countries seem to have better data on this offence than the others.

Finally, the CTS questionnaire has asked data about **kidnapping.** 17 countries provided data on this offence. From the replies, an average rate of 1.8 per 100,000 population can be calculated. Table 3.3 provides the figures. As the rates of these offences are on very different levels, they are summarised in Figure 3.8 applying a logarithmic scale. Overall, it would appear that there are no discernible trends in the rates of these offences, except for embezzlement offences where the trend is systematically increasing. Regrettably, as too few countries provided data on these offences, comparisons across country groups or individual countries are not on a stable basis.

Table 3.3. Other crimes per 100,000 population 1995-2004[5]

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	n
Theft	1662	1623	1584	1616	1609	1634	1760	1765	1736	1704	20
Fraud	176	155	161	192	169	158	163	171	185	160	21
Embezzlement	31	32	34	37	36	36	40	42	48	44	13
Bribery	9	12	11	8	7	7	9	8	10	10	11
Kidnapping							2	2	2	2	17

---

[5] all series presented in this chapter are calculated only for the countries to which the time series for the particular variable is complete.
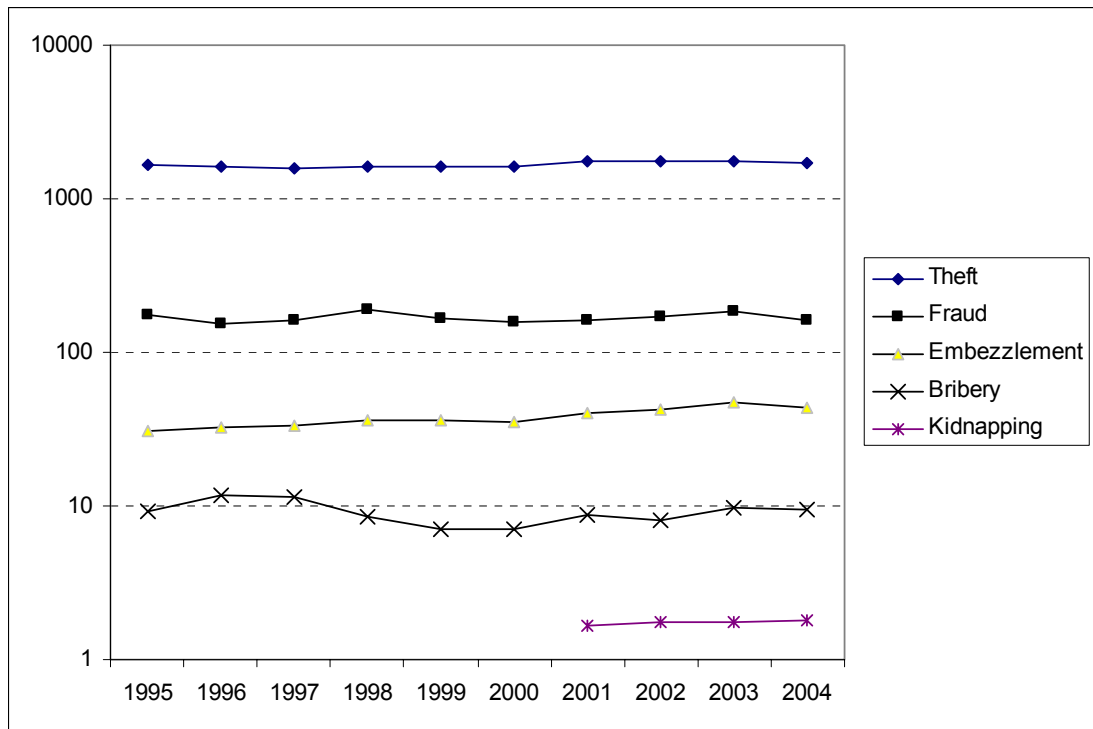
Figure 3.8. Other property offence per 100,000 population in different groups of countries. 1995-2004

3.3 Conclusions

All police recorded crimes (total crimes) have slightly increased in the old and also in the new EU member countries. In North America, police recorded crimes decreased during 1995-1999, and have remained at a rather stable level in the period 2000-2004. In other eastern European countries, the police recorded crimes have remained unchanged. Level differences between the old EU countries and North America on one hand, and the new EU countries, and the eastern European other countries on the other hand, are large.

Positive news in the police recorded crime trends is that homicides have decreased in all areas; the average decrease from 1995 to 2004 was 28 %. Differences between the countries are large ranging from 0.6 to 22.2 deaths per 100,000 population. The homicide trends were highest in the "Other countries", and lowest in the old EU-countries.

While homicides have decreased, recorded assaults have increased. This has happened especially in the old EU countries. The low level of police recorded assaults in the eastern countries is probably a consequence of different recording practices.

Police recorded drug related crimes have increased steadily in all groups of countries. This means that police has worked more effectively in the drug controlling. Level differences in recorded drug crimes between the old EU member countries/North America and the new EU member countries/other countries are large.

In the article we reported of a test where the CTS data was validated and corrected using other statistical sources. The test showed that on the country group level used in the article the trends were quite similar showing that the data, in spite of its defects, produced a rather reliable overview of the situation. On the other hand, when country level results are presented, the validation was very useful, because less countries had to be omitted because of missing trend data.

References

Aebi, Marcelo (2008). Measuring the Influence of Statistical Counting Rules on Cross-National Differences in Recorded Crime. Article in this book.

Aebi, Marcelo Fernando, Kauko Aromaa, Bruno Aubusson de Cavarlay, Gordon Barclay, Beata Gruszczynska, Hanns von Hofer, Vasilika Hysi, Jörg-Martin Jehle, Martin Killias, Paul Smit and Cynthia Tavares (2006). European Sourcebook of Crime and Criminal Justice Statistics – 2006. Third Edition. WODC Research and Policy Series nr. 241. Den Haag: Boom.

(American) Sourcebook of criminal justice statistics Online, http://albany.edu/sourcebook/pdf/t31062006.pdf (29.3.2008).

European Sourcebook of Crime and Criminal Justice Statistics – 2003 (2003). Second edition. Den Haag: WODC.

van Kesteren, John, Pat Mayhew and Paul Nieuwbeerta (2000). Criminal Victimisation in Seventeen Industrialised Countries. Key findings from the 2000 International Crime Victims Survey. Onderzoek en beleid 187. WODC.

Van Dijk, Jan (2008). The World of Crime. Breaking the Silence on Problems of Security, Justice, and Development Across the World. Sage Publications:USA.

Van Dijk, Jan, John van Kesteren and Paul Smit (2007). Criminal Victimisation in International Perspective. Key Findings from the 2004-2005 ICVS and EU ICS. Onderzoek en beleid 257. WODC.

4 Persons Brought into Initial Contact with the Police

Markku Heiskanen

4.1 Introduction

Persons brought into initial formal contact with the police and/or the criminal justice system (suspects) are by the definition of the UN Crime Trends Survey questionnaire persons who have been suspected, arrested or cautioned and recorded in criminal statistics, excluding minor road traffic offences and other petty offences, brought to the attention of the police or other law enforcement agencies.

This chapter presents trends of suspect statistics from 1995 to 2004. The data have been collected on total crimes and of 17 subcategories of crimes. Data about offenders on the total level were also collected by sex and age (classification: adults, juveniles).

The discussion about crime trends often deals with the number of crimes recorded by the police. Police recording is the first stage in the judicial process dealing with a criminal act. Depending on the type of crime, different proportions of the crimes are cleared up in the sense that a suspect is found. In most countries, not all suspects are prosecuted or convicted. One suspect may have committed several offences (recorded by the police) during one year, and one crime may have been committed by more than one suspect. Therefore, the ratio of suspects per crimes is not a reliable estimate of the detection rate.

The transition from the crime to the suspect introduces also practical difficulties into the analysis. Some countries have not provided data on suspects in any of the four surveys[1], and compared to the crime figures the data on suspects from individual years are more often lacking. Excluding petty crimes (e.g. thefts in which the loss remains below a certain monetary value) produces large level differences between the countries, but the effect on the trends (median rates) is smaller.

---

[1] Data on suspects are completely missing from Belgium, Switzerland and Scotland.

4.2   The total number of suspects

In Figure 4.1, only those countries[2] have been included that had complete data series both for total crimes and total suspects. The levels of recorded crimes and suspects have increased slowly but steadily during the research period. From 1995 to 2004, recorded crimes have increased in this group by 8.5 per cent and suspects by 25 per cent.[3] As a consequence of this development, the detection rate (suspects/crimes) has increased by 15 per cent (from 42 % to 48.5 %, scale on the right hand axis in Figure 4.1).
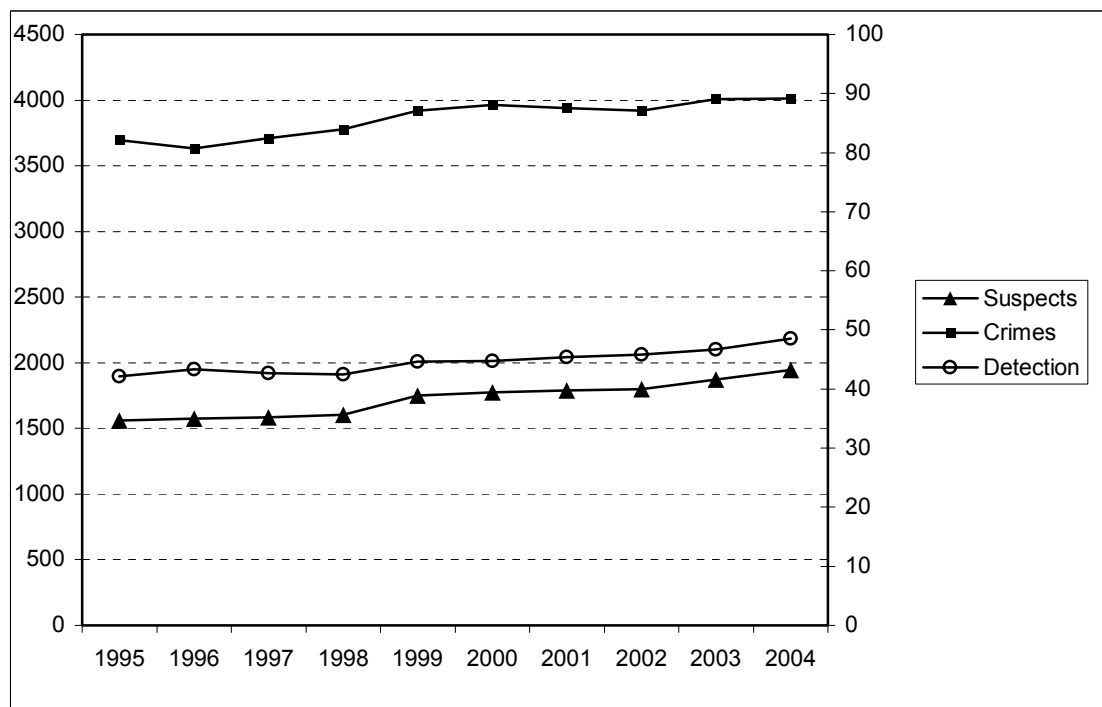
Figure 4.1. Total recorded crimes, total persons brought into initial contact with the police / criminal justice system (suspects) per 100, 000 population, in 1995-2004 (mean rates) and the ratio between the offenders and the crimes (detection rate, scale on the right hand axis, %)

---

[2] These 14 countries were Azerbaijan, Belarus, Canada, Estonia, Finland, Hungary, Italy, Latvia, Lithuania, Moldova, the Netherlands, Portugal, Romania and the USA. Because comparative data from 70 % of the countries are missing, the figure is only trend-setting.

[3] If all countries that had at least one observation from one year in the data series were included, the crime rate from 1995 to 2004 would increase by 24 % (in different years, n=36-49), and the suspect rate by 14 % (n=28-32). According to this data selection, the detection rate would have decreased by 8 % from 1995 to 2004. The example is an indicator of the instability of the data, caused by missing observations. The broader inclusion of countries is used in the following, when results in different areas are reported, because otherwise the area classification would be highly non-representative.

Figure 4.2 shows the suspect trends in four areas. The EU 15+3 comprises countries, which were part of the EU before 1995, and three further countries: Iceland, Norway and Vatican. EU+10 include the 10 countries that joined the EU in 1995. Canada and USA make up North America. Other countries are the European countries east of the EU+10 (see Appendix 4.1).

The areas differ clearly with regard to the level of the total suspect trends. North America lies highest, but with a declining trend (a 15 % decrease between 1995 and 2004). The high level of North America's trend is caused by USA's high suspect rates – over 5,000 suspects per 100,000 population (mean rate 1995-2004, decreasing trend) – as the Canadian suspect rates in 2004 are similar to the EU 15+3 level.

The suspect rate trend in Europe is increasing (a 35 % increase between 1995-2004). Yet, the level difference between the USA and Europe is large. Differences between the EU 15+3 and the other countries, composed of the easternmost countries, are also large. The suspect trends are increasing also in the EU+10 area (+47 % between 1995 and 2004), but not in the group "other countries".

Detection rates (suspects/crimes) are in North America and also in the easternmost countries higher compared to the rates in the EU countries (Figure 4.3). The reason for this may be in different recording practices. In the EU countries, less severe cases, and cases in which the offender is not known, are more often recorded.

In Figure 4.3, the trend of the detection rate is from the turn of the century slightly decreasing in all four areas. This seems contradictory to Figure 4.2; in that graph, the detection rate was slightly increasing. The reason for the differences is that Figure 4.3 comprises also trend data from countries that do not have complete trend data from all of the 10 years under study (n=26-32, depending on year; of these, complete trend data were available for only 14 countries).
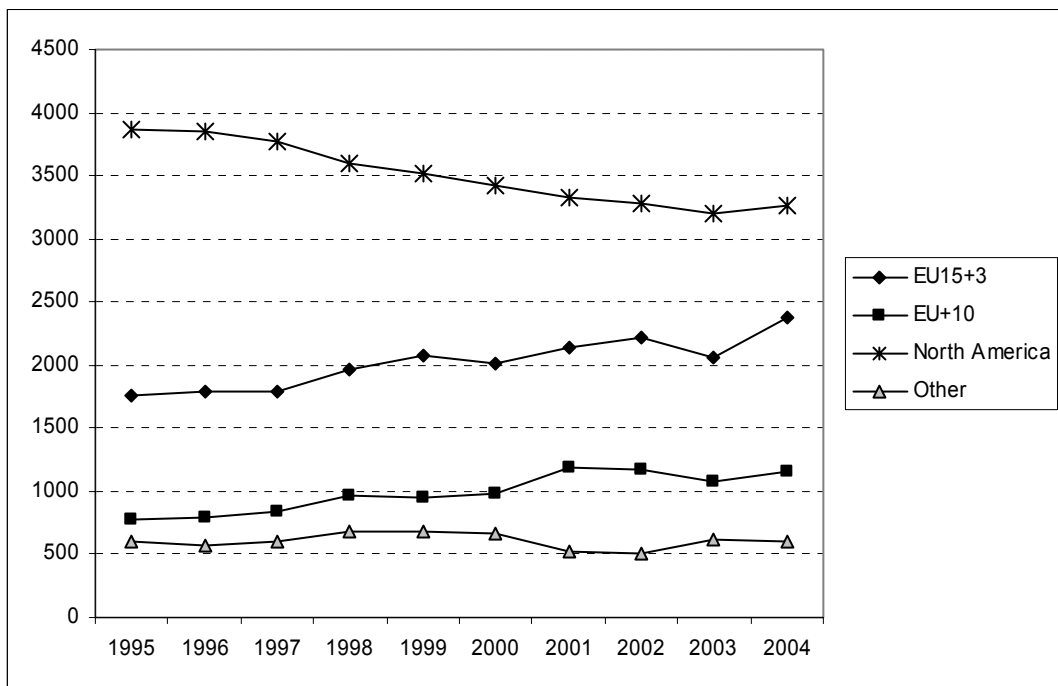
Figure 4.2. Total persons brought into initial contact with the police per 100,000 population in 1995-2004 (non-weighted mean rates) in different areas
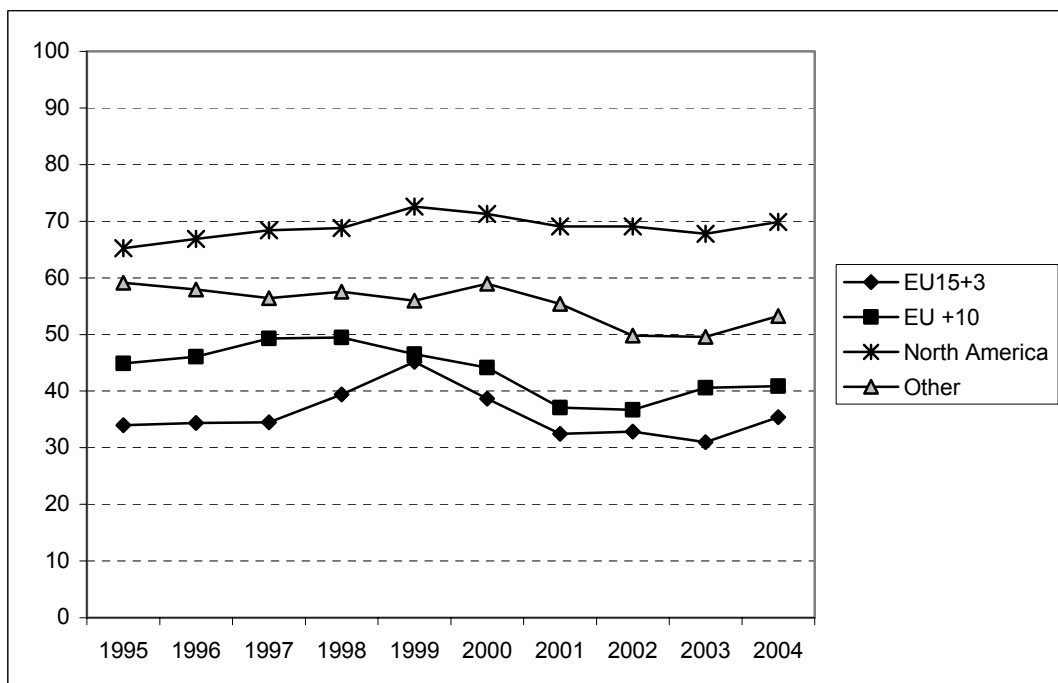
Figure 4.3. Offenders / crimes in different areas 1995-2004 (%)

4.3 Country level differences and the GDP

Suspect rates vary considerably between single countries (Figure 4.4). In most countries the number of suspects was in 2004 between 500-2,000 per 100,000 population. Because many countries were missing from the 2004 data, the results are complemented in these cases with data from earlier years[4].

The second variable in Figure 4.4 is the purchasing poverty parity scaled gross domestic product (GDP), which describes the general level of living in the countries[5]. Other societal indicators, such as the gender-related development index, the human development index and the corruption perception index correlate strongly with the GDP (r>.85).

Countries with the lowest GDP per capita show also the lowest suspect rates. This could mean that the commodity market structure is less developed than in richer countries so that crime opportunities are scarcer compared to more affluent countries (see Aebi 2004). It is also possible that less severe crimes and crimes, in which the offender is not known, are not recorded as crimes by the police in low suspect rate areas. The low GDP and low offender rate countries comprise the most eastern countries in the data, i.e. Moldova, Georgia, Kyrgyzstan and Azerbaijan.

When moving along the regression line in Figure 4.4, the next group of countries are the new EU member states, such as Latvia, Lithuania, Hungary and Poland, that have a higher GDP/capita and slightly higher suspect rates.

The situation in the old EU countries does not follow the trend higher GDP – more suspects. E.g. in Spain the GDP/capita is higher compared to Portugal, but in Portugal the suspect rate is considerably higher than in Spain. However, most countries, in which the GDP/capita is above average (20,000 US $), the rate of suspects is also above average (1,500 suspects/100,000 pop.). One reason for the increased offender rate to be connected with a higher GDP (r=.54, p<.001, n=42) can be that the economically more developed countries have been able to build more efficient control systems – and more comprehensive recording systems.

---

[4] Albania 2002, Austria 2002, Spain 2003, Greece 1999, Iceland 2003, Kazakhstan 2000, FYR of Macedonia 2000, Norway 2001, Russia 2003, Slovakia 2002, England and Wales 1999, Northern Ireland 2002, Ukraine 2002,Vatican 2000. Missing countries: Armenia, Belgium, Switzerland, Luxembourg, Monaco, Scotland.

[5] Using a PPP basis is arguably more useful, when comparing generalized differences in living standards on the whole between nations, because PPP takes into account the relative cost of living and the inflation rates of the countries, rather than using just exchange rates, which may distort the real differences in income. (Human development reports 2006; in http://hdr.undp.org/en/media/ hdr_20072008_tables.pdf.)

Figure 4.5 contrasts the total recorded *crimes* in different countries with the GDP. Here Iceland and Sweden are highest on total recorded crime, and the difference between the "old western" and the "eastern" countries is clear. A high GDP seems to be more clearly connected with higher crime rates than with suspect rates.

According to Figure 4.1 the suspected offenders/crimes ratio (mean rate) has during the last years of the study been slightly below 50 per cent. This means that the number of suspects is on the average less than one-half of the reported crimes. The ratio suspects/offences varies, however, considerably between the countries, which complicates the use of the concept as a kind of an estimate of the detection rate.

In Table 4.1 the suspects/crimes ratio is classified into four groups. For 60 per cent of the countries, the suspect was found in less than one-half of the crimes. The group with a detection rate of 99 per cent or more is problematic. It is in principle possible that for certain crimes, the ratio momentarily exceeds 100 per cent, but the reason for very high suspect/crime ratios may be that the suspect and crime figures have been taken from different sources, and therefore the sources do not correspond to each other. Finland is an example of a western country with a rather high suspect/crime rate. One reason for this is that traffic offences are included in the total crimes, and in traffic crimes the suspect is usually known to the police when the crime is recorded. The situation is similar in other minor offences, such as shoplifting, which are also recorded systematically in Finland.
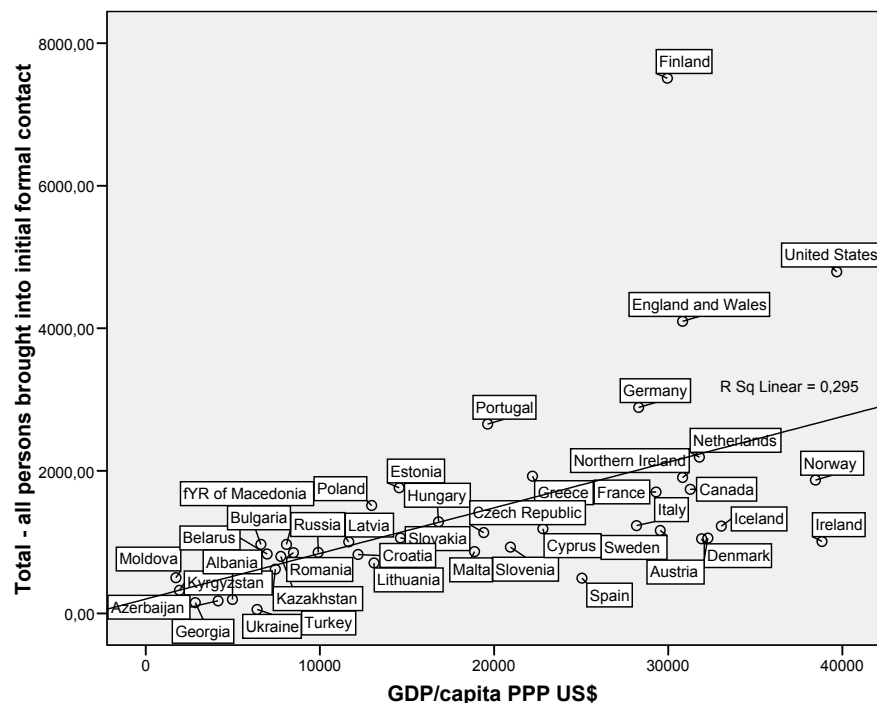
Figure 4.4. Suspects per 100,000 population and the gross domestic product (purchasing poverty parity basis) in different countries, latest year in the data
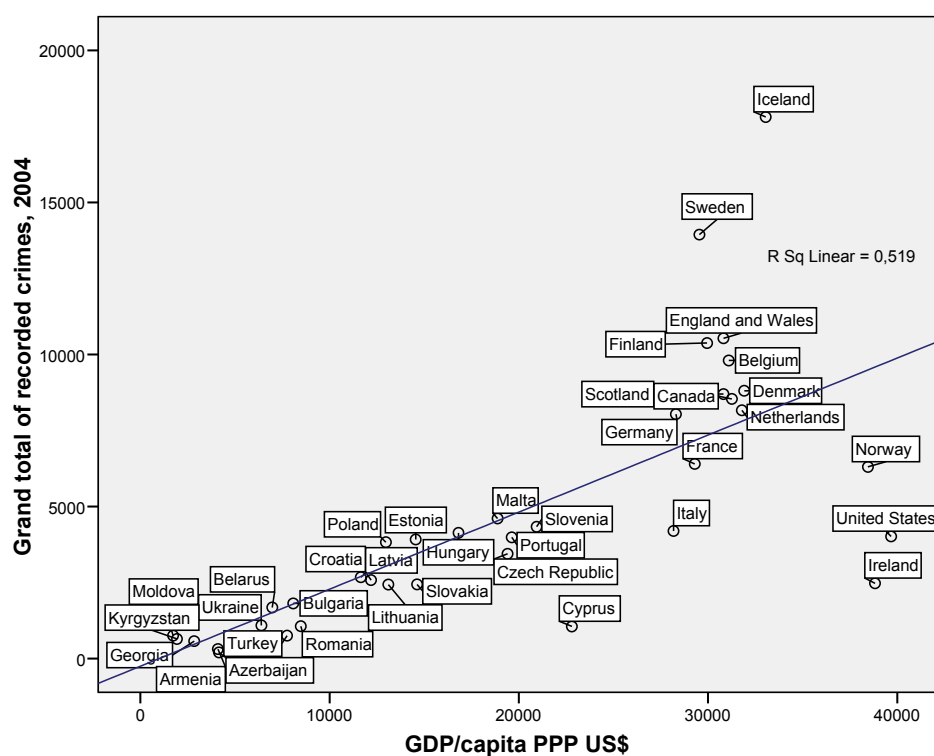
Figure 4.5. Recorded crimes per 100,000 population and the gross domestic product (purchasing poverty parity basis) in different countries, year 2004

Table 4.1. Suspects per recorded crimes in different countries, in 2004 (if data from the year 2004 were not available, the year of the data is given after the name of the country)

0-24	25-49	50-87	99 -
Northern Ireland02	Belarus	Azerbaijan	United States
Spain03	Estonia	Greece99	Albania02
Slovenia	Russia03	Romania	Cyprus
Canada	Ireland	Finland	Turkey
Malta	England and Wales99	Portugal	Holy See00
Austria02	Poland	Moldova	Macedonia FYR00
Denmark	Latvia	Kazakhstan97	
Sweden	Germany	Bulgaria	
Iceland03	Czech Republic	Slovakia02	
	Croatia	Kyrgyzstan	
	Hungary		
	Italy		
	Lithuania		
	Norway01		
	Netherlands		
	France		
	Georgia		

4.4   Women as suspects

Data collected about the suspects are very limited. In addition to the crime category only data about sex and age group (adults, juveniles) of the suspects were collected. The suspect's gender and age were not asked for different crime categories but only for the total of all crimes.

14 per cent of the suspects were women in 2004. The share of women has been rather stable over the last years, although it has slightly increased from 1995 (Figure 4.6). The decrease of the share of women in 2000, 2003 and 2004 in North America is caused by the missing data from the USA. Differences exist between the areas: North America and the old EU lie above the average, while the trends of the new EU countries and the other countries are below the average, but moving upwards.

The share of women out of all suspects varies considerably between single countries, ranging from two per cent in Albania and Georgia to 24 per cent in Germany and Ireland (Table 4.2). The share of women out of all suspects increases when the GDP grows (r=.663) (Figure 4.7). Similarly, the correlation with the human development index, the corruption index and the gender-related development index is positive and rather high. One reason for the women's higher share of suspects in economically and socially more developed societies may be in the structure of crimes that women commit. Typical "women's crimes" are petty thefts and theft offences in general, embezzlement and fraud (Honkatukia 2007), which are probably more common and more accurately recorded in wealthier countries.
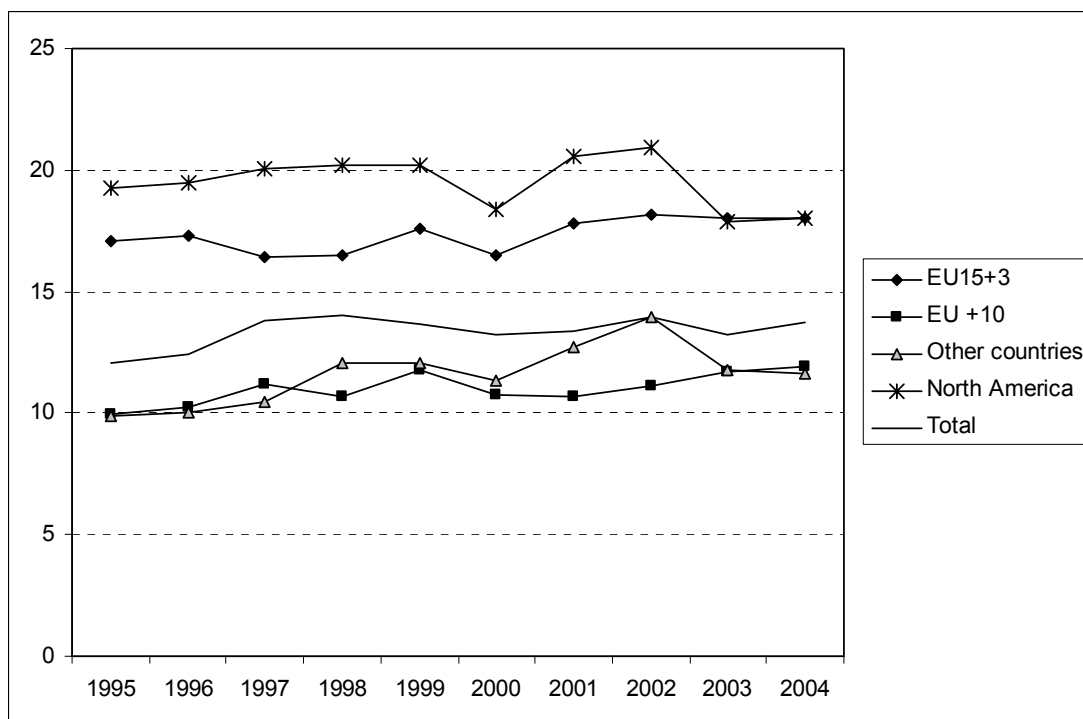
Figure 4.6. The proportion of women out of all suspects in different areas per 100,000 total suspects, 1995-2004 (mean rates)

Table 4.2. The proportion of women out of all suspects in different countries, year 2004 (if data from 2004 were not available, the year is given after the name of the country), %

Germany	24	Russia01	17	Ukraine	14	Estonia	10
Ireland	24	Finland	16	Kazakhstan97	14	Turkey	10
United States02	23	Slovenia	16	Belarus	13	Slovakia02	10
Austria02	22	England and Wales98	16	Netherlands	13	Spain00	10
Luxebourg02	21	Azerbaijan	16	Romania	12	Lithuania	9
Iceland03	20	France	16	Czech Republic02	12	Cyprus	9
Sweden	20	Malta	15	Kyrgyzstan	12	Poland	9
Canada	18	Hungary	15	Moldova	11	Georgia	2
Holy See00	18	Norway01	15	Latvia	11	Albania02	2
Italy	18	Portugal	15	Croatia	11		
Denmark	18			Bulgaria	11		
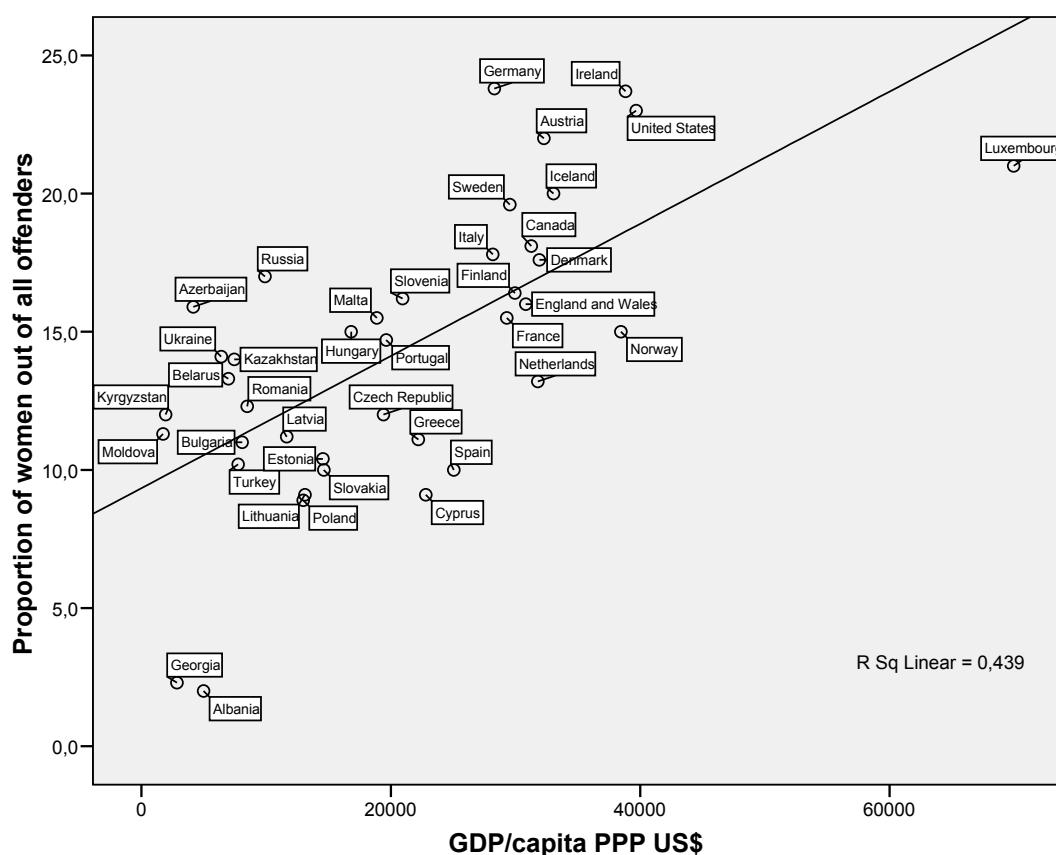
Figure 4.7. The proportion of women out of all offenders and the GDP/capita in different countries, all crimes, year 2004 (if data from 2004 were not available, the year is given after the country's name)

4.5   Juvenile suspects

The definition of adult in crime statistics is the same in most countries in our data: an adult is a person who is 18 years old or older[6] However, the definition of juvenile differs between the countries because of differences in the minimum age of criminal responsibility. Criminal acts committed by persons younger than the lower age limit (if such a limit exists) are not counted in the crime statistics in all countries.

Many countries gave no minimum age for juveniles; a juvenile is a person who is under 18 years old. 16 countries reported the age group of 14-17 years for juveniles. The latter definition may mean the age of criminal liability, while the former may refer to the practice that all suspects are recorded regardless of the age of the suspect. Also 7-15 years were mentioned as the lowest age for juveniles. The eastern countries

---

[6] In Portugal 16, in Ireland 17 years; in Scotland and Poland 21 years. For more about the definitions of juveniles, see Steven Malby's article in this book.

often used the 14-17 years age bracket in their definition. If the age group comprises 3-4 years, the number of recorded crimes is lower compared to the less than 18 years definition; this decreases not only the number of juvenile crimes but also the total number of recorded crimes.

The share of juvenile suspects has decreased from 1995 to 1999, and after that the trend has been rather stable; 12-13 per cent. According to Figure 3.8, the share of juveniles is highest in North America. The decline in the trend of North America in 2003 and 2004 is caused by the decrease in Canada. The main reason for the decrease is, however, that the figures of the United States from 2003-2004 were missing.

The trend of juvenile suspects is declining in all areas. The rise of the share of juvenile suspects in the EU15+3 countries in 2003-2004 depends on the fact that different countries participated in the surveys (Cyprus and France delivered data for 2003-2004, but not for 2001-2002, and these figures were higher than the average. In Sweden the figures were 10 per cent units higher in the latter period). In "Other countries" the share of juveniles has been stable from 1997 to 2004 (10 %).
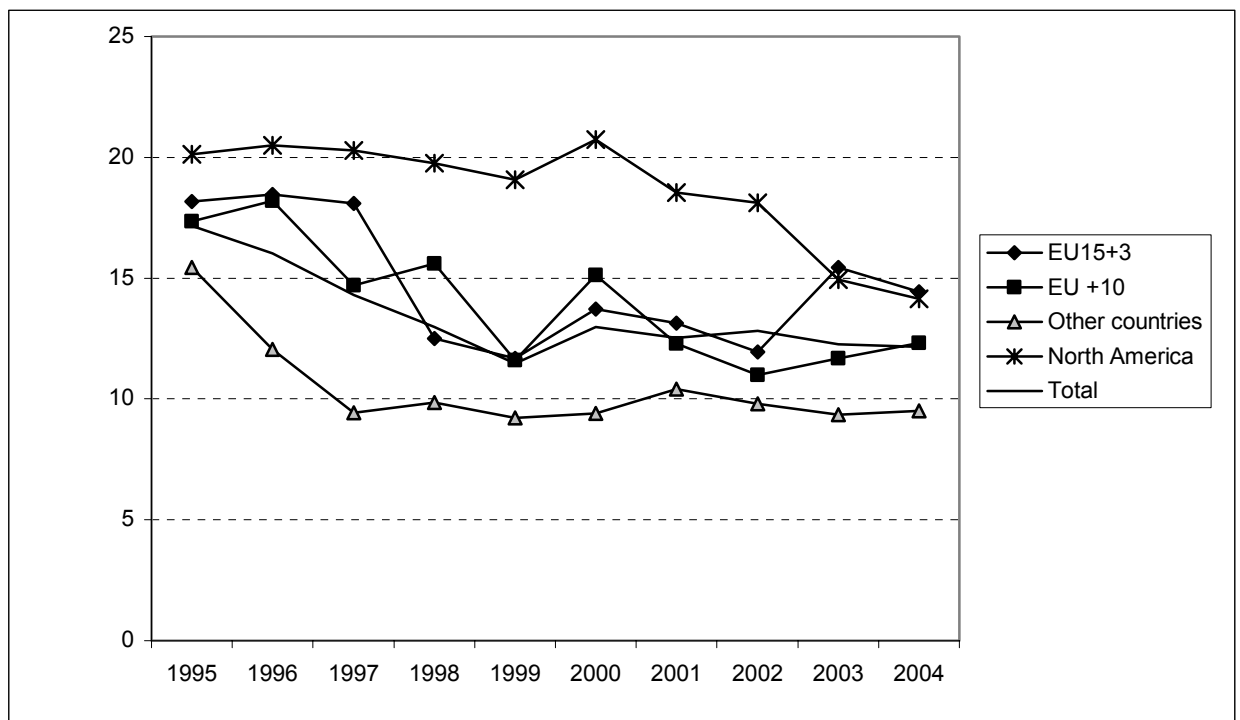
Figure 4.8. The proportion of juvenile suspects in different areas, all crimes, 1995-2004, % (mean rates)
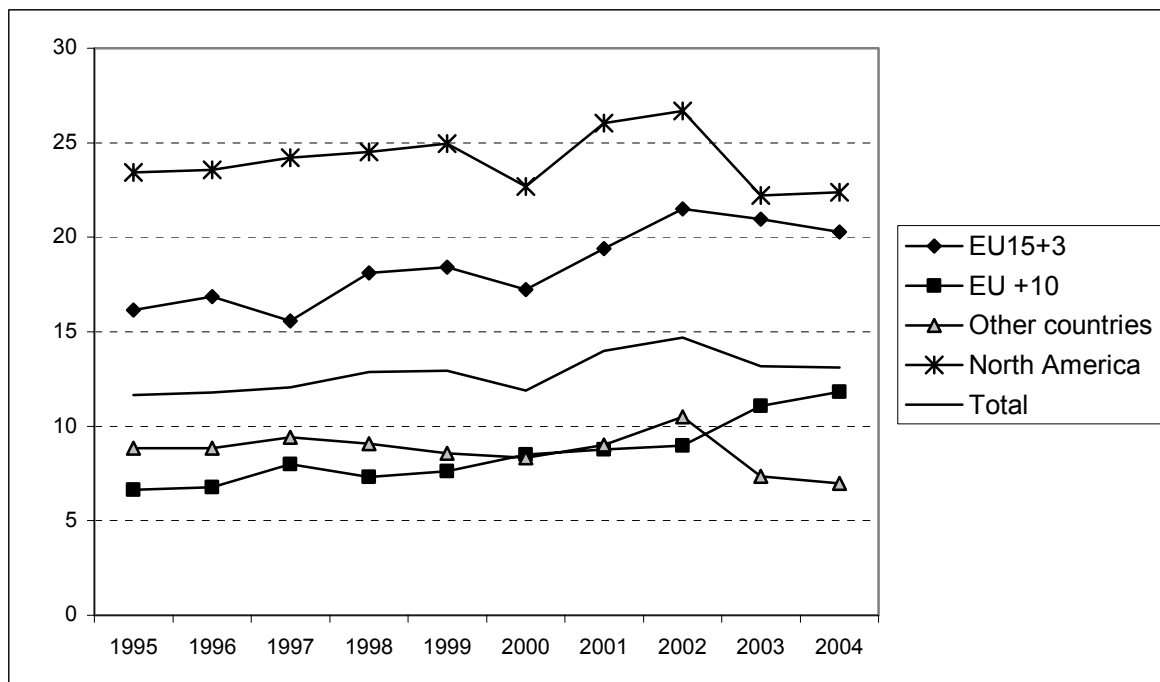
Figure 4.9. The proportion of females of juvenile suspects in different areas, all crimes, 1995-2004, % (mean rates).

The trend of female juveniles out of all juvenile suspects is slightly increasing, being on the average 13 per cent in 2004. The trend is increasing in all areas except the eastern countries[7]. Level differences between the areas are large.

4.6   Suspects in different crime categories

The concept of total crimes/suspects is ambiguous and problematic especially in international comparisons. The reason why the total level is used in this section is that figures on female and juvenile suspects were asked in the CTS questionnaire only on the total level.

On the crime type, level data concerning the suspects were asked for 11 crimes, and in some crime types for certain subcategories (e.g. theft was divided into major, total and automobile theft). In the following figures, the results are grouped into three main categories: violence (homicide, assault, rape, robbery), property crimes (total theft, burglary, automobile theft, fraud, embezzlement, bribery/corruption) and drug-related crimes.

---

[7] North America contains data for 2001, 2003 and 2004 only for Canada

4.6.1 Violence

The trend in violence suspects is increasing. In 1995 the rate[8] of violence suspects was 191 persons per 100,000 population; in 2004 the rate was 239. The increase is caused by the increase in assault and robbery suspects. The rate of completed homicide has decreased from 4.8 to 3.3 per 100,000 population (Table 4.3).
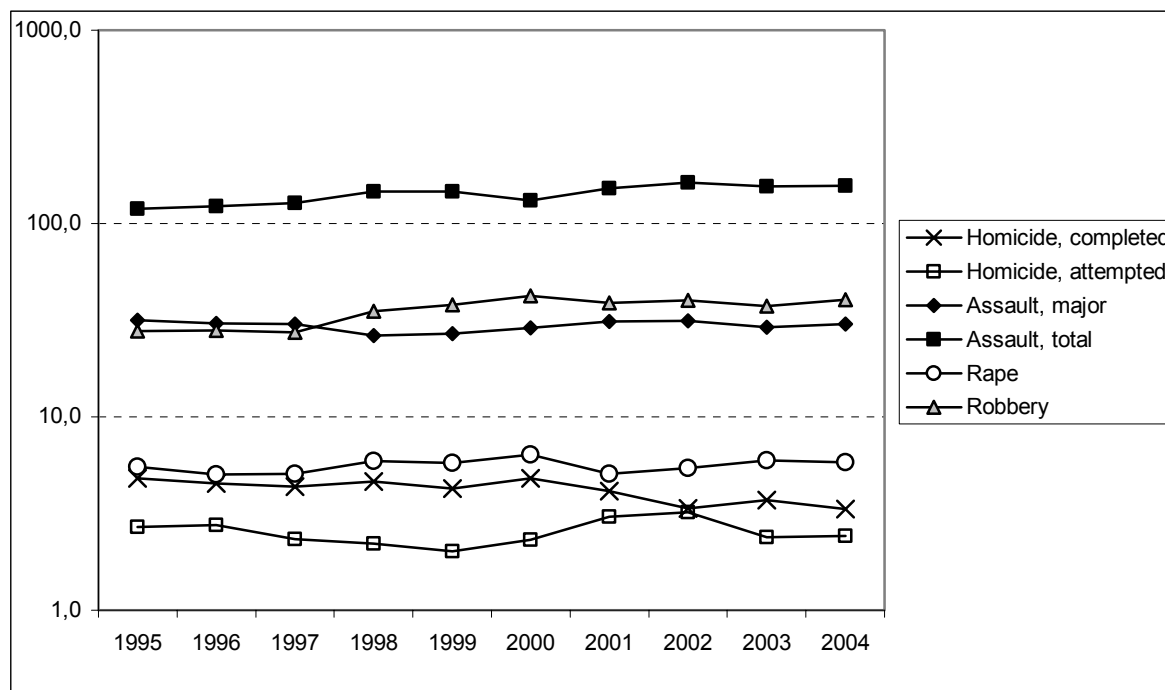
Figure 4.10. Suspects per 100,000 population for completed and attempted homicide, total and major assault, rape and robbery in 1995-2004 (mean rates, log scale)

---

8 Violence = completed homicide, attempted homicide, assault, rape, robbery. The category of major or aggravated assault is used in the penal or criminal codes of some countries; it is defined according to the consequences of the assault (degree of the injuries) or the severity of the act (e.g. dangerous weapon used). Less than one-half of the countries provided data on major assault suspects. Rape suspect rates are calculated per whole population; although rape victims are mostly women, the definition of rape in many penal codes may include both sexes.

Table 4.3. Suspects per 100,000 population for completed and attempted homicide, total and major assault, rape and robbery in 1995-2004 (mean rates)

Crime	Year										Change,%
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	1995-2000
Homicide, completed	4,8	4,5	4,4	4,6	4,3	4,8	4,1	3,4	3,7	3,3	-30,7
Homicide, attempted	2,7	2,8	2,3	2,2	2,0	2,3	3,0	3,2	2,4	2,4	-10,5
Assault, major	31,7	30,4	30,2	26,3	27,0	29,0	31,1	31,4	29,1	30,2	-4,8
Assault, total	118,9	122,8	127,2	147,0	146,3	131,7	152,5	163,3	155,1	157,0	32,0
Rape	5,5	5,0	5,1	5,9	5,8	6,4	5,1	5,4	6,0	5,8	6,0
Robbery	27,8	28,0	27,4	35,3	38,0	42,2	38,9	40,1	37,4	40,4	45,5
Total	191,4	193,4	196,6	221,4	223,3	216,4	234,7	246,8	233,7	239,2	25,0

Completed homicides are regarded as one of the most reliable official register data for international violence comparisons. Therefore also the suspect statistics about homicides can be anticipated to cover the situation relatively well.

In western European countries the rate of homicide suspects is clearly below the average (Figure 4.11). On the other hand, the decrease in the total homicide suspect trend comes from the new EU countries and from North America. In western Europe, the level of homicide suspects was in the beginning of the 2000s somewhat higher compared to the second half of the 1990s. In spite of the decreasing differences between the areas, the homicide suspect rate is still above average in North America and in the easternmost countries, compared to the old EU countries[9].

---

[9] The figure of homicide suspects in the "Other countries" is taken from the data for only three countries that had a complete data set, because the missing values of many countries in the group caused heavy fluctuations to the curve.
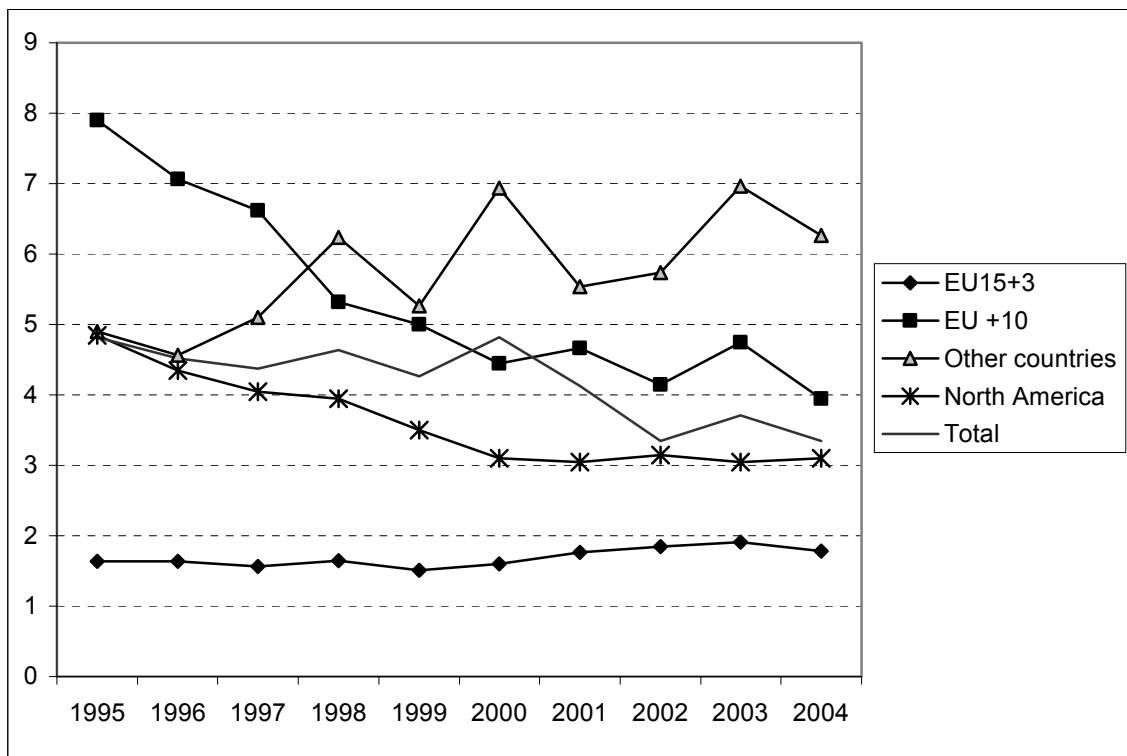
Figure 4.11. Completed homicide suspects per 100,000 population in different areas, 1995-2004 (mean rates)

Although the differences in the homicide suspect rate between different areas have decreased, the differences between the countries are large: the homicide suspect rate in Russia is 40 times higher compared to Malta (Table 4.4). Within the old EU countries and the new ones there are "outliers" like Finland and the Baltic countries; in these countries the number of suspects is higher than the average of the area.[10]

---

[10] The figure for Germany (3.5) is omitted from the table, because it comprises both attempts and completed homicides. According to the European Sourcebook, Germany counted 1.3 completed homicides per 100,000 population in 2003. In 2004 the homicide suspect rate was low in the USA compared to previous years; the average for 10 years is 5.8 suspects.

Table 4.4. Completed homicide suspects per 100,000 population in different countries, year 2004 (if data from 2004 were not available, the year is given after the name of the country)

EU15+3		EU +10		Other countries		North America	
Norway 2001	0,7	Malta	0,5	Croatia	1,6	Canada	1,6
Denmark	0,8	Slovenia	1,6	Georgia	1,9	United States	4,6
Iceland	1,0	Cyprus	1,8	Azerbaijan	2,4		
England and Wales 1999	1,0	Hungary	2,1	Romania	2,7		
Portugal	1,1	Slovakia 2002	2,1	Bulgaria	2,8		
Austria 2002	1,2	Czech Republic	2,4	Albania 2002	6,0		
Netherlands	1,2	Poland	3,2	Kyrgyzstan 2000	6,4		
France	1,5	Estonia	6,6	Turkey	7,1		
Sweden	1,6	Latvia	7,6	Moldova	7,3		
Northern Ireland 2002	1,6	Lithuania	9,0	Belarus	9,1		
Spain 1997	1,7			Macedonia(FYR) 2000	10,0		
Italy	1,7			Kazakhstan 2000	15,7		
Ireland	2,5			Russia 2001	19,9		
Greece 1999	2,9						
Finland	2,9						
Germany	3,5						

Countries in which the rates of attempted homicide suspects were considerably above the average (2.4 suspects /100, 000 pop. in 2004) were the Netherlands (12.9 suspects/100,000 pop.), Finland (6.9) and Sweden (4.1). Because the figures come from police statistics, this may be due to police recording practices, and attempted homicides may be later re-labeled in the conviction phase as major assaults. On the other hand, in Russia the rate of attempted homicide suspects was low (1.7). Also in the Baltic countries, the rate of attempted homicide suspects was considerably below the average rate.

The assault suspect rate has increased by 32 per cent from 1995 to 2004 (Figure 4.12). In the EU 15+3 countries the increase has been 73 per cent. Also in the EU +10 and other European countries the assault suspect rate has increased.

The assault suspect rate is considerably higher in North America compared to the European areas. However, the trend in North America is decreasing; the decline from 1995 to 2004 was 10 per cent. The suspect ratio has decreased in the USA, but remained unchanged in Canada.

Lowest assault suspect rates are found in the group of other countries. The differences between the countries are large. Northern Ireland, Finland, the USA and Portugal had exceptionally high rates (Table 4.5).
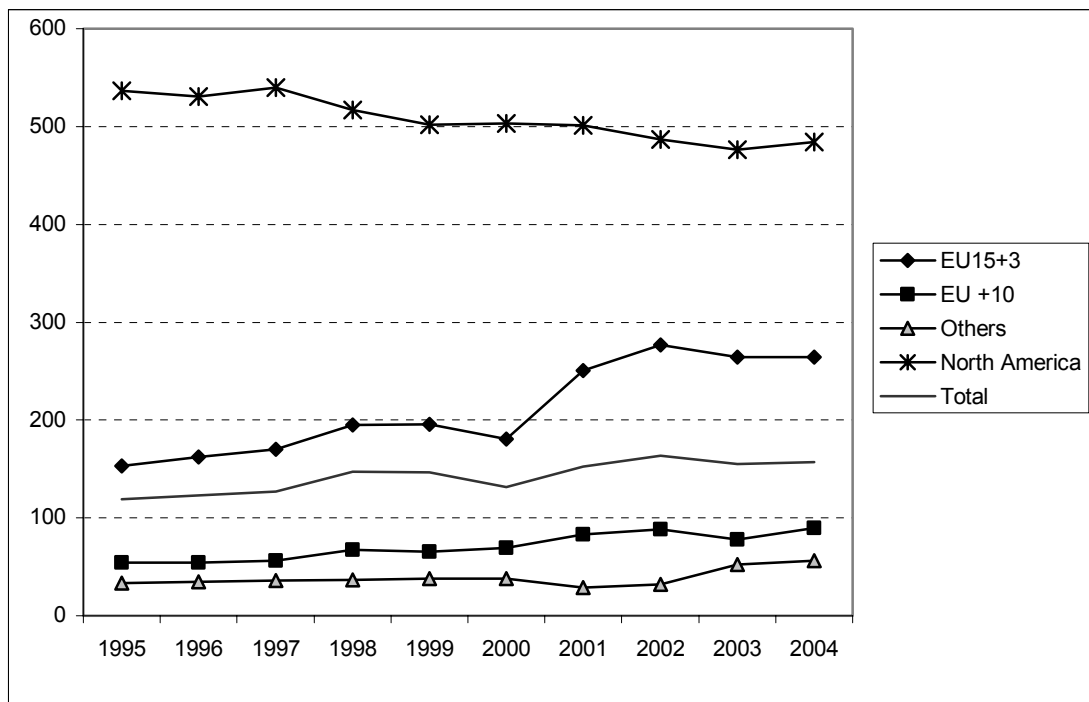
Figure 4.12. Total assault suspects per 100,000 population in different areas, 1995-2004 (mean rates)

Table 4.5. Total assault suspects per 100,000 population in different countries, year 2004 (if data from 2004 were not available, the year is given after the name of the country)

EU15+3		EU +10		Other countries		North America	
Spain2000	23,1	Latvia	28,8	Azerbaijan	1,1	Canada	375,8
Italy	66,6	Cyprus	47,7	Kyrgyzstan	5,4	United States	592,4
Greece1999	74,4	Lithuania	58,1	Georgia	8,3		
Norway2001	94,5	Hungary	63,5	Kazakhstan2000	16,4		
Denmark	132,7	Estonia	67,9	Albania2000	20,6		
Sweden	142,7	Slovakia2002	80,4	Moldova	21,9		
England and Wales1999	173,0	Poland	84,0	Russia	28,7		
Germany	192,0	Slovenia	92,1	Belarus	41,3		
Austria2002	239,0	Czech Republic	141,8	Romania	44,4		
Netherlands	264,4	Malta	223,3	Bulgaria	47,9		
Ireland2003	270,6			Croatia	98,6		
Iceland	314,5			Turkey	236,4		
Portugal	499,9						
Finland	547,1						
Northern Ireland	637,5						

The crimes/suspects ratio does not seem to be a good indicator for evaluating the clearance rate of assaults, because one offence may contain more than one offender, and correspondingly more than one victim. On the average the crimes/suspects ratio was 0.85, but the variation between the countries (n=27) was large. The lowest ratio was found in Sweden,

0.19, and the highest in Cyprus (over 1.0). In 26 per cent of the countries the crimes/suspects ratio was over 1.00.

Most violence suspects are suspected of assault. The correlation between homicide suspects and assault suspects is negative, and nearly non-significant (r=-0.30, p=0.064), this means that a high homicide suspect rate is not directly connected with a high rate of recorded assault suspects. This is illustrated in Figure 4.13. Many eastern countries have a high homicide suspect rate and a low assault suspect rate.
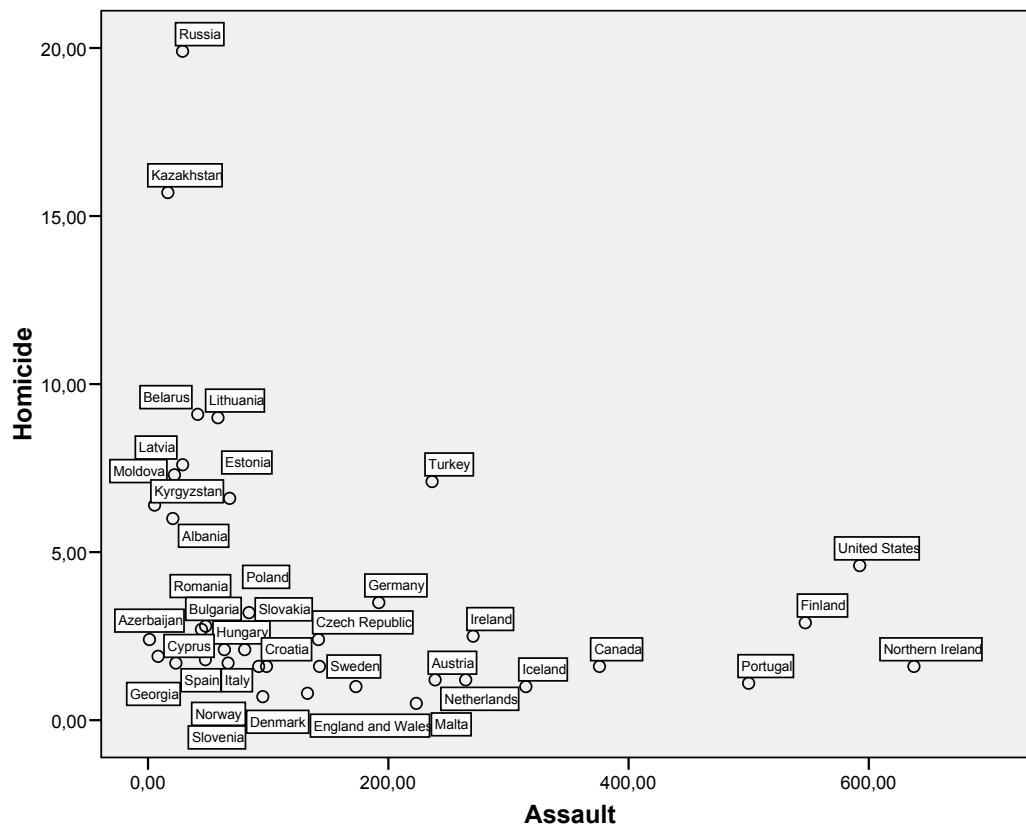
Figure 4.13. Homicide and assault suspects in different countries per 100,000 population, in 2004 (latest available year)

Table 4.6 shows that North America has much a higher number of **rape suspects** than Europe. The rape rate was particularly high in Canada (26 /100,000 pop)[11]. USA is on the same level as the European countries with the highest rates (France 12, Germany 9, Finland, the Netherlands and

---

[11] According to the ICVS 2000, the victimisation to sexual violence was in Canada on the average level of the industrialised countries (Kesteren et al. 2000). Taking into account that in most rapes the victim is a woman, and the offender a man, the suspect rates would be doubled if calculated per 100,000 of the same sex (see Aebi et al. 2006).

Ireland 8 suspects / 100,000 pop.). The trend in North America is decreasing, while rape suspects are increasing in the EU15+3 countries.

Table 4.6. Rape suspects per 100,000 population in different areas, 1995-2004 (mean rates)

	Year										Change
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	95-04, %
EU15+3	3,8	3,6	4,1	5,6	5,8	7,8	5,2	6,3	7,7	7,1	46,5
EU +10	3,8	3,1	3,5	3,8	3,3	3,2	3,9	4,0	3,4	3,8	0,0
Others	4,6	4,4	4,0	4,8	4,5	4,7	2,6	2,3	4,0	3,9	-17,4
North America	25,1	23,5	21,9	21,5	20,0	20,5	20,0	19,5	17,9	17,6	-42,7
Total	5,5	5,0	5,1	5,9	5,8	6,4	5,1	5,4	6,0	5,8	5,7

Table 4.7. Robbery suspects per 100,000 population in different areas, 1995-2004 (mean rates)

	Year										Change
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	95-04, %
EU15+3	29,7	31,7	30,9	44,9	50,3	65,5	58,2	69,4	58,0	65,2	54,5
EU +10	33,3	35,6	35,2	34,5	37,0	38,3	42,5	36,6	32,7	36,2	8,2
Others	17,2	15,5	16,1	22,6	23,0	23,5	14,3	11,7	19,9	21,0	18,0
North America	49,8	47,7	41,5	38,7	35,8	35,0	36,2	34,8	34,6	34,8	-43,0
Total	27,8	28,0	27,4	35,3	38,0	42,2	38,9	40,1	37,4	40,4	31,3

The rates of **robbery suspects** are increasing (Table 4.7). Only in North America the robbery suspect rate has decreased, and from the year 1998 on the trend in North America is also rather stable. The eastern European countries have less robbery suspects than the average in all years. The reason for both the high level and the increase in the figures in EU15+3 is Portugal.[12] If Portugal is excluded from the data, the robbery suspect rate in EU15+3 in 2004 is 27, and the increase between 1995 and 2004 is 15 per cent.

4.6.2 Drug-related crime suspects

Drug-related crimes were defined on the UN Crime Trends Surveys questionnaire as a comprehensive concept, comprising the cultivation, production, manufacture, extraction, preparation, offering for sale, distribution, brokerage, transport, purchase and possession. The level of recorded drug crimes depends on the actions of the authorities. Therefore it is not surprising that the level of suspects differs considerably in different areas and in different countries.

---

[12] The number of robbery suspects was in 2004 in Portugal 371 per 100,000 population. Similarly, also the European Sourcebook gives very high figures for Portugal, and comments that due to differences in data recording methods, figures for Portugal are not comparable to figures of other countries (Aebi et al. 2006).

The suspect trends in drug-related crimes show a smoothly increasing trend until the change of the millennium (Table 4.8). After that the trend is decreasing in the old EU countries, and also for some years in North America. The European Sourcebook does not give a declining trend for drug-related crime suspects (Aebi et al. 2006). The time series for many countries are discrete, and this may be one reason of the decrease in the EU+15 countries. Comparing the years 1995 and 2004, the rate of drug-related crime suspects has increased in 21 countries, and decreased in four countries.

Table 4.8. Drug-related crime suspects per 100,000 population in different areas, 1995-2004 (mean rates)

| | Year | | | | | | | | | | Change |
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	95-04, %
EU15+3	96,7	99,8	119,6	129,7	144,1	137,9	161,9	155,1	151,1	134,2	28,0
EU +10	11,5	13,1	17,7	19,3	21,4	29,1	75,2	77,4	55,0	57,2	79,9
Others	17,5	23,6	24,3	34,2	40,0	56,0	46,0	43,0	38,7	38,9	55,0
North America	353,7	357,9	363,9	361,6	366,7	375,6	370,4	357,5	363,9	383,3	7,7
Total	68,5	70,8	79,8	90,2	98,6	97,4	115,8	115,0	102,7	97,9	30,1
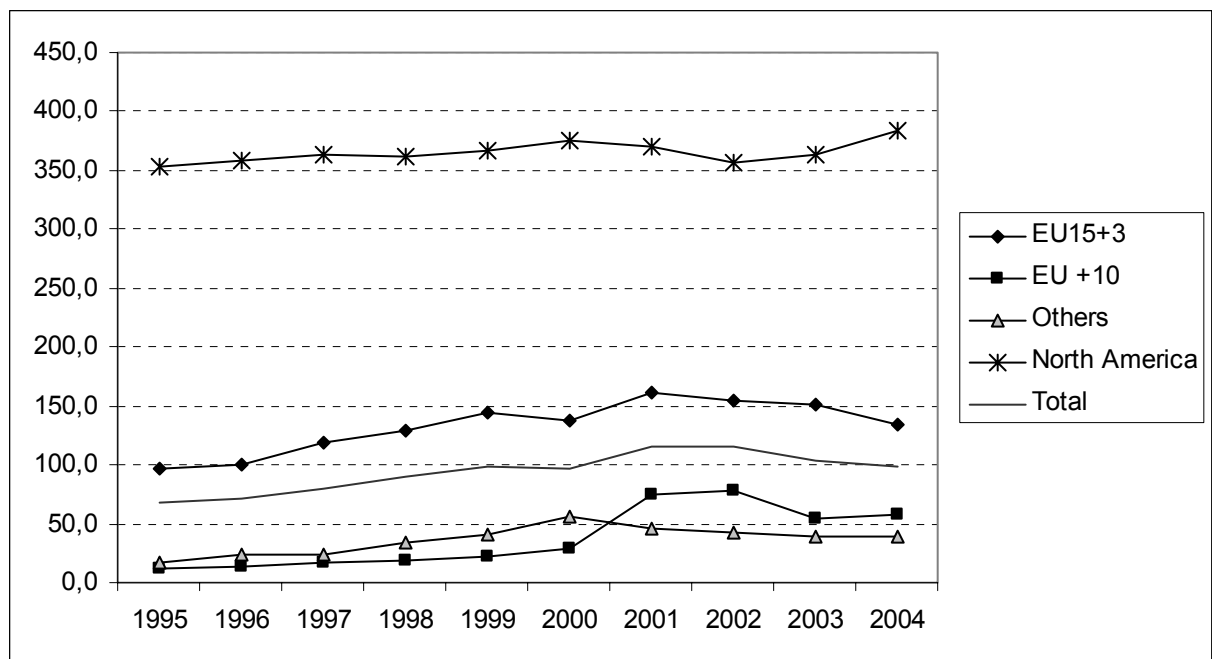
Figure 4.14. Drug-related crime suspects per 100,000 population in different areas, 1995-2004 (mean rates)

Table 4.9. Drug-related crime suspects per 100,000 population in different countries, 1995-2004 (mean rates)

EU15+3		EU +10		Other countries		North America	
Denmark	17,2	Slovakia 2002	16,9	Ukraine 2002	2,2	Canada	165,9
Spain 2000	41,5	Lithuania	19,9	Romania	7,0	United States	600,6
Portugal	58,1	Czech Republic	21,1	Albania 2002	10,3		
France	66,1	Malta	21,8	Azerbaijan	15,0		
Ireland	70,4	Latvia	36,0	Turkey	24,3		
Italy	92,2	Cyprus	46,0	Georgia	26,3		
Greece 1999	96,8	Poland	60,1	Macedonia(FYR) 2000	29,9		
Netherlands	135,6	Hungary	63,0	Bulgaria	32,8		
Norway 2001	180,7	Estonia	73,5	Belarus	37,3		
Sweden	190,5	Slovenia	174,6	Moldova	46,5		
England and Wales 1999	203,6			Kyrgyzstan 2000	65,9		
Austria 2002	219,2			Russia 2001	99,0		
Germany	281,7			Croatia	120,2		
Finland	296,3			Kazakhstan 2000	258,3		
Iceland 2003	365,7						

4.6.3 Property crime suspects

The trends of different property crime suspects are shown in Table 4.10. The trend line for property crime suspects is slightly decreasing.

The turn of the century seems also to act as a turning point of the trends of property crime suspects. Since 2000, thefts, automobile thefts and burglaries have decreased. On the other hand, fraud, embezzlement and bribery suspect rates have increased.

Table 4.10. Theft, automobile theft, burglary, fraud, embezzlement, bribery and kidnapping suspects per 100,000 population, 1995-2004 (mean rates)

	Year										Change
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	95-04, %
Theft	342,4	326,6	288,1	322,5	303,7	315,2	310,3	302,0	305,3	302,4	-13,2
Automobile theft	29,1	28,0	32,9	32,4	33,7	31,4	27,3	27,9	25,9	24,8	-17,4
Burglary	107,2	106,6	129,8	134,5	120,7	119,9	87,2	89,0	85,8	83,7	-28,1
Fraud	57,1	55,6	49,2	48,2	51,0	52,6	89,8	97,1	77,9	77,5	26,4
Embezzlement	18,0	18,5	18,0	17,0	16,6	15,5	19,3	19,1	19,6	19,5	7,7
Bribery	3,2	3,4	3,5	2,3	2,9	3,2	4,1	3,9	3,7	3,7	12,4
Kidnapping							1,2	1,1	2,1	2,2	47,7
Total	556,9	538,6	521,5	557,0	528,7	537,7	539,1	540,2	520,3	513,8	-4,9

4.7   Conclusion

According to the UN Crime Trends Survey data, the rate of recorded crimes has increased by 8.5 per cent from 1995 to 2004 (in those countries with complete trend data). At the same time the rate of suspects has increased by 25 per cent. This means that the detection rate has increased from 42.5 per cent in 1995 to 48 per cent in 2004.

The European Sourcebook gives for 1995 - 2003 similar but less accentuated trends. Recorded crimes have increased by 27, and suspects by 8 per cent. The smaller growth of the crime trend in the UN Crime Trends Survey data is probably caused by the instability of the data: only 14 countries had complete trend data, and this influences the estimates. These 14 countries are not representative of the countries studied, and there is the danger that the results do not tell us of crime suspects in Europe (the North American figures are more representative) but of the availability of crime data. Therefore, for validation of the results, the Sourcebook figures were used in the article as controls.

In North America, the total suspect rate is far higher than in the old EU countries (incl. Iceland and Norway). In the new EU countries, the rate is higher than in the other eastern countries, but lower compared to the old EU member states. It seems that the increase in the level of wealth in the country increases the suspect rate. The result can perhaps be interpreted according to the opportunity-choice or routine activity theories, but wealth can also lead to the consequence that the safety of the citizens receives a higher priority on governmental level, and therefore more resources are invested in the effectiveness of the criminal justice system – and in recording crime.

The suspect rate trend is decreasing in North America, but increasing in different European areas. Thus, a long-term convergence between the areas is in progress.

The wealth of the country can also be one reason for the fact, that the proportion of women out of all suspects is higher in North America and the old EU countries than in Eastern Europe. Crimes that women commit are proportionately more often thefts, embezzlements and frauds. The share of female suspects has increased slightly in all areas, while the share of juvenile suspects is decreasing: the level of the juvenile suspect rate is highest in North America, and lowest in the eastern countries.

The suspect figures show that assaults and robberies are increasing, while homicide suspects are decreasing. The assault suspect rate is in North America considerably higher than in Europe, but the trend is decreasing, while it is increasing in Europe, and especially in the old EU countries. The homicide suspect trend is lowest in the old EU countries, but slightly increasing, while it has decreased in other areas. On country level the differences in homicide suspect rates are very large; in Russia the figure was 40 times higher compared to Malta.

Also the number of suspects of drug-related crimes has increased, although the increase seems to have stagnated in Europe. Of property crime suspects, thefts, automobile thefts and burglaries have decreased from the turn of the century, but frauds, embezzlements, briberies and kidnappings are increasing.

Data on suspects produce trends much similar to recorded crimes even if in many traditional property crimes the suspects are not found. The

suspects are nevertheless important for describing the crime situation, because they are the group of people who also form the basis of the next operations of the criminal justice system. For crime prevention work in the future, data on suspects could be more detailed, and also information on victims should be produced.

References

Aebi, Marcelo (2004). Crime Trends in western Europe from 1990 to 2000. In *European Journal on Crime Policy and Research*. Volume 10, Numbers 2-3. September 2004, 163-186.

Aebi, Marcelo Fernando, Kauko Aromaa, Bruno Aubusson de Cavarlay, Gordon Barclay, Beata Gruszczynska, Hanns von Hofer, Vasilika Hysi, Jörg-Martin Jehle, Martin Killias, Paul Smit and Cynthia Tavares (2006). *European Sourcebook of Crime and Criminal Justice Statistics – 2006*. Third Edition. WODC Research and Policy Series nr. 241. Den Haag: Boom.

Aromaa, Kauko, Seppo Leppä, Sami Nevala and Natalia Ollus (eds.) (2003). *Crime and Criminal Justice Systems in Europe and North America 1995-1997*. European Institute for Crime Prevention and Control, affiliated with the United Nations (HEUNI). Publication Series No. 40. Helsinki: HEUNI.

European Sourcebook of Crime and Criminal Justice Statistics – 2003 (2003). Second edition. Den Haag: WODC.

Honkatukia, Päivi (2007). Naiset rikosten tekijöinä ja uhreina. In *Rikollisuustilanne 2006. Rikollisuus ja seuraamusjärjestelmä tilastojen valossa*. Oikeuspoliittisen tutkimuslaitoksen julkaisuja 229. Helsinki, 205-224.

Human development reports 2006. In http://hdr.undp.org/en/media/hdr_ 20072008_tables.pdf.

van Kesteren, John, Pat Mayhew and Paul Nieuwbeerta (2000). *Criminal Victimisation in Seventeen Industrialised Countries. Key findings from the 2000 International Crime Victims Survey*. Onderzoek en beleid 187. WODC.

Malby Steven (2008). *Juvenile Justice and the United Nations Survey on Crime Trends and Criminal Justice Systems*. Article in this book.

Smit, Paul R., Ronald F. Meijer and Peter-Paul J. (2004). Detection rates, an international comparison. *European Journal on Criminal Policy and Research* 10 (2004), 225-253.

Annex Table 4.1. Country classification used in Chapter 4

EU15+3	EU+10	North America	Other countries
Austria	Cyprus	Canada	Albania
Belgium (no data)	Czech Republic	USA	Armenia
Denmark	Estonia		Azerbaijan
Finland	Hungary		Belarus
France	Malta		Bulgaria
Germany	Latvia		Croatia
Greece	Lithuenia		Georgia
Ireland	Poland		Kazahstan
Italy	Slovakia		Kyrgystan
Luxembourg (no data)	Slovenia		Macedonia FYR
Netherlands	Monaco (no data)		Moldova
Portugal			Romania
Spain			Russia
Sweden			Turkey
UK: England and Wales			Ukraine
UK: Northern Ireland			
UK: Scotland (no data)			
Iceland			
Norway			
Vatican			
Switzerland (no data)			

no data = no data on suspects

5   Prosecution and Courts

Paul Smit

5.1   Introduction

This chapter describes what happens with a suspected offender after the initial formal contact (see Chapter 4). The 'normal' procedure is that a prosecutor will charge the suspected offender and initiate a court proceeding where he/she is convicted and receives a sentence. However, in practice this does not always happen in precisely this way: in every step in the process between a suspected offender identified and a sentence meted out some attrition can and will occur. This can be due to legal or technical reasons but also because of efficiency considerations. Examples of legal or technical reasons are that there is not enough evidence to start a prosecution or the suspected offender is acquitted in court. Also, in many countries police and/or prosecution have the possibility to end a proceeding themselves, both with or without consequences for the suspected offender. This makes the whole process more efficient, a court hearing is not needed anymore. For a more general discussion on the attrition process see also Marshall 1998, Mayhew 2003, Tonry and Farrington 2005.

In this chapter statistics are presented on persons prosecuted (i.e. alleged offenders prosecuted by means of an official charge, initiated by the public prosecutor or the law enforcement agency responsible for prosecution) and on persons convicted (i.e. persons found guilty by any legal body duly authorized to pronounce them convicted under national law, whether the conviction was later upheld or not). Besides, some statistics on sanctions are given although these were available for the Sixth and Seventh survey (1995 - 2000) only.

The data used in this chapter were exclusively taken from the Sixth to Ninth UN Crime Trends Survey and thus cover the years 1995 - 2004. The data were used as they are: in case of missing data no inter- or extrapolation was done and no other sources were used to complement the data. But in the presentation of the data obvious outliers were sometimes removed.

The data presented in the tables and figures are the means over the years 1995 - 2004, or more precisely for a specific country the mean was taken for those years where data were available for that country. Besides, where possible, trend indicators were given for those countries where data were available from the Sixth and the Ninth survey.

In this chapter the figures for 'Total crime' were used, but where available the figures for the following three crime types were given also: 'Robbery', 'Theft' and 'Drugs'. Apart from the figures for each individual country the means for four different clusters of countries are presented. The clustering used is the same as described in Chapter 8.

5.2   Prosecution

Statistics on prosecution are heavily influenced by the fact that the organisation and the function of the Prosecution Service are vastly different across countries. This was also illustrated in the study by Wade (2006). Legal and organisational factors such as the choice between a legality or opportunity principle, whether the Prosecution Service has a monopoly to prosecute or whether police (or even private) prosecution is also possible, whether the Prosecution Service is a large organisation supporting individual prosecutors etc. are all reflected in the prosecution statistics.

But statistical factors must be considered also: multiple offences by one suspected offender could be combined into one prosecution. Or a person, counted as one offender in the police statistics can be subjected to two or more prosecutions.

In this section we will first look at the input (suspected offenders) and output (convicted offenders) of the prosecution process. Next, the prosecutions themselves will be considered, also in relation with the number of prosecutors (for other analyses as regards to prosecution resources see Chapter 2). Also statistics on female and on juvenile persons prosecuted will be given.

Suspected offenders and convicted offenders

Before analysing in detail the available information on prosecuting we will first look at the prosecuting process from the outside. We will take the potential input for the prosecution process, the suspected offenders, and relate these to the eventual outcome of the prosecution process: convicted persons.

The advantage here is that we make use of police and court statistics instead of prosecution statistics. Generally speaking police and court statistics are better developed and more detailed than prosecution statistics in most countries. However, there is also a danger: because statistics of two completely different areas are used, there could be several inconsistencies between the two. Among other factors like counting rules these could also be caused by differences in the domains these statistics cover: offences that are included in the police statistics but not in the court statistics (or vice versa) or juvenile suspects that appear in the police statistics but not in the court statistics because they are dealt with by

another kind of court (civil, not penal). Also, possibly some suspected offenders are present in the court statistics but not in the police statistics because the investigation of their cases was done by other investigative agencies. Therefore it could be possible that there are more convictions than suspected offenders.

Table 5.1. Percentage of convictions per suspected offenders, mean 1995–2004

	Total	Trend (total)[1]	Robbery	Theft	Drugs
Albania	76%	...	29%	33%	73%
Azerbaijan	105%	=	113%	87%	113%
Belarus	104%	-	82%	110%	98%
Bulgaria	32%	+	35%	57%	26%
Canada	57%	=	44%	43%	37%
Croatia	52%	+	61%	41%	43%
Cyprus	...	...	24%	29%	42%
Czech Republic	51%	...	55%	65%	58%
Denmark	132%	=	100%	121%	...
England & Wales	54%	...	50%	44%	41%
Estonia	77%	-	72%	26%	78%
Finland	45%	+	32%	64%	40%
France	47%	...	16%	...	80%
Georgia	118%	...	124%	117%	112%
Germany	23%	=	24%	16%	24%
Greece	31%	...	26%	...	26%
Holy See (Vatican City State)	27%	...	...	...	...
Hungary	70%	+	79%	90%	34%
Iceland	71%	...	60%	20%	72%
Italy	34%	=	62%	54%	41%
Kazakhstan	...	...	93%	...	...
Kyrgyzstan	87%	...	87%	85%	85%
Latvia	79%	-	58%	42%	67%
Lithuania	77%	=	56%	93%	110%
Macedonia, FYR	35%	...	32%	...	39%
Moldova, Republic of	99%	-	76%	118%	77%
Netherlands	36%	=	53%	29%	53%
Northern Ireland	23%	...	36%	42%	56%
Norway	19%	...	107%	45%	63%
Poland	69%	...	52%	66%	53%
Portugal	21%	+	7%	27%	40%
Romania	42%	-	91%	55%	45%
Russian Federation	71%	...	88%	89%	74%
Slovakia	43%	...	53%	40%	58%
Slovenia	32%	+	33%	32%	14%
Spain	70%	...	159%	...	38%
Sweden	65%	-	59%	34%	33%
N/W Europe, USA, Canada	52%	...	53%	46%	50%
Southern Europe	38%	...	50%	37%	35%
Central Europe	55%	...	56%	58%	50%
Eastern Europe	91%	...	94%	85%	90%

[1] +   increase of more than 10% between 95/97 and 03/04
   =   change between 95/97 and 03/04 less than 10%
   -      decrease of more than 10% between 95/97 and 03/04

Table 5.1 gives the results. The 1995 - 2004 means are computed for persons convicted and for suspected offenders. Dividing these two gives the number of convictions as a percentage of the number of suspects. For some countries (Armenia, Austria, Belgium, Ireland, Luxembourg, Monaco, Scotland, Switzerland and the Ukraine) either the number of persons convicted or the number of suspects (or both) were missing. They do not appear in the table. Also three other countries were left out: Malta (most data missing), Turkey (apparent inconsistencies in the data) and the USA (only partial coverage of conviction data). Trends were determined for those countries that had both data for the 95/97 Sixth survey and for the 03/04 Ninth survey.

Again, it must be emphasized that one must be very careful to put too much weight on the individual country figures. Also in this table some of the figures are hard to understand and could well be influenced by artificial causes like statistical counting rules or definition differences between the police level (suspects) and the court level (convictions). Having said that, the table shows clearly that in most countries many suspected offenders will not be convicted, with the exception of the Eastern European countries. There is no obvious trend nor is there much difference between total crime and the individual crime types, although the percentage of convictions is a little higher for robbery.

Persons prosecuted

In Table 5.2 the number of persons prosecuted[1] is presented, both for total offences and for robbery, theft and drugs offences. For France, Austria and Switzerland no data were available. For Spain only data for individual offences were available, however the data for robbery and theft were statistical outliers and are not given here.

---

[1] in the wording of the CTS questionnaire: alleged offenders prosecuted by means of an official charge, initiated by the public prosecutor or the law enforcement agency responsible for prosecution.

Table 5.2. Persons prosecuted per 100,000, mean 1995-2004

	Total	Trend (total)[1]	Robbery	Theft	Drugs
Albania	236.8	...	3.6	51.9	9.7
Armenia	205.3	=	2.4	46.2	15.3
Azerbaijan	88.9	+	0.2	3.3	0.7
Belarus	678.2	+	34.6	239.7	21.4
Belgium	4.761.9	...	61.5	376.5	344.0
Bulgaria	409.7	+	16.2	183.5	4.5
Canada	1.717.4	=	24.3	200.1	105.8
Croatia	1.118.9	+	14.8	241.1	79.9
Cyprus	200.8	...	2.2	65.0	31.9
Czech Republic	1.010.2	-	25.6	268.4	18.3
Denmark	580.9	...	12.3	221.3	9.0
England & Wales	2.678.0	+	23.3	247.3	96.4
Estonia	811.4	+	85.7	382.2	22.2
Finland	2.782.5	+	10.4	655.0	101.8
Georgia	163.1	=	5.8	44.4	21.0
Germany	831.6	=	15.3	196.8	60.8
Greece	3.360.7	...	5.9	65.2	61.8
Holy See (Vatican City State)	1.133.3	...	...	...	...
Hungary	1.116.5	=	17.1	255.7	23.8
Iceland	768.7	+	5.5	129.7	115.5
Ireland	733.9	-	15.3	319.4	126.0
Italy	933.1	...	21.3	108.1	79.2
Kazakhstan	702.9	...	...	...	...
Kyrgyzstan	418.3	...	18.6	160.8	57.1
Latvia	719.2	+	37.2	279.4	18.2
Lithuania	754.2	...	52.3	327.2	18.4
Luxembourg	1.014.9	...	11.0	55.4	35.9
Macedonia, FYR	1.098.9	=	13.8	228.0	14.4
Malta	118.8	...	...	...	...
Moldova, Republic of	445.0	...	26.0	227.9	22.1
Monaco	2.886.0	...	0.0	343.8	1.6
Netherlands	1.445.8	+	34.2	345.1	80.1
Northern Ireland	1.065.9	...	14.3	158.0	43.7
Norway	510.2	...	4.8	164.3	113.4
Poland	1.225.5	...	...	...	...
Portugal	1.014.4	+	20.3	100.7	46.3
Romania	396.9	-	14.6	144.4	2.0
Russian Federation	1.002.5	...	49.7	418.1	89.0
Scotland	1.411.5	...	16.3	349.7	143.9
Slovakia	770.0	+	23.9	255.8	14.4
Slovenia	1.010.5	...	11.7	187.2	26.4
Spain	...	...	...	...	76.0
Sweden	1.580.9	=	9.8	221.8	177.0
Turkey	2.927.6	+	17.3	279.3	19.3
Ukraine	650.3	...	24.5	263.3	64.5
United States of America	5.214.9	...	...	...	...
N/W Europe, USA, Canada	1.806.6	...	18.4	260.0	111.0
Southern Europe	1.436.6	...	11.9	179.8	43.7
Central Europe	737.9	...	16.8	193.3	12.1
Eastern Europe	553.3	...	30.6	217.5	31.8

[1]
+   increase of more than 10% between 95/97 and 03/04
=   change between 95/97 and 03/04 less than 10%
-   decrease of more than 10% between 95/97 and 03/04

Clearly, the figures show a large variety. For total crime, with 200 or less persons prosecuted per 100,000 Armenia, Azerbaijan, Cyprus, Georgia and Malta are at the lower end of the range, in contrast with Belgium, England and Wales, Finland, Greece, Monaco, Turkey and the USA having more than 2,500 persons per 100,000 prosecuted. In general countries in North, West and South Europe (with also Canada and the USA included) have considerably higher values than the countries in Central and East Europe.

For 23 countries it was possible to observe trends between the Sixth and the Ninth survey. More than half of these (13 countries) showed an increase in the number of persons prosecuted, while in only three countries a decrease was seen. However, for quite a few countries changes over the years reflect probably changes in the data definitions and collection methods rather than 'real' changes. This could be seen for example for some countries that replied with exactly the same number for prosecutions as for suspected offenders (or convicted offenders) for one survey and with other – possibly more meaningful – figures for the next survey.

For the three crime types there is a wide range of values also, but differently distributed from total crime. The differences between the groups of countries have for a large part disappeared for theft, and are completely changed for robbery.

Prosecution decisions: attrition in the prosecution process

Basically, in the prosecution process there are two main decisions to be made. Firstly, it must be decided if a prosecution against a suspected offender will be started[2] and secondly, if a person is prosecuted the decision must be made to bring him before a court or to end the prosecution in another way. Actually, the first decision is not always and not in every country made by the prosecuting authorities, but could well be made independently by the police. Both unconditional drops and sanctions imposed by the police are possible. However, regardless of who actually makes the decision there is some attrition here: there are suspected offenders who will not be prosecuted. The second decision – how to end a prosecution – typically belongs mainly or even exclusively to the domain of the prosecution authorities in almost all countries. The options available to the prosecutor vary considerably between countries, however. Besides bringing a case before a court with the intention of having a full court hearing – which is after all the 'normal' way to proceed with a case – technical drops (lack of evidence), policy drops (no public

[2] Technically in some countries a prosecution can be initiated even if there is no known offender. This could complicate the statistics of prosecutions when comparing with countries where this is not possible. However, through the wording of the questions in the UN Crime Trend Survey, where prosecutions *against persons* is asked for, this problem is circumvented.

interest in prosecuting further), conditional disposals (with or without admission of guilt), penal orders etcetera, could be among the options the prosecutor can choose from. However, the important point is here again that there is some attrition: there are persons prosecuted who will not be convicted in a court[3].

Both attritions are shown in Table 5.3. Due to the instability of the data over the years - as mentioned before when looking at persons prosecuted – for this table means were computed from one survey only, i.e. the last survey for which a country has data available. Also, data for prosecutions that were exactly equal to the number of suspected offenders or the number of convictions were ignored. But still some data in the table are difficult to understand or interpret, for example if the percentages shown are (much) higher than 100%. (See also Mayhew 2003, 110-111.)

The first column (Pros/Susp, the number of persons prosecuted as a percentage of the number of suspected offenders) shows the attrition process that takes place somewhere between the police and the prosecutor. Apart from some outliers generally speaking most suspected offenders will indeed be prosecuted. Also, there is not much difference between the groups of countries although Eastern European countries have less attrition than the other countries. More attrition is to be found with the prosecutor decision to go to court as can be seen in the second column (Conv/Pros, the number of persons convicted as a percentage of the number of persons prosecuted). Again, attrition is hardly present in Eastern European countries.

---

[3] Actually, there is also some attrition here that is not part of the prosecution process, i.e. acquittals. However, quantitatively this occurs only in a small number of cases.

Table 5.3. Attrition in the prosecuting process, means from last available survey

	Pros/Susp	Conv/Pros
Azerbaijan	90%	102%
Belarus	101%	91%
Belgium	...	7%
Bulgaria	82%	49%
Canada	94%	58%
Croatia	203%	32%
Cyprus	23%	65%
Czech Republic	79%	74%
England & Wales	87%	75%
Estonia	56%	80%
Finland	56%	98%
Georgia	103%	125%
Germany	30%	79%
Greece	118%	26%
Holy See (Vatican City State)	61%	49%
Hungary	84%	93%
Iceland	72%	101%
Ireland	58%	...
Italy	74%	43%
Kyrgyzstan	111%	83%
Latvia	85%	71%
Lithuania	...	78%
Luxembourg	...	100%
Macedonia, FYR	105%	34%
Malta	14%	...
Moldova, Republic of	116%	77%
Monaco	...	97%
Netherlands	77%	47%
Northern Ireland	98%	23%
Norway	18%	97%
Poland	86%	73%
Portugal	38%	66%
Romania	34%	109%
Russian Federation	90%	79%
Scotland	...	87%
Slovakia	75%	58%
Slovenia	37%	51%
Sweden	147%	39%
Turkey	...	47%
Ukraine	...	72%
United States of America	99%	...
N/W Europe, USA, Canada	76%	67%
Southern Europe	75%	51%
Central Europe	73%	76%
Eastern Europe	94%	86%

101

Figure 5.1 shows the same results in a slightly different way. For 31 countries both Pros/Susp and Conv/Pros are known. For these countries a ranking order was determined for both variables, giving values of 1 (the lowest percentage among the 31 countries, implying the highest attrition) to 31 (highest percentage, lowest attrition) resulting in the two-dimensional graph presented as Figure 5.1.
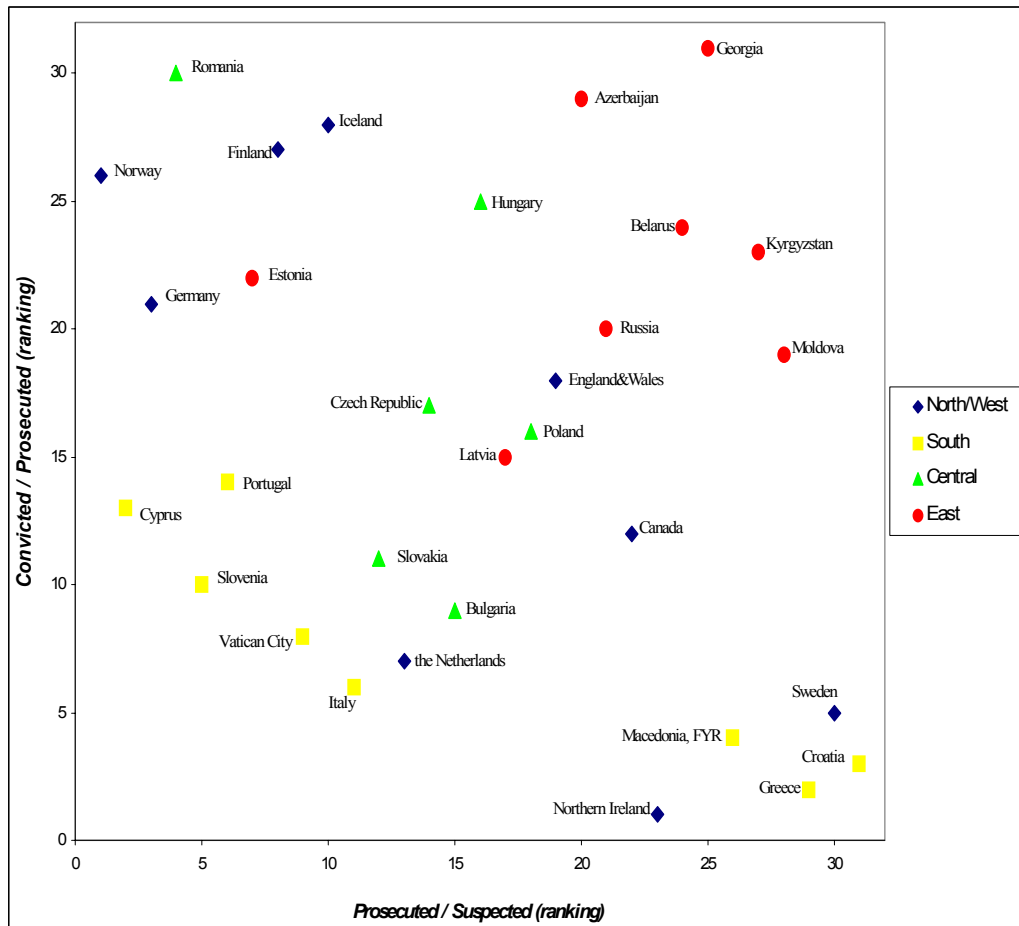
Figure 5.1. Attrition in the prosecution process

Countries positioned in the lower left part of the graph typically have a large overall attrition because they have a low ranking on both variables. Many Southern–European countries can be found here, but also the Netherlands, Slovakia and Bulgaria. Many Eastern European countries – having less attrition – are placed in the upper right part. For countries in the upper left part of the graph a prosecution is less likely, but once a person is prosecuted a conviction is more likely to follow. In other words the attrition takes place primarily in the first part of the prosecution process where the prosecutor (or the police) decides whether to start a prosecution or not. The opposite is true for countries in the lower right

part of the graph. Here the attrition is higher in the second part, where the prosecutor can decide to go to court or to end the case in another way.

Females and juveniles

In the Sixth through the Ninth Survey the number of females and juveniles prosecuted were asked for. A few countries were not able to provide these figures. France, Austria, Switzerland and Spain did not have any prosecution figures at all, as was mentioned before. For Armenia, Denmark, Luxembourg, Malta, Poland and Russia only figures for the total number of persons prosecuted were available, not for juveniles or females. Two other countries, although figures for juveniles and/or females were present, were left out of Table 5.4. In Bulgaria the percentages of juveniles (or females) per prosecuted persons were over 100% for some years, making the results hard to interpret. And in Vatican City the absolute numbers were so low that percentages were meaningless. For England & Wales the figures of juveniles were left out. There was a decrease from about 30% in the Sixth Survey to about 6% in the Ninth Survey in England & Wales, obviously showing either a change in recording practices or in the way juveniles are handled in the Criminal Justice system.

Table 5.4 shows the number of female and juvenile persons prosecuted as a percentage of the total number of persons prosecuted. The percentage is the mean percentage over all the years between 1995 and 2004 where data were available (with some, sporadically occurring outliers removed). For 17 out of the 37 countries data were available from the Sixth and the Ninth Survey for females, juveniles or both. For these countries a trend indicator is also given also.

Table 5.4. Persons prosecuted, percentages of females and juveniles, mean 1995-2004

	Females		Juveniles	
	Percentage	Trend[1]	Percentage	Trend[1]
Albania	6.8%	…	22.3%	…
Azerbaijan	…	…	14.8%	…
Belarus	…	…	9.5%	=
Belgium	18.9%	…	…	…
Canada	16.1%	=	18.8%	-
Croatia	6.6%	+	4.6%	…
Cyprus	8.7%	…	3.0%	…
Czech Republic	10.5%	+	9.2%	-
England & Wales	15.0%	+	…	…
Estonia	9.1%	+	14.9%	-
Finland	15.7%	=	7.6%	-
Georgia	3.2%	…	6.0%	…
Germany	18.0%	=	14.6%	-
Greece	11.0%	…	5.3%	…
Hungary	12.7%	…	8.5%	-
Iceland	14.3%	…	13.7%	…
Ireland	22.1%	…	10.1%	…
Italy	14.8%	…	3.5%	…
Kazakhstan	12.1%	…	8.0%	…
Kyrgyzstan	11.0%	…	7.2%	…
Latvia	11.2%	…	15.5%	+
Lithuania	8.8%	…	13.7%	…
Macedonia, FYR	3.8%	=	8.3%	-
Moldova, Republic of	…	…	13.7%	…
Monaco	22.0%	…	5.1%	…
Netherlands	12.3%	=	12.3%	=
Northern Ireland	12.2%	…	6.4%	…
Norway	12.7%	…	8.0%	…
Portugal	12.9%	-	1.6%	+
Romania	7.5%	=	10.9%	=
Scotland	14.7%	+	30.6%	-
Slovakia	7.3%	+	11.7%	-
Slovenia	12.4%	…	12.7%	…
Sweden	12.7%	…	16.3%	…
Turkey	6.3%	+	5.2%	…
Ukraine	16.9%	…	9.0%	…
United States of America	17.4%	…	7.0%	…
N/W Europe, USA, Canada	15.6%	...	13.2%	...
Southern Europe	10.9%	...	5.5%	...
Central Europe	8.9%	...	12.5%	...
Eastern Europe	10.3%	...	11.2%	...

[1]

+   increase of more than 10% between 95/97 and 03/04

=   change between 95/97 and 03/04 less than 10%

-       decrease of more than 10% between 95/97 and 03/04

In about two thirds of the countries 10% - 18% of the persons prosecuted are female, with a minimum of 3.2% (Georgia) and a maximum of 22.1% (Ireland). Clearly the percentage of females is higher in N/W Europe, USA and Canada. This is possibly due to more

shoplifting in these countries. The trend in females prosecuted tend to be upwards, at least in the majority of those countries where a trend could be established.

For juvenile offenders the figures are more spread out with a minimum of 1.6% (Portugal) and a maximum of 30.6% (Scotland). This could reflect the fact that the handling of juveniles in the criminal justice system and in particular the role of the prosecution service as regards to juveniles is not the same in every country. In South Europe the number of juveniles prosecuted is relatively low. Also, it seems that the trend is downwards in many countries.

It must be emphasized that in this chapter the number of juveniles prosecuted are related to the total number of persons prosecuted. Another way to look at this is to relate the number of juveniles prosecuted to the total juvenile population in a country. This is done in Chapter 6.

Prosecutors' workload

A first option to analyse the prosecutors' workload is to determine the number of prosecutions per prosecutor. This was done for 42 countries: for France and Spain data on prosecutions were missing, for Armenia and Norway the number of prosecutors was not known and for Austria and Switzerland both figures were missing. Also Vatican City was left out because the number of prosecutors was a statistical outlier.

Table 5.5. Workload: the number of persons prosecuted per prosecutor, mean 1995-2004

	Prosecuted per prosecutor		Prosecuted per prosecutor
Belgium	637.8	Croatia	126.9
Canada	180.1	Cyprus	40.6
Denmark	57.7	Greece	819.7
England & Wales	318.8	Italy	245.5
Finland	458.7	Macedonia, FYR	129.3
Germany	132.4	Malta	79.2
Iceland	77.1	Monaco	307.0
Ireland	450.6	Portugal	100.0
Luxembourg	205.0	Slovenia	97.1
Netherlands	398.8	Turkey	650.6
Northern Ireland	687.7		
Scotland	188.6	**Southern Europe**	**259.6**
Sweden	164.5		
United States of America	560.7		
		Azerbaijan	6.5
N/W Europe, USA, Canada	**322.8**	Belarus	34.4
		Estonia	72.3
		Georgia	6.6
Albania	19.7	Kazakhstan	40.3
Bulgaria	42.8	Kyrgyzstan	35.9
Czech Republic	110.6	Latvia	29.3
Hungary	84.5	Lithuania	32.6
Poland	84.2	Moldova, Republic of	24.7
Romania	43.9	Russian Federation	33.4
Slovakia	64.9	Ukraine	31.0
Central Europe	**64.4**	**Eastern Europe**	**31.5**

Measuring the workload directly however gives wildly varying and not very realistic results as was also found in (Mayhew 2003, 107), ranging from about 6 prosecutions per prosecutor in Azerbaijan and Georgia to over 600 in Belgium, Greece, Northern Ireland and Turkey. In order to interpret these workload figures better, the data are presented in a different way. The number of prosecutors per 100,000 are compared directly to the number of prosecutions per 100,000. The results are shown in Figures 5.2 (a) and 5.2(b), where Figure 5.2(b) is an enlargement of the lower-left corner of Figure 5.2(a), indicated by a dotted line.
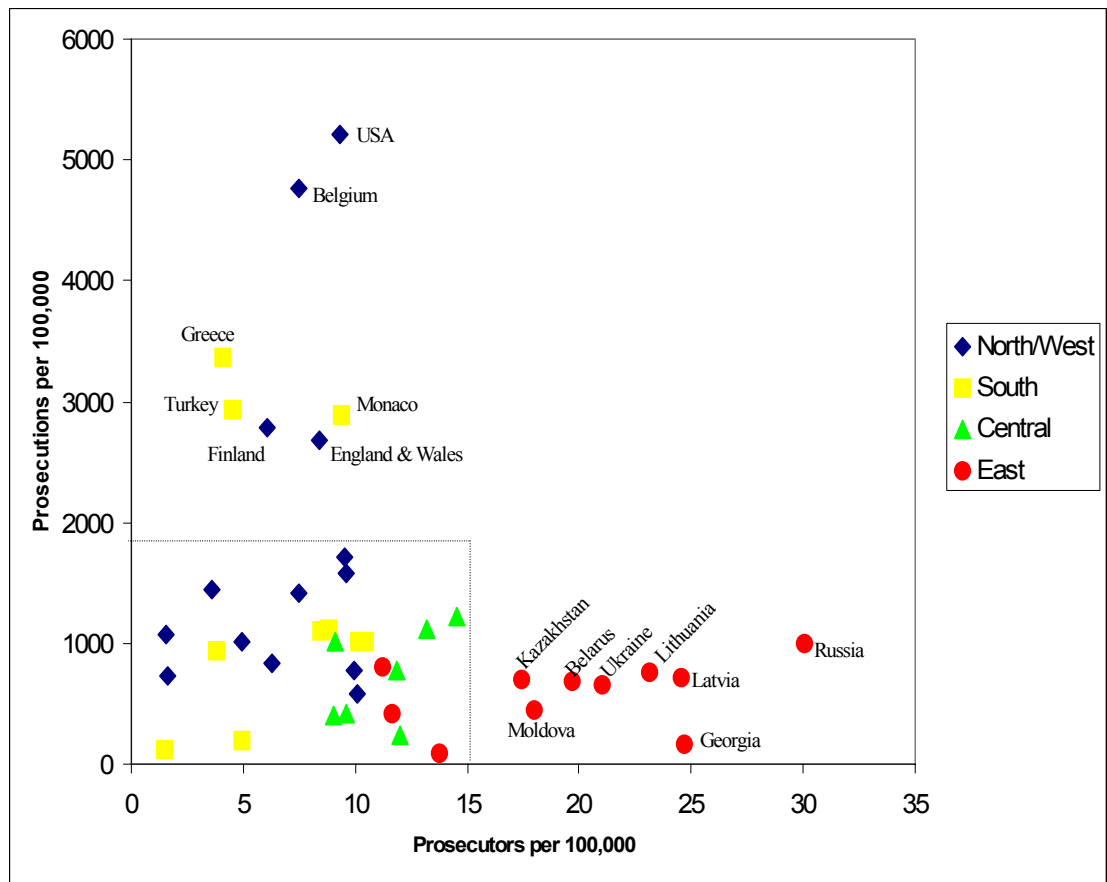
Figure 5.2(a). Workload of prosecutors

(For the area within the dotted lines see Figure 5.2(b).)

Where one would expect the countries to be positioned more or less around the diagonal - more prosecutors going hand in hand with more prosecutions - this is clearly not true at all.

Apparently most countries have less than 15 prosecutors per 100,000 with less than 1,800 prosecutions. But there is, as can be seen in Figure 5.2 (b) no clear pattern within this group of countries. Besides, there are some countries, all Eastern European, with less than 1,000 prosecutions but with more than 15 and up to about 30 prosecutors. On the other hand a few Southern European and North/West countries have many prosecutions (in the range from about 3,000 to 5,000) with relatively few prosecutors.
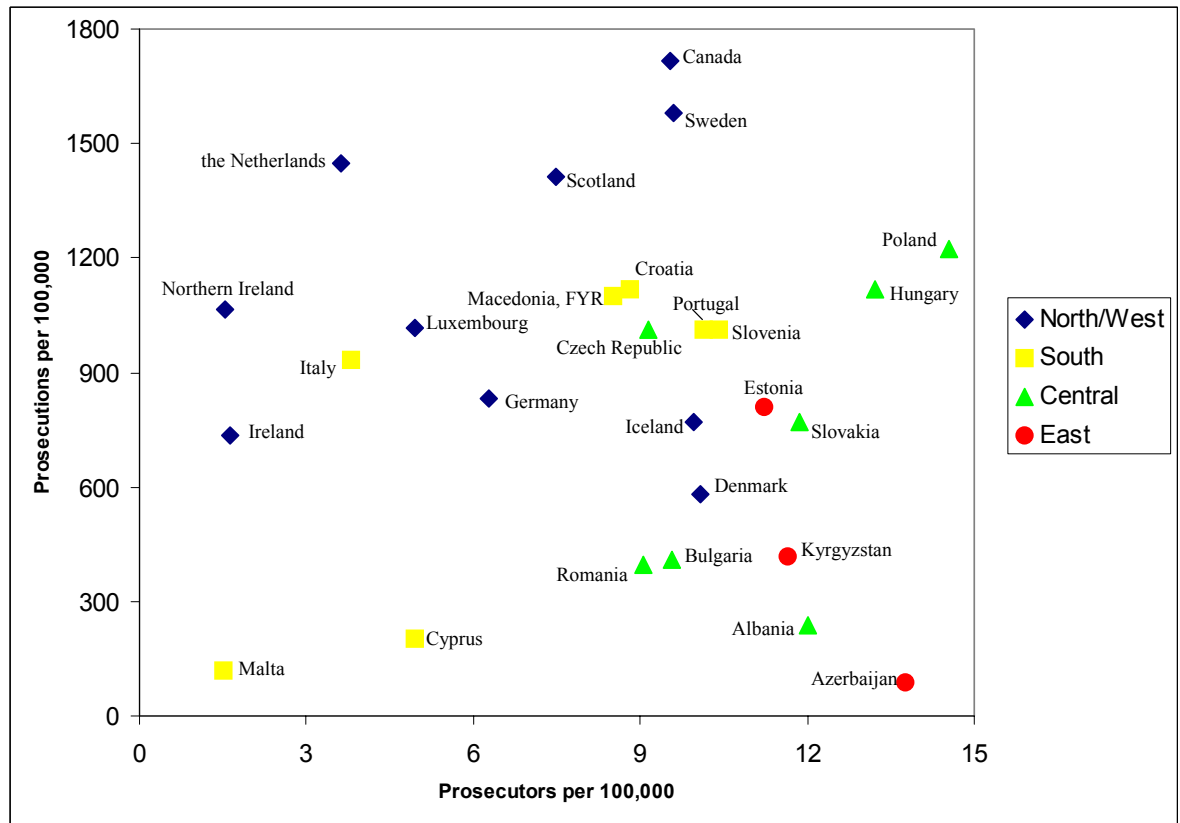
Figure 5.2(b). Workload of prosecutors (cont.)

Actually what these figures probably show is not the workload in the sense of 'productivity', but the great diversity in the way the prosecution is positioned within the criminal justice system and the way prosecution services are organised.

In order to determine the 'real' productivity of the prosecution other factors should also be taken into account. For example, the distribution of the input of cases over crime types could have an influence on the productivity: if the input for the prosecution consists of a relatively higher number of more serious offences (either because there are more serious offences in a country or because the police has the discretion to drop less serious cases) the productivity, if measured by simply counting cases, will be lower. Besides, the contribution of the supporting staff of a prosecutor should be taken into account. The more tasks a prosecutor can give to supporting personnel, the higher the productivity. Also, the workload of a prosecutor is highly dependent of the number of cases he brings to court (this being more time consuming than ending the case with – for example – a conditional disposal). However, comparing the number of prosecutors with the number of convictions in the same way as was done with Figures 5.2 (a) and 5.2 (b) gave roughly the same results as the productivity based

on the number of prosecutions. But there was also some support for the findings of (Jehle 2000) that a lower workload of the prosecution correlates with a higher proportion of cases brought before a court[4].

5.3   Courts

As was shown in the previous section on prosecution not every suspected offender will appear before and get a sentence from a penal court. There are various reasons for this, mostly fuelled by the need for efficiency. Such reasons comprise, for example special (non penal) courts for juvenile offenders, minor offences handled entirely outside the criminal justice system, the power given to the prosecutor (or even the police) to end a criminal procedure, etc.

In this section statistics will be presented on those offenders that do get a conviction and a sentence from a penal court.

Persons convicted

The number of persons convicted, i.e. found guilty by a penal court, per 100,000 inhabitants is presented in Table 5.6. No data were available for Austria and Ireland, Cyprus was left out because the data were an obvious outlier.

As with prosecutions (see Table 5.2) there is a large variety in the number of convictions, both for total offences and also for the three individual offences. For the countries in North/West Europe (and USA and Canada) and South Europe the number of convictions is about twice as high as the number of convictions in Central and Eastern Europe. This is even more pronounced with drug offences, but not with robbery and theft.

For 30 countries it was possible to determine a trend between the 95/97 Sixth Survey and the 03/04 Ninth Survey. In more than half of these (in 17 countries) the trend was upward. This could well be the consequence of the findings with persons prosecuted where also an upward trend was found (see Table 5.2).

---

[4] The correlation between prosecutions per 100,000 and the ratio of convictions to prosecutions was -0.47 (n=38).

Table 5.6. Persons convicted per 100,000, mean 1995-2004

	Total	Trend (total)[1]	Robbery	Theft	Drugs
Albania	130.6	...	3.2	15.8	6.1
Armenia	188.6	-	2.3	42.4	13.8
Azerbaijan	176.1	=	2.0	18.1	24.3
Belarus	595.9	+	24.6	260.8	19.1
Belgium	326.8	-	20.3	47.1	37.9
Bulgaria	306.2	+	12.1	155.3	2.9
Canada	1.052.7	-	14.6	126.5	58.7
Croatia	383.5	+	3.8	52.2	39.2
Czech Republic	596.9	+	14.1	157.2	8.2
Denmark	1.383.6	=	16.8	388.5	129.0
England & Wales	2.036.6	+	12.2	195.9	82.8
Estonia	679.2	+	50.1	107.3	15.2
Finland	2.713.9	+	9.7	644.8	99.7
France	900.7	...	0.8	157.3	44.2
Georgia	177.7	+	6.2	44.9	21.5
Germany	648.9	=	11.8	158.9	52.1
Greece	854.6	...	1.6	...	12.9
Holy See (Vatican City State)	566.7	...	...	...	...
Hungary	919.8	+	14.8	301.0	9.4
Iceland	744.9	...	5.4	112.3	244.2
Italy	443.3	=	12.1	72.7	35.3
Kazakhstan	...	...	21.7	...	...
Kyrgyzstan	355.5	...	16.0	118.3	42.5
Latvia	524.7	+	25.5	143.8	13.4
Lithuania	538.3	=	18.1	291.5	15.7
Luxembourg	1.010.7		21.7	16.0	66.6
Macedonia, FYR	383.8	+	3.8	70.8	6.9
Malta	...	...	...	11.4	18.0
Moldova, Republic of	413.4	+	20.8	209.4	19.8
Monaco	2.798.4	...	0.0	332.8	289.1
Netherlands	654.9	+	23.0	169.9	41.1
Northern Ireland	451.0	...	8.9	129.6	35.1
Norway	296.6	-	4.7	68.9	69.7
Poland	958.9	...	31.6	92.6	21.0
Portugal	498.8	+	15.2	49.8	32.1
Romania	402.1	-	13.0	175.1	1.5
Russian Federation	741.5	...	40.4	346.0	51.8
Scotland	1.170.4	-	13.1	304.9	124.9
Slovakia	450.1	+	12.0	140.0	7.2
Slovenia	329.5	+	4.1	57.0	10.3
Spain	274.0	...	88.8	...	16.9
Sweden	648.0	=	7.7	105.9	46.1
Switzerland	1.121.1	+	6.7	125.3	109.0
Turkey	1.492.6	...	11.4	159.3	14.4
Ukraine	447.4	=	21.4	112.3	50.4
United States of America	353.8		16.8	37.3	117.6
N/W Europe, USA, Canada	969.7	...	12.1	174.3	84.9
Southern Europe	802.5	...	17.6	100.8	47.5
Central Europe	537.8	...	14.4	148.2	8.0
Eastern Europe	439.8	...	20.8	154.1	26.1

[1]
+   increase of more than 10% between 95/97 and 03/04
=   change between 95/97 and 03/04 less than 10%
-     decrease of more than 10% between 95/97 and 03/04

Females and juveniles

In the Sixth through the Ninth Survey the numbers of females and juveniles convicted were asked for. Some countries were not able to provide these figures. Austria and Ireland did not provide any information on persons convicted at all. And for Kazakhstan and Malta only figures for the total number of persons convicted were available, not for juveniles or females. As was also done for females and juveniles among prosecuted persons Vatican City was left out because the absolute numbers were so low that percentages were meaningless. And again for England & Wales the figures of juveniles were left out. The same decrease from about 30% in the Sixth Survey to about 6% in the Ninth Survey was seen, again showing either a change in recording practices or in the way juveniles are handled in the criminal justice system.

Table 5.7 shows the number of female and juvenile persons convicted as a percentage of the total number of persons convicted. The percentage is the mean percentage over all the years between 1995 and 2004 where data were available (with some outliers removed). Compared to prosecution statistics on female and juvenile offenders, the data on convicted persons are more complete and have less outliers. For 29 out of the 44 countries (compared to 17 out of 37 countries for persons prosecuted) data were available from the Sixth and the Ninth Survey for females, juveniles or both. For these countries a trend indicator was also established.

Table 5.7. Persons convicted, percentages of females and juveniles, mean 1995-2004

	Females		Juveniles	
	Percentage	Trend[1]	Percentage	Trend[1]
Albania	5.0%	…	6.6%	…
Armenia	6.1%	…	4.9%	…
Azerbaijan	7.4%	+	2.7%	-
Belarus	14.8%	-	9.8%	-
Belgium	…	…	2.0%	…
Bulgaria	6.7%	=	9.2%	+
Canada	14.4%	=	19.7%	-
Croatia	8.7%	+	4.5%	-
Cyprus	13.4%	+	2.4%	-
Czech Republic	10.9%	+	7.8%	-
Denmark	16.0%	-	8.4%	=
England & Wales	15.8%	+	…	…
Estonia	8.1%	-	15.2%	-
Finland	15.7%	=	7.6%	-
France	9.6%	…	7.1%	…
Georgia	6.0%	+	5.5%	=
Germany	18.1%	=	11.7%	-
Greece	12.7%	…	6.3%	…
Hungary	11.5%	+	8.1%	-
Iceland	12.3%	…	5.4%	…
Italy	15.6%	-	1.5%	-
Kyrgyzstan	11.8%	…	6.4%	…
Latvia	8.5%	+	13.0%	+
Lithuania	10.9%	-	11.8%	=
Luxembourg	7.6%	…	…	…
Macedonia, FYR	5.6%	-	12.5%	-
Moldova, Republic of	7.9%	-	11.5%	+
Monaco	17.1%	…	5.4%	…
Netherlands	11.3%	=	8.2%	+
Northern Ireland	11.6%	…	8.6%	…
Norway	12.4%	…	7.4%	-
Poland	7.4%	…	20.2%	…
Portugal	8.4%	-	10.7%	+
Romania	11.0%	=	9.4%	-
Russian Federation	12.5%	…	11.6%	…
Scotland	14.7%	=	30.1%	-
Slovakia	7.5%	+	11.9%	-
Slovenia	11.1%	=	9.5%	-
Spain	6.7%	…	1.4%	…
Sweden	13.0%	+	13.5%	=
Switzerland	15.5%	=	13.8%	=
Turkey	6.4%	…	4.5%	…
Ukraine	14.2%	-	8.6%	+
United States of America	15.5%	…	…	…
N/W Europe, USA, Canada	13.6%	...	10.9%	...
Southern Europe	10.6%	...	5.9%	...
Central Europe	8.6%	...	10.5%	...
Eastern Europe	9.8%	...	9.2%	...

[1]
+   increase of more than 10% between 95/97 and 03/04
=   change between 95/97 and 03/04 less than 10%
-    decrease of more than 10% between 95/97 and 03/04

The percentages of female offenders convicted are not too different from those of female offenders prosecuted as shown in Table 5.4. Again, the figures for N/W Europe, USA and Canada are on average somewhat higher than for other countries. However, looking at the four different clusters of countries and comparing Tables 5.4 and 5.7 the percentages of females convicted are lower than the percentages of females prosecuted. An explanation could be that generally speaking the offences female offenders are suspected of are possibly less serious than those of male offenders. This could result in relatively more prosecutor decisions to end the case themselves instead of bringing it to court. There was no clear trend in the number of females convicted. An upward trend was found in 10 countries, a downward trend in 9 countries and in another 9 countries there was no trend. For 16 countries no trend could be established for females convicted.

Also with juveniles the differences between juveniles prosecuted and juveniles convicted are small. The percentage of juveniles convicted is lowest in South Europe as it was with juveniles prosecuted. Comparing Tables 5.4 and 5.7 we see the same phenomenon as with females: the percentage of juveniles convicted is slightly less than the percentage of juveniles prosecuted. Apparently prosecutors are more inclined to end the case outside the court, both for females and for juveniles. However, the motivation to do so could well be different: possibly in many countries prosecutors have more options (more ways to impose a kind of sanction or measure themselves) when dealing with juveniles.

In 17 of the 28 countries where a trend could be computed the trend was downwards, which is in agreement with the trend found in the percentage of juveniles prosecuted.

See Chapter 6 for an analysis of the number of juveniles convicted related to the total juvenile population.

Sentencing

In the UN Crime Trends Survey, but only up to the Seventh (99/00) Survey data on sentencing, or more precisely the number of adults sentenced, was asked for. Seven countries (Albania, Austria, Kazakhstan, Luxembourg, Malta, Monaco and Poland) did not provide sentencing data in the Sixth and Seventh survey. Two countries (Ireland and Turkey) did provide sentencing data, but not for the total number of sentences. Therefore these countries are left out of the findings in this section as were Cyprus and Vatican City where the figures were outliers. Logically, the number of adults sentenced should be somewhat lower than the number of convictions for two reasons: firstly the convictions cover also juvenile offenders and secondly in some countries a conviction without a sentence is possible (although not much used). Indeed in 27 of the 37 countries that provided figures for both convictions and adults sentenced the number of convictions divided by the number of adults sentenced was between 1.01

and 1.20. For England & Wales (1.33), Scotland (1.47) and Canada (1.29) this was even higher. France, Spain, Switzerland and the USA gave exactly the same figures for convictions and sentences whereas Belgium (0.33), Norway (0.98) and Sweden (0.71) had fewer convictions than sentences.

Since there is no information on sentencing available from the Eighth and Ninth Survey, the figures are not too different from those presented in Weitekamp (2003). The following sentences (imposed by a penal court for adult offenders) were covered by the survey: the *death penalty, corporal punishment*, *life imprisonment*, *deprivation of liberty*, i.e. basically imprisonment for a fixed period, *control in freedom*, such as probation orders, electronic monitoring etc., *warning or admonition*, including suspending or conditional sentences, *fines* and *community service orders*.

Only 8 countries reported on the death penalty in the Seventh Survey (for the years 1998 - 2000): Albania, Armenia, Azerbaijan, Belarus, Latvia, Russia, Turkey and Ukraine. Almost all of these reported less death penalties imposed compared to the Sixth Survey (1995 and 1997). Estonia, Georgia, Lithuania and the USA, which reported on the death penalty in the Sixth Survey, did not provide data for the years 1998 - 2000. In the case of the USA this was because this country did not provide any sentencing data at all in the Seventh Survey. Corporal punishment was not found in any of the countries covered here.

Table 5.8. Sentencing, mean 1995–2000 percentages of total adults sentenced; life imprisonment per 100,000

	Imprisonment	Control of freedom	Warnings	Fines	Community services	Adults receiving life imprisonment per 100,000 inh.
Armenia	49.0%	2.2%	0.2%	17.0%	0.3%	...
Azerbaijan	44.0%	0.5%	0.4%	4.3%	19.6%	0.23
Belarus	35.9%	8.4%	0.3%	14.1%	8.6%	0.17
Belgium	23.2%	...	...	113.8%	...	...
Bulgaria	70.1%	...	0.3%	22.2%	1.0%	0.13
Canada	33.8%	27.5%	3.3%	33.5%	...	0.06
Croatia	12.3%	68.6%	2.5%	15.8%	...	...
Czech Republic	25.1%	62.8%	62.2%	7.1%	5.8%	0.02
Denmark	...	...	25.7%	54.0%	1.4%	...
England & Wales	9.2%	8.0%	9.4%	69.0%	...	0.64
Estonia	26.1%	...	42.4%	28.4%	...	0.24
Finland	7.2%	...	13.4%	75.8%	3.6%	0.11
France	17.9%	7.7%	37.1%	33.3%	3.9%	0.05
Georgia	46.7%	31.9%	10.9%	4.9%	13.0%	0.07
Germany	7.5%	15.3%	...	77.2%	...	0.14
Greece	...	0.0%	...	4.7%	...	0.39
Hungary	32.4%	17.8%	2.2%	47.3%	2.3%	0.11
Iceland	16.6%	20.3%	4.0%	59.1%	1.2%	...
Italy	65.4%	49.6%	...	40.9%	...	0.04
Kyrgyzstan	63.4%	0.3%	...	7.3%	9.3%	...
Latvia	25.5%	49.7%	2.0%	17.0%	3.5%	0.08
Lithuania	41.7%	3.9%	47.1%	4.3%	47.0%	0.13
Macedonia, FYR	73.4%	...	2.2%	24.3%	...	...
Moldova, Republic of	18.1%	44.1%	34.0%	23.1%	5.5%	0.24
Netherlands	29.5%		24.2%	47.6%	18.0%	...
Northern Ireland	21.8%	9.7%	34.9%	27.0%	5.9%	0.74
Norway	42.5%	32.7%	1.1%	18.6%	4.8%	...
Portugal	14.4%	3.0%	16.5%	66.5%	0.0%	...
Romania	46.2%	16.7%	...	23.4%	0.4%	0.06
Russian Federation	34.3%	...	...	6.2%	5.4%	0.04
Scotland	20.5%	6.4%	12.5%	54.4%	5.9%	0.72
Slovakia	22.2%	67.2%	2.2%	6.3%	...	0.06
Slovenia	15.6%	...	77.6%	6.8%	...	...
Spain	61.0%	...	...	26.9%	0.0%	...
Sweden	15.7%	9.5%	15.0%	55.7%	2.0%	0.14
Switzerland	15.6%	...	50.8%	32.1%	2.1%	0.04
Ukraine	38.0%	32.3%	0.2%	14.7%	...	...
United States of America	69.9%	30.1%	...	20.5%	6.5%	1.15
N/W Europe, USA, Canada	23.6%	16.7%	19.3%	51.4%	5.0%	0.38
Southern Europe	40.3%	30.3%	24.7%	26.6%	...	...
Central Europe	39.2%	41.1%	16.7%	21.3%	2.4%	0.08
Eastern Europe	38.4%	19.2%	15.3%	12.8%	12.5%	0.15

The other sentences are shown in Table 5.8 as percentages of the total number of adults sentenced. Since combinations of sentences are possible the totals can add up to more than 100%. Or to less than 100%, due to missing information or other statistical artefacts. The life imprisonment sentences are given per 100,000 inhabitants. For the community services and the life imprisonments the means for Southern Europe are not computed because of lack of data[5].

---

[5] Only Portugal and Spain provided data on community service and Greece and Italy on life imprisonment.

Clearly, imprisonment or any other form of control of freedom are less used and fines more used in 'N/W Europe, USA and Canada' than in the other countries (although the USA is an exception and an outlier within the 'NW' cluster). Remarkably the number of life imprisonments is relatively high in the 'NW' countries. This is mainly due to the high number of life imprisonments in England & Wales, Northern Ireland, Scotland and the USA.

5.4   Summary

This chapter covers the part of the Criminal Justice system between the start of a prosecution and the sentencing of a convicted offender. Basically what can be seen here is diversion and attrition: diversion – from the 'normal' procedure where an offender is prosecuted, brought before a court, convicted and sentenced – leading to attrition, i.e. less suspected offenders in every step taken.

This attrition is not everywhere the same and is also dependent on the type of crime and the suspected offender. Attrition is hardly present in the Eastern European countries and it seems to be less for more serious crimes. Also, more attrition can be seen for juvenile and female offenders.

There is a large variety in the organisation and the function of the prosecution service and this is clearly reflected in the figures. As is obvious from Table 5.3 the two main decisions taken in the prosecution process, i.e. the decision to start a prosecution and the decision to bring an offender before a court are made completely differently across countries. And an even more striking example of the diversity in the prosecution process can be seen from Figures 5.2(a) and 5.2(b), showing the workload of prosecutors: if the prosecution process would have been organised in the same way in every country, one would expect the countries positioned more or less on the diagonal. However, this is far from the actual situation.

Both the number of persons prosecuted and persons convicted show an upward trend between 1995-1997 and 2003-2004. Also the proportion of females prosecuted is increasing. But the proportion of juveniles, prosecuted as well as convicted seems to be decreasing.

There is a clear difference in the kind of sentences given between the countries in North/West Europe (with Canada included) and the other countries: more fines are given and less imprisonment.

References

Jehle, J-M (2000). Prosecutions in Europe: varying structures, convergent trends. *European Journal of Criminal Policy and Research*, 8.1, 3-12.

Marshall, Ineke Haen (1998). Operation of the Criminal Justice System. In Kangaspunta, K., Joutsen, M. and Ollus N. (eds.): *Crime and Criminal Justice Systems in Europe and North America 1990-1994*. Helsinki: HEUNI.

Mayhew, Pat (2003). Operation of the Criminal Justice System. In Aromaa, K., Leppä, S., Nevala S. and Ollus N. (eds.): *Crime and Criminal Justice Systems in Europe and North America 1995-1997*. HEUNI publication Series No. 40. Helsinki: HEUNI, 84-149.

Tonry, Michael and David P. Farrington (2005). Punishment and Crime across Space and Time. In Tonry, M. and Farrington, D. (eds.): *Crime and Punishment in Western Countries 1980-1999*. Crime and Justice, vol. 33. Chicago.

Wade, Marianne (2006). The Power to Decide - Prosecutorial Control, Diversion and Punishment in European Criminal Justice Systems Today. In Jehle and Wade (eds.): *Coping with Overloaded Criminal Justice Systems*. Berlin – Heidelberg: Springer.

Weitekamp, Elmar G. M. (2003). Sanctions. In Aromaa, K., Leppä, S., Nevala, S. and Ollus, N. (eds.): *Crime and Criminal Justice Systems in Europe and North America 1995-1997*. HEUNI publication Series No. 40. Helsinki: HEUNI, 150-175.

6 Juvenile Justice and the United Nations Survey on Crime Trends and Criminal Justice Systems

Steven Malby

6.1 Introduction

This chapter examines data supplied by respondent States to the Seventh, Eighth and Ninth United Nations Survey on Crime Trends and Criminal Justice Systems (CTS) from a juvenile justice perspective. It starts by setting out differing conceptions of juvenile justice systems and attempts to provide a context within which figures relating to juvenile contact with the justice system may be interpreted. The paper then looks at data relating to formal contact of juveniles with the police and/or criminal justice system, prosecution and conviction of juveniles, and the detention of convicted juveniles. In order to allow comparability across countries, it does so using a measure of 'per 100,000 children'[1] and by the use of ratios to compare the justice system response to juveniles with that to adults. Central to this analysis is a careful examination of who constitutes a 'juvenile' in the countries of Europe and North America.

It should be emphasized that the majority of analysis contained within this paper is based on data supplied by respondent States to the CTS Questionnaire. As such, where gaps in the analysis exist, this is due to a lack of response from States to the CTS Questionnaire in a particular year, or to individual relevant questions. In places, additional information has been used to assist in interpretation of the raw CTS data. This includes under eighteen national population data and an additional data source for minimum ages of criminal responsibility. Where reference is made in this paper to data sources other than the CTS, this is clearly marked in the text.

6.2 Approaches to juvenile justice

The term 'juvenile justice system' signifies different realities and systems in different countries. The reasons for intervention, the ages taken into consideration, the institutions involved, the reaction, the objective of intervention and the structural organisation can all vary substantially between systems (Cappelaere et al., 2004). The juvenile justice system may even be engaged where a child has not been accused of having

---

[1] Child populations used in calculations for this chapter were obtained from UNICEF State of the World's Children Reports. See www.unicef.org/sowc/

committed a criminal offence. Children found to be 'at risk of delinquency' or in an 'irregular situation' often enter those juvenile justice systems that claim to be particularly concerned with the 'welfare' of the child. Indeed, it is the tension between a 'welfare approach' and a 'justice approach' that is largely responsible for differences between juvenile justice systems. In turn, the core of each approach derives from competing views of the competence and criminal responsibility of children.

Juvenile justice systems are concerned with children who are deemed to be 'in conflict with the law'. As a response to such juvenile delinquency, the welfare-based movement emphasizes State intervention as a form of assistance and protection. Children are not tried and punished as criminals but rather are dealt with in civil proceedings. Historically, the accompanying release from criminal capacity and responsibility for juvenile offenders, has enabled countries operating such systems to set a rather high *minimum age* of criminal responsibility as a matter of social policy. Offenders below such an age could be dealt with as 'troubled' children in need of a range of welfare-based services, whilst those above the minimum age could be tried in regular criminal courts.

More recently, trends in juvenile justice have tended to shift towards a justice-oriented approach, emphasizing fair trial rights and punishment proportionate to the acts committed and the extent to which a child is responsible for them. The minimum age of criminal responsibility in justice-based systems is usually lower than that for welfare-based systems and represents the age at which children are assumed to have the necessary attributes to bear moral and criminal responsibility.

In addition to cross-national influences in the development of individual country juvenile justice systems, the question of who is a child and the appropriate State response to children who commit crimes has also received formal attention at the international level. Detailed international standards set out the need to develop a distinct system for juvenile justice and provide guidance as to what such a system should look like[2]. In

---

[2] The most important of these are: United Nations Convention on the Rights of the Child (GA Resolution 44/25 of 20 November 1989); United Nations Guidelines for the Prevention of Juvenile Delinquency (GA Resolution 45/112 of 14 December 1990); United Nations Standard Minimum Rules for the Administration of Juvenile Justice (GA Resolution 40/33 of 29 November 1985); United Nations Rules for the Protection of Juveniles Deprived of their Liberty (GA Resolution 45/113 of 14 December 1990); United Nations Standard Minimum Rules for Non-Custodial Measures (GA Resolution 45/110 of 14 December 1990); United Nations Guidelines for Action on Children in the Criminal Justice System (ECOSOC Resolution 1997/30 of 21 July 1997); United Nations Basic Principles on the use of Restorative Justice Programmes in Criminal Matters (ECOSOC Resolution 2002/12 of 24 July 2002); and the United Nations Guidelines on Justice in Matters involving Child Victims and Witnesses of Crime (ECOSOC Resolution 2005/20 of 22 July 2005). The United Nations Committee on the Rights of the Child summarises international standards on juvenile justice as: "the adoption of a child-oriented system, that recognizes the child as a subject of fundamental rights and freedoms and stresses the need for all

addition to guiding principles, the international standards include detailed provisions on procedural guarantees, rights to fair trial, appropriate dispositions, and the establishment of a minimum age of criminal responsibility. In essence, the international standards emphasize that juvenile justice should represent a comprehensive framework of social justice for all juveniles that contributes, at the same time, to the protection of the young and the maintenance of a peaceful order in society[3].

In order to assist States in developing and implementing such a system, the United Nations Children's Fund, together with the United Nations Office on Drugs and Crime have developed fifteen global indicators for juvenile justice. These indicators are based on, and designed to aid assessment of compliance with, the relevant international standards (UNODC/UNICEF 2007). The fifteen indicators include both quantitative indicators, such as *"the number of children in detention per 100,000 child population"* and *"number of children arrested during a 12 month period per 100,000 child population"*, together with qualitative indicators, such as *"the existence of a national plan for the prevention of conflict with the law amongst children"*. Together, the fifteen indicators are designed for use at the country level, with the possibility of regional or global comparisons through the standardised measurement of indicator values. By assisting States to increase the amount of available information on children in conflict with the law, the indicators aim to contribute to the protection of such children and to ensure that their treatment is in line with their best interests.

6.3   Juvenile justice and the United Nations crime trends survey

The CTS, whilst not a specialised survey for children in conflict with the law, nonetheless requests a certain amount of information about juveniles. Table 6.1 shows where CTS questions include disaggregation by age:

---

actions concerning children to be guided by the best interests of the child as a primary consideration" (United Nations Committee on the Rights of the Child. Report of the ninth session, May-June 1995. UN Doc. CRC/C/43, Annex VII, 64.)

[3] United Nations Standard Minimum Rules for the Administration of Juvenile Justice (Beijing Rules), 1985, Article 1(4).

Table 6.1. Disaggregation by age in the CTS

Question	Questionnaire Numbers		
	7th CTS	8th CTS	9th CTS
Number of juveniles brought into formal contact with the criminal justice system	4.6 – All juveniles 4.7 – Female juveniles 4.8 – Male juveniles	4.6 – All juveniles 4.7 – Female juveniles 4.8 – Male juveniles	4.6 – All juveniles 4.7 – Female juveniles 4.8 – Male juveniles
Number of juveniles prosecuted	7.6 – All juveniles 7.7 – Female juveniles 7.8 – Male juveniles	7.6 – All juveniles 7.7 – Female juveniles 7.8 – Male juveniles	7.6 – All juveniles 7.7 – Female juveniles 7.8 – Male juveniles
Number of juveniles convicted in the criminal courts	12.6 – All juveniles 12.7 – Female juveniles 12.8 – Male juveniles	11.6 – All juveniles 11.7 – Female juveniles 11.8 – Male juveniles	11.6 – All juveniles 11.7 – Female juveniles 11.8 – Male juveniles
Number of juvenile convicted prisoners	21.6 – All juveniles 21.7 – Female juveniles 21.8 – Male juveniles	16.6 – All juveniles 16.7 – Female juveniles 16.8 – Male juveniles	16.6 – All juveniles 16.7 – Female juveniles 16.8 – Male juveniles
Number of juveniles on probation	19.3 – All juveniles	18.3 – All juveniles	18.3 – All juveniles
Number of juveniles on parole	20.3 – All juveniles	19.3 – All juveniles	19.3 – All juveniles

In addition, the CTS includes questions on the number of juvenile prisons, penal institutions or correctional institutions, the number of places (beds) available in such institutions, and the total staff of juvenile prisons.

As a cross-national survey, the CTS is designed to encompass a range of national legal and criminal justice systems. In light of the competing conceptual approaches to juvenile delinquency previously outlined, the survey faces a particular challenge in this respect when it comes to juvenile justice. Indeed, the major difficulty faced by the survey is the fact that national juvenile justice systems in practice operate along a *continuum*, with a purely welfare-based approach at one end, a justice-oriented approach at the other, and a mixture of hybrids in between the two. As a result, children who have committed an act that would be dealt with clearly in a criminal context in one country may, in another country, be treated by a civil commission, children's panel or welfare body, despite the fact that the act (such as minor theft for example) is identical. The former will be captured by the CTS, whereas the latter, not being viewed by the country as a matter of criminal concern, may be excluded.

The CTS does not provide detailed guidance to respondents as to how this issue should be resolved. The language used by the CTS is that of the criminal justice system (rather than a welfare system) and juveniles are included as a category of disaggregation in a survey otherwise oriented towards crimes committed by adults. As such, it is left to respondent States to identify those juveniles who are *"brought into formal contact with the criminal justice system"* and *"convicted in a criminal court"* within the confines of their own systems. In so far as the majority of States are moving away from a pure welfare-based approach, it is likely that, for the most part, juvenile delinquents will be dealt with by a system

that falls within that envisaged by the CTS. The possibility remains, however, that the language of the CTS does function to exclude counting of children who have committed 'criminal' acts but are not dealt with by the national mainstream criminal justice system.

Although the CTS is arguably restricted by its use of criminal justice language, it nonetheless does not impose a definition of 'adult' or 'juvenile'. Whilst international standards on juvenile justice apply to persons aged less than 18 years, it is the case that national juvenile justice systems contain a range of age distinctions, each of which may apply at different stages. States may define, for example, not only an age of criminal responsibility, but also an age of criminal majority (the age at which a person will be prosecuted before a criminal court for adults), and an age of institutional majority (the age at which persons may be deprived of liberty). As a result, the CTS asks respondents to provide the definition of 'adult' and 'juvenile' used by the police, prosecution, court and penal systems in the particular respondent country. These definitions may then be used – as in this chapter – to interpret the raw numbers provided in the questionnaire data tables.

6.4   Juvenile justice in Europe and North America

The Europe and North America region is far from exempt from exhibiting a range of legal systems and approaches to juvenile justice. In particular, legal systems in former Socialist countries of Eastern Europe, South East Europe and Transcaucasia show an unmistakable legacy for minimum age of criminal responsibility provisions in the law of almost 35 countries. Criminal codes in such countries frequently set two minimum ages of criminal responsibility, being 14 years for specific 'serious crimes' and 16 years for other crimes[4]. In addition, provisions of former Socialist criminal codes and criminal procedure codes have influenced the creation of today's juvenile justice administrative procedures in the form of Commissions on Minors or Minors' Affairs. Such bodies may order the deprivation of liberty of children, including those below the age of formal criminal responsibility, in places such as special correctional schools, special educational institutions, and re-education institutions. As such, juvenile justice systems in former Socialist countries include 'hybrid' elements from both welfare and justice-oriented systems.

With respect to the CTS, one danger is, for example, that children deprived of liberty in special correctional schools may not be included in the count of *"Juvenile convicted prisoners"*. This may be strictly correct

---

[4] The 1960 Russian Soviet Federated Socialist Republic Criminal Code listed 'serious crimes' as: "homicide, intentionally inflicting bodily injuries causing an impairment of health, rape, assault with intent to rob, theft, robbery, malicious hooliganism, intentionally destroying or damaging state or social property or the personal property of citizens, with grave consequences, or intentionally committing actions that can cause a train wreck." See Cipriani 2008, 102-105.

vis-à-vis the questionnaire, in so far as these children have not been 'convicted' by a court forming part of the mainstream criminal justice system. However, such children have nonetheless been deprived of liberty by a decision of a competent (administrative) body and should arguably be captured by a survey such as the CTS. Such information may be provided by respondent States in the 'Comments Table' boxes included in the questionnaire, and in a number of instances, countries (Macedonia, FYR and Slovenia) have referred to this very point in their responses to the CTS. Despite such difficulties, and in the absence of detailed questions in the CTS on the nature of the juvenile justice system, the most sensible starting point for analysis is to assume that – subject to indications to the contrary – data is, in the most part, derived from a justice-based system with a clear minimum age of criminal responsibility. This holds true for the majority of countries in the Europe and North America region, with notable exceptions including the territory of Scotland (discussed below) and remaining hybrid legal systems of former Socialist countries.

The analysis carried out for this paper therefore began by examining the definitions and comments boxes relevant to juvenile justice that had been completed by respondent States in the Seventh to Ninth Surveys.

Table 6.2 sets out, so far as possible, the definition of 'juvenile' that respondent States supplied and appeared to apply to the figures provided during the period covered by the Seventh to Ninth Surveys. Exceptions to the general age range are also included in a separate column.

It should be noted that the ages stated in Table 6.2 represent an attempt only to summarise the information supplied by respondent States in answers to the Seventh to Ninth CTS questionnaires. The values in Table 6.2 are based on the most consistent value given for police, prosecution, courts and penal systems across responses to the Seventh, Eighth and Ninth Surveys. Definitions were frequently found to be inconsistent for the same country across the time period examined. Where these corresponded to a clear exception or change in the definition from previous years, these are recorded in the 'exceptions' column.

As a result, Table 6.2. should not be taken as authoritative as to the legal definition of 'juvenile' applied by each country. Rather, it is included solely for the purposes of interpretation of the quantitative figures supplied by respondent States and analysed in this paper. For the sake of completeness, the full definitions supplied by respondent States are included in Table (i) in the Annex to this paper.

The countries included in Table 6.2. are only those which responded to any of the Seventh to Ninth CTS questionnaires and whose responses included at least one answer relevant to juvenile justice (see Table 6.1. above). As a result Table 6.2 – and the remainder of the analysis in this paper – excludes the Holy See and Greece.

Table 6.2. Summary definitions of 'Juvenile' supplied by respondent states

Country	'Juvenile' Age Range Provided most Frequently in CTS Responses	Exceptions
Portugal	<16	Courts: 16-19, Prison: 16-20
Northern Ireland	10-16	
Ireland	7-17	
Switzerland	7-17	
England & Wales	10-17	Prosecution and Court 1999-2002: <21 Prison 1999-2000: <21
France	10-17	
Cyprus	10-17	Prison: <21
Turkey	11-17	Prison 1999-2000: 11-20
Netherlands	12-17	
Canada	12-17	
Monaco	13-17	
Germany	14-17	Prosecution and Court 1999-2000: <21 Prison 1999-2000: <21
Austria	14-17	
Macedonia, FYR	14-17	Prison does not include educational measures 2003-2004
Slovenia	14-17	Prison does not include educational measures 2001-2002
Bulgaria	14-17	
Latvia	14-17	
Hungary	14-17	
Estonia	14-17	1999-2000: 13-17
Croatia	14-17	
Lithuania	14-17	
Romania	14-17	
Moldova, Republic of	14-17	
Italy	14-17	
Albania	14-17	
Georgia	14-17	
Azerbaijan	14-17	
Finland	15-17	Prison: 15-20
Sweden	15-17	2003-2004: 15-20. Prosecution 15-20
Slovakia	15-17	
Norway	15-17	
Iceland	15-17	
Czech Republic	15-17	
Denmark	15-17	
Luxembourg	<18	
Spain	<18	Prison: 18-20
Malta	<18	
Kyrgyzstan	<18	

124

Table 6.2 continued		
Belgium	<18	
United States of America	<18	
Scotland	16-20	
Poland	<21	
Russian Federation	No definition supplied	
Belarus	No definition supplied	
Ukraine	No definition supplied	
Armenia	No definition supplied	
Kazakhstan	No definition supplied	

As can be seen, the definition of 'juvenile' as reported by respondent States, varies considerably across the countries of Europe and North America for which CTS data was available.

Only two countries – Portugal and Northern Ireland – stated that juveniles were defined as those under 16 years of age and only two counties – Scotland and Poland – stated that 'juveniles' included persons also greater than 18 years of age. Minimum ages ranged from 7 to 15 for the remaining countries with 14 years being the most common. Countries with legal systems inspired by former Socialist law appear to have reported the definition of juvenile using the minimum age of criminal responsibility for serious crimes rather than for other crimes. This is correct in so far as it reflects the complete age range of juveniles who may enter the juvenile justice system. The age ranges supplied by respondent States in response to the CTS questionnaire were cross-checked against an independent global study of minimum ages of criminal responsibility[5]. A high-level of agreement was found. The independent global study suggested that the minimum ages of criminal responsibility for those countries which did not supply a definition of 'juvenile' to the CTS was 14 years. It is therefore likely that the definition for these countries (Russian Federation, Belarus, Ukraine, Armenia, Kazakhstan) should be 14-17 years[6]. This would be in agreement with the fact that these countries are likely to have legal systems inspired by former Socialist law.

A number of countries (England and Wales, Germany, Sweden) changed the definition of juvenile applied during the Seventh to Ninth CTS period, leading to sharp changes in the numbers of juveniles reported (discussed below). One further point of note is the fact that some countries (Portugal, England and Wales, Germany, Finland, Sweden, Spain) applied

---

[5] See note 4.

[6] It should be noted, however, that the minimum age of criminal responsibility is not necessarily identical to the definition of 'juvenile' for the purposes of the CTS. As discussed above, the age range for the CTS 'juvenile' definition may vary across police, prosecution, court and prison systems.

a definition of <21, rather than <18, for juveniles detained in the prison system.

6.5 Rates of children in contact, prosecuted, convicted and detained

Three of the key UNICEF/UNODC juvenile justice indicators referred to above are *"Number of children arrested during a 12 month period per 100,000 child population"*, *"Percentage of children receiving a custodial sentence"* and *"Number of children in detention per 100,000 child population"*. Unfortunately, it is not possible to directly measure any of these using data from the CTS. The Seventh to Ninth CTS use the concept of 'initial formal contact' (which may include being suspected, arrested, or cautioned) rather that arrest figures *per se*, and request numbers of juvenile *convicted* prisoners rather than all juvenile prisoners. Nonetheless, four close measurements that are of interest may be easily taken from CTS data:

- Number of juveniles brought into initial formal contact with the police and/or criminal justice system per 100,000 children;

- Number of juveniles prosecuted per 100,000 children;

- Number of juveniles convicted in the criminal courts per 100,000 children; and

- Number of juvenile convicted prisoners per 100,000 children.

In the following tables, these rates are calculated using a definition of children as those persons under the age of 18 years, in line with the international definition contained in the Convention on the Rights of the Child. Population data is taken from UNICEF State of the World's Children reports (See www.unicef.org/sowc/). As shown in Table 6.2. above, four countries (Portugal, Northern Ireland, Scotland and Poland) stated that the upper limit to their definition of 'juvenile' was not 18 years. Other countries have also included persons above 18 years in particular years. Rates for these countries have still been calculated per 100,000 population under 18 years, however, they are highlighted in the tables below in recognition of the fact that the average rate calculate is not representative as a result. Data in the tables below includes an average value calculated across the Seventh to Ninth CTS responses.

Table 6.3. Juveniles brought into initial formal contact with the police and/or criminal justice system per 100,000 children[7]

Country	Definition of Juvenile	7th CTS		8th CTS		9th CTS		
		1999	2000	2001	2002	2003	2004	AVERAGE
East Europe								
Belarus	None	328	323	222	243	350	374	**307**
Moldova, Republic of	14-17	180	231	207	238	244	277	**230**
Russian Federation	None	527	533	538	452			**512**
Ukraine	None	244	266			248	247	**251**
North America								
Canada	12-17	1551	1596	1638	1621	1348	1271	**1504**
United States of America	<18	1813		1928	1828			**1856**
South East Europe								
Albania	14-17			48	50			**49**
Bulgaria	14-17	362	367			1150	1269	**787**
Croatia	14-17			457	462	411	392	**431**
Macedonia, FYR	14-17	1244	952					**1098**
Romania	14-17	316	325	344	324	296	336	**324**
Turkey	11-17							
Transcaucasian Countries								
Armenia	None							
Azerbaijan	14-17	21	20	16	14	13	17	**17**
Georgia	14-17					30	39	**35**
Kazakhstan	None							
Kyrgyzstan	<18	88	86			60	56	**73**
West Central Europe								
Austria	14-17			1356	1344			**1350**
Belgium	<18							
Cyprus	10-17	28	335			224	302	**222**
Czech Republic	15-17	833	854	456	387		323	**540**
Denmark	15-17	453	506			519	582	**515**
England & Wales	10-17	2001						**2001**
Estonia	14-17	566	617	692	327	324	518	**508**
Finland	15-17	3021	3604	3246	2949	2951	3162	**3156**
France	10-17					1332	1390	**1361**
Germany	14-17	2852	2835	2869	2807	2760	2765	**2815**

---

[7] Data for two countries in Table 6.3 are not representative: Sweden – Applied a definition of juveniles as age 15-20 years for the Ninth Survey as compared to 15-17 years for the Seventh and Eight Survey; and Poland – Applied a definition of juveniles as age <21 years for the whole time period.

Table 6.3 continued								
Hungary	14-17	544	539	699	706	536	618	**607**
Iceland	15-17	399	485			790		**558**
Ireland	7-17					967	989	**978**
Italy	14-17	166	144	145	162	188	310	**186**
Latvia	14-17	519	618	629	577	713	794	**642**
Lithuania	14-17	373	404	425	425	376	489	**415**
Luxembourg	<18			1339	1509			**1424**
Malta	<18			229	196	272	337	**258**
Monaco	13-17							
Netherlands	12-17	1406	1365	1363	1563	1664	1831	**1532**
Northern Ireland	10-16							
Norway	15-17	565	640	654				**620**
Poland	<21			594	595	548	620	**589**
Portugal	<16	264		240	237	248	231	**244**
Scotland	16-20							
Slovakia	15-17			713	736			**725**
Slovenia	14-17		755	1591	1566	588	543	**1009**
Spain	<18	345	369					**357**
Sweden	15-17	423	156	655	694	1221	1289	**740**
Switzerland	7-17							

Across the Europe and North America region, approximately 8% of countries show greater than 2,000 formal contacts per 100,000 children, 22% of countries show between 2,000 and 1,000 formal contacts, 30% between 1000 and 500, 30% between 500 and 100, and 10% below 100 formal contacts per 100,000 children. Those countries that seemingly bring the highest number of juveniles per 100,000 children into formal contact with the police and/or criminal justice system are found in West Central Europe or North America: Finland, Germany, England and Wales, United States of America, Netherlands, Canada, Luxembourg, France and Austria. With the exception of Canada, these countries do not, however, have high rates of imprisonment of convicted juveniles. This suggests that formal contact with the justice system for juveniles in these countries is likely to be predominantly for minor offences. It can also be expected that recording and reporting systems are efficient at capturing the majority of formal contact events in these countries. As might be expected, the results show only a loose correlation with the size of the age bracket corresponding to the national definition of 'juvenile'. Countries with lower minimum ages of criminal responsibility do tend to have more formal contacts per 100,000 children. The median number of formal contacts for countries defining a juvenile as aged under 14 years is 978 per 100,000, compared with a value of 415 for countries defining a juvenile as aged 14 to 17 years. However, countries with the smallest age bracket (15-17 years) also show more formal contacts than those with the former Socialist-inspired 14-17 years.

Countries in South East Europe, East Europe and Transcaucasia tend to have the lowest rates of formal contact per 100,000 children. Further research is required as to the reason for this. Possible reasons may include less crimes actually committed by juveniles, lower crime detection and suspect identification rates leading to lower formal contact rates, less efficient formal contact event recording, or the operation of alternative welfare-based juvenile justice systems. The last of these is unlikely at the level of formal contact with the police and/or criminal justice system in so far as police contact is normally the starting point for entry to either a welfare-based system or a formal criminal justice system.

Figure 6.1 below shows the results from Table 6.3 in the form of a map, as average sub-regional rates of juveniles brought into initial formal contact with the law, for North America, West and Central Europe, East Europe, and the Transcaucasian countries.
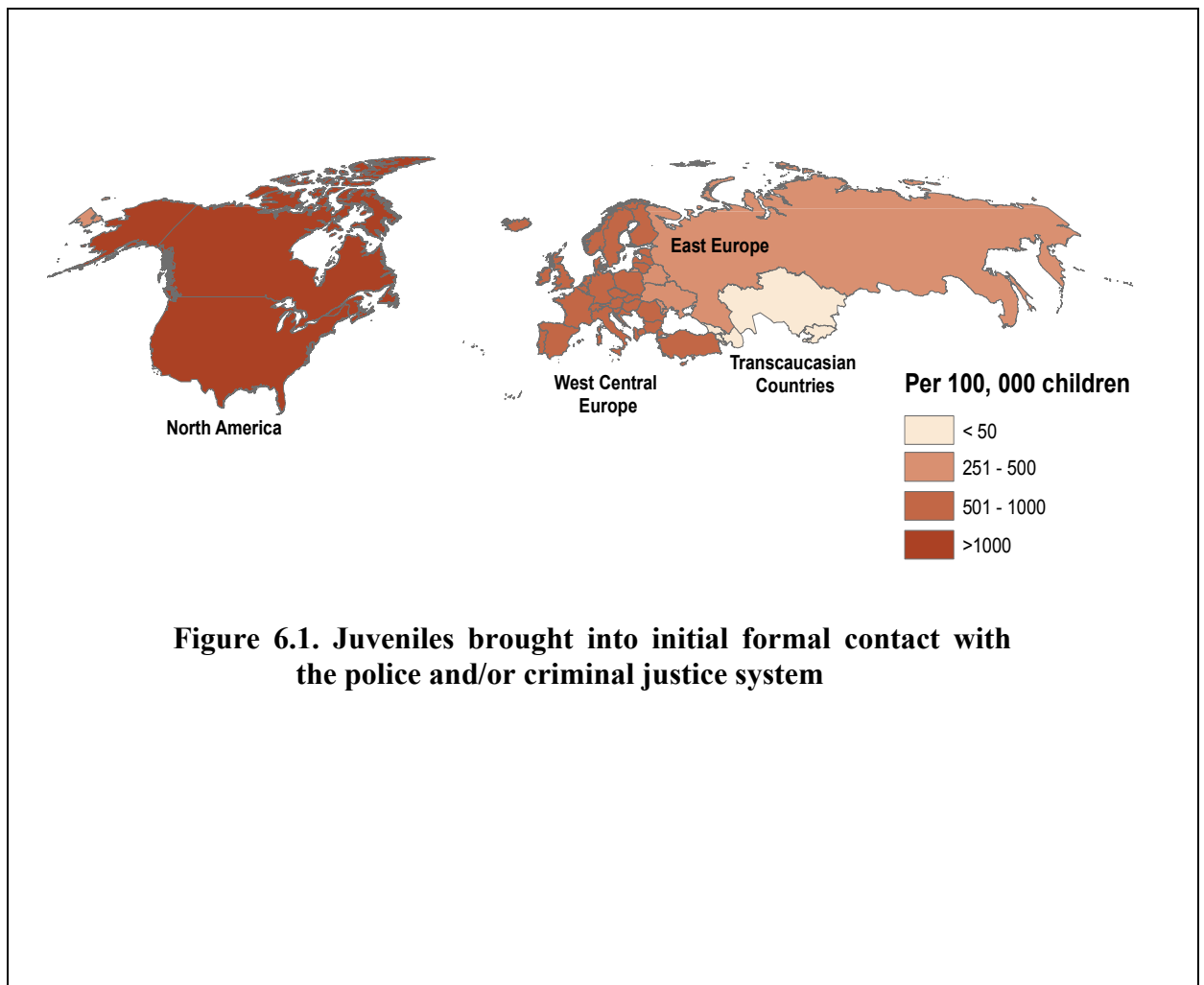
Figure 6.1. Juveniles brought into initial formal contact with the police and/or criminal justice system

Table 6.4. Juveniles prosecuted per 100,000 children[8]

Country	Definition of Juvenile	7th CTS		8th CTS		9th CTS		
		1999	2000	2001	2002	2003	2004	AVERAGE
East Europe								
Belarus	None	263	271	264	253	340	311	**284**
Moldova, Republic of	14-17						303	**303**
Russian Federation	None				453			**453**
Ukraine	None							
North America								
Canada	12-17	1425		1208	1209	1015		**1214**
United States of America	<18	1394						**1394**
South East Europe								
Albania	14-17					128	187	**157**
Bulgaria	14-17	229				464	482	**392**
Croatia	14-17	233	230	182	188	320	308	**244**
Macedonia, FYR	14-17	353	324			235	295	**302**
Romania	14-17	162	144	173	162	154	176	**162**
Turkey	11-17	397				483	539	**473**
Transcaucsian Countries								
Armenia	None							
Azerbaijan	14-17							
Georgia	14-17	28	32			31	40	**33**
Kazakhstan	None							
Kyrgyzstan	<18	88	86			60	56	**73**
West Central Europe								
Austria	14-17							
Belgium	<18							
Cyprus	10-17	16				406	538	**320**
Czech Republic	15-17	405	411	429	341	344	307	**373**
Denmark	15-17							

---

[8] Data for four countries in Table 6.4. is not representative: England and Wales – Applied a definition of juveniles as age <21 years for the Seventh and Eighth Survey as compared to 10-17 years for the Ninth Survey; Scotland – Applied a definition of juveniles as age 16-20 years for all Surveys; Sweden – Applied a definition of juveniles as age 15-20 years; and Germany – Applied a definition of juveniles as age <21 years for the Seventh Survey as compared to 14-17 years for the Eighth and Ninth Surveys.

Table 6.4 continued								
England & Wales	10-17	3022		3138	3127	1200	1166	**2331**
Estonia	14-17	566	617	692	327	324	518	**508**
Finland	15-17	717	1034	1091	871	916	997	**937**
France	10-17	27	27					**27**
Germany	14-17	820		473	496	488	514	**558**
Hungary	14-17	544	539	416	418	343	354	**435**
Iceland	15-17			674	459	194	347	**419**
Ireland	7-17					245	237	**241**
Italy	14-17			192	192			**192**
Latvia	14-17	519	618	629	577	713	794	**642**
Lithuania	14-17			425	425			**425**
Luxembourg	<18							
Malta	<18							
Monaco	13-17			571	771			**671**
Netherlands	12-17			815	804	876	950	**861**
Northern Ireland	10-16			249	250			**249**
Norway	15-17	94	108	127				**110**
Poland	<21							
Portugal	<16	80	110	50	43	129	117	**88**
Scotland	16-20			1805	1574	1640		**1673**
Slovakia	15-17	335	325	322	342	352	308	**331**
Slovenia	14-17	1011	861	323	303	1068	927	**749**
Spain	<18							
Sweden	15-20			1183	1227			**1205**
Switzerland	7-17							

As with the data for juveniles brought into formal contact with the criminal justice system, countries with the highest prosecution rate of juveniles are generally those in West Central Europe and North America. Results for England and Wales and Scotland should be treated with caution, however, as England and Wales included those persons aged 18, 19 and 20 in its juvenile statistics for 1999 to 2002. Similarly, in Scotland, which operates a 'children's panel' juvenile justice system, all figures include 18, 19 and 20 year olds. As stated above, the rate included in the table was calculated using the population of children *under eighteen*. Recalculation of the average rate of juveniles prosecuted using the population of persons under 21 for Scotland reduces the average rate from 1673 to 1423. Scotland still retains a high ratio in the table, however, due to the relatively higher number of crimes committed by 18, 19 and 20 year olds compared to under 18 year olds. This effect can be seen in the results for England and Wales, which changed its definition of 'juvenile' during the period of interest. The sharp drop from 2002 to 2003 (following re-definition of 'juvenile') shows that nearly two-thirds of the figures for the years 1999 to 2002 represented prosecutions of persons aged 18, 19 or 20

years. Indeed, were the average for England and Wales to have been calculated on the years 2003 and 2004 only (when the definition of 'juvenile' was changed to 10-17 years), England and Wales would have shown a significantly lower ratio, comparable to that of Sweden.

Overall, the results show, as might be predicted, lower numbers of juveniles prosecuted per 100,000 children than are brought into formal contact with the criminal justice system. No countries reliably show greater than 2,000 prosecuted per 100,000 children, 6% of countries show between 2,000 and 1,000 prosecuted, 19% between 1,000 and 500, 61% between 500 and 100, and 13% below 100 prosecuted per 100,000 children. The range is less widely distributed than for formal contact, with the majority of countries falling within the 100-500 prosecuted per 100,000 children range. A number of West Central European countries – notably Ireland, France and Norway – show significantly lower prosecution rates than formal contact rates. In the case of France, this may relate to the possible non-counting of *délits* or *contraventions* (with protection, assistance, surveillance or education measures as sanctions) as full criminal prosecutions of juveniles in French law. Whilst a greater number of countries lack prosecution data than formal contact data, the overall pattern appears similar, with East Europe, South East Europe and Transcaucasian countries showing generally lower prosecution rates than for West Central Europe and North America.

Table 6.5. Juveniles convicted per 100,000 children[9]

Country	Definition of Juvenile	7th CTS		8th CTS		9th CTS		
		1999	2000	2001	2002	2003	2004	AVERAGE
East Europe								
Belarus	None	246	236	216	216	300	271	**248**
Moldova, Republic of	14-17	119	144	157	187	191	169	**161**
Russian Federation	None	421	445	441	285			**398**
Ukraine	None	153	180			211	230	**194**

[9] Data for six countries in Table 6.5. is not representative: England and Wales – Applied a definition of juveniles as age <21 years for the Seventh and Eighth Survey as compared to 10-17 years for the Ninth Survey; Scotland – Applied a definition of juveniles as age 16-20 years for all Surveys; Poland – Applied a definition of juveniles as age <21 for all Surveys; Portugal – Applied a definition of juvenile as age 16-19 for all Surveys; Germany – Applied a definition of juveniles as age <21 years for the Seventh Survey as compared to 14-17 years for the Eighth and Ninth Surveys; and Sweden – Applied a definition of juveniles as age 15-20 years for the Ninth Survey as compared to 15-17 years for the Seventh and Eighth Surveys.

Table 6.5 continued

North America								
Canada	12-17	952		733	721	579		**746**
United States of America	<18							
South East Europe								
Albania	14-17		27	27	26			**26**
Bulgaria	14-17	153	216			405	385	**289**
Croatia	14-17	72	76			96	109	**88**
Macedonia,FYR	14-17	165	167			152	174	**165**
Romania	14-17	173	133	136	145	144	141	**145**
Turkey	11-17	215				181	189	**195**
Transcaucasian Countries								
Armenia	None	30	23					**27**
Azerbaijan	14-17	13	11	12	12	9	11	**11**
Georgia	14-17	28	29			38	54	**37**
Kazakhstan	None	83	102					**92**
Kyrgyzstan	<18					51	49	**50**
West Central Europe								
Austria	14-17							
Belgium	<18			28	23	36		**29**
Cyprus	10-17			381	423	393	500	**424**
Czech Republic	15-17	219	204	187	194	182	169	**192**
Denmark	15-17	497	552	92	90	519	582	**389**
England & Wales	10-17	2138		2153	2164	788	821	**1613**
Estonia	14-17	476	520	528	579	227	433	**460**
Finland	15-17	701	1011	1068	853	899	977	**918**
France	10-17	290	290			234	314	**282**
Germany	14-17	525		291	306	302	326	**350**
Hungary	14-17	365	366	349	368	343	354	**358**
Iceland	15-17	131	141	122	137	144	151	**138**
Ireland	7-17							
Italy	14-17	35	36	42	36	32	27	**35**
Latvia	14-17	328	337	341	361	386	384	**356**
Lithuania	14-17	250	316	304	311	281	220	**280**
Luxembourg	<18							
Malta	<18							
Monaco	13-17			700	686			**693**
Netherlands	12-17	230		262	271	285	327	**275**
Northern Ireland	10-16		141	127				**134**
Norway	15-17	84	77	114	83	90	76	**87**
Poland	<21			697		894	1381	**991**
Portugal	16-19	250	314	524		383	344	**363**

Table 6.5 continued								
Scotland	16-20			1425	1375	1389		**1396**
Slovakia	15-17	196	206	197	198	201	172	**195**
Slovenia	14-17	172	152	148	194	156	175	**166**
Spain	<18	17						**17**
Sweden	15-17	229	66	250	262	557	559	**321**
Switzerland	7-17	795		898	974	893	876	**887**

As with prosecution data, the countries at the top of the table are those which include (for at least some of the time period) persons aged 18, 19 and 20 years in the definition of 'juvenile'. Three other reasonably high-ranking countries (Portugal, Germany and Sweden) are also affected by definitions of 'juvenile' above the age of 18 years. For the remaining countries, none reliably show greater than 1,000 convicted juveniles per 100,000 children, 11% of countries show between 1,000 and 500 convicted, 58% between 500 and 100, and 31% below 100 convicted juveniles per 100,000 children. The general reduction in rates as between prosecution and conviction is unsurprising and represents the combined effect of discontinued prosecutions, acquittals, and diversion of juvenile away from the formal justice system. It is possible that countries operating juvenile justice systems inspired by former Socialist law generally show low conviction rates as a result of the operation of administrative 'Commissions on Minors' or similar bodies referred to previously. Whilst courts may refer juveniles to these Commissions however, it is generally the case that such administrative procedures are used for children below the age of criminal responsibility[10]. Further research is required to establish whether their existence does indeed exert an effect on conviction data reported to the CTS.

---

[10] See note 4.

Table 6.6. Number of juvenile convicted prisoners per 100,000 children[11]

Country	Definition of Juvenile	7th CTS		8th CTS		9th CTS		
		1999	2000	2001	2002	2003	2004	AVERAGE
East Europe								
Belarus	None	66.4	64.7	76.1	64.2	34.1	27.1	**55.4**
Moldova, Republic of	14-17	5.5	7.2	5.2	6.9	9.9	3.5	**6.4**
Russian Federation	None	61.8	50.9	53.5	60.0			**56.5**
Ukraine	None	28.6	29.4			24.1	26.6	**27.2**
North America								
Canada	12-17			39.8	37.5	39.1	19.2	**33.9**
United States of America	<18			13.3	23.7			**18.5**
South East Europe								
Albania	14-17			1.4	0.7			**1.0**
Bulgaria	14-17	3.0	3.3			8.7	10.2	**6.3**
Croatia	14-17			11.6	13.1	14.1	12.8	**12.9**
Macedonia, FYR	14-17	12.2	17.5			3.1	3.4	**9.0**
Romania	14-17	21.3	18.5	14.4	15.2	13.9	12.7	**16.0**
Turkey	11-17	18.8	11.6		1.6	1.5	0.6	**6.8**
Transcaucasian Countries								

[11] Data for eleven countries in Table 6.4. is not representative: Poland – Applied a definition of juveniles as age <21 for all Surveys; Scotland – Applied a definition of juveniles as age 16-20 years for all Surveys; England and Wales – Probably applied a definition of juveniles as age <21 years for the Seventh Survey as compared to 10-17 years for the Eight and Ninth Survey; Spain – Applied a definition of juveniles as age 18-20 years for all Surveys; Germany – Applied a definition of juveniles as age <21 years for the Seventh Survey as compared to 14-17 years for the Eighth and Ninth Surveys; Portugal – Applied a definition of juvenile as age 16-20 for all Surveys; Cyprus – Applied a definition of juvenile as age <21 for the Ninth Survey; Macedonia, FYR – Excluded educational measures in the Ninth Survey; Turkey – Applied a definition of juvenile as age <21 for the Seventh Surveys; Finland – Applied a definition of juvenile as age 15-20 for all Surveys; Sweden – Applied a definition of juveniles as age 15-20 years for the Ninth Survey as compared to 15-17 years for the Seventh and Eighth Surveys.

Table 6.6 continued								
Armenia	None					24.5	26.1	**25.3**
Azerbaijan	14-17	2.3	2.9	3.2	3.1	1.9	2.2	**2.6**
Georgia	14-17	3.5	2.0			1.5	1.7	**2.2**
Kazakhstan	None							
Kyrgyzstan	<18	16.2	15.5			10.6	9.4	**12.9**
West Central Europe								
Austria	14-17							
Belgium	<18							
Cyprus	<21					9.9	15.9	**12.9**
Czech Republic	15-17	6.1	5.3	1.8	1.9	4.8	5.3	**4.2**
Denmark	15-17	0.6	0.5	0.6	0.7	0.7	0.6	**0.6**
England & Wales	10-17	80.3	80.9	19.4	20.8	16.4	16.6	**39.1**
Estonia	14-17	20.2	25.1	22.7	18.8	16.7	20.1	**20.6**
Finland	15-20	4.6	5.9	6.0	4.6	9.1	8.7	**6.5**
France	10-17	1.2	1.2			1.6	2.1	**1.5**
Germany	14-17	45.6	47.6	5.5	5.5	5.4	5.1	**19.1**
Hungary	14-17	15.4	14.6	16.6	16.7	16.8	3.9	**14.0**
Iceland	15-17					0.0	0.0	**0.0**
Ireland	7-17					4.3	5.9	**5.1**
Italy	14-17			1.7	1.6	1.7	1.7	**1.7**
Latvia	14-17	36.4	31.1	27.4	27.0	26.5	14.0	**27.1**
Lithuania	14-17	22.2	7.8	21.2	26.8	14.7	16.1	**18.1**
Luxembourg	<18			3.1	4.0			**3.5**
Malta	<18			1.1		1.1	4.5	**2.2**
Monaco	13-17			0.0	0.0			**0.0**
Netherlands	12-17	14.2	14.4	14.7	14.1			**14.4**
Northern Ireland	10-16			3.1	3.3			**3.2**
Norway	15-17	0.4	0.3	0.4	0.3	0.3		**0.3**
Poland	<21			147.5	155.7	42.1	41.5	**96.7**
Portugal	16-20	12.0	18.3	22.7	22.5	23.8	12.2	**18.6**
Scotland	16-20			81.8	82.4	50.9	53.2	**67.1**
Slovakia	15-17	8.5	7.0	6.6	8.7	8.7	7.6	**7.8**

Table 6.6 continued								
Slovenia	14-17	6.6	7.7	7.0	7.2	7.9	9.9	**5.8**
Spain	18-20	20.2	19.0			22.0	20.6	**20.4**
Sweden	15-17		0.0	0.1	0.0	9.1	11.9	**4.2**
Switzerland	7-17			1.4	1.4			**1.4**

Results from the rate of convicted juveniles detained per 100,000 children show a markedly different picture to that for prosecuted and convicted juveniles. Whereas countries in Western Europe and North America tend to show higher rates for formal contact, prosecution and conviction, when countries that include 18, 19 and 20 year olds are excluded, the countries in the detention table that show greater numbers are those of Eastern European and the Transcaucasian countries: Russian Federation, Belarus, Ukraine, Latvia, Armenia and Estonia. Exceptionally, Canada also shows a relatively high rate of convicted detained juveniles, possibly due to its reported relatively low age limit for deprivation of liberty of 12 years.

Overall, the rates of deprivation of liberty for juveniles are, as would be expected, significantly lower than for formal contact, prosecution and conviction. Four countries (Denmark, Norway, Iceland and Monaco) show detention rates less than 1 in 100,000 children. On the other hand, seven countries show detention rates greater than 20 in 100,000 children. This range, together with the differences to the pattern shown in the prosecution and conviction tables, demonstrate the extent to which different juvenile justice systems tend to lead to different outcomes for children. The data suggests that juvenile justice systems of Eastern Europe and Transcaucasian countries tend to make significant use of deprivation of liberty as a sanction for juveniles in conflict with the law. This is in agreement with existing research on juvenile justice systems of the region (See for example UNICEF 2007). Finally, it should be noted that the interpretation of detention data for juveniles is complicated by the fact that, in many countries, persons convicted and subsequently detained whilst aged under eighteen years may continue to be held in juvenile detention facilities after the age of eighteen. This category of persons may become reported as juveniles for the purposes of the CTS (including where the respondent State provides a definition of juveniles as aged under eighteen years for the penal system), potentially inflating the number of convicted detained juveniles as a result.

6.6   Juveniles as a percentage of the total

Whilst, as above, it is instructive to consider juvenile rates of formal contact, prosecution, conviction and detention alone, a broader picture may be obtained through examination of the number of juveniles brought

into formal contact, prosecuted, convicted or detained as a percentage of all persons arrested, prosecuted, convicted or detained. A high rate of conviction of juveniles for instance may be symptomatic of a broader crime problem within a country and correspondingly high adult conviction rates. Alternatively, adult crime may be relatively low with a disproportionate number of offences committed by juveniles.

Table 6.7 provides figures for juveniles as a percentage of total persons brought into initial formal contact with the justice system, prosecuted, convicted, and detained. It also shows the percentage country population aged under eighteen years. As with the previous tables, the data suffers somewhat from different definitions of 'juvenile', particularly where 18, 19 and 20 year old persons were included as juveniles by respondent States. However, the calculation of percentages has the advantage of hopefully removing data anomalies caused by differences in reporting and recording mechanism within national justice systems. If a country fails to record a certain proportion of (for example) formal contacts then it might be hoped that this proportion is equivalent for juveniles and adults.

Data used for the calculations was the number of juveniles and the number of adults reported to the CTS at each particular stage (formal contact, prosecution, conviction and detention). The percentages below are averages of values from the Seventh to Ninth Surveys. In some instances, the total number of juveniles and adults prosecuted or convicted (for example) did not correspond to other total prosecution or conviction numbers provided elsewhere in the questionnaire response. As such, the percentages below should be interpreted with caution. Nonetheless, they may be taken to represent at least an approximate comparison of the justice system response to juveniles as compared to that of adults, based on States' own definitions and data for each category.

Table 6.7. Juveniles as a percentage of the total at different stages of the justice system[12]

Country	Juveniles as % of total persons brought into formal contact	Juveniles as % of total persons prosecuted	Juveniles as % of total persons convicted	Juveniles as % of total persons convicted and detained	% population under 18
Macedonia, FYR	30	7	11	4.0	27
Ireland	24	10	5	1.9	26
Cyprus	20	1	2	7.9	31
Germany	19	13	10	1.3	19
Norway	19	8	7	0.2	23
Canada	19	17	17	9.2	23
France	19	6	7	0.6	23

---

[12] As with Tables 6.3 to 6.6, countries where results may not be representative due to inclusion of ages above 18 years in the definition of 'juvenile' are highlighted in Table 6.7.

Netherlands	18	13	9	7.7	22
Slovakia	17	10	10	1.8	24
United States of America	17	7		0.9	26
Sweden	17	20	12	1.5	32
Latvia	16	16	14	3.1	21
Moldova, Republic of	16	18	12	1.0	32
Lithuania	14	14	12	1.7	24
Slovenia	13	11	8	2.9	19
Luxembourg	13			1.9	22
Estonia	12	12	13	1.9	21
Bulgaria	12	8	12	0.8	17
Belarus	12	9	9	2.8	23
Denmark	11		10	0.3	21
Croatia	11	6	4	6.9	22
Iceland	11	14	5	0	27
Austria	11				20
Russian Federation	11	11	12	2.5	22
Ukraine	10		9	1.7	22
Finland	10	6	6	2.6	22
Albania	9	21	7	0.8	35
Poland	9		17	5.3	23
Czech Republic	9	7	6	0.6	20
Hungary	9	8	8	2.2	20
Spain	9		1	3.2	18
Malta	8			1.0	24
Romania	7	11	9	2.1	22
Kyrgyzstan	7	7	6	1.8	40
Georgia	6	6	5	0.6	29
Azerbaijan	4		2	0.4	35
Italy	3	4	1	0.5	17
Portugal	2	2	13	4.0	20
Armenia			4	4.5	30
Belgium			0.4		21
England & Wales		15	14	8.2	23
Kazakhstan			7		31
Monaco		5	5	0	22
Northern Ireland		4	9	1.5	26
Scotland		29	28	12.1	22
Switzerland			14	0.7	20
Turkey		5	5	4.8	36
AVERAGE	**12.6**	**8.0**	**4.6**	**1.03**	**24.4**

Table 6.7 demonstrates that as juveniles progress through the juvenile justice system, they are – in general – treated increasingly different to adults. Whilst, on average, only 13% of persons brought into initial formal contact with the law are juveniles, this percentage drops to 8% for prosecution, to 5% for conviction and 1% for detention following conviction. This decreasing percentage is, in part, indicative of mechanisms such as diversion away from the criminal justice system prior to prosecution or appearance in court, and the increased use of alternative sentencing measures for children as compared to adults.

Excluding countries where data cannot be considered reliable due to changes in definitions, some seven countries – Ireland, Norway, Netherlands, Slovenia, Iceland, Czech Republic – show a clear decreasing juvenile percentage at each stage (initial formal contact, prosecution, conviction and detention). Others decrease as between initial formal contact and prosecution, but then show a greater percentage of juveniles convicted. These include FYR Macedonia, France, Bulgaria, and Russian Federation. The reason for this increase is unclear, but may be related to differences between methods of recording for prosecutors and courts. Exclusion of minor offences for example from prosecution statistics but not from court statistics would be expected to have the result of artificially depressing the percentage of juveniles prosecuted relative to convictions.

In respect of the percentage of detained persons who are juveniles, it is interesting to note that East European and Transcaucasian countries – such as Russian Federation, Kyrgyzstan, Azerbaijan, Georgia, and Armenia – with relatively high 'per 100,000 children' detention rates (see Table 6.6), show comparatively low percentages in Table 6.7. This indicates that detention rates for adults are also high in these countries and that the high detention rates of juveniles likely arise from a tendency to detain following conviction across the juvenile justice and adult criminal justice systems.

Juvenile initial formal contact percentages show a rather weak correlation with the percentage of the population aged under 18 (See Figure 6.2). This shows that high percentages of children brought into formal contact with the police are not simply due to a demographically young population.

140
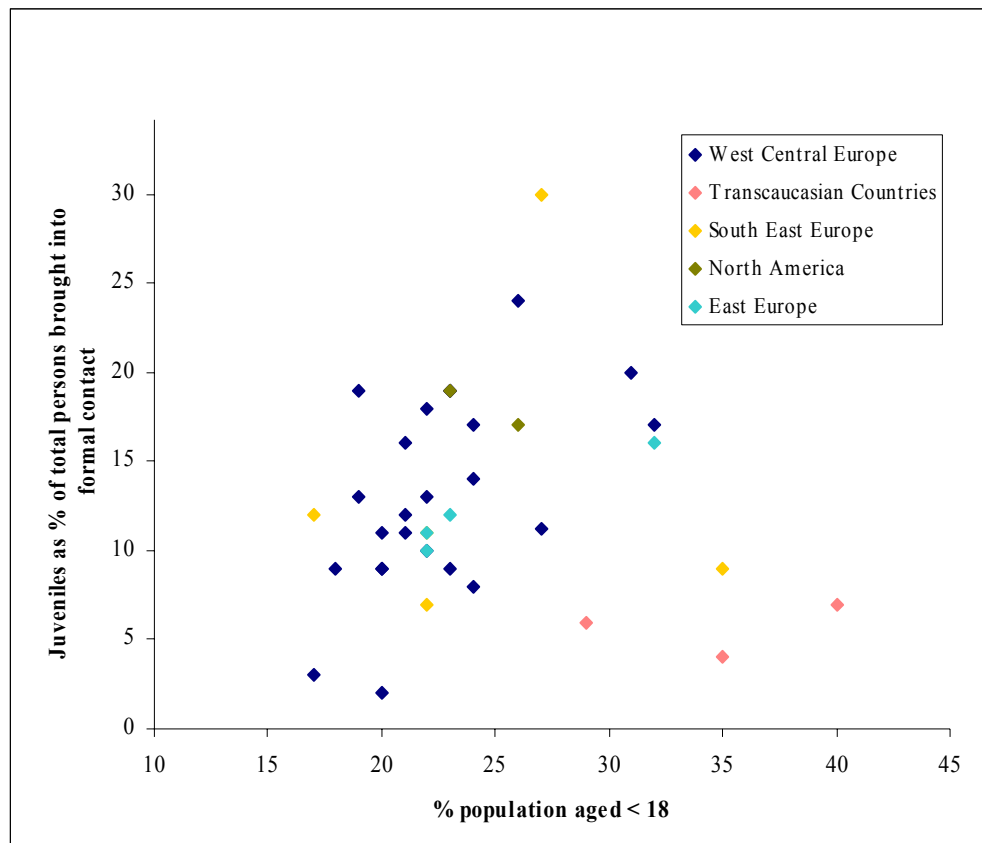
Figure 6.2. Juveniles as % of total persons brought into formal contact with the criminal justice system against % population aged < 18

When examined by sub-region, the most obvious exeptions are for the Transcaucasian countries. These all show a relatively low percentage of juveniles brought into formal initial contact with the law, as against a particularly young population.

Further examination of the relationship between juvenile and adult offending may be carried out through the use of a *ratio* of juvenile to adult formal contact rates. Indeed, whilst Table 6.7 shows that an average of 13% of persons brought into initial formal contact are juveniles, this figure appears quite different when relative juvenile and adult populations are taken into account. Comparison of the 'number of juveniles brought into initial formal contact per 100,000 child population' with the 'number of adults brought into initial formal contact per 100,000 adult population', shows that juveniles are brought into contact with the law at a rate, on average, of *half* of that for adults. Table 6.8 below shows this ratio for each country, divided by sub-region.

Table 6.8. Ratios of juvenile to adult rates of initial formal contact[13]

Country	Number of juveniles brought into initial formal contact per 100,000 juveniles	Number of adults brought into initial formal contact per 100,000 adults	Ratio of juveniles to adults
East Europe			
Belarus	307	717	0.43
Moldova, Republic of	230	582	0.40
Russian Federation	512	1254	0.41
Ukraine	251	614	0.41
North America			
Canada	1504	1962	0.77
United States of America	1856	3243	0.57
South East Europe			
Albania	49	258	0.19
Bulgaria	787	909	0.87
Croatia	431	942	0.46
Macedonia, FYR	1098	978	1.12
Romania	324	1214	0.27
Turkey			
Transcaucasian Countries			
Armenia			
Azerbaijan	17	241	0.07
Georgia	35	199	0.18
Kazakhstan			
Kyrgyzstan	73	641	0.11
West Central Europe			
Austria	1350	2807	0.48
Belgium			
Cyprus	222	534	0.42
Czech Republic	540	1345	0.40
Denmark	515	1143	0.45
England & Wales	2001		
Estonia	508	979	0.52
Finland	3156	7878	0.40
France	1361	1736	0.78
Germany	2815	2811	1.00
Hungary	607	1543	0.39
Iceland	558	1865	0.30
Ireland	978	1069	0.91
Italy	186	1358	0.14

[13] Data for two countries in Table 6.3 are not representative: Sweden – Applied a definition of juveniles as age 15-20 years for the Ninth Survey as compared to 15-17 years for the Seventh and Eight Survey; and Poland – Applied a definition of juveniles as age <21 years for the whole time period.

Table 6.8 continued			
Latvia	642	921	**0.70**
Lithuania	415	808	**0.51**
Luxembourg	1424	2737	**0.52**
Malta	258	929	**0.28**
Monaco			
Netherlands	1532	2007	**0.76**
Northern Ireland			
Norway	620	815	**0.76**
Poland	589	1707	**0.35**
Portugal	244	2794	**0.09**
Scotland			
Slovakia	725	1107	**0.65**
Slovenia	1009	1498	**0.67**
Spain	357	844	**0.42**
Sweden	740	1716	**0.43**
Switzerland			
AVERAGE	**790**	**1492**	**0.49**

Within Europe and North America, a large range of ratios is seen at formal contact level. Whilst Macedonia brings more than one juvenile into formal contact per adult formal contact, this drops to under half as many juveniles brought into formal contact per adult for 22 countries. Interestingly, the highest ratios are generally observed in the countries of West Central Europe and North America. This suggests that high 'per 100,000 children' rates seen in the previous tables are indicative of a relatively active criminal justice system response against children, rather than as a result of overall higher crime rates and/or detection and arrest. It may be that this is due, in turn, to increased numbers of juvenile formal contacts in these countries for petty crime, street crime, or antisocial behaviour.

6.7 Trends in juvenile justice in Europe and North America

The percentages and ratios presented in Tables 6.7 and 6.8 were calculated as averages across the years covered by the Seventh to Ninth Survey; 1999 to 2004. It is also possible, however, to examine trends in time of changes in the percentage of juveniles in the system at different points within individual countries. This section examines two countries, Azerbaijan and Republic of Moldova, as examples where the percentage of juveniles of the total number of persons brought into formal contact shows a particular trend. Examination of the individual juvenile and adult rates of formal contact is able to explain the underlying basis for these trends.

In Azerbaijan, the percentage of juveniles brought into initial formal contact is seen to decrease between 1999 and 2002, prior to rising again slightly in 2004. Examination of both juvenile and adult initial formal contact rates demonstrates that this is due both to a decrease in juvenile formal contacts and an increase in adult formal contacts. This is demonstrated in Figure 6.3 below:

Azerbaijan: Juveniles as % of Total Persons Brought into Formal Contact against Time

Azerbaijan: Comparison of Juvenile and Adult Initial Formal Contact Rates
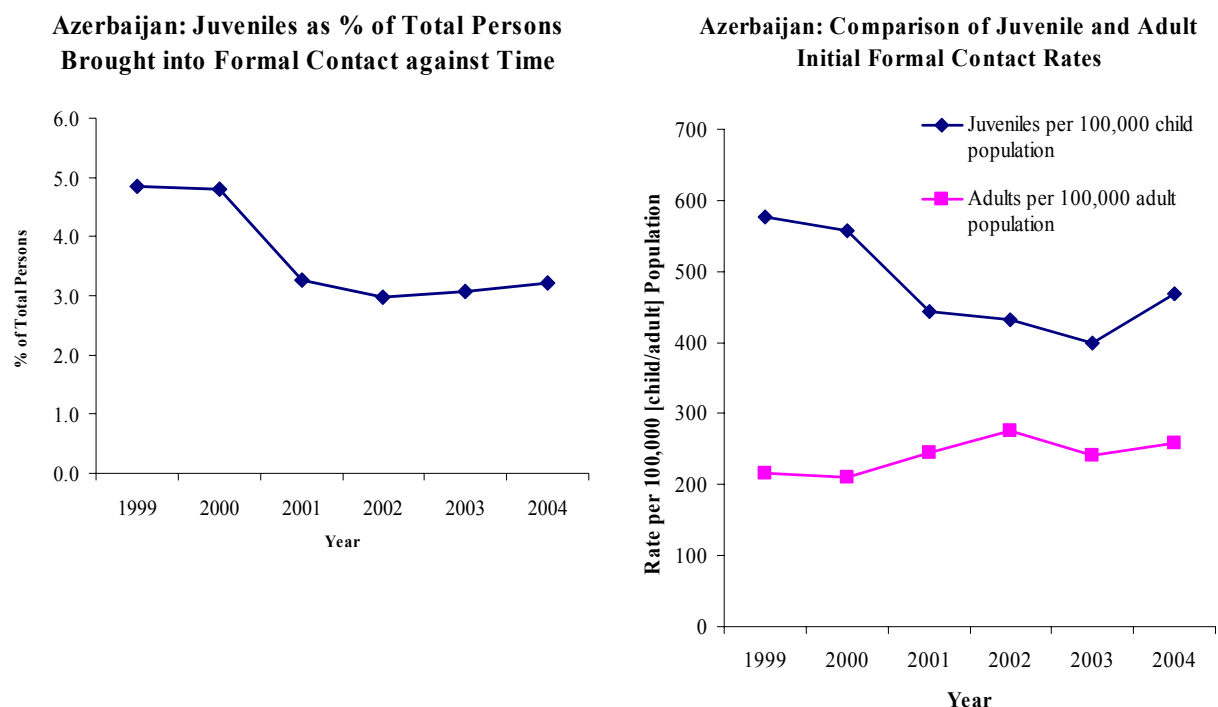
Figure 6.3. Following juvenile and adult formal contacts, 1999-2004 Azerbaijan

In other countries, an increase over time in the percentage of juveniles brought into formal contact can be seen to be due to a relatively slow but constant increase in juvenile formal contact rates assisted by a drop in adult formal contact rates, followed by a levelling out. This is the case for Moldova, shown in Figure 6.4 below.

Moldova: Juveniles as % of Total Persons Brought into Formal Contact against Time

Moldova: Comparison of Juvenile and Adult Initial Formal Contact Rates
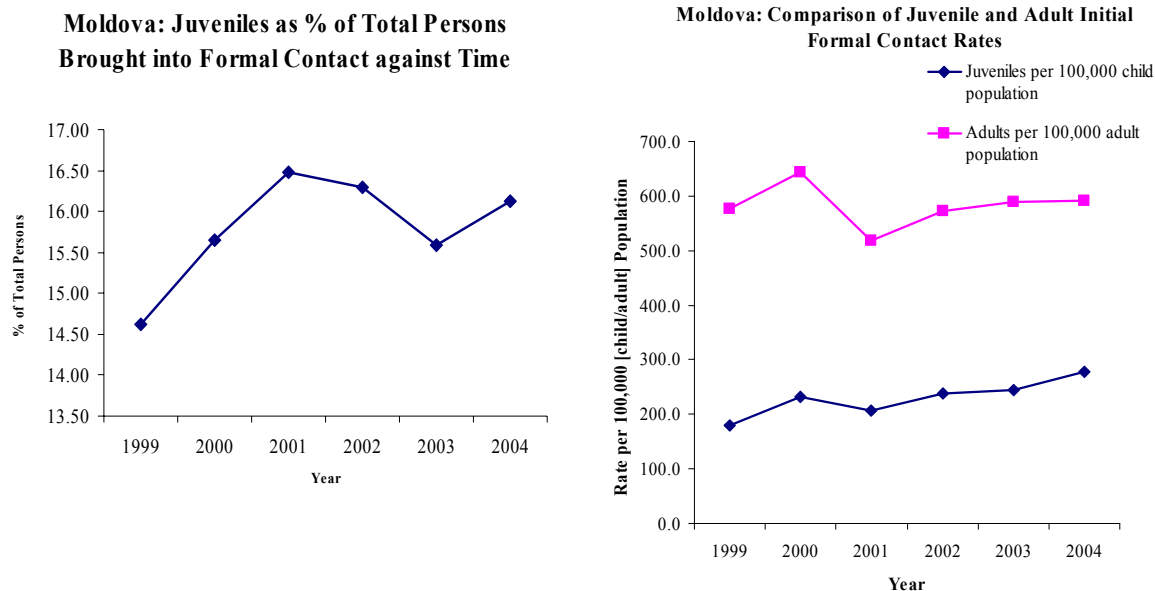
Figure 6.4. Following juvenile and adult formal contacts, 1999-2004 Moldova

An examination of percentages across those countries for which time series data is available shows (with a number of exceptions, including Azerbaijan and Moldova considered above) a surprisingly constant ratio across time. 79% of countries showed a standard deviation of <0.1 in the percentage of juveniles brought into initial formal contact, across the period 1999 to 2004. This increased to 84% for prosecution, 85% for conviction, and 89% for detention. Those countries that showed higher standard deviation were almost always those where the definition of 'juvenile' had been changed between surveys.

This suggests that, whilst a few countries in Europe and North America do show slight upward or downward trends in the percentage of juveniles, the predominant pattern is one of a relatively constant proportion of juveniles being brought into contact with the police or formal criminal justice system.

6.8   Conclusion

This paper has attempted to examine data supplied by States to the CTS concerning the numbers of juveniles brought into initial formal contact with the criminal justice system, prosecuted, convicted and detained following conviction. Such an analysis faces two major difficulties: differing definitions of who constitutes a 'juvenile' and differing system responses (such as welfare-based and justice-based systems), leading to different mechanisms of event recording. These difficulties make cross-national comparison of data extremely challenging. Nonetheless, a number of broad patterns have been identified. These include: (i) *prima facie* generally higher rates of formal contact, prosecution and conviction of juveniles in the countries of Western Europe and North America; (ii) higher rates of detention of convicted juveniles in Eastern Europe and Transcaucasian countries; (iii) differential response to juveniles as compared to adults as they progress through the justice system with decreasing numbers of children compared to adults at each stage of formal contact, prosecution, conviction and detention; and (iv) reasonably constant justice system response to juveniles as compared with adults across the time period 1999 to 2004.

References

Cappelaere, G., Grandjean, A., Naqvi,Y. (2004). *Children Deprived of Liberty: Rights and Realities*. Éditions Jeunesse et droit and Defence for Children International.

Cipriani, D. (2008). *Children's Rights and the Minimum Age of Criminal Responsibility: A Global Perspective.* Ph.D. dissertation, Vrije Universiteit Amsterdam.

Lost in the Justice System: Children in conflict with the law in Eastern Europe and Central Asia (2007). UNICEF Regional Office for CEE/CIS and UNICEF Innocenti Research Centre.

UNODC/UNICEF (2007). *Manual for the Measurement of Juvenile Justice Indicators*. UN Publication E.07.V7. New York

United Nations Standard Minimum Rules for the Administration of Juvenile Justice (Beijing Rules), 1985, Article 1(4).

Annex Table to Chapter 6.

Table (i) – Definitions of 'Juvenile' supplied by respondent states[14]

Country	Police			Prosecution			Courts			Penal		
	7th	8th	9th	7th	8th	9th	7th	8th	9th	7th	8th	9th
Portugal		<16	<16	<16	<16	<16	16-19	<16	16-19	16-20	16-20	16-20
Northern Ireland				10-16			10-16			10-16		
Ireland			7-17				<17			<17		<18
Switzerland							7-17					
England & Wales	<18			10-21	10-21	10-17	10-21	10-21	10-17		<18	<18
France			10-18	<18								
Cyprus		<16	<18	<18							<20	<21
Turkey	11-18		11-17			11-17	11-18	11-18	11-17	11-20	11-18	11-17
Netherlands	12-17	12-17		12-17	12-17		12-17	12-17		12-17	12-18	
Canada	12-17	12-17	12-17	12-17	12-18		12-17	12-17	12-17	12-17	12-17	12-17
Monaco				13-18			13-18				<18	
Germany	<18	<18	<18		14-17	14-17	14-21	14-17	14-17		14-17	14-17
Austria		14-18										
Macedonia, FYR				14-18								
Slovenia	14-18	<18		14-17	14-17	14-18	14-18	14-17	14-18	14-17		
Bulgaria	14-18		<18	14-18			14-18			14-18		<18
Latvia		<18	14-18		<18	<18	14-17	<18	14-17	14-18	14-18	14-18
Hungary	14-17		14-18	14-18	14-18	14-18	14-18		14-18	14-17	14-18(21)	14-18
Estonia	13-17		<18	13-17		14-17	15-17		14-17	13-20		14-17
Croatia		14-18		14-18	14-18	14-18			14-18		14-18	
Lithuania	14-18	14-18	14-18		<18		14-18		14-18	14-17	14-18	14-18
Romania	14-18	14-18	<18	<18	14-17	14-18	14-16	14-17		14-16	<18	
Moldova, Republic of	14-18			14-18		<18	14-18			14-18		
Italy	<18				14-17		14-17				14-18	
Albania		14-18				14-18	14-18					
Georgia	14-18		14-18	14-18		14-18	14-18		14-18	14-18		
Azerbaijan	14-17						14-18			14-18		
Finland	<18	15-17	<18	15-17	15-17	15-17	15-17	15-17	15-17		15-20	15-20
Sweden	15-17	15-17	<21		15-21		15-17	15-17	<21	15-17	15-17	
Slovakia		15-17	14-18	15-17	15-17	15-18	15-17	15-17	15-18	15-18	15-17	15-18
Norway	15-17			15-17			15-17			15-17		
Iceland	<15		<17		<17	<18	<18	<17	<18	<18	15-17	15-17
Czech Republic	<18		15-17	<18	15-18	15-17	<18	15-17	15-17	<18	15-17	15-17
Denmark	15-17		15-17				15-17	15-17	15-17	15-17	15-17	15-17
Luxembourg		<18			<18							
Spain	<18						16-17					18-20
Malta		0-17	<18					<16			<18	
Kyrgyzstan	<18			<18						<18		
Belgium							<18					
United States of America	<18	<18		<18	<18		<20				<18	
Scotland				<21	<21		<21	<21		15-20	<21	
Poland		<21			<21			<21			<21	
Russian Federation												
Belarus												
Ukraine												
Armenia												
Kazakhstan												

7   Trends in Prison Population 1995-2004

Roy Walmsley

This paper examines trends in prison populations in Europe between 1995 and 2004 in the light of data obtained from the 6th, 7th, 8th and 9th United Nations Surveys of Crime Trends and Operations of Criminal Justice Systems and the ongoing data collections of prison populations in Europe that are provided by the Council of Europe Annual Penal Statistics (SPACE)[1] and by the World Prison Population List[2] and the World Prison Brief[3]. Reference is also made to the situation in North America (Canada and the USA).

The data presented cover overall prison population levels, including the rate per 100,000 of the national population (the prison population rate), the levels of pre-trial/remand detention and the proportion of pre-trial/remand prisoners within the prison population total, and the occupancy levels in terms of the capacity of the prison systems.

At the end of 2004 Europe had 47 independent countries with their own prison administrations; indeed three of them - Bosnia & Herzegovina, Serbia & Montenegro and the United Kingdom - each had three such administrations[4]. There were also prisons in five dependent territories[5] and

---

[1] The Council of Europe Annual Penal Statistics (SPACE) were inaugurated in 1983 by Pierre Tournier and are now prepared by Marcelo Aebi of the University of Lausanne; the most recently published figures were for 1 September 2005. The 2006 figures (Aebi and Delgrande) will be published early in 2008.

[2] The World Prison Population List (Roy Walmsley) was first published in 1999; the seventh edition appeared in January 2007 based on the latest figures available at 31 October 2006 including, for nine countries, figures from the Council of Europe Annual Penal Statistics. It is published by the International Centre for Prison Studies (ICPS), King's College, London.

[3] The World Prison Brief is an online database, available on the ICPS website www.prisonstudies.org, which regularly updates the information in the World Prison Population List and also presents more detailed information about prison populations, occupancy levels and prison administrations.

[4] Bosnia & Herzegovina has separate systems in its two entities – the Federation of Bosnia & Herzegovina and Republika Srpska - and one detention centre which is administered at the state level. In 2004 Serbia & Montenegro had separate administrations in Serbia and in Montenegro and a third system in Kosovo, under the authority of the United Nations. The United Kingdom has separate prison administrations for England & Wales, for Northern Ireland and for Scotland.

[5] Faeroe Islands (Denmark) and Gibraltar, Guernsey, Isle of Man and Jersey (all United Kingdom.

in five areas that were not under the control of the countries in which they are situated[6]. There was no prison in the Vatican City State (Holy See).

This paper is concerned with the 52 prison systems in the independent countries of Europe, excluding the state level detention centre in Bosnia & Herzegovina.

7.1　Trends in overall prison population levels

The predominant trend in European prison population levels between 1995 and 2004 was their growth. About three quarters of prison systems (35 out of 47 [7]) had more prisoners at the end of this period than at the beginning, and in seventeen of those that registered growth the increase was more than 25% (Table 7.1, figures for all countries at Annex Table 7A).

---

[6] Abkhazia (in Georgia), Nagorno-Karabakh (in Azerbaijan but administered by Armenia), Northern Cyprus (administered by the internationally unrecognised Turkish Republic of Northern Cyprus), South Ossetia (in Georgia) and Transnistria (in Moldova).

[7] Five of the 52 prison systems are not included in this analysis. In two cases this is because data was not available before 2002 (Serbia & Montenegro: both Kosovo and Montenegro), although in both systems the prison population rose during the period for which figures were available, and in the other three cases (Liechtenstein, Monaco and San Marino) their figures cannot be used for comparative purposes because some prisoners are not included in the totals, as a result of the fact that they are held in prisons in Austria, France and Italy respectively.

Table 7.1. Increases in European prison population totals 1995-2004

	Prison population total 1995	Prison population total 2004	Variation in prison population total 1995-2004
Cyprus	170	546	+221.2%
Bosnia & Herzegovina: Federation	626	1,366	+118.2%
Serbia & Montenegro: Serbia	3,623*	7,556	+108.6%
Netherlands	10,249	20,075	+95.9%
Slovenia	635	1,085	+70.9%
Ireland	2,054	3,083	+50.1%
Greece	5,887	8,760	+48.8%
Spain	40,157	59,224	+47.5%
United Kingdom: England & Wales	50,962	74,657	+46.5%
Austria	6,180	9,000	+45.6%
Turkey	49,895	71,148	+42.6%
Malta	196	277	+41.3%
Macedonia (former Yugoslav repub. of)	1,156	1,618	+40.0%
Albania	3,177*	4,356*	+37.1%
Hungary	12,455	16,543	+32.8%
Poland	61,136	80,368	+31.5%
Sweden	5,767	7,332	+27.1%

(* Albania 1995-2005, Serbia & Montenegro: Serbia 1994-2004)

However, the best indicator of trends in overall prison population levels is not the prison population total but the prison population rate per 100,000 of the national population. The former is affected by changes in the size of the national population and does not therefore give so accurate a picture of the trends.

Removing the effect of changes in the size of the national population reveals that even more countries registered growth in prison population levels between 1995 and 2004. In fact thirty-seven of the forty-seven countries on which information is available (79%) had a higher prison population rate in 2004 than in 1995 (Table 7.2).

Table 7.2. Increases in European prison population rates 1995-2004

	Prison population rate 1995	Prison population rate 2004	Variation in prison population rate 1995-2004
Cyprus	26	75	+188%
Serbia & Montenegro: Serbia	37*	92	+149%
Bosnia & Herzegovina: Federation	25	53	+112%
Netherlands	66	123	+86%
Slovenia	32	54	+69%
Greece	56	82	+46%
Spain	102	138	+35%
United Kingdom: England & Wales	99	141	+42%
Albania	98*	139*	+42%
Austria	78	110	+41%
Macedonia (former Yugoslav repub. of)	59	80	+36%
Hungary	122	164	+34%
Poland	158	211	+34%
Ireland	57	76	+33%
Malta	53	69	+30%
Bulgaria	101	129	+28%
Sweden	65	81	+25%
Croatia	51	63	+24%
United Kingdom: Scotland	111	136	+23%
Turkey	82	100	+22%
Germany	81	98	+21%
Slovakia	147	175	+19%
Norway	55	65	+18%
Belgium	75	88	+17%
Bosnia & Herzegovina: Rep. Srpska	67*	75	+12%
Finland	59	66	+12%
Estonia	304	339	+12%
Moldova	263	293	+11%
Andorra	76	84	+11%
Italy	87	96	+10%
Georgia	171	183	+7%
Denmark	66	70	+6%
Luxembourg	114	121	+6%
France	89	92	+3%
Ukraine	397	410	+3%
Portugal	123	125	+2%
Switzerland	80	81	+1%

(* Albania 1994-2005, Bosnia & Herzegovina: Republika Srpska 1998-2004, Serbia & Montenegro: Serbia 1994-2004)

The countries that registered large increases were not confined to a particular part of the European continent. Those with traditionally low levels, such as the Netherlands, Scandinavian/Nordic countries and countries from former Yugoslavia (Bosnia & Herzegovina, Croatia, Macedonia, Serbia, Slovenia) registered increases similar to those of countries in other parts of Europe.

Ten countries registered a decrease in their prison population rates between 1995 and 2004 (Table 7.3).

Table 7.3. Decreases in European prison population rates 1995-2004

	Prison population rate 1995	Prison population rate 2004	Variation in prison population rate 1995-2004
Armenia	143*	89	-38%
Lithuania	351	234	-33%
Azerbaijan	317*	219	-31%
United Kingdom: N. Ireland	105	76	-28%
Belarus	535	437	-18%
Iceland	44	39	-11%
Romania	200	180	-10%
Latvia	381	353	-7%
Russian Federation	622	587	-6%
Czech Republic	189	179	-5%

(* Armenia 1994-2004, Azerbaijan 1997-2004)
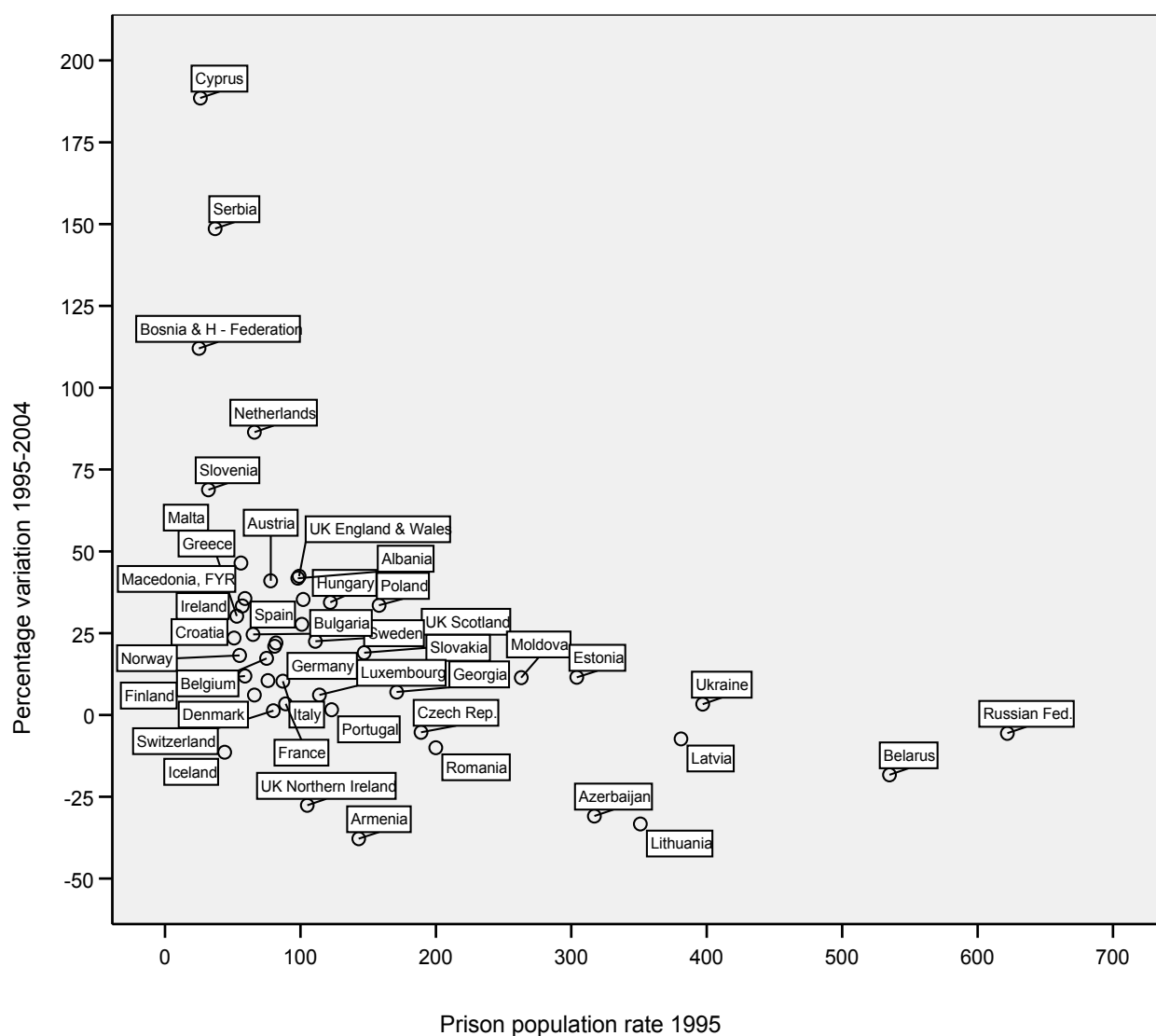
Figure 7.1. Variation in prison population rates 1995-2004

Most of the countries which registered decreases in their prison population totals between 1995 and 2004 were among those which in 1995 had the highest prison population rates in Europe. The decreases have resulted in the prison population levels in these countries, which come exclusively from those which only a few years before had been part of the Soviet Union and the socialist bloc in central and eastern Europe, moving in the direction of levels elsewhere in Europe. However, the scale of the decreases was insufficient to change the overall picture: the twelve countries with the highest European prison population rates in 1995 remained those with the highest levels in 2004 (Table 7.4).

154

Table 7.4. Countries with highest European prison population rates (per 100,000 of national population), 1995 and 2004

	Prison population rate, 1995 (per 100,000 of national population)		Prison population rate, 2004 (per 100,000 of national population)
1. Russian Federation	622	1. Russian Federation	587
2. Belarus	535	2. Belarus	437
3. Ukraine	397	3. Ukraine	410
4. Latvia	381	4. Latvia	353
5. Lithuania	351	5. Estonia	339
6. Azerbaijan	317	6. Moldova	293
7. Estonia	304	7. Lithuania	234
8. Moldova	263	8. Azerbaijan	219
9. Romania	200	9. Poland	211
10.Czech Republic	189	10.Georgia	183
11.Georgia	171	11.Romania	180
12.Poland	158	12.Czech Republic	179

During the period 1995-2004 prison populations in a number of countries fluctuated. While, as was noted, the overall picture is one of growth in most countries, the growth was not always steady throughout the period (see annex table A). Amnesties and legislative changes are the most common cause of sudden shifts in prison population levels but increases and decreases are also often the result of changes in government policy and other factors that are specific to the countries concerned.

7.2   Trends in prison population levels in North America

In North America the prison population rate fell by 20% in Canada between 1995-96 and 2004-05 but in the United States, which has the highest prison population rate in the world, the rate rose by the same amount (end of 1995 to end of 2004). The United States totals do not include persons held in juvenile institutions (94,875 at 22.10.2003).

Table 7.5. Prison population levels in North America 1995-2004

	Prison population total 1995	Prison population rate 1995	Prison population total 2004	Prison population rate 2004	Variation in prison population rate 1995-2004
Canada	38,548	132	33,927	106	-20%
U.S.A.	1,585,586	601	2,135,335	723	+20%

7.3 Trends in pre-trial/remand imprisonment levels

Whereas the predominant trend in overall European prison population levels between 1995 and 2004 was their growth, the trend in respect of pre-trial/remand imprisonment levels was less clear-cut: twenty five prison systems registered growth - all of them more than 10% growth and fourteen of them more than 40% growth – but almost as many (twenty) registered a decrease[8] and in six cases the decrease was more than 40% (Tables 7.6 and 7.7). Thus a considerable number of countries whose prison population total rose between 1995 and 2004 did not register a rise in their pre-trial/remand imprisonment level. There were eleven of these: Bosnia & Herzegovina (the prison systems in both entities), Bulgaria, Estonia, France, Germany, Italy, Malta, Moldova, Poland and Portugal. As with the overall prison population totals it is noticeable that the largest decreases in pre-trial/remand imprisonment occurred mainly in countries of the former Soviet Union and the former socialist bloc in central and eastern Europe.

---

[8] Seven of the 52 prison systems are not included in this analysis. Footnote (7) explained the absence of five of these. In addition, full pre-trial imprisonment data was not available in respect of 1995 for Albania and Serbia & Montenegro: Serbia.

Table 7.6. Increases in European pre-trial/remand imprisonment totals 1995-2004

	Pretrial/remand imprisonment total 1995	Pretrial/remand imprisonment total 2004	Variation in pretrial/remand imprisonment 1995-2004
Cyprus	32	96	+200.0%
Ireland	181	454	+150.8%
Georgia	2,183	4,618	+111.5%
Macedonia (FYR)	158*	300	+89.9%
Netherlands	3,434	6,410	+86.7%
Luxembourg	155	278	+79.4%
Slovakia	1,950	3,091	+58.5%
Slovenia	188	295	+56.9%
Andorra	30	47*	+56.7%
Sweden	1,032	1,561	+51.3%
Belgium	2,404	3,614	+50.3%
United Kingdom: Northern Ireland	350	512	+46.3%
Switzerland	1,703	2,441	+43.3%
Turkey	24,951	34,987	+40.2%
Croatia	653	912	+39.7%
Austria	1,621	2,193	+35.3%
Finland	318	427	+34.3%
Denmark	816	1,090	+33.6%
Iceland	6	8	+33.3%
Hungary	3,183	4,101	+28.8%
United Kingdom: Scotland	1,001	1,284	+28.3%
Spain	9,930	12,688	+27.8%
Greece	1,986	2,469	+24.3%
Norway	514	612	+19.1%
United Kingdom: England & Wales	11,308	12,495	+10.5%

(* Andorra 1995-2003, Macedonia 1994-2004)

Table 7.7. Decreases in European pre-trial/remand imprisonment totals 1995-2004[9]

	Pretrial/remand imprisonment total 1995	Pretrial/remand imprisonment total 2004	Variation in pretrial/remand imprisonment 1995-2004
Czech Republic	8,000	3,269	-59.1%
Armenia	1,912*	844	-55.9%
Lithuania	2,925	1,362	-53.4%
Azerbaijan	3,730*	1,765*	-52.7%
Romania	18,339	9,774	-46.7%
Russian Federation	253,000	149,173	-41.0%
Portugal	4,629	3,000	-35.2%
Estonia	1,671	1,096	-34.4%
Bulgaria	2,487	1,861	-25.2%
Germany	19,796	15,999	-19.2%
Moldova	2,990	2,457	-17.8%
Ukraine	43,845	39,021	-11.0%
Bosnia & Herzegovina: Federation	361	322	-10.8%
Latvia	3,161	2,824	-10.7%
United Kingdom: England & Wales	11,308	12,495	-10.5%
Italy	21,811	19,885	-8.8%
France	21,598	19,760	-8.5%
Malta	95	87	-8.4%
Bosnia & Herzegovina: Rep. Srpska	200	188	-6.0%
Poland	15,686	15,055	-4.0%

(* Armenia 1994-2004, Azerbaijan 1997-2003)

In North America, Canada recorded a 68% increase between 1995-96 and 2004-05 in the number of pre-trial/remand prisoners within the prison population (from 6,230 to 10,467). In the United States, figures are not available for the number of pre-trial/remand prisoners; there were some 430,530 untried prisoners in mid-2004.

---

[9] In the earlier section on overall prison population levels the figures for France related to the part of France that is in Europe and thus fully comparable with the other European countries (known as France 'métropole'). Insufficient data was available on pre-trial detention in respect of the métropole and so the figures in this section and the next include French overseas 'départements' in Africa and the Caribbean.

7.4 Trends in the extent of pre-trial/remand imprisonment within the overall prison population

In more than three quarters of European prison systems (35 out of 45 in 1995 and 39 out of 49 in 2004) pre-trial/remand prisoners constituted between 15% and 40% of the prison population total.[10]

But it is evident from the preceding examination of the levels of pre-trial/remand imprisonment that there must have been changes between 1995 and 2004 in the extent of pre-trial/remand imprisonment within the overall prison population. Indeed pre-trial detainees constituted a larger proportion of the overall prison population in 2004 than 1995 in nineteen prison systems, including four in which the proportion increased by more than fifteen percentage points (Table 7.8). However, pre-trial/remand prisoners constituted a smaller proportion of the overall prison population in 2004 than 1995 in twenty six prison systems, including five in which the proportion decreased by more than fifteen percentage points (Table 7.9).

---

[10] Just two systems had less than 15% of their prisoners in pre-trial/remand imprisonment in 1995 (Ireland 8.8% and Iceland 5%) and eight had more than 40% (Andorra 61.2%, Bosnia & H. – Federation 53.1%, Turkey 50.0%, Malta 48.5%, Italy 43.9%, Czech Republic 41.0%, France 40.6% and Romania 40.5%). In 2004 four systems had less than 15% of their prisoners in pre-trial/remand imprisonment (Ireland 14.4%, Finland 12.1%, Azerbaijan 10.8% and Iceland 7.0%) and six had more than 40% (Andorra 77.0%, Georgia 58.7%, Luxembourg 50.7%, Turkey 48.6%, Serbia & Montenegro – Kosovo 42.0% and Switzerland 40.8%).

Table 7.8. Increases in the extent of pre-trial/remand imprisonment within the overall prison population 1995-2004

	Pre-trial/remand prisoners as % of total prison population 1995	Pre-trial/remand prisoners as % of total prison population 2004	Pre-trial/remand prisoners as % of prison population: change in percentage points 1995-2004
Georgia	27.1%	58.7%	**+31.6**
United Kingdom: Northern Ireland	20.1%	39.5%	**+19.4**
Luxembourg	33.0%	50.7%	**+17.7**
Andorra	61.2%	77.0%*	**+15.8**
Switzerland	28.1%	40.8%	**+12.7**
Slovakia	24.7%	32.8%	**+8.1**
Belgium	31.8%	39.1%	**+7.2**
Netherlands	33.2%	39.6%	**+6.4**
Ireland	8.8%	14.4%	**+5.6**
Denmark	23.7%	29.0%	**+5.3**
Macedonia (FYR)	12.2%*	17.2%	**+5.0**
Croatia	27.3%	32.0%	**+4.7**
Sweden	17.9%	21.3%	**+3.4**
Latvia	33.4%	35.9%	**+2.5**
Iceland	5.0%	7.0%	**+2.0**
Austria	26.2%	28.1%*	**+1.9**
Cyprus	15.8%	17.6%	**+1.8**
Finland	10.5%	12.1%	**+1.6**
United Kingdom: Scotland	17.7%	18.6%	**+0.9**

(* Andorra 1995-2003, Austria 1995-2003, Macedonia 1994-2004)

Table 7.9. Decreases in the extent of pre-trial/remand imprisonment within the overall prison population 1995-2004

	Pre-trial/remand prisoners as % of total prison population 1995	Pre-trial/remand prisoners as % of total prison population 2004	Pre-trial/remand prisoners as % of prison population: change in percentage points 1995-2004
Bosnia & Herzegovina: Federation	53.1%	25.8%	**-27.3**
Czech Republic	41.0%	17.8%	**-23.2**
Malta	48.5%	29.2%	**-19.3**
Estonia	39.6%	24.0%	**-15.6**
Romania	40.5%	25.0%	**-15.5**
Portugal	37.5%	22.8%	**-14.7**
Germany	32.4%	19.7%	**-12.7**
Bulgaria	29.6%	18.5%	**-11.1**
Russian Federation	27.5%	17.6%	**-9.9**
Italy	43.9%	35.5%	**-8.4**
Poland	25.7%	18.7%	**-7.0**
Armenia	35.6%*	29.6%	**-6.0**
France	40.6%	35.1%	**-5.5**
Greece	33.7%	28.2%	**-5.5**
UK: England & Wales	22.1%	16.8%	**-5.3**
Lithuania	22.0%	16.9%	**-5.1**
Azerbaijan	15.0%*	10.8%*	**-4.2**
Spain	24.7%	21.4%	**-3.3**
Bosnia & Herzegovina: Rep. Srpska	22.9%*	19.7%	**-3.2**
Moldova	28.9%	26.2%	**-2.7**
Slovenia	29.0%	27.2%	**-1.8**
Belarus	23.5%	21.8%	**-1.7**
Turkey	50.0%	48.6%	**-1.4**
Ukraine	21.5%	20.2%	**-1.3**
Hungary	25.6%	24.8%	**-0.8**
Norway	21.4%	20.6%	**-0.8**

(*Armenia 1994-2004, Azerbaijan 1997-2003, Bosnia & Herzegovina: Republika Srpska 1998-2004)

In North America, Canada's above-mentioned 68% increase between 1995-96 and 2004-05 in the number of pre-trial/remand prisoners was accompanied by a 39% fall in the number of sentenced prisoners. There has thus been an increase of almost fifteen percentage points in the percentage of pre-trial/remand prisoners within the overall prison population. In the United States, figures for mid-1998 indicated that 18.4% of prisoners were untried. This had risen to 20.2% by mid-2004. These figures do not include remand prisoners who were convicted but unsentenced.

Table 7.10. Changes in the extent of pre-trial/remand imprisonment within the overall prison population in North America 1995-2004

	Pre-trial/remand prisoners as % of total prison population 1995	Pre-trial/remand prisoners as % of total prison population 2004	Pre-trial/remand prisoners as % of prison population: change in percentage points 1995-2004
Canada	16.2%	30.9%	**+14.7**
U.S.A.	not available	20.2%	-

7.5   Trends in occupancy levels

In 1995 sixteen of the 42 prison systems for which such information was available were holding more prisoners than their prisons were intended for[11] and in 2004 it was again sixteen prison systems that were occupied beyond their capacity, although for the latter year such information was available in respect of 44 systems. It must be remembered that in some systems that are not, as a whole, occupied beyond their capacity there will be some prisons that are overcrowded.

But despite the fact that the same number of systems were occupied beyond their capacity in each year the overall picture is that European prison systems became more overcrowded between 1995 and 2004. Twenty-seven prison systems registered higher occupancy (density) levels in 2004 than nine years earlier while fourteen systems registered lower levels (Tables 7.11 & 7.12). Insufficient information was available to provide such comparisons in respect of the other eleven systems.[12]

In some cases an increased occupancy level did not entail a similar increase in overcrowding. For example, some countries, including Bulgaria and Ukraine, increased the amount of space that is allowed per prisoner in fixing the capacity of the prisons, which automatically increased the occupancy rate of each prison even if there was no increase in the number of prisoners. In fact, although Bulgaria's occupancy level rose by almost 39 percentage points, their prison population only rose by 18%. In Ukraine's case their occupancy level rose by nearly 16 percentage points but their prison population actually fell by more than 5%. Lithuania is also among countries that increased the amount of space that is allowed per prisoner but, because of the size of the decrease in their prison

---

[11] One of the 16 – the prison system in Belarus – was 131.8% occupied in 1995 but comparable information is not available for 2004. The occupancy levels in the other 15 overcrowded systems in 1995 and the 16 overcrowded systems in 2004 are shown in Tables 7.11 and 7.12 below.

[12] Albania, Armenia, Azerbaijan, Belarus, Bosnia & Herzegovina: Rep. Srpska, Liechtenstein, Monaco, San Marino, Serbia & Montenegro: Kosovo, Montenegro and Serbia.

population (almost 37%), they still managed to reduce their occupancy level.

Table 7.11. Increases in occupancy levels 1995-2004

	Occupancy level 1995	Occupancy level 2004	Occupancy level: change in percentage points 1995-2004
Cyprus	70.8%	160.6%	**+89.8**
Bulgaria	83.9%	122.8%	**+38.9**
Turkey	67.8%	103.7%	**+35.9**
Hungary	109.7%	144.9%	**+35.2**
Bosnia & Herzegovina: Federation	53.2%*	87.2%	**+34.0**
Slovenia	71.6%	98.4%	**+26.8**
Finland	73.7%	99.1%	**+25.4**
Germany	76.9%	102.2%	**+25.3**
Greece	136.5%	156.9%	**+20.4**
Austria	80.4%	97.4%*	**+17.0**
Ukraine	106.3%	122.0%	**+15.7**
Croatia	77.8%	91.3%	**+13.5**
Poland	101.0%	114.0%	**+13.0**
Slovakia	87.1%	99.0%	**+11.9**
Georgia	59.7%	71.2%	**+11.5**
Andorra	61.3%	71.8%*	**+10.5**
Sweden	93.1%	103.3%	**+10.2**
Italy	122.4%	131.5%	**+9.1**
United Kingdom: Scotland	100.0%	108.0%	**+8.0**
United Kingdom: Northern Ireland	79.1%	87.0%	**+7.9**
Norway	87.6%	95.4%	**+7.8**
Denmark	90.4%	95.6%	**+5.2**
France	109.0%	113.5%	**+4.5**
Macedonia (FYR)	74.7%	78.5%	**+3.8**
Netherlands	89.4%	92.6%	**+3.2**
Estonia	95.7%	97.4%	**+1.7**
Ireland	92.9%	94.5%	**+1.6**

(Andorra 1995-2003, Austria 1995-2003, Bosnia & Herzegovina: Federation 1997-2004)

Table 7.12. Decreases in occupancy levels 1995-2004

	Occupancy level 1995	Occupancy level 2004	Occupancy level: change in percentage points 1995-2004
Romania	151.8%	104.0%	**-47.8**
Portugal	136.2%	100.3%	**-35.9**
Malta	89.1%	62.1%	**-27.0**
Russian Federation	104.2%	82.1%	**-22.1**
Luxembourg	99.2%	80.2%	**-19.0**
Iceland	100.8%	83.9%	**-16.9**
Moldova	97.5%	83.1%	**-14.4**
Latvia	98.4%	85.0%	**-13.4**
Lithuania	96.6%	86.0%	**-10.6**
Czech Republic	107.3%	98.9%	**-8.4**
United Kingdom: England & Wales	101.1%	95.6%	**-5.5**
Belgium	116.7%	114.2%	**-2.5**
Spain	130.9%	129.5%	**-1.4**
Switzerland	92.4%	91.4%	**-1.0**

7.6 Conclusion - main points

The predominant trend in European prison population levels between 1995 and 2004 was their growth. The countries that registered large increases were not confined to a particular part of the European continent. Growth was recorded in 37 of the 47 prison systems for which comparable information is available for that period. The 12 countries with the highest prison population rates in 1995 also had the highest levels in 2004.

The trend in respect of pre-trial/remand imprisonment levels was less clear-cut: 25 prison systems registered growth but 20 registered a decrease. As with the overall prison population totals, the largest decreases in pre-trial/remand imprisonment occurred mainly in countries of the former Soviet Union and the former socialist bloc in central and eastern Europe.

In both 1995 and 2004 pre-trial/remand prisoners in more than three quarters of European prison systems constituted between 15% and 40% of the prison population total. In a majority of countries (26) pre-trial/remand prisoners constituted a smaller proportion of the overall prison population in 2004 than 1995; in 19 they were a larger proportion.

European prison systems have become more overcrowded between 1995 and 2004. Twenty-seven prison systems registered higher occupancy levels in 2004 than nine years earlier while fourteen systems registered lower levels. In some cases an increased occupancy level did not entail a

similar increase in overcrowding; this was when a prison system had increased the amount of space per prisoner in fixing the capacity of the prisons, thus automatically increasing the occupancy rate per prison even if there was no increase in the number of prisoners.

Annex Table to Chapter 7

7A. Prison population totals 1995-2004 and prison population rates (per 100,000 of national population)

	Total prison population (and prison population rate) **1995**	Total prison population (and prison population rate) **1998**	Total prison population (and prison population rate) **2001**	Total prison population (and prison population rate) **2004**	**Variation in prison population** total **1995-2004**
Albania	3,177 (98)	2,922 (87)	3,053 (90)	4,356 (139)*	+37.1%
Andorra	49 (76)	40 (61)	48 (72)	61 (84)	+24.5%
Armenia	5,354 (143)*	7,608 (201)	7,428 (195)	2,856 (89)	-46.7%
Austria	6,180 (78)	6,962 (87)	6,915 (86)	9,000 (110)	+45.6%
Azerbaijan	24,851 (317)*	24,826 (312)	17,956 (221)	18,259 (219)	-26.5%
Belarus	54,869 (535)	63,157 (620)	55,156 (554)	42,806 (437)	-22.0%
Belgium	7,561 (75)	8,271 (81)	8,764 (85)	9,243 (88)	+22.2%
Bosnia & Herzegovina - Federation	626 (25)	754 (30)	1,041 (42)	1,366 (53)	+118.2%
Bosnia & Herzegovina - Republika Srpska		872 (67)	849 (65)	1,052 (75)	+20.6%
Bulgaria	8,529 (101)	11,541 (139)	8,971 (110)	10,066 (129)	+18.0%
Croatia	2,388 (51)	2,119 (46)	2,623 (59)	2,803 (63)	+17.4%
Cyprus	170 (26)	226 (34)	369 (56)	546 (75)	+221.2%
Czech Republic	19,508 (189)	22,067 (214)	19,320 (188)	18,343 (179)	-6.0%
Denmark	3,438 (66)	3,413 (64)	3,150 (59)	3,762 (70)	+9.4%
Estonia	4,401 (304)	4,791 (344)	4,803 (351)	4,576 (339)	+4.0%
Finland	3,018 (59)	2,569 (50)	3,040 (59)	3,446 (66)	+14.2%
France (European part)	51,623 (89)	50,744 (86)	44,618 (75)	55,355 (92)	+7.2%
Georgia	8,048 (171)	10,406 (231)	7,688 (176)	7,867 (183)	-2.2%
Germany	66,146 (81)	78,592 (96)	80,333 (98)	81,166 (98)	+22.7%
Greece	5,887 (56)	7,129 (68)	8,343 (79)	8,760 (82)	+48.8%
Hungary	12,455 (122)	14,366 (142)	17,275 (173)	16,543 (164)	+32.8%
Iceland	119 (44)	103 (38)	110 (39)	115 (39)	-3.4%
Ireland	2,054 (57)	2,648 (71)	3,025 (78)	3,083 (76)	+50.1%
Italy	49,642 (87)	49,050 (85)	55,136 (95)	56,090 (96)	+13.0%
Latvia	9,633 (381)	10,070 (410)	8,831 (373)	8,179 (353)	-15.1%
Liechtenstein**	18 (60)*	24 (75)*	17 (50)*	7 (19)	-
Lithuania	12,782 (351)	13,205 (383)	9,516 (273)	8,063 (234)	-36.9%
Luxembourg	469 (114)	392 (92)	357 (80)	548 (121)	+16.8%
Macedonia (FYR)	1,156 (59)	859 (43)	1,518 (75)	1,618 (80)	+40.0%
Malta	196 (53)	260 (69)	257 (65)	277 (69)	+41.3%
Moldova	9,781 (263)	10,521 (287)	10,037 (276)	10,591 (293)	+8.3%
Monaco**		13 (39)		32 (96)*	-
Netherlands	10,249 (66)	13,333 (85)	15,246 (95)	20,075 (123)	+95.9%
Norway	2,398 (55)	2,519 (57)	2,666 (59)	2,975 (65)	+24.1%
Poland	61,136 (158)	54,373 (141)	79,634 (206)	80,368 (211)	+31.5%
Portugal	12,343 (123)	14,598 (144)	13,260 (128)	13,152 (125)	+6.6%
Romania	45,309 (200)	52,149 (232)	49,841 (222)	39,031 (180)	-13.9%
Russian Federation	920,685 (622)	1,009,863 (688)	923,765 (638)	847,004 (587)	-8.0%
San Marino**	5 (-)*	2 (-)*	1 (-)*	0 (-)	-
Serbia & Montenegro - Kosovo			965 (54)*	1,199 (63)*	(+24.2%)

Table 7A continued					
Serbia & Montenegro - Montenegro			710 (104)*	734 (108)*	(+3.4%)
Serbia & Montenegro - Serbia	3,623 (37)*	5,150 (52)*	6,160 (76)	7,556 (92)	+108.6%
Slovakia	7,899 (147)	6,628 (123)	7,433 (138)	9,422 (175)	+19.3%
Slovenia	635 (32)	848 (43)	1,092 (55)	1,085 (54)	+70.9%
Spain	40,157 (102)	44,763 (114)	46,962 (117)	59,224 (138)	+47.5%
Sweden	5,767 (65)	5,290 (60)	6,089 (68)	7,332 (81)	+27.1%
Switzerland	5,655 (80)	6,041 (85)	5,160 (71)	5,977 (81)	+5.7%
Turkey	49,895 (82)	64,907 (102)	61,336 (89)	71,148 (100)	+42.6%
Ukraine	203,988 (397)	206,000 (413)	198,885 (406)	193,489 (410)	-5.1%
United Kingdom: England and Wales	50,962 (99)	65,298 (125)	66,301 (127)	74,657 (141)	+46.5%
United Kingdom: Northern Ireland	1,740 (105)	1,531 (91)	877 (52)	1,295 (76)	-25.6%
United Kingdom: Scotland	5,657 (111)	6,082 (120)	6,172 (122)	6,885 (136)	+21.7%

* For some countries, as a result of the incompleteness of available data, the figures shown are for a date that differs from the one at the top of the column:

Albania: the figure shown for 2004 is actually for February 2005.
Armenia: the figure shown for 1995 is actually for 1 January 1994.
Azerbaijan: the figure shown for 1995 is actually for 1 June 1997.
Liechtenstein: the figures shown for 1995, 1998 & 2001 are actually for 22 May 1994, 30 June 1999 and 1 September 2002 respectively.
Monaco: the figure shown for 2004 is actually for 1 September 2005.
San Marino: the figures shown for 1995, 1998 & 2001 are actually for 1 January 1994, 1999 and 1 September 2002 respectively.
Serbia & Montenegro: Kosovo. The figures shown for 2001 & 2004 are actually for 30 June 2002 and April 2005 respectively.
Serbia & Montenegro: Montenegro. The figures shown for 2001 & 2004 are actually for 25 April 2002 and 1 September 2003 respectively.
Serbia & Montenegro: Serbia. The figures shown for 1995 & 1998 are actually for 1 January 1994 and 1 January 1997 respectively.

** The figures for Liechtenstein, Monaco and San Marino cannot be used for comparative purposes; some persons imprisoned in these three countries are not included in the countries' prison population totals because they are held in prisons in Austria, France and Italy respectively.

8 An Empirical Approach to Country Clustering

Paul Smit, Ineke Haen Marshall and Mirjam van Gammeren

8.1 The importance of the classification of countries

There are – by the most recent count –about 200 nation-states in the world. These 200 countries vary in almost any dimension one can imagine: location, climate, size, language, religion, density of population, level of literacy, economic development, criminal justice resources, legal system and, of course, crime. An important first step in understanding crime in a global perspective is to somehow organize the large number of countries into more manageable groupings. That is – first and foremost – a purely *practical* matter. It is simply not possible to provide detailed descriptions of some 200 countries individually and make sense out of it all. Hence, researchers, policy makers and government officials tend to simplify the complex reality by grouping the large set of individual countries into a smaller set of country clusters. Secondly, in addition to providing an important ordering and simplification function, classification of countries has important *theoretical* relevance. For instance, differences in crime patterns found between country clusters are assumed to be linked to particular (cultural, political, socio-economic or demographic) characteristics shared by the countries which are grouped together in a cluster (see Marshall 2002). We will elaborate on this theoretical point below. The current chapter explores the implications of the classification of countries for comparative analysis based on the 6-9th UN Crime Trends Surveys for Europe and North America. We start this chapter by first providing a brief background discussion on country clustering.

Dividing the world by geographical *continents* (i.e. Europe, North America, Central America, South America, Asia, Africa and Oceania) is the most simple and most frequently used approach in grouping countries together. This classification is used, for example, by the World Bank. In some of its publications, the United Nations divides the "world macro regions and components" into continents, further refined by location (i.e. Africa: Eastern Africa, Middle Africa, Northern Africa, Southern Africa, Western Africa; or Asia: Eastern Asia, South Central Asia, South Eastern Asia, and Western Asia). The World Health Organization, in the 2002 publication *World Report on Violence and Health* (WHO 2002) groups countries into those of the European region, region of the Americas, South-East Asian region, Eastern Mediterranean region, African region, and the Western Pacific region. In the *World Report*, the WHO further subdivides these regions by low-income, middle-income, and high income countries. Another example is the classification of countries used by the International Crime Victim Survey: The ICVS has employed Western

Europe, Central and Eastern Europe, Africa, Latin America, Asia and the New World as their device of grouping countries together (e.g. Van Dijk 1999, 26) A few more examples will be discussed in the next section.

It is important to realize that the different country classifications have important implications for the kind of comparisons that may be made. For example, Australia is either considered part of Oceania (together with New Zealand, but also with Melanesia, Micronesia and Polynesia); or part of the Western Pacific Region (WHO) (together with Japan and China, for example), or part of the New World (ICVS) (with the US, Canada, and New Zealand). It is obvious that using the US, Canada, and New Zealand as a comparison group (for Australia) differs tremendously from comparing Australia with Japan and China. Or, to take yet another example, the United States is either considered to be part of North America (UN), or part of the Americas (WHO) (together with Canada, the Caribbean, Central and South America), or part of the New World (ICVS) (together with Canada, New Zealand and Australia). Again, the implications for the different sets of comparisons that can be made should be obvious.

Geographic proximity (such as the use of continents, or subcontinents) is probably the most popular and frequently used criterion to cluster countries. Sometimes overlapping with geographic proximity is the use of classifications based on socio-economic theories. Using the Human Development Index (HDI) is one such example: it reflects the assumption that there is a link between level of human development (which tends to be tied to particular world regions) and other social phenomena such as level of violence, corruption and crime. The United Nations often employs the HDI to group countries; routinely comparisons between 'developing' countries versus 'industrial' countries are made (See Newman 1999).

Certain cross-national (comparative) crime theories can only be tested if the country clusters reflect the theoretically important concepts. For instance, tests of modernization theory tend to group countries based on their level of economic development and urbanization (Shelley 1981). On the other hand, institutional anomie theory classifies countries by their levels of social welfare protections (Messner and Rosenfeld 2007). Criminologists who want to test Marxist world system theory distinguish three groups of nations reflecting their position in the global market system: countries belong either to the core, semi-periphery, or periphery (Shannon 1992). Sometimes countries are grouped together by their legal tradition or legal culture (see for example Nelken 2000), reflecting the assumption that these countries share a set of meaningful common characteristics resulting in distinct patterns of informal social control, the nature and extent of behaviour labelled as criminal, and level of penetration of the law into everyday life (e.g. compare countries under Islamic Sharia law with secular western countries under the civil law system). On a more general level, large cultural configurations, 'civilizations' or 'world cultural domains' have been the core organizing tools of scholars interested in issues related to ancient and current global history and international relations (for example Bagby 1958; Braudel

170

(1963/1987); Huntington 1997). Some proponents of this perspective claim that there is reasonable empirical support for the existence of seven or eight separate current cultural domains in the world (i.e., Sinic, Japanese, Hindu, Islamic, Orthodox Christianity, Western Christianity, Latin American and African). Following this line of reasoning, it is possible to place almost all countries in the world into one of the 7 or 8 cultural groupings. An example from the field of criminology is Marshall's work adopting a revised version of Braudel's cultural world regions to explore global homicide patterns (Marshall 2002). From a somewhat different angle, there is a fast-growing body of research which uses the World Values Survey to empirically cluster countries in groups, sometimes – but not always - supporting the existence of particular cultural regions (Inglehart et al. 2004).

Another rationale behind grouping countries is illustrated by the work done by Butchart and Engstrom who wanted to test whether relations between economic development, economic inequality, and child and youth homicide rates are sex- and age- specific, and whether a country's wealth modifies the impact of economic inequality on homicide rates (Butchart and Engstrom 2002). They "grouped the study countries into four arbitrarily defined levels of violence by age-standardized homicide rates among 0-24 year olds" (2002, 799). Specifically, they used four groups: high violence countries (homicide more than 10 per 100,000, medium violence countries (3-9.99), low violence countries (1-2.99) and very low violence countries (less than .99), and they examined how a set of independent variables were related to age- and sex- specific homicide rates in these four country clusters. In this particular example, the authors employed one variable (homicide rate), and used arbitrary cut-off points to form the four clusters.

We will conclude this brief overview with perhaps one of the best-known examples of a clustering of countries with a clear theoretical rationale, Esping-Andersen's *The Three Worlds of Welfare Capitalism* (Esping-Andersen 1990). Although Esping-Anderson's clustering has nothing to do with crime or justice, his is an important example of a theoretically-based classification of western countries. This is basically a typology of welfare states.[1] Based on qualitative analysis, he categorized advanced capitalist societies into three types of institutional arrangements, each designed to reconcile economic development with measures to protect citizens against the risk of the market place: the conservative corporatist welfare state (particularly in Germany and Austria), the liberal welfare state (primarily in Anglo-Saxon countries), and the social democratic welfare state (in the Scandinavian countries). Esping-Andersen' model was further elaborated by others by adding a fourth type

---

[1] A clarifying comment needs to be made at this point. What we refer to as (empirical) grouping, clustering, or classification (of countries) sometimes is referred to as using or creating (conceptual) typologies (of countries). Thus, we may draw from the large body of work on creating typologies.

to the typology, that they called "Latin' or southern, because it was found mainly in Southern European countries. Several subsequent analyses have been done to attempt to come to a quantitative confirmation of the relevance of this particular clustering of countries (see, for example, Saint-Arnaud and Bernard 2003) – an endeavor paralleling ours in the current chapter. Indeed, a major focus of the following analysis centers around the usefulness of an elaboration on Esping-Andersen's country clusters by the Finnish researcher Lappi-Seppälä (Lappi-Seppälä 2007).

To summarize our argument thus far: Classification (or grouping/clustering) of countries for descriptive and/or analytic purposes is a pervasive practice in comparative work; the classification criteria used have important theoretical and pragmatic implications; there is a need to become much more explicit about the rationale behind country clustering. The next section briefly describes how we attempt to problematise the practice of country clustering employed in comparative analysis using Europe and North American crime and justice data.

8.2   Commonly used country groupings in European and American research on crime and justice

Although the preceding discussion focused on how to simplify (global) comparisons between and among some 200 countries, similar reasoning underlies the need to employ classification devices when conducting comparative analysis with a smaller number of countries. A case in point is Europe, a continent which comprises about 50 individual countries. Some observers have argued that it is appropriate to conceive of 'Europe' as a distinct cultural entity (which thus may be contrasted with North America, or Africa), while others have noted that deep-seated national differences within Europe are of crucial significance. For example, Van Swaaningen (1997, x) argues with regard to Western Europe that "[…] nowhere in the First World does such a diversity occur in such small geographical area. A multiplicity of nations with differing political systems, legal cultures and social structures exist next to each other." The heterogeneity of Europe is illustrated by the prevalent use of several well-established regional country clusters within Europe (Scandinavia or the Nordic countries, Southern Europe, former socialist countries, and so on). However, even within these more homogeneous clusters, adjacent individual countries vary significantly in many ways (for example, Sweden and Norway, or Switzerland and Germany).

An additional complicating factor is that – often (and also in our current exercise) – Europe is contrasted with 'America' (narrowly interpreted to mean the United States; sometimes it includes Canada, but rarely ever Mexico although theoretically this is part of North America). Although it may be questioned whether it makes sense to attempt sweeping comparisons between one (or two) particularly large nation-states (North America) and an aggregate of individual nation-states (Europe), it is done all the time. Almost since its very foundation, it has

been believed that America is unique, and that it in crucial ways is different and distinct from other western countries (Lipset 1991, 1; cited in Marshall 2001). The assumption is that there are peculiarly American approaches to major social sectors – to government, to the economy, to culture, religion, to education, and to public policy and to their interaction in the larger society around them (Shafter 1991, viii; cited in Marshall 2001). Countless books and articles have been written by (mostly European) observers emphasizing the differences in behaviours and institutions between Europe and the US. Although often 'Europe' is contrasted with 'America', there are also numerous occasions where Europe and North America are grouped *together*, based on perceived commonalities (such as level of economic and social development, shared cultural heritage, and so on). Indeed, a considerable part of research and theorizing on social issues (including crime and justice) tend to focus on 'western' developed countries, which automatically invites comparisons between 'similar' (i.e. western and developed) countries in Europe and North America. Frequently, however, North America (in particular the US) is placed in a separate category because it is considered such an 'outlier' that it will distort the picture (i.e. the US figures will dominate the outcome). From the several different examples of country groupings that exist (see, for example, Vogel 2003), we have selected two classifications for closer scrutiny. The first, and perhaps the most simple is the politically based clustering of countries primarily based on their membership in the EU, with a secondary basis in other political or regional considerations (i.e. the addition of Russia) (see Table 8.1). This classification is referred to in Table 8.1 as the 'hybrid EU-based classification' (or 'EUb'). It subdivides Europe, North America and some adjacent Asian countries into five clusters. The first cluster consists of the 'old' EU member states (referred to as EU15[2]); the second cluster includes those states that became EU members after 2004 and the EU candidate countries (referred to as EU12+). The third cluster consists of a small group of five countries (Iceland, Norway, Monaco, Vatican City and Switzerland) that do not belong to the EU, but can be seen as part of Western Europe. This cluster is referred to as 'other West'. The fourth cluster ('other East') exemplifies the 'hybrid' and fluid character of this classification; Central and Eastern European Countries (CEE) initially referred to Economies in Transition in Central and Eastern Europe and included a number of countries which now belong to the second cluster EU12+ (such as Czech Republic, Poland, Slovakia and Slovenia). The US and Canada make up the fifth category.

The second example taken from Lappi-Seppälä (2007) and referred to as 'L-S' in the remainder of this chapter is an elaboration of Esping-Andersen and has a strong conceptual foundation. [See second column in Table 8.1]. Lappi-Seppälä argues that this classification system takes into account a number of unifying and separating factors (e.g. social welfare

---

[2] If one counts the UK as three (England & Wales, Northern Ireland, and Scotland), it makes more sense to talk about EU17.

investment, income inequality, geography, political traditions and orientations, and history and cultural traditions) in a fairly balanced way (Lappi-Seppälä, personal communication, February 26th, 2008). Lappi-Seppälä's work on the relationship between welfare regimes and penal policies expands on Esping-Andersen by adding several additional clusters. He distinguishes six clusters: (1) a Northern European cluster, (2) a Western European cluster, (3) Mediterranean Europe, (4) Anglo Saxon countries, (5) the Baltic countries and (6) Eastern Europe. See Table 8.1 for a detailed description of which countries belong to which clusters.

Table 8.1. The 'EUb' and 'L-S' classifications

EU based classification: 'EUb'	Lappi-Seppälä: 'L-S'
EU15	*Northern Europe*
Austria	Denmark
Belgium	Finland
Denmark	Iceland
Finland	Norway
France	Sweden
Germany	
Greece	*Western Europe*
Ireland	Austria
Italy	Belgium
Luxembourg	France
Netherlands	Germany
Table 8.1 continued	
Portugal	Luxembourg
Spain	Netherlands
Sweden	Switzerland
UK: England & Wales	
UK: Northern Ireland	*Mediterranean Europe*
UK: Scotland	Cyprus
	Greece
EU12 and candidates	Italy
Bulgaria	Holy See (Vatican)
Croatia	Malta
Cyprus	Monaco
Czech Republic	Portugal
Estonia	Spain
Hungary	Turkey
Lithuania	
Latvia	*Anglo Saxon countries*
Macedonia, FYR	Canada
Malta	England and Wales
Poland	Ireland
Romania	Northern Ireland
Slovakia	Scotland
Slovenia	USA
Turkey	
	Baltic countries
other West	Estonia

174

Holy See (Vatican)   Lithuania
Iceland   Latvia
Monaco
Norway   *Eastern Europe*
Switzerland   Albania
                            Armenia
other East   Azerbaijan
Albania   Belarus
Armenia   Bulgaria
Azerbaijan   Czech Rep
Belarus   Croatia
Georgia   Georgia
Kazakhstan   Hungary
Kyrgystan   Kazakhstan
Moldova   Kyrgystan
Russia   Moldova
Ukraine   Poland
                            Romania
USA and Canada   Slovakia
Canada   Slovenia
USA   Russia
                            Ukraine

What these classification schemes have in common is that they are based on explicit or implicit assumptions about within-cluster commonalities and between-cluster differences that are useful in comparative analysis of crime and criminal justice. This gets at the very heart of the cross-national approach: Comparative research is concerned with exploring "questions of difference and sameness – whether the crime patterns of the comparative countries are similar or distinctive and what this says about the wider culture and structure of societies" (Young 2008, 56).[3]

8.3   Purpose of this chapter

In the remainder of this chapter we use an explorative data analysis technique (Categorical Principal Components Analysis or CATPCA) to determine empirically the degree to which two existing country classifications ('EUb' and 'L-S') reflect a reasonable approach to country grouping and to use the empirical results to improve on one or both classifications without violating the conceptual idea (geographical, geopolitical, cultural) behind these classifications. That is, we are trying to

---

[3] There are two fundamental approaches as to the question of which countries are suitable for comparison. The 'most different' approach looks to include countries whose structure and culture are as unlike one another as possible, whereas the 'most similar' approach seeks to compare countries that are alike one another in these regards (Westfeld and Estrada 2008, 19; see also Marshall and Marshall 1983).

obtain a quantitative confirmation of the relevance and plausibility of these two classifications of countries which have been used in prior work on comparative crime and justice. We will be using a large number of indicators to reflect different aspects of crime and justice, giving all of them the same weight. Thus, primarily the empirical associations that emerge among these indicators will dictate how the countries are grouped (cf. Saint-Arnaud and Bernard 2003). Important is that our grouping will be anchored in crime and justice-related indicators, rather than on geopolitical and geographic factors. Exploring the plausibility of existing country clusters ('EUb' and 'L-S') is the primary purpose of this chapter. However, "[a] typology is useful only if we can use it do to something else" (Arts and Gelissen 2002; in Saint-Arnaud and Bernard 2003, 506). Consistent with this statement, a secondary purpose of the current chapter is to determine the interrelationship between countries and indicators, both the crime and criminal justice related variables that were actually used in the analysis and the socio-economic variables that were imported in the solution afterwards.

8.4   Methodology

In this paragraph we will explain what steps are taken in our analyses and why CATPCA was chosen as the statistical method used. A detailed description of this method can be found in appendix 8.2. Next, we will describe the variables used and why we decided to use these (and not other) variables.

The analysis

The first step in the analysis is to determine relative positions of countries in relation to each other based exclusively on the scorings on crime and criminal justice related variables. The idea is to identify which countries are close to each other (i.e. correlate in their scorings on the variables used) and which countries are not like each other.

In the second step we determine how two existing classification schemes of countries (the 'EUb' and 'L-S' classifications as mentioned in 8.2) relate to the findings of the first step in our analysis. Are countries that are positioned in the same cluster in the 'EUb' or 'L-S' classification indeed close to each other in respect of the scorings on their crime and criminal justice variables? Do those clusters form homogeneous groups of countries?

As a result of this step a choice will be made to use either the 'EUb' or the 'L-S' clustering as a starting point for the remainder of our analysis.

In the third step of our analysis, the clustering resulting from the second step will be refined by combining clusters and also by moving countries from one cluster to another. Primarily this is done based on empirical findings (i.e. the relative country positions derived in the first

analysis step). However, it is important to realise that relying solely on empirical results to decide on a classification is not satisfactory and could give unrealistic results. As an example: although – as will be shown below - empirically Hungary was placed near to the USA in some of our analyses it would be counter-intuitive to place them in the same cluster, because – as was mentioned in paragraph 8.3 – we want to keep some conceptual idea (geographical, political, cultural) as a guiding principle for the clustering. Having said that, there are still many empirical decisions to be made within such a conceptual context: "does it make sense to have a separate 'Anglo-Saxon' category if our guiding principle is cultural", or "where exactly can we draw the line between 'West' and 'South' geographically spoken". These are exactly the kind of questions that we want to answer in this part of the analysis.

In the fourth and last analysis step we will address the question of in what way the clusters are different from each other in respect to the country scorings on the variables. In other words: what values of which variables cause clusters to be different? This will be done for the crime and criminal justice variables used to determine the relative positions of countries (and clusters), but also for other, socio-economic variables like income, unemployment rate, and educational expenditures[4].

The choice of CATPCA

Essentially the purpose of this chapter is – by using crime-related variables – to look at the empirical plausibility of existing clusterings of countries as described in paragraph 8.2, and to use these empirical findings to make amendments to those clusterings.

This means that while there are other techniques aimed specifically at clustering (e.g. Latent Class Analysis, see McCutcheon 1987), we decided to use a more explorative technique like CATPCA, because we did not want to mechanically determine clusters of countries but are more interested in the relative positions of countries in relation to each other and the variables used in our analysis. And CATPCA does precisely that: it constructs a n-dimensional solution space in which both countries and variables are placed. And although the technique is explorative, the way we use it still has a clear theoretical basis by the choice of the variables used, i.e. *only* crime and criminal justice related variables.

The following characteristics of CATPCA make this technique particularly suitable for our purpose. Firstly, as mentioned above, CATPCA gives the opportunity to explore the relative position of countries and variables and the interrelationship between countries and variables in the solution space, which is precisely what we want to do in

---

[4] Actually, these socio-economic variables do not 'cause' the differences between countries and clusters because they were not used in determining the relative positions of countries. But countries do score on these variables and the differences of these country scores can be seen also in relation to the clusters chosen.

step one and four of our analysis. Secondly, it is possible to evaluate the theoretically (e.g. based on geopolitical factors) determined classifications and see how they fit in the solution space. This is step two in our analysis. Thirdly (this is purely a technical reason, but also very important in view of the fact that missing values are a huge problem in international data sets), CATPCA is very tolerant towards missing values. This is important because there are countries and variables (such as victim survey related variables) in our dataset with many missing values. In the fourth place, CATPCA gives the possibility to use ordinal data instead of numerical data. Lastly, with CATPCA it is possible – as we want to do in step four of our analysis – to use variables in a passive way, i.e. variables that have not been used in constructing the solution but are positioned in the solution space anyhow. In this way variables that are not directly crime related (such as unemployment, income etc.) can be examined in relation to countries, in relation to the original crime-related variables and in relation to the chosen classifications.

The variables used

We consider two sets of variables. The *active* variables are the variables that are used to compute the solution, the *passive* variables are not. However, the passive variables are placed in the solution space afterwards to see how they relate to the objects (countries), the active variables and the other passive variables. Obviously, the solution we find is highly dependent on the choice of the active variables used. Because our aim was to see how existing classifications of countries behave when looking at crime and the way countries react to crime, the first decision we made was to restrict the active variables to those variables that are directly related to crime and the criminal justice system only. All other variables (socio-economic variables such as income, education level etc.) were used passively.

The following considerations were used in the choice of variables:

- We did not want too many variables: the more variables, the more complicated the interpretation of the results would be.

- The set of variables should cover as many aspects of crime and criminal justice as possible, such as number of victims, recorded crime, suspected offenders, convictions, prison population. But also resources, 'non-traditional' crime and opinions of the public.

- There should be some variables giving information on the trends over the last few years.

- Although CATPCA will handle missing values in a correct and neutral way one should be very careful with variables with too many missings, in particular when mostly the same countries have the missing values on these variables.

- When two variables are obviously and strongly correlated the solution could be dominated by these two variables. This was indeed the case

178

with the variables 'recorded theft' and 'recorded violent crime'. Replacing the violent crime variable with 'recorded homicide' resulted in a more heterogeneous variable set. A similar argument was used to use ratios (e.g. the number of suspected offenders divided by the number of recorded offences) instead of direct measurements.

This resulted in a set of 18 active and 9 passive variables listed in Table 8.2.

Table 8.2. Variables used

	Variable	Description
Active variables		
1	vict	Total victimization, incidence rates
2	theft	Recorded thefts
3	homicide	Recorded homicides
4	susp/rec	The number of suspected offenders divided by the number of recorded offences
5	conv/susp	The number of convicted offenders divided by the number of suspected offenders
6	pris	Number of prisoners
7	juv	Percentage of juvenile suspected offenders
8	fem	Percentage of female suspected offenders
9	sat	Satisfaction with the police
10	unsafe	Feelings of unsafety
11	corrup	Corruption index
12	pol	Number of police
13	judges	Number of professional judges
14	theft-g	Change in recorded thefts, 2000-2004
15	viol-g	Change in recorded violent crime, 2000-2004
16	pris-g	Change in number of prisoners, 2000-2004
17	juv-g	Change in percentage of juvenile suspected offenders, 2000-2004
18	pol-g	Change in number of police, 2000-2004
Passive variables		
19	gdp	Gross income per capita
20	gdp-g	Change in gross income per capita, 1990-2004
21	unempl	Unemployment rate
22	yunempl	Youth unemployment rate
23	hdi	Human Development Index
24	gini	Income distribution (low=more equal distribution)
25	pubed	Expenses on education
26	gdi	Gender related development index
27	sosexp	Social protection expenditure

The variables 1-13 refer to the year 2003. This year was chosen instead of 2004 (the last available year) because there were fewer missing values for 2003. For the variables 14-18 the mean annual change over the period 2000-2004 was calculated, using all but at least two years in this period that had no missing values. The variables 1-6 cover a variety of aspects of crime and the criminal justice system. Except for recorded crime, where a property crime (all theft) and a violent crime (homicide) were chosen, total crime was used. This was for practical reasons, selecting specific crime types would have resulted in too many missing values. The variables 7, 8 and 17 give information on offender characteristics. Since the percentage of female offenders is fairly stable in time, changes were

only taken for juvenile offenders. In order to get a more comprehensive picture, some variables were added on criminal justice resources (12, 13 and 18) and opinions and feelings of citizens on crime (9 and 10). Finally, we used only 3 values for each variable: low, medium and high. See also appendix 8.1 for a discussion on the variables used.

8.5   Results

In this paragraph the results of the CATPCA analysis are presented and discussed. First we look at the implications of the analysis for the clustering of countries. This was the primary goal of the research in this chapter. Next, the interrelationship between countries and variables will be discussed, both the crime and criminal justice related variables that were actually used in the analysis and the socio-economic variables that were imported in the solution afterwards.

Country clusterings

Before the first analysis was executed we decided to leave some countries out for two reasons. Either because they were too small (as a result Vatican City and Monaco with less than 100,000 inhabitants were left out) or they had too many missing values. This was the case for Kazakhstan, Armenia and Macedonia, even after using other sources and interpolation of figures (see appendix 8.1). This left us with 44 countries.

Also the choice was made to use a 2-dimensional solution space. Not only is a 2-dimensional solution easier to present, it was also to be expected that higher dimensions would not contribute much to the solution[5]. However, we did look at the 3-dimensional solution afterwards to see if either unexpected results in the 2-dimensional solution could be explained in the third dimension or to ensure that decisions (on the clustering) were also supported when taking the third dimension into account.

The results of the first step in our analysis, where the countries are positioned in the 2-dimensional space in such a way that countries that score very differently on the crime and criminal justice related variables tend to be placed far apart, can be seen in Figure 8.1.

---

[5] Based on experiences with other research where CATPCA was used. And this was also confirmed numerically when the analysis was done in three dimensions.
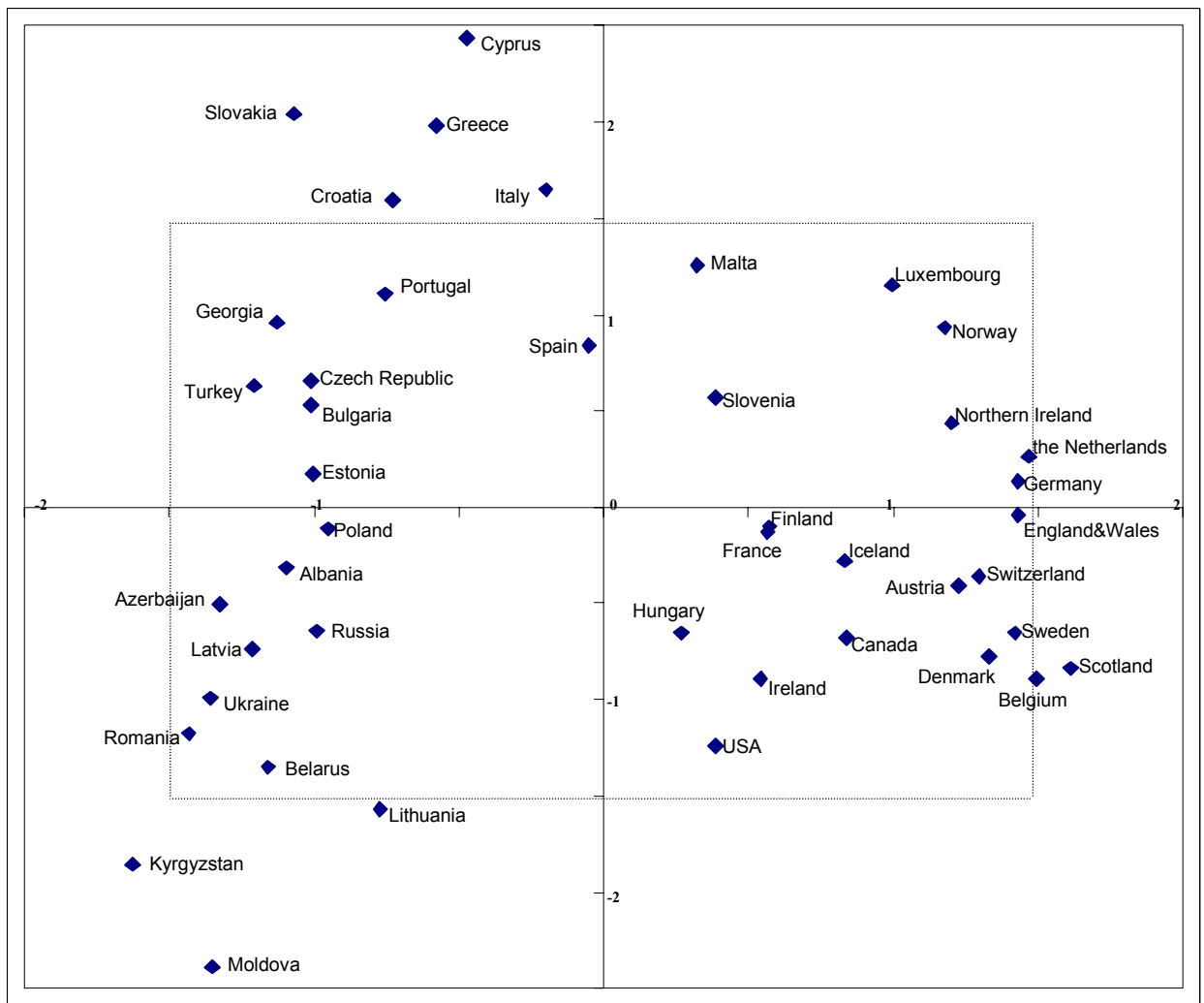
Figure 8.1. Country positions in the two-dimensional solution space

The scale of Figure 8.1 is from -2 to +2 on the x-axis and from -2.5 to +2.5 on the y-axis[6]. This is the same scale as for Figure 8.3, however for Figures 8.2, 8.4 and 8.5 the scale is different: from -1.5 to +1.5 on both axes. The dotted lines in Figures 8.1 and 8.3 define the areas of Figures 8.2, 8.4 and 8.5.

While a discussion on a possible interpretation of the two dimensions must be postponed until the positions of the variables themselves in the solution space are shown also, it is already clear that the results are not counterintuitive. It is not surprising for example that England & Wales, Germany and the Netherlands are near to each other but far from Kyrgyzstan. And that Portugal and Spain can be found near to each other but in yet another part of the solution space.

---

[6] The unity used in the figures has no real meaning. It is a consequence of the way CATPCA handles the normalisation of the category scores.

181

For our second analysis step the two existing clusterings 'EUb' and 'L-S' were taken (see paragraph 8.3). The analysis was carried out again, but now with the 'EUb' and 'L-S' clusterings as passive variables. This did not change the positions of the individual countries, but this way it could be determined whether these two clusterings were discriminating between countries according to their scores on the active (crime and criminal justice related) variables and whether the individual categories (such as EU12+ or 'Anglo Saxon countries') within a clustering were discriminating compared to each other. Based on the first results (not shown here) we decided to modify the 'L-S' clustering slightly. The original 'Eastern Europe' category was by far the largest (16 countries) and the countries within this category were rather spread out over the solution space, suggesting that this was not a homogeneous category. Therefore this category was split into two categories: 'Former Soviet states' and 'Eastern Europe' (all eastern European countries that were not former Soviet states)[7].

---

[7] There was also some justification for this decision in the third dimension. While 11 of these 16 countries were positioned near the origin in the third dimension, Romania and Bulgaria had large negative values and Ukraine, Belarus and Georgia large positive values.
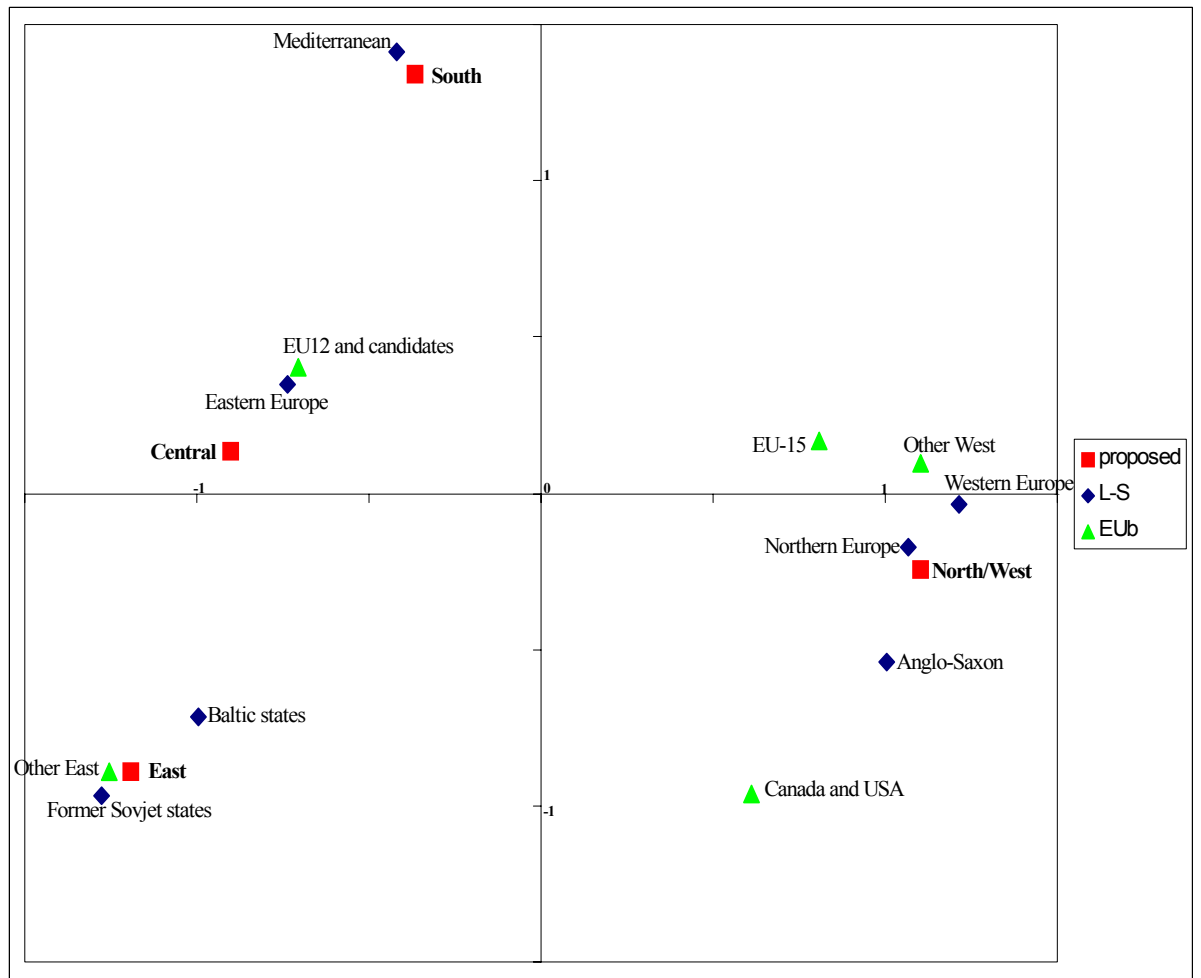
Figure 8.2. The 'EUb' and 'L-S' classifications in the solution space together with the proposed classification

The positions of the categories from the (modified) 'EUb' and 'L-S' clusterings can be seen in Figure 8.2. Both country clusterings (EUb and L-S) are indeed discriminating: if they were not, their respective categories (e.g. Anglo- Saxon or EU12+) would have been positioned near the origin. Here they are typically on a distance of about 1 from the origin. More precisely, the discriminating 'power' of a variable can be expressed numerically as a vector length with a value between 0 (not discriminating at all) and 1 (highly discriminating). For 'EUb' this length was 0.76, for 'L-S' it was 0.93.

Looking at the individual categories in 'L-S', Western- and Northern European and the Anglo-Saxon countries are very close to each other. This means that they could probably be combined without loss of discriminating power. The same holds for the Baltic states and the former Soviet states and also for the 'EU-15' and 'other Western' countries in the 'EUb' clustering.

In our third analysis step, we arrived at the following proposal for a 'theoretically-based, but empirically adapted' clustering (as is the purpose of this chapter) with four categories, i.e. 'North/West', 'South', 'Central' and 'East':

- As a starting point we used the 'L-S' classification for two reasons. Firstly, as mentioned above, the classification (with a vector length of 0.93) was more discriminating than the 'EUb' classification. Secondly, the categories resulting from the 'L-S' classification are more evenly distributed. For the 'EUb' classification the 'EU-15' combined with the 'other West' category consists of 20 countries, 'EU12 and candidates' 14 countries, 'Other East' 8 countries and 'Canada and USA' 2 countries. Whereas the four groups to be formed from the 'L-S' classification had 18, 9, 7 and 10 countries[8].

- The four categories in our proposal were basically formed as suggested from Figure 8.1 out of the 'L-S' clustering. 'Western-', 'Northern Europe' and 'Anglo Saxon' were combined into 'North/West', 'Mediterranean' was renamed 'South', 'Eastern-Europe' was renamed 'Central' to distinguish this category from the last one 'East', where the Baltic states and the former Soviet states were combined[9].

---

[8] Of course it would be tempting to try to split the first (North/West) category into two categories. However, there seems to be no plausible way to do this as can be seen from the country positions in Figure 8.2. Possibly a more detailed analysis on only these 18 countries could help here.

[9] Actually, the Baltic states are of course actually former Soviet states. However, the decision to combine the Baltic states with the former Soviet states and not with the category 'Central' was made with some hesitation. Although the Baltic states were close to the former Soviet states in the 2-dimensional solution, in the 3- dimensional solution this distance was larger and actually about the same as the distance between the Baltic states and the category 'Central'. Other possibilities, i.e. to keep them as a separate category or to put them into the 'North/West' category were empirically not attractive either (see Figure 8.3.).

- For various reasons, within our modified 'L-S' classification some countries were moved from 'Central' to 'South' and vice versa. This will be discussed in the following paragraph.

The positions of the clusters in the proposed classification are also shown in Figure 8.2. And it turned out that this classification has an even better discriminating power (0.99) than the original (modified) 'L-S' classification it was based on.

Country positions

The object scores (the country positions) derived from the analysis are again shown in Figure 8.3, but now they are explicitly placed in one of the clusters of our proposed clustering scheme.
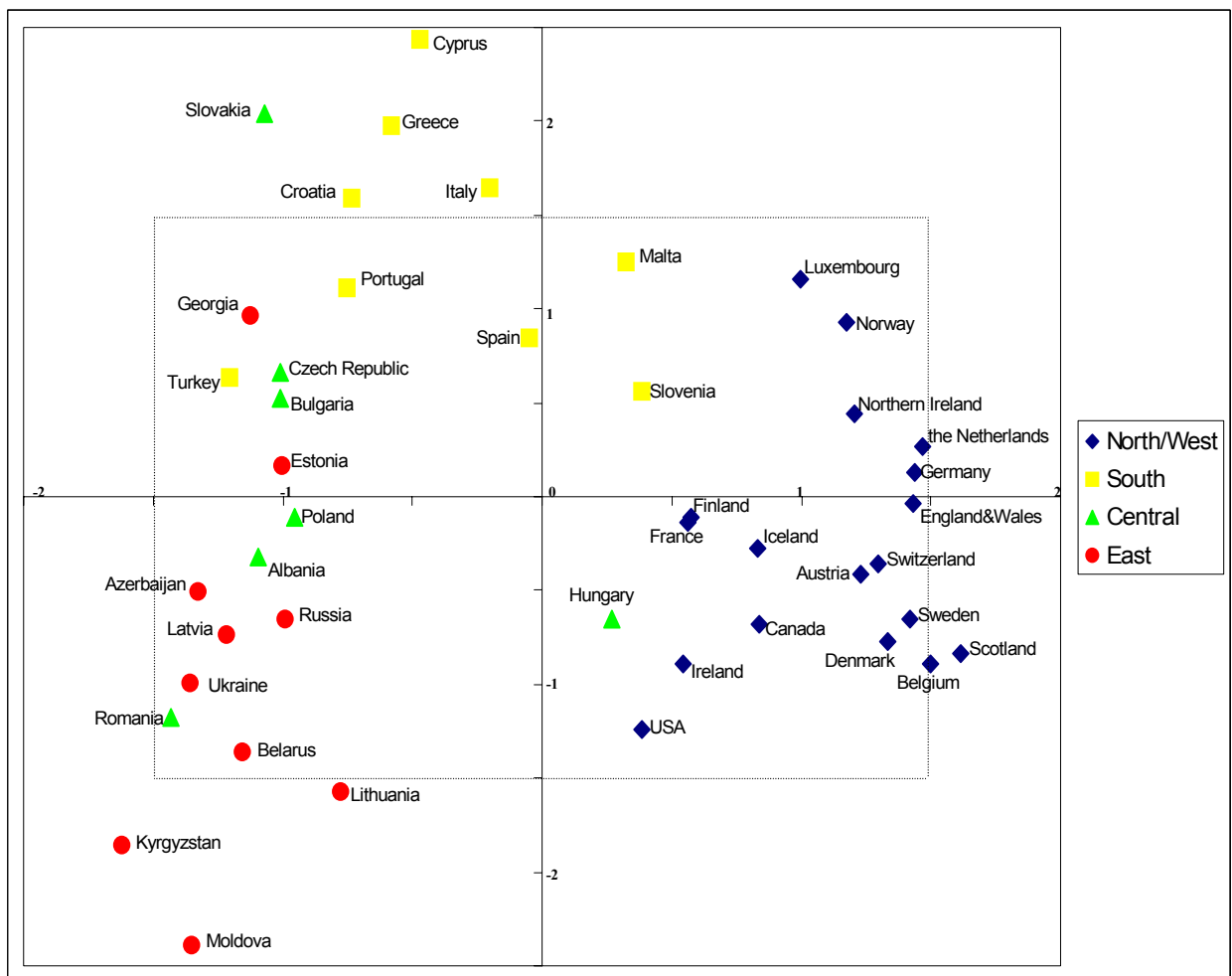
Figure 8.3. Country positions and clustering

Clearly the countries in the category 'North/West' and those in the category 'South' form homogeneous groups. Interestingly, as can be seen

185

there are no obvious subdivisions *within* the category 'North/West', even though this is the category with the most countries. For example, taking 'Scandinavian' or 'Anglo-Saxon' countries together as distinct categories (as is often done) has no empirical justification in this analysis. That is, Finland, Sweden, Norway, and Denmark are not clustered together more closely than say the USA, Northern Ireland, England & Wales, Ireland and Scotland. The 'Central' and the 'East' categories are less homogeneous, with in particular Hungary and Slovakia as outliers in the 'Central' category. Although *empirically* (i.e. based on our analysis) Slovakia could be better placed in the 'South' category and Hungary in 'North/West', there was no compelling conceptual reason (geographical, political, cultural, ...) to do this.

However, there were two countries, Croatia and Slovenia, that we decided to move from the 'Central' to the 'South' category based on the findings of our analysis. The conceptual justification was mainly geographical (actually the 'South' category turns out to be in fact 'Mediterranean' which was the name of the original category in the 'L-S' classification), but also reflects the political history of the former Yugoslavian countries which is somewhat different from the other 'countries in transition' in the category 'Central'.

Also we decided to put Turkey in the category 'South', although there was no empirical reason to do this. As can be seen in Figure 8.3, Turkey could also, maybe even better, have been positioned in the category 'Central'. However, all other countries in the category 'Central' are the 'countries in transition' that used to be in the sphere of influence of the former Soviet-Union, which Turkey is clearly not. Therefore, conceptually, Turkey is better placed in the category 'South'.

The resulting clustering based on both the original 'L-S' classification and the empirical findings in our analysis can now be defined (or conceptually described) as follows:

• First, all countries that used to be Soviet states are placed in the category 'East'.

• Secondly, all 'countries in transition' i.e. all countries that used to be in the sphere of influence of the Soviet Union before the 90's are placed in the category 'Central'. The former Yugoslavian countries are not in this category.

• The remainder of the countries are divided in two categories 'North/West' and 'South' on geographical grounds only. With 'South' meaning south of the Pyrenees and the Alps. The USA and Canada are placed in the category 'North/West'.

Using this scheme it is now also possible to include those countries that were not part of the analysis (see Table 8.3).

Summarizing the decisions on clustering that were made, we started with two existing classifications and then used our analysis to choose between these two classifications and to modify (by combining or

dividing categories and by replacing some countries) the chosen classification. This was done in such a way that the resulting classification was also conceptually sound. Needless to say, the mixing of conceptual and empirical justifications for making decisions about assigning particular countries to different country clusters requires a precarious balancing act – an issue which we will further address in the final paragraph of this chapter.

The variables in the solution

It is important to realise that the findings as presented in Figures 8.1-8.3 and the resulting classification are exclusively based on the scoring of countries on crime and criminal justice related variables. The obvious question to ask is now how these variables have contributed to the solution (in CATPCA terms: where are the variable categories placed in the solution space) and if we can give a sensible meaning to the (two) dimensions in the solution space.

The positions of the variables (or, more precisely, two of the three possible values of the variables, i.e. 'high' and 'low') are shown in Figure 8.4.

Figure 8.4. The active variables in the solution space

italic small type   low score on this variable
bold larger type   high score on this variable

The scale of Figure 8.4 is again the same as in Figure 8.2, between -1.5 and +1.5 on both axes. The farther away a (value of a) variable is from the origin, the more it has contributed to the solution[10].

Looking at the variables derived from victim surveys (i.e. *vict* – total victimization, *sat* – satisfaction with the police, and *unsafe*– feelings of unsafety) it must be kept in mind that there are some missing values for these variables, in particular for countries in the 'East' category. This is why the values are mainly placed near the other three categories (i.e. South, North/West and Central). In general, high satisfaction with the police, a high number of victims and low feelings of unsafety are characteristics for the countries in 'North/West'. Low victimisation is very close to the origin (which means that this variable does not contribute much to the solution), but high feelings of unsafety and low satisfaction with the police are close together and farther removed from the origin in the solution space and apparently characteristics of many countries in 'South' and 'Central'.

It is noteworthy that a high number of police (*pol*) is also close to high feelings of unsafety and low satisfaction with the police. Looking at the location of the low value of the number of police (in italics in Figure 8.4) and the (roughly comparable location of the) high value of the *change* in the number of police (*pol-g* – in bold in Figure 8.4)), a possible interpretation may be that at least some of the countries in 'North/West' are increasing their lowly staffed police force. Both values (high and low) for the number of judges (*judges*) are near the origin, which makes it difficult to draw any conclusions for this variable.

Recorded theft (*theft*) follows a clear 'North/West' (high) versus 'Central' and 'East' (low) pattern. Looking at the *change* in recorded theft (*theft-g*) (but also in the almost identically positioned change in recorded violent crime- *viol-g*) the values are perpendicular to recorded theft, meaning that there is probably no correlation between the two. On the other hand, the recorded homicide variable (*homicide*) appears to be a strong discriminator, with high levels of homicide in 'East' countries and low levels in many 'South' and 'North/West' countries.

Although (or maybe because of) the number of recorded theft[11] is low in many countries in 'East' and 'Central', the proportion of suspected offenders per recorded offences (*susp/rec*) as well as the proportion of convicted per suspected offenders (*conv/susp*) is high in these countries. It

---

[10] If for example a variable does not correlate with any of the other variables, it would be placed near the origin.
[11] Actually, and more to the point in this respect the *total* number of recorded crimes follows very much the same pattern as the number of recorded thefts.

is possible that this accounts for the observation that the number of prisoners (*pris*) is also high in the East and Central clusters. However, the *change* in the prison population (*pris-g*) is almost exactly the inverse of the level variable of the number of prisoners, suggesting that the differences in prison population between countries are lessening.

Countries in 'South' and 'Central' can be characterised by a low proportion of juvenile (*juv*) and female offenders (*fem*) (and also a low change in the juvenile offender population *juv-g*) in contrast to the 'North/West' countries with higher proportions of juvenile and female offenders. Finally, examination of Figure 8.4 suggest that high levels of corruption (*corrupt*) are typical for the East and Central clusters, whereas North/West countries report fairly low levels of corruption

In addition to examining the interrelationship between countries (more precisely, country clusters) and criminal justice-related indicators, one of the goals of this chapter is to explore the role of commonly-used socio-economic variables that were imported in the solution afterwards. These socio-economic variables that were positioned in the solution although they were not used in the construction of the solution can be found in Table 8.2 (passive variables). These variables can be seen in Figure 8.5.
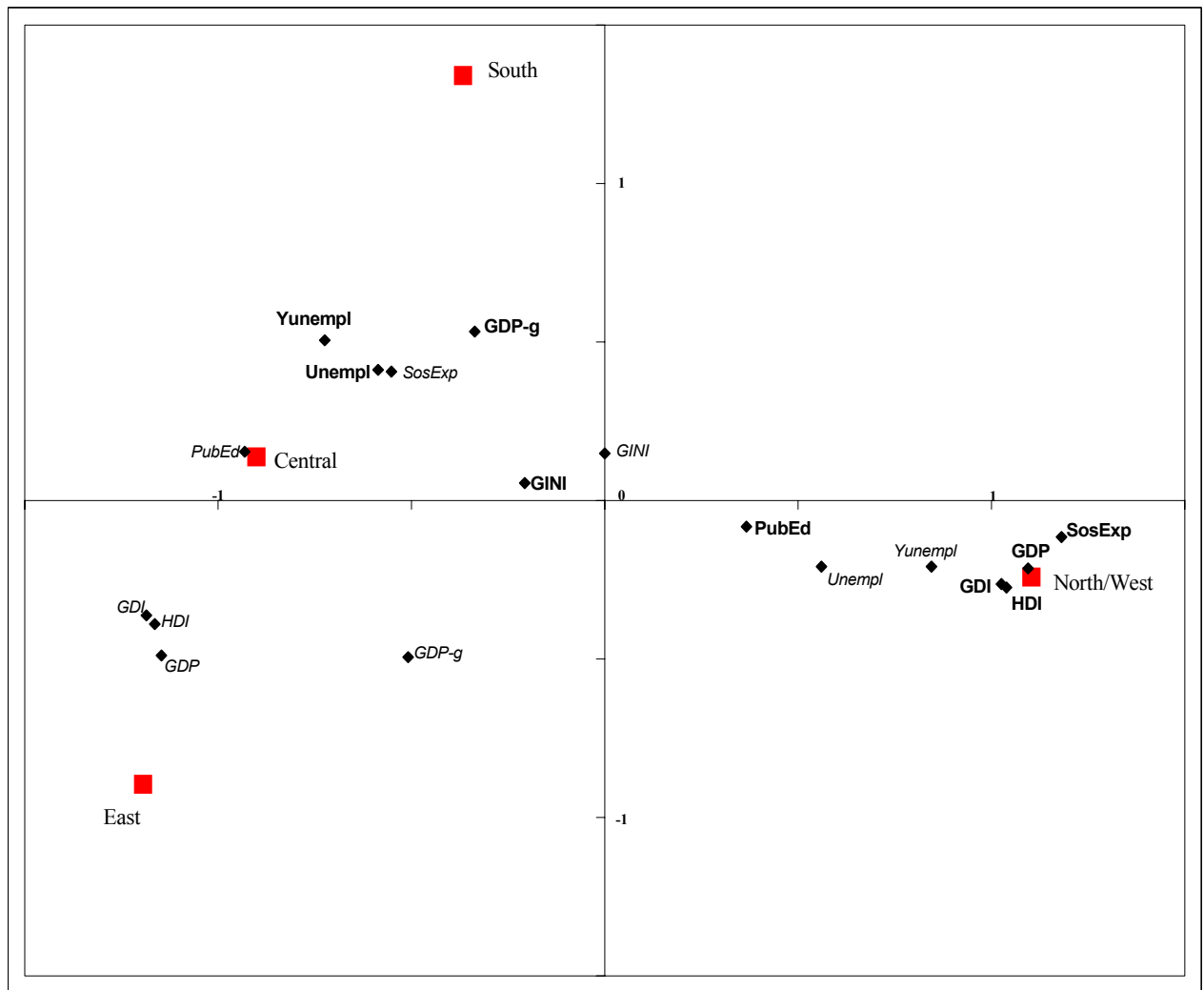
Figure 8.5. The passive variables in the solution space

italic small type   low score on this variable
bold larger type   high score on this variable

The variables *GDI* (Gender related development index), *HDI* (Human development index) and *GDP* (Gross income per capita) are almost identical in the figure (i.e. the high values virtually overlap one another in the bottom right quarter of Figure 8.5, and the low values do the same in the left bottom quarter of Figure 8.5). This means that when looking at countries from a crime and justice perspective these variables can be seen as one variable. High values relate strongly with 'North/West', low values with 'East' and 'Central'. The GDP growth variable is somewhat differently oriented with high values mainly for countries in 'South' and 'Central'.

The *GINI* variable (Income distribution) is very near the origin, no conclusions can be drawn from this. The expenses variables (*PubEd* and *SosExp*) have low values in 'Central' and high values in 'North/West'. Also low unemployment can be seen in 'North/West' whereas high unemployment can be found in 'Central' and possibly 'South'.

190

Discussion and interpretation of the results found

Based on Figures 8.4 and 8.5 we can now try to list some characteristics of the four groups of countries. The 'East' countries are characterised by a high number of prisoners, homicides and a large proportion of convictions among suspected offenders. Also, the 'East' countries share with the 'Central' countries a low GDI/HDI/GDP. In the 'Central' countries we find high corruption, a low recorded theft rate (actually, although this was not a variable considered, also a low recorded *total* crime rate) but a high number of suspected offenders per recorded crime and fewer females among the suspects. The 'Central' group also has high unemployment rates, total as well as juvenile. Although the 'South' countries form a clearly distinct group, there are no obvious characteristics that uniquely characterize these countries. Possibly a high number of police, low satisfaction with the police, high level of feelings of unsafety and a low proportion of juvenile offenders may be considered belonging to the 'South' countries, but these characteristics are probably shared with the 'Central' countries. For the 'North/West' countries there are quite a few characteristics: high recorded theft and high victimisation rates contrast with low feelings of unsafety, low corruption and high satisfaction with the police. In the 'North/West' cluster, the GDI/HDI/GDP are high and (youth) unemployment low.

Now, putting the main theme of this chapter – clustering of countries into meaningful categories – aside and looking only at the variables in Figures 8.4 and 8.5 (and not at the clustering or the country positions in Figure 8.3) we may make the following observations:

• Often objective variables seem to contradict subjective variables. High crime rates (from victim surveys and recorded rates) correlate with low feelings of unsafety. Also, a higher number of police apparently does not contribute to satisfaction with the police or to higher feelings of safety.

• Obviously and not surprisingly there is a strong relation between level of corruption and the level of income of countries.

• Somewhat unexpectedly, a high youth unemployment is correlated with a low proportion of juvenile offenders. This could be an artefact of the way the variables are defined: although the relative number of juvenile offenders is low, the absolute number could be high.

• CATPCA enables to interpret a few components (the x- and y-axes in our case) instead of a large number of variables. Unfortunately, the x- and y-axes are hard to interpret. It is possible that if there are meaningful dimensions they do not follow these axes exactly. One dimension could be a 'serious crime / repressive' to 'less serious crime / tolerant' dimension. In the solution space this would be roughly a line between the two values of the 'homicide' variable. Another dimension could be a 'public attitude' dimension mainly from the upper left to lower right part of the solution space, but closer to the x-axis than to the y-axis. On one side we find generally speaking people feeling unsafe, not satisfied with a possibly corrupt police and therefore hesitant to go to the police to report

a crime where on the other side people are possibly more assertive in their dealings with a police they trust more in the first place.

8.6   Summary and conclusions

In this chapter crime and criminal justice related data from the UN Crime Trend Survey and from some other sources were used to try to organize European countries (with also Canada and the USA included) into larger groups. This was done in such a way that the resulting classification would be supported by the data, but would at the same time be understandable within a conceptual framework.

By analysing two existing classification schemes (one based on membership of the EU and one an adaptation of Esping-Andersen's clustering of countries based on socio-economic arguments) it was found that when looking at crime and criminal justice related data only, there was no empirical justification in having the Scandinavian countries as a separate cluster nor the 'Anglo-Saxon' countries. However there was a clear distinction between Northern and Western European countries on the one hand and Southern European (Mediterranean) countries on the other hand. Eastern European countries were another distinct group. However, empirically it made sense to subdivide them into two groups: the former Soviet states and the 'other', more Central European countries.

This resulted in four clusters: 'North/West' (including Canada and USA), 'South', 'Central' and 'East'.

In the introduction of the chapter, we alluded to the fact that geographical considerations are the most frequently used basis for country clustering, a practical and reasonable approach which appears to find partial support in our analysis. In this context, we have to admit to a certain level of frustration by the labels we assigned to the four resulting categories (North/West, South, Central and East) as they appear to emphasize (too much) the geographical dimension.[12] From our analysis – and also consistent with previous practice – it is evident that additional considerations (such as level of economic development) also play a significant role in distinguishing country clusters (for example, United States and Canada are grouped with many Western and Northern European countries). In future work, we hope to replace the labels (North/West, East, Central and South) with conceptually more meaningful names. From our view (a view shared by many), there is no doubt that classification of countries has important *theoretical* relevance; it is this issue which represents the hardest challenge. Classification schemes are based on explicit or implicit assumptions about within-cluster

---

[12] One concern is that there may be some confusion resulting from our distinction between 'East' (i.e. all countries that are former Soviet States) and 'Central' (all other 'countries in transition"). Our use of these labels is not consistent with common practice.

commonalities and between-cluster differences that are useful in comparative analysis of crime and criminal justice. In the preceding discussion of our results, we speculated briefly about the meaning of the dimensions (x and y axes in our analysis) on which the country clusters differ: Is it perhaps related to public attitudes toward crime and crime control? Or is it related to tolerance versus repression? Or does it reflect differences in the seriousness of the crime problem? Articulating and interpreting the conceptual meaning of the dimensions on which the country clusters differ is the most difficult task which we need to tackle in future research.

This chapter represents a first step in a research program which is aimed at questioning what many take for granted in the field of crime and justice research: the use of country clustering. The method we used – although explorative – is also quite complicated and may appear to the uninitiated a needlessly cumbersome way to approach the – all too often taken for granted – clustering of countries. Our method in approaching country clustering is distinct in that we explored the empirical fit of two existing country clusters (EUb and 'L-S') with a large number of crime and justice-related indicators. The results of the analysis presented us with four country clusters – partially overlapping with existing groupings, but with some interesting modifications – which, in turn appear to reflect reasonable patterns with regard to a small set of socio-economic indicators. Substantively, with regard to the observed relationships between crime and justice-related variables and socio-economic variables, our results are not earth-shaking. However, the apparent consistency of our findings with existing knowledge gives us greater confidence in the validity of our approach. The main conclusion of this chapter is that it is indeed possible to arrive at a country clustering that is both supported empirically and is conceptually sound. Our analysis produced fairly minor – yet significant - adjustments in L-S's country clustering; we expect that additional work including other indicators is needed to further refine our quest for identifying the 'best practice' in country clustering in the field of crime and justice. Finally, we expect that this is a never-ending project since the ever-shifting socio-political reality will demand a fluid conception of how to divide the world into meaningful smaller clusters useful for comparative purposes.

References

Aebi, Marcelo Fernando, Kauko Aromaa, Bruno Aubusson de Cavarlay, Gordon Barclay, Beata Gruszczyñska, Hanns von Hofer, Vasilika Hysi, Jörg-Martin Jehle, Martin Killias, Paul Smit and Cynthia Tavares (2006). *European Sourcebook of Crime and Criminal Justice Statistics*. WODC Research and Policy series nr. 241. Den Haag: Boom.

Arts, Wil and Gelissen, John (2002). "Three Worlds of Welfare Capitalism or More? A State-of-the-Art Report". *Journal of European Social Policy* 12(2), 137-58.

Bagby, Philip (1958). *Culture and History: Prolegomena to the Comparative Study of Civilizations*, London: Longman Green.

Butchart, A. and Engstrom, K. (2002). *Sex- and Age-specific relations between economic development, economic inequality and homicide rates in people aged -24 years: a cross-ectional analysis.* Bulletin of the World Health Organization 2002, 80 (10).

Braudel, F. [1963] (1993). *A History of Civilizations*. New York: Penguin Books [First published in the collected works of S. Baille, F., Braudel, R. Philippe (1963). Le Monde actuel, histoire et civilization, librairie Eugene Belin].

CEPEJ (European Commission for the Efficiency of Justice) (2006). *European Judicial Systems*. Strasbourg: Council of Europe.

De Heus, P. and Van der Leeden, R. (1995). *Toegepaste Data-analyse (Applied Data Analysis)*. Breda: Elsevier.

Esping-Andersen, Gösta (1990). *The Three Worlds of Welfare Capitalism*. Princeton, NJ: Princeton University Press.

Gifi, A. (1990). *Nonlinear multivariate analysis*. Chichester: John Wiley & Sons.

Huntington, Samuel P. (1997). *The Clash of Civilizations and the Remaking of World Order*. New York: Simon & Schuster.

Inglehart, Ronald, Miguel Basanez, Jaime Diez-Medrano, Loek Halman and Ruud Luijkx (Eds., 2004): *Human Beliefs and Values. A Cross-Cultural Sourcebook based on the 1999-2002 Values Surveys*. Siglio Veintiuno editors, s.a. de c.v., Fundacion BBVA.

Lappi-Seppälä, Tapio (2007). Penal Policy and Prisoner Rates in Scandinavia. Cross-comparative perspectives on penal severity. In Nuotio, Kimmo (Ed.) *Festschrift in Honour of Raimo Lahti*. Publications of the Faculty of law. University of Helsinki: Helsinki University Print, 265-306.

Lipset, S. M. (1992). American Expectionalism Reaffirmed. In: Shafter B.E. (Ed): *Is America Different? A New Look at American Exceptionalism.* Oxford: Clarendon Press, 1-45.

Marshall, Ineke Haen and Marshall, Christopher E. (1983). Toward a Refinement of Purpose in Comparative Criminological Research: Research Site Selection in Focus. *International Journal of Comparative and Applied Criminal Justice* (7), 89-97.

194

Marshall, Ineke Haen (2001). The Criminological Enterprise in Europe and the United States: A Contextual Exploration. *European Journal on Criminal Policy and Research 9,* 235-257.

Marshall, Ineke Haen (2002). A Macro-level Comparative Approach to Criminal Violence. Paper presented at the Second Annual Conference of European Society of Criminology, Toledo, Spain.

McCutcheon, A.L. (1987). *Latent Class Analysis*. California: Sage Publications Inc.

Messner, S. and Rosenfeld, R. (2007). *Crime and the American Dream*. Belmont, CA: Wadsworth.

Nelken, D. (2000). *Contrasting Criminal Justice*, Aldershot, England: Ashgate.

Newman, Graeme (Ed., 1999). *Global Report on Crime and Justice*. Oxford University Press.

Saint-Arnaud, S. and Bernard, P. (2003). Convergence or Resilience? A Hierarchical Cluster analysis of the Welfare Regimes in Advanced Countries, *Current Sociology*, September 2003, Vol. 51 (5), 499-527.

Shafter, B.E. (Ed) (1991). *Is America Different? A New Look at American Exceptionalism,* 1-45. Oxford: Clarendon Press.

Shannon, Thomas R. (1992). *An Introduction to the World-System Perspective*. Boulder, Colorado: Westview Press.

Shelley, L. I. (1982). *Crime and Modernization*. Carbondale: Southern Illinois University Press.

Van de Geer, J. P. (1988). *Analyse van kategorische gegevens (Analysing categorical data)*. Deventer: Van Loghum Slaterus.

Van Dijk, J. J. M. (1999). The experience of crime and justice. In Newman, Graeme (Ed.): *Global Report on Crime and Justice*. Oxford University Press, 25-42.

Van Dijk, Jan van, John van Kesteren and Paul Smit (2008). *Criminal Victimisation in International Perspective, Key findings from the 2004-2005 ICVS and EU ICS*. WODC Research and Policy series nr. 257. Den Haag: Boom.

Van Swaaningen, R. (1997). *Critical Criminology: Visions from Europe*. London: Sage.

Vogel, Joachim (2003). Welfare Institutions and Inequality in the European Union: A lesson for Developing Countries. In Carlucci, F. and F. Marzano (Eds.): *Poverty, Growth and Welfare in the World Economy in the 21 Century*. Peter Lang.

Westfelt, Lars and Estrada, Felipe (2006). "International Crime Trends: Sources of Comparative Crime Data and Post-War Trends in Western Europe," In Sheptycki James and Ali Wardak (Eds.): *Transnational & Comparative Criminology*. New York: Routledge-Cavendish, 19-48.

World Health Organization (2002). *World report on violence and health*. Geneva: WHO.

Young, Peter (2006). The Use of National Crime Statistics in Comparative Research; Ireland and Scotland Compared. In James Sheptycki and Ali Wardak (Eds.): *Transnational & Comparative Criminology*. New York: Routledge-Cavendish, 49-68.

Appendix 8.1.

Data used in Chapter 8

In this chapter not only data from the UN Crime Trend Survey were used, but also data from various other sources for two reasons: firstly, some of the variables are not included in the UN Crime Trends Survey at all and secondly there were quite a few missing values for some countries and for some years.

For the variables that were not included in the UN Crime Trends Survey the following sources were used:

The variables *vict*, *sat* and *unsafe* (see Table 8.2) were taken from the International Crime Victim Survey (ICVS) (Van Dijk, Van Kesteren and Smit, 2008). The data from the last sweep of the ICVS (2004/2005) were used[13]. The values of the variables *corrup* and all passive variables (Table 8.2, nr. 11, 19-27) were taken from various other sources and collected by HEUNI. For all other variables (Table 8.2, 2-8, 12-18) the data were in first instance taken from the 8th and 9th UN Crime Trend Survey. This resulted in a dataset with the years 2000 - 2004, but still with many missing values. However, the majority of the countries were also present in another data collection: the European Sourcebook of Crime and Criminal Justice Statistics (Aebi et al. 2006). With this source a considerably large part of the missing values could be filled in. This was done with some caution: if the figures from the UN Crime Trends Survey were very different from those in the European Sourcebook the source where most years in the period 2000-2004 were not missing was chosen. For the variable *judges* data from a survey from the European Commission for the Efficiency of Justice (CEPEJ), (CEPEJ 2006) were also used. In a last step to minimize the number of missing values we used also some intra- and extrapolation.

This resulted in a dataset with for every (49) country and for every variable a value for the years 2000 - 2004. However, there were still some missing values and also some outliers. Therefore, we decided to exclude from our analysis Vatican City and Monaco as outliers due to the small number of inhabitants and also to exclude Kazakhstan, Armenia and Macedonia, because for these countries the number of missing values was too high.

Next, the actual values for the variables used in the analyses were computed. For the level variables (1-13, 19, 21-27) the year 2003 was taken (the most recent year 2004 had more missing values) and for the growth variables (14-18 and 20) the mean annual growth in the period

---

[13] For Turkey the ICVS was carried out only in Istanbul. These results were used after a correction was made to obtain a reasonable estimate for the country as a whole.

2000-2004 was computed if there were at least two years available in this period.

In a final step all variables were categorized into three categories: low (with a value 1), middle (2) and high (3). This was done by ranking the values of the variables from low to high and dividing them into three groups of similar size.

The resulting dataset is shown in Table 8.3. The last column in this table gives the clustering as proposed in this chapter.

Appendix Table 8.3. Data used for analysis and the proposed clustering

Country	vict	theft	homicide	susp/rec	conv/susp	pris	juv	fem	sat	unsafe	corrup	pol	judges	theft-g	viol-g	pris-g	juv-g	pol-g	gdp	gdp-g	unempl	yunempl	hdi	gini	pubed	gdi	sosexp	cluster
Albania	...	1	3	3	3	1	2	1	...	...	1	2	2	3	1	2	1	1	1	3	3	...	1	1	1	1	...	C
Armenia	not used in the analysis																											E
Austria	1	3	1	2	1	2	3	3	3	1	3	2	3	3	1	3	3	1	3	2	1	1	3	2	2	2	3	N/W
Azerbaijan	...	1	2	3	3	3	1	3	...	...	1	3	1	1	1	3	1	2	1	3	1	3	1	1	1	1	...	E
Belarus	...	1	3	3	3	3	2	2	...	...	2	2	1	3	3	1	2	1	1	1	1	...	1	2	3	1	...	E
Belgium	3	3	2	...	...	1	...	...	3	2	3	2	3	1	1	2	...	2	3	2	2	2	3	2	3	3	3	N/W
Bulgaria	2	1	3	3	2	2	3	1	1	3	1	...	3	2	2	2	3	...	1	1	3	3	1	2	1	1	...	C
Canada	2	2	2	1	2	2	3	3	2	1	3	1	1	2	1	1	1	2	3	2	1	3	2	2	3	...		N/W
Croatia	...	1	1	2	2	1	2	1	...	...	1	3	3	3	3	2	1	1	1	2	3	3	1	1	1	1	...	S
Cyprus	...	1	2	3	1	1	1	1	...	...	2	3	2	3	3	3	1	3	2	3	1	1	2	...	3	2	1	S
Czech Rep	...	2	2	2	2	3	1	2	...	...	1	3	3	1	3	1	1	2	2	3	2	2	1	2	2	1	...	C
Denmark	3	3	1	1	3	1	2	3	3	1	3	1	2	1	2	2	3	2	3	1	1	1	3	1	3	3	3	N/W
England&Wales	3	3	1	2	2	2	2	3	3	2	3	1	1	3	3	2	...	3	3	2	1	1	3	3	2	3	2	N/W
Estonia	3	2	3	2	1	3	1	1	1	3	2	1	3	3	1	1	1	1	3	3	2	2	3	2	1	1		E
Finland	1	2	2	3	2	1	2	3	3	1	3	1	2	2	2	3	1	2	2	2	2	3	1	3	3	2		N/W
France	1	3	2	1	2	2	3	2	1	1	2	2	1	2	2	2	2	1	2	1	3	3	3	2	3	3	3	N/W
Georgia	...	1	3	2	3	2	1	1	...	...	1	3	1	3	3	2	...	3	1	1	3	3	1	3	1	...	...	E
Germany	2	3	1	2	1	2	3	3	3	2	3	2	3	2	2	2	2	3	2	1	3	1	2	1	2	2	2	N/W
Greece	2	1	1	3	1	1	1	2	1	3	2	3	3	2	2	3	...	2	2	3	3	3	2	2	1	2	2	S
Holy See (Vatican)	not used in the analysis																											S
Hungary	1	2	2	1	3	3	2	2	2	2	2	2	3	1	2	2	3	3	2	3	2	2	2	1	3	2	1	C
Iceland	3	2	...	2	2	1	2	2	...	1	3	1	2	1	1	3	3	3	3	2	1	1	3	...	3	3	3	N/W
Ireland	3	2	1	2	3	1	3	3	2	2	2	2	1	3	3	1	...	1	3	3	1	1	3	2	1	3	2	N/W
Italy	1	2	1	1	1	2	1	...	1	3	2	3	2	2	3	2	3	2	2	1	2	3	2	3	2	2	2	S
Kazakhstan	not used in the analysis																											E
Kyrgyzstan	...	1	3	3	3	3	1	2	...	...	1	2	1	1	1	1	2	...	1	1	1	1	1	2	1	1	...	E
Latvia	...	2	3	2	2	3	3	1	...	...	1	3	2	2	1	1	2	2	1	3	3	2	1	3	2	1	1	E
Lithuania	...	2	3	1	3	3	3	1	...	...	2	2	3	1	3	1	3	1	1	1	3	3	1	3	2	2	1	E
Luxembourg	2	3	1	2	1	2	2	3	2	3	3	2	3	2	2	3	1	3	3	3	1	2	3	...	...	3	3	N/W
Macedonia, FYR	not used in the analysis																											S
Malta	...	3	...	1	...	1	1	2	...	...	2	3	1	3	3	3	3	1	2	3	2	2	2	...	2	2	1	S
Moldova	...	1	3	3	3	3	3	2	...	...	1	2	1	1	1	1	2	1	1	1	2	2	1	2	2	1	...	E
Monaco	not used in the analysis																											S
Netherlands	3	3	1	1	1	2	3	2	2	1	3	1	2	2	2	3	3	3	3	2	1	1	3	2	2	3	3	N/W
Northern Ireland	3	3	2	1	2	1	...	...	2	2	3	3	1	2	3	2	...	1	3	2	1	1	2	3	2	2	2	N/W
Norway	2	3	1	1	1	1	1	...	2	...	3	1	2	1	2	3	1	...	3	3	1	1	3	1	3	3	3	N/W
Poland	2	1	1	2	3	3	2	1	1	3	1	1	3	3	1	3	2	2	1	3	3	3	2	2	3	2	1	C
Portugal	1	2	2	3	1	2	1	2	1	3	2	3	2	2	2	1	2	1	2	2	2	2	3	3	2	2		S
Romania	...	1	2	3	1	3	1	2	...	...	1	1	2	1	1	1	2	1	1	1	2	3	1	2	1	1	...	C
Russia	...	2	3	2	2	3	2	3	...	...	1	3	3	1	3	1	3	...	1	1	2	2	1	3	1	1	...	N/W
Scotland	2	3	2	...	...	2	...	...	3	2	3	2	1	1	1	3	...	3	2	2	1	1	2	3	2	2	2	N/W
Slovakia	...	1	3	3	1	3	1	1	...	...	1	3	3	3	2	3	1	3	2	3	3	3	1	1	1	1	1	C
Slovenia	...	2	1	1	1	1	2	3	...	...	2	3	3	3	1	1	1	3	2	3	2	2	2	1	3	2	1	S
Spain	1	2	1	1	2	2	2	1	1	3	2	1	1	2	2	3	2	...	2	2	3	3	2	3	1	2	2	S
Sweden	2	3	2	1	2	1	3	3	3	1	3	1	2	1	2	3	2	2	2	2	2	3	1	3	3	3		N/W
Switzerland	1	3	2	1	3	1	3	2	3	2	3	1	1	3	3	2	...	3	3	1	1	1	3	2	2	3	3	N/W
Turkey	1	1	3	3	3	2	...	1	1	3	1	3	1	1	3	1	...	3	1	1	2	2	1	3	1	1	...	S
Ukraine	...	1	3	2	3	3	2	1	...	...	1	1	2	3	3	1	2	2	1	1	2	2	1	1	1	1	...	E
USA	3	3	3	3	1	3	3	3	2	1	2	2	2	2	1	2	3	2	3	2	1	1	3	3	3	3	...	N/W

Appendix 8.2

A short description of CATPCA

CATPCA is the acronym of CATegorical Principal Components Analysis. CATPCA refers both to the technique and to the computer program in SPSS.

CATPCA is a generalization of principal component analysis (PCA). PCA aims to reduce an original set of variables into a smaller set of uncorrelated components which represents the majority of the information from the original variables. By reducing the dimensionality, PCA enables to interpret a few components instead of a large number of variables. PCA assumes linear relationships between numeric variables.

The CATPCA procedure quantifies simultaneously categorical variables and reduces the dimensionality. This yields optimal principal components for transformed variables. In addition, the optimal-scaling approach allows variables to be scaled at different measurement levels (nominal, ordinal, etc.) and no distributional assumptions to the variables are needed.

The object scores (countries in our case) on the components are also a result of the analysis. Although object scores are not used commonly in PCA, in CATPCA there are several reasons to take these into account. In contrast to PCA, for CATPCA not only differences and similarities between variables, but also differences and similarities between objects (i.e. countries) are important. In fact both can be considered in one single analysis. Countries placed nearby the category points are correlated. Countries placed remote from a category point are not related or are independent.

The principles of optimal scaling and several analysis techniques based on optimal scaling, of which CATPCA is an example, are described by Gifi (1990), Van de Geer (1988) and de Heus and van der Leeden (1995).