INTERNATIONAL COMPARISONS OF PRISON STATISTICS: KEY FACTS AND FIGURES OF THE SPACE 2014 REPORT AND TRENDS FROM 2005 TO 2014

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Abstract: This paper provides an overview of the extent of imprisonment in Europe in 2014. It also studies its evolution from 2005 to 2014 as well as the possible causes of the trends observed. Data are taken from the Council of Europe Annual Penal Statistics. The results showed that the average European prison population rate increased from 2005 to 2011, and started decreasing after that. That decrease is partially explained by the downward trend showed by the average rate of entries into penal institutions after 2009 and the stabilization of the length of imprisonment after 2011. It is also related to a change in the composition of European prison populations. In particular, the percentage of prisoners sentenced for theft has decreased, while the percentages of prisoners sentenced for violent offences and for drug offences have increased. Furthermore, the decreases in the stock and the flow of entries of prisoners led to a decline of the average European prison density and, consequently, of overcrowding. The results are discussed in the light of recent research on the relationship between crime trends and imprisonment trends, as well as on the influence of community sanctions and measures on the latter.

Keywords: criminology, penology, imprisonment, trends in prison populations, Europe.

INTRODUCTION

The goal of this paper is to provide an overview of the latest Council of Europe Annual Penal Statistics and to study the trends shown by the data included in them during the previous ten years (2005–2014). These statistics are better known by their acronym SPACE, based on their French title (Statistiques Pénales Annuelles du Conseil de l'Europe). The SPACE statistics are elaborated annually for the Council of Europe by the unit of Criminology of the School of Criminal Sciences of the University of Lausanne. The School of Criminal Sciences is the current name of the Institute of Scientific Police created by Rudolf Archibald Reiss in 1909. Every year, two SPACE reports are published. The first one refers to Prison Populations and it is known as SPACE 1, while the second one refers to Persons Serving Non-Custodial Sanctions and

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Measures and is known as SPACE II. Both reports cover the 47 member states of the Council of Europe. In that context, as some countries have more than one Prison Administration, the SPACE I report covers 52 prison administrations. The same is true for SPACE II, which covers 52 Probation Services. Data for both reports are collected by means of two questionnaires sent to every prison administration (SPACE I) and probation service (SPACE II) in Europe. In practice, as a few administrations are unable to answer the questionnaires, or can provide data only for some of the items included in them, the total number of countries included throughout the reports is usually slightly lower. Thus, the latest SPACE reports—which refer to the year 2014 and were published in March 2016—include data on 50 prison administrations, representing 47 countries (SPACE I), and on 45 probation services, representing 39 countries (SPACE II)

In the first part of this paper, the data from these reports are used to illustrate the magnitude of prison populations across Europe in 2014. After that, their evolution from 2005 to 2014 is shown. In order to explain the trends observed, we then concentrate on the 39 prison administrations that provided additional indicators and we analyse the evolution of the rate of entries into prison and the average length of imprisonment in these countries. Such indicators have an influence on the prison density, which is also presented paying particular attention to the issue of overcrowding. Finally, in order to understand the role of community sanctions and measures on the extent of prison populations, we compare the prison population rates (SPACE I) with the rates of persons placed under the supervision or care of probation agencies (SPACE II) in the 33 prison and probation administrations for which both indicators are available for 2014.

FINDINGS AND EXPLANATIONS

Map 1 shows prison population rates on 1st September 2014 in the 47 member states of the Council of Europe. The prison population rate corresponds to the number of inmates per 100,000 inhabitants. It includes pre-trial detainees. This indicator is commonly referred to as the stock of inmates and is also known as the detention rate or the imprisonment rate.

4 In Bosnia and Herzegovina there are three prison administrations (one for the State level, one for the Federation of Bosnia and Herzegovina, and one for the Republic of Srpska), in Spain there are two (the National prison administration and the Prison administration of Catalonia), and in the United Kingdom there are three (in England and Wales, in Northern Ireland, and in Scotland).
5 Only the Federal prison administration of Bosnia and Herzegovina and the prison administration of the Federation of Bosnia and Herzegovina were unable to answer the 2014 SPACE I questionnaire. This means that the 47 member states of the Council of Europe are represented in the 2014 SPACE I report, but data for Bosnia and Herzegovina only includes the prisons that are under the authority of the prison administration of the Republic of Srpska. As a consequence, Map 1 and Figures 1 and 2 include data from 50 prison administrations. At the same time, the total for Spain corresponds to the sum of the regional subtotals of the Spanish national prison administration and the Prison administration of Catalonia, which explains why the readers can only count 49 prison administrations in Map 1 and Figure 2. In Figure 6 there are still 47 countries but only 48 prison administrations because the prison administration of Scotland did not provide the distribution of sentenced prisoners by offence. In Figures 3, 4 and 5 there are 38 countries because the prison administration of Armenia, Bulgaria, Estonia, Greece, Latvia, Montenegro, Romania, Russian Federation, Scotland and Ukraine did not provide data for the whole period under study (2005 to 2013/14). Finally, in Figure 7, there are 32 countries because Andorra, Armenia, Azerbaijan, Belgium, Republic of Srpska, Bulgaria, Cyprus, the Former Yugoslav Republic of Macedonia, Germany, Iceland, Liechtenstein, Lithuania, Poland, Russian Federation, Slovak Republic, Scotland and Ukraine were unable to provide data on the four indicators required.
Map 1: **Prison population rates per 100,000 inhabitants on 1st September 2014 in 47 European countries (50 prison administrations)**

It can be seen in Map 1 that the highest prison population rates can be found in Eastern Europe and the lowest in the Nordic countries. A few Western and Central European countries (Croatia, Germany, Italy, Netherlands, Slovenia and Switzerland⁶) also present relatively low prison population rates (i.e. lower than 100 inmates per 100,000 inhabitants).

On the basis of the prison population rates used to elaborate Figure 1, it is possible to calculate the **average** European prison population rate, which in 2014 corresponded to 136.2 inmates per 100,000 inhabitants. The average prison population rate calculated in such way – i.e. by adding the *rates* and dividing the total by 47 – is different than the one that would be obtained by considering Europe as a single entity, that is to say by adding all the *inmates* held in the 47 countries and putting that total in relation with the *total population of Europe*. This second form of calculation would give a disproportionate weight to the countries with large populations, in such a way that the total prison population rate for Europe in 2014 would rise to 199 inmates per 100,000 inhabitants. For that reason, we have used the first form of calculation throughout this paper.

Figure 1 shows the evolution of the **average** European prison population rate from 2005 to 2014. Data relate to the 1st September of each year⁷.

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⁶ In order to simplify the reading, we only enumerate countries with more than one million inhabitants.  
⁷ As it is explained in the notes included in the SPACE I report, in a few countries the date of reference is not necessarily the 1st September (for details, see Aebi, Tiago & Burkhardt, 2015).
Figure 1: Trends in the average European prison population rate per 100,000 inhabitants from 2005 to 2014 (N = 47 European countries; 50 prison administrations)

It can be seen in Figure 1 that the average European prison population rate followed an upward trend from 2005 to 2011 and a downward trend since then. The decrease took place much quicker than the increase. In particular, the overall increase for the first period was 15%, while the decrease for the second period was 10.2%. The comparison of these percentages is problematic, as it is well known that this kind of rates can only decrease by 100%, but there is no limit to their increase. All in all, in 2014 the average European prison population rate was almost identical to the one of 2005. Before 2005, prison population rates were increasing mainly in Western European countries and decreasing in many Central and Eastern European countries. This overall trend hides naturally some exceptions at the level of each country. A detailed analysis of the evolution year by year in each of the 47 countries would exceed the aim of this paper, but Figure 2 allows a comparison of their prison population rates in 2005 and 2014 by establishing the percentage change between these two years.

Figure 2: Percentage change in the prison population rate per 100,000 inhabitants between 2005 and 2014, by country (N = 47 European countries; 50 prison administrations)

Figure 2 shows that a slight majority of countries (26 out 47) have higher prison population rates in 2014 than in 2005.
tion rates in 2014 than in 2005. This Figure compares two points in time, which correspond to the beginning (2005) and the end (2014) of the period studied, and therefore cannot straightforwardly be compared to Figure 1, which shows the trend during that period. Moreover, the differences between the two Figures are also explained by the fact that Figure 1 – which indicates that the average European rates in 2005 and 2014 were similar – shows that the overall decrease started only after 2011. Nonetheless, Figure 2 corroborates that there are exceptions to the overall European trend. In that perspective, it is interesting for the readers from each country to compare the trend in their own country to that overall trend in order to establish similarities and differences. It seems relevant to point out also that the changes in prison population rates between 2005 and 2014 do follow a geopolitical logic. Almost half of the Central and Eastern European countries show a decrease (11 out of 25), while the others show an increase (14 out of 25); and the same is true for Western European countries (10 show a decrease and 12 show an increase).

The evolution of prison population rates is heavily influenced by the number of persons sent to prison and the length of their imprisonment. In that context, Figure 3 shows the rate of entries into penal institutions per 100,000 inhabitants in 39 prison administrations, representing 38 countries, from 2005 to 2013. The rate of entries is commonly referred to as the flow. In order to allow comparisons, Figure 3 also shows the evolution of the prison population rate for the same 39 prison administrations. It can be seen that the evolution of the prison populations of these administrations is almost identical to the one shown for the 49 prison administrations included in Figure 1.

Figure 3: Trends in the average rate of entries into penal institutions and in the average prison population rate (both per 100,000 inhabitants) from 2005 to 2013
(N = 38 European countries; 39 prison administrations)

It can be seen in Figure 3 that the average rate of entries into penal institutions registered a peak in 2009 and has been decreasing since then. Before 2009, the trend was relatively stable; while from that year to 2013 the decrease reached 23.6%. All in all, in 2013 the average European rate of entries into penal institutions was 18.7% lower than in 2005. It can also be seen in Figure 3 that the decrease in the flow started two years before the decrease in the stock. This seems logical because, as we mentioned before, the total number of prisoners is influenced

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9 The data on entries into penal institutions collected for the SPACE I report refer always to the previous year (for example, the 2014 report includes data for the whole year 2013).
not only by the number of entries, but also by the length of their stay in detention. Indeed, the latter can be estimated on the basis of the flow and the stock and is presented in Figure 4\textsuperscript{10}.

![Figure 4: Trends in the average length of imprisonment (in months) from 2005 to 2013 (N = 38 European countries; 39 prison administrations)](image)

Figure 4 shows that the average length of imprisonment in Europe increased from 2005 to 2011 – with a period of relative stability between 2008 and 2010 – and remained relatively stable, although slightly lower than in 2011, after that. The overall increase from 2005 to 2011 was 35.9%. This trend is explained by the fact that the average length of imprisonment is influenced both by the stock and the flow. Hence, the downward trend observed in the latter (see Figure 3) is somehow reflected in the evolution shown by the average length of imprisonment from 2011 to 2013 (Figure 4). In this case, the trends would have fit better if we have considered Europe as a single entity, but we have already explained the reason why we decided not to use such procedure. The trends shown in Figures 3 and 4 reflect thus, at least partially, the diversity that characterises Europe.

The decrease in the prison population rates, in the flow of entries and in the average length of imprisonment should have an influence on the prison density. The latter corresponds to the number of inmates per 100 available places in penal institutions (including pre-trial facilities). Figure 5 shows the evolution of the average prison density from 2005 to 2014 in the 39 prison administrations studied in this section. A ratio of more than 100 implies that there is a situation of overcrowding (i.e. there are more inmates than available places for them).

\textsuperscript{10} See Aebi, Linde & Delgrande (2015) for a detailed explanation of the method of calculation of the average length of imprisonment based on the indicators of flow and stock, which is known as the demographic model of stationary population.
**Figure 5: Trends in the average prison density (inmates per 100 places) from 2005 to 2014 (N = 38 European countries; 39 prison administrations)**

It can be seen that our hypothesis is corroborated because prison density increased at the beginning of the series, reaching its maximum level in 2010, and has been decreasing since then. In particular, from 2005 to 2010, the overall increase of the prison density was 6.4%; while from that year until 2014 the decrease was 8.7%. All in all, in 2014 the average European prison density was 2.9% lower than in 2005.

According to Figure 5, European prisons were at the limit of their capacity in 2010. In practice, many of them were facing overcrowding during the whole period under study and are still facing it nowadays. This apparent contradiction is explained by the fact that Figure 5 reflects the European average, which implies that the weight of the countries with a prison density over 100 is compensated by the one of those with a lower prison density. The same is true at the level of every country because their individual prison density is also based on the average occupation of all their penal institutions. Some of them may be overcrowded (for example, the ones used for pre-trial detention or the ones built in the most populous cities), while others may have empty places.

Indeed, the notion of overcrowding is relative. The reason is that the capacity of penal institutions (i.e. the number of places available) is calculated in different ways across countries. In that context, a major distinction must be made between countries that calculate it according to the design capacity of the institutions and those that calculate it according to the operational capacity of the institutions. However, not all the countries specify the concept of capacity that they apply. As an example of countries that do provide such information, we present the cases of Scotland, which applies the concept of design capacity and of England and Wales, which applies the concept of operational capacity.

The National Offender Management Service and HM Prison Service of England and Wales define the operational capacity of a prison as “the total number of prisoners that an establishment can hold taking into account control security and the proper operation of the planned regime. It is determined by the Deputy Director of Custody on the basis of operational judgment and experience”\(^{11}\). This definition of operational capacity could be seen as valid for other countries too. On the contrary, the way in which that capacity is determined varies surely from country to country. In England and Wales it is the Deputy Director of Custody who takes the decision, but we do not have reliable information on who takes such a decision in the rest of the countries that use the operational capacity to establish the number of places available.

On the other hand, according to the definition of the US Bureau of Justice Statistics (2016), the design capacity of a prison refers to “the number of inmates that planners or architects intended for the facility”. However, according to the Information Center of the Scottish Parliament (SPICe), the design capacity in Scotland refers to “the number of inmates intended for prison facilities based on minimum standards”\textsuperscript{12}. Once more, we do not know how this capacity is calculated in other countries and, even in the case of Scotland, we do not know how the minimum standards are established.

These examples show that the countries have a large discretion when establishing the capacity of their penal institutions. As a consequence, it is not possible to conduct reliable comparisons across countries without collecting additional information on the exact way in which the capacity of the penal institutions is calculated.

Going back to the explanation of the decrease in prison population rates across Europe since 2012, another important factor included in the SPACE I report is the distribution of inmates according to the offence for which they have been sentenced. Figure 6 presents that distribution on 1\textsuperscript{st} September 2014.

![Figure 6: Distribution of sentenced prisoners on 1\textsuperscript{st} September 2014 according to the main categories of offences for which they are imprisoned (average for 47 European countries representing 48 prison administrations)](image)

Figure 6 shows that most sentenced prisoners are serving sentences for drug offences and violent offences, while those sentenced for property offences (i.e. theft) represent only 16\% of the prison population. This is a major shift from the distribution observed only a few years ago. As we have explained elsewhere in detail\textsuperscript{13}, property offences represented traditionally the main category of offences for which offenders were sent to prison. Moreover, such distribution had an important impact on the kind of explanations of crime provided by the classic criminological theories. Indeed, many of these classic explanations are heavily challenged by the current distribution of sentenced prisoners.

Figure 6 also shows that prisoners have been sentenced mainly for drug offences (17.4\%), robbery (13.8\%), and homicide (13.5\%). This kind of offences usually receives long prison


sentences, which explains why their weight in the stock of prisoners is much more important than in the flow of entries. This means, for example, that only a relatively low number of persons are sent to prison every year for homicide but, as they remain in prison for several years, their percentage in the total number of prisoners is much higher.

The decrease in the number of persons sentenced for theft is related to the general decrease of this kind of offence in Europe since the mid-1990s. At the same time, in most European continental countries, violent offences increased during the 1990s and 2000s, and started decreasing only in the 2010s. That trend is also corroborated by the distribution of sentenced prisoners according to the main categories of offences shown in Figure 6. The missing link in that context is the evolution of cybercrime. There is no doubt that it has been increasing with the development of information technologies and the proliferation of computers, smartphones and other Internet connected devices. However, not only it is difficult to establish precisely its evolution, but even its prevalence is hard to assess. An effort in that sense is currently taken place in the United Kingdom through the Crime Survey for England and Wales, which should include since 2016 a series of questions on that topic. In that perspective, the questions designed to measure fraud and other cyber offences were tested through a field trial conducted in 2012. According to that trial, it was estimated that, in England and Wales, the total number of victims of fraud (committed most of the times with online support or entirely online) in the 12 months prior to interview was 3.8 million. This is an extremely high number. Nevertheless, the number of persons sent to prison for this kind of offences remains very low. The reasons for this contradiction are probably related to the fact that many cyber offences are not reported to the police, that a few cyber offenders can be responsible for hundreds of offences, and that those offenders can be located anywhere in the world.

Finally, one could think that the decrease of prison populations could also be related to the development of community sanctions and measures, which should act as alternatives to imprisonment. Such sanctions increased constantly in Europe, especially since the 1990s. However, a detailed analysis of their evolution compared to the evolution of imprisonment, shows that community sanctions and measures have had a net-widening effect. This means that they have been used primarily as supplementary sanctions and not as alternative sanctions. Figure 7 corroborates such conclusion by comparing the average European prison and probation populations on 1st September 2014 in 32 countries, as well as the flow of entries into prison and probation during the year 2013.

15 For details, see Aebi, Linde & Delgrande, 2015.
16 Formerly called the British Crime Survey.
The left part of Figure 7 compares the average prison population rate to the average probation population rate (defined as the number of persons under supervision or care of probation services per 100,000 inhabitants) on 1st September 2014. It can be seen that the rate of persons on probation is roughly 50% higher than the number of inmates. Theoretically, if community sanctions (which should act as alternatives to imprisonment) did not exist, all the persons placed in probation should be in prison. Thus, the total number of prisoners would embrace the two categories included in the left part of the Figure 7 and the overall European prison population rate would be among the highest in the world. This does not seem plausible for a continent that includes a region like Western Europe, which has the lowest rates of homicides of the world19. On the contrary, it seems more reasonable to accept that sometimes probation is used for persons who would not have been sent to prison, which means that community sanctions have contributed to widening the net of the European criminal justice systems20.

The right part of Figure 7 compares the average rate of entries into prison and the average rate of entries in probation (defined as the number of persons that are placed under the supervision or care of probation services) during 2013. Contrary to what we observed in the previous analysis, in this case it is the rate of entries into probation that is higher than the rate of entries into prison. This is explained by the differences in the length of stay in prison and the length of stay under the supervision or care of probation agencies. Hence in 2013 (N = 33) the average length of probation in Europe was approximately 13 months while the average length of imprisonment was 9.4 months, as we have seen in Figure 4.

CONCLUSION

In this paper it has been shown that the average European prison population rate (number of inmates per 100,000 inhabitants) reached a peak in 2011 and is decreasing since then. This means that the number of inmates held in European penal institutions is diminishing.

This decrease is explained partially by a decrease in the rate of entries (per 100,000 inhabitants) into European penal institutions, which reached a peak in 2009 and has been following a downward trend since then. Another explanatory factor is the average length of imprisonment, which stopped increasing (and has indeed slightly decreased) after 2011. As a consequence, prison density across Europe is also following a downward trend, and the problem of overcrowding is becoming less prominent.

The decrease in the prison population rate is related also to a change in the type of offences for which prisoners have been sentenced. The percentage of prisoners sentenced for theft has decreased. This decrease is related to a general drop in this kind of property offence in Europe. On the contrary, the percentage of prisoners sentenced for violent and drug offences, which usually receive long sentences, has increased.

Finally, the rise of community sanctions and measures does not seem to have played a major role in the decrease of the prison population rate. Indeed, such sanctions and measures have had a net-widening effect.

REFERENCES