

# Prisons and Prisoners in Europe 2018: Key Findings of the SPACE I report

Marcelo F. Aebi and Mélanie M. Tiago

## 1. Introduction

This document summarises the main findings of the *2018 Council of Europe Annual Penal Statistics on Prison Populations*, better known under the acronym SPACE I. The rates and percentages presented here correspond to the *European median values* computed on the basis of figures weighted by the population and the number of inmates in each country (see *Methodology* for further details). Forty-five (45) out of the 52 Prison Administrations in the 47 Council of Europe member states answered the SPACE I 2018 questionnaire, which corresponds to a participation rate of 87%. The Prison Administrations that did not answer the questionnaire are the following: Albania, Belgium, Bosnia & Herzegovina State level, Bosnia & Herzegovina Federal level, Hungary, Malta, and Ukraine. Turkey (included in the estimation of the participation rate) answered the questionnaire, but there were some inconsistencies in the data received that could not be solved in time. As a consequence, the country asked us to exclude the Turkish data from the 2018 SPACE I report.

## 2. Stock indicators: Prisons and Prisoners on 31<sup>st</sup> January 2018

On 31<sup>st</sup> January 2018, there were 1,229,385 inmates in the penal institutions of the 44 Council of Europe member states whose answers are effectively included in the 2018 SPACE I report. This corresponds to a European prison population rate of 102.5 inmates per 100,000 inhabitants.

Map 1 presents the distribution of inmates by country. The highest prison populations are found in two countries of Eastern Europe (the Russian Federation and Georgia), while the lowest are distributed across the Scandinavian countries, a few countries of the Balkan region, Germany, the Netherlands, and the isle of Ireland.

**Map 1.** Prison population rates (number of inmates per 100,000 inhabitants) on 31<sup>st</sup> January 2018

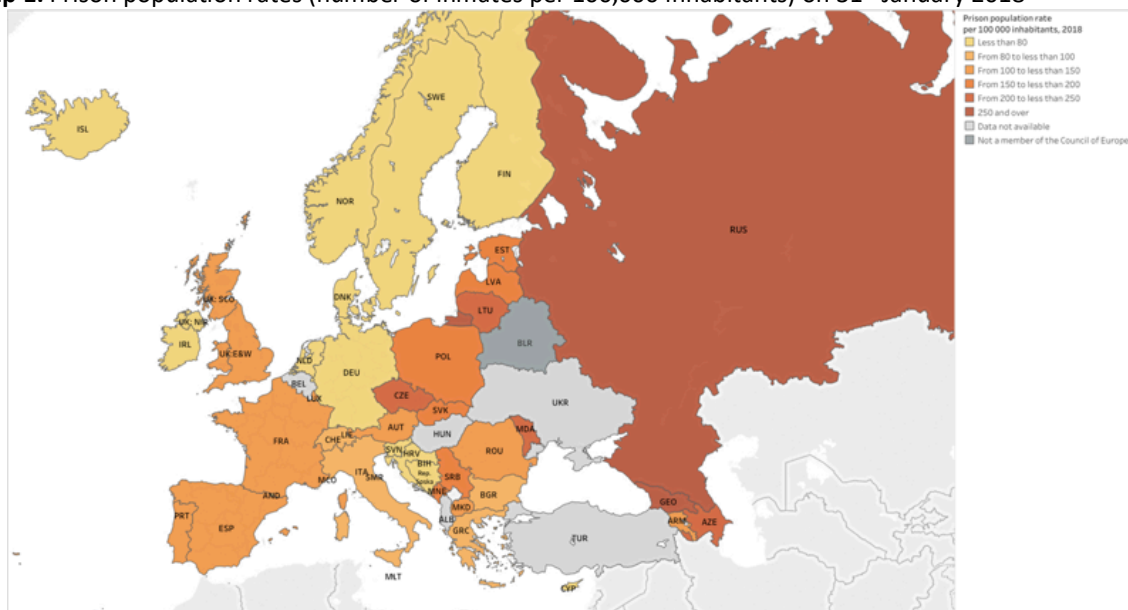
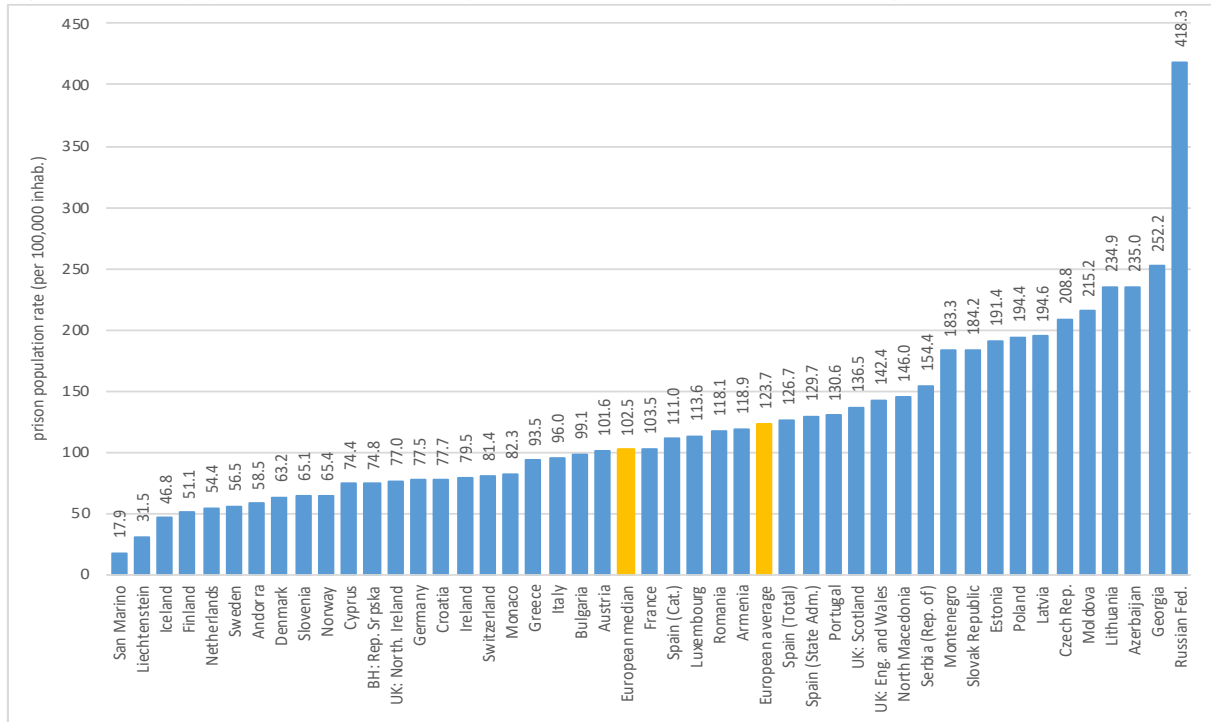


Figure 1 presents the distribution of countries according to their prison population rate, providing a more precise picture than the one offered by Map 1.

**Figure 1.** Prison population rates (inmates per 100,000 inhabitants) on 31<sup>st</sup> January 2018



## Characteristics of the inmates held in European penal institutions

**Minors:** Less than 1% of the inmates are minors. The main reason for that low percentage is that, in several countries, minors are not placed under the responsibility of the Prison Administration (see SPACE I, Table 2.1).

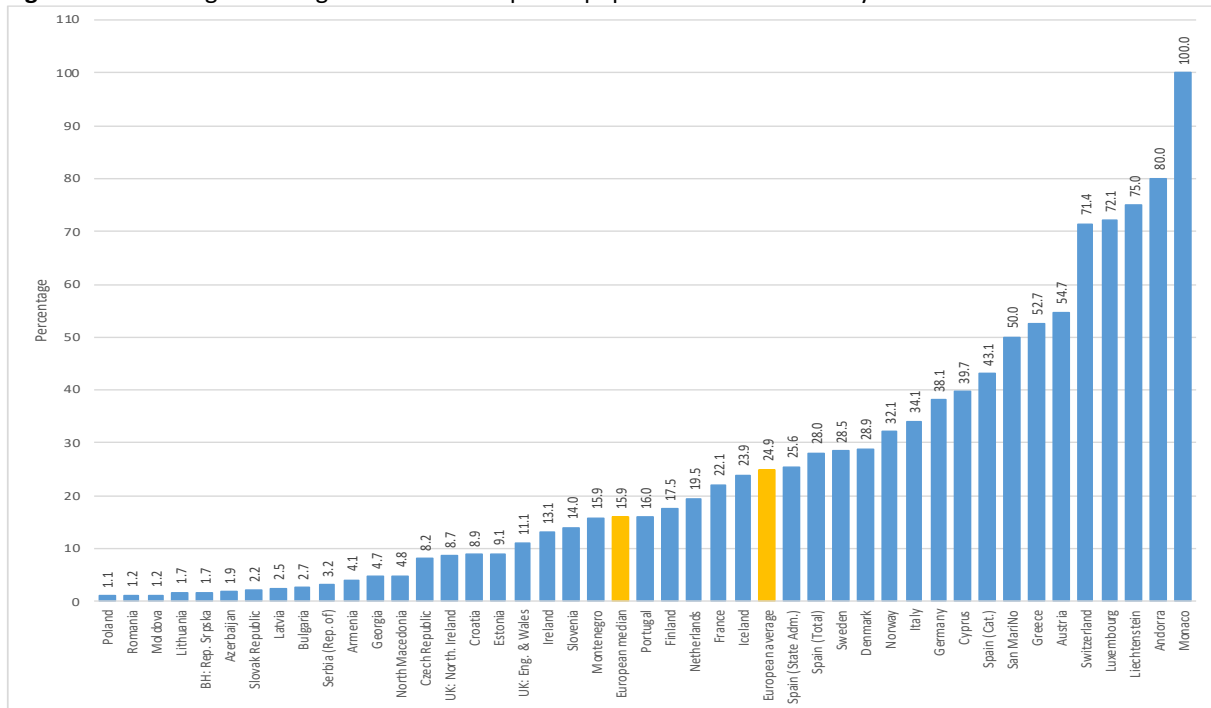
**Age:** In countries with at least one million inhabitants, the median age of the prison population varies from 32 to 43 years old (see SPACE I, Table 6).

**Gender:** Roughly 95% of the inmates held in Europe are males; consequently only 5% are women (see SPACE I, Table 7).

**Nationality:** Roughly 16% of the inmates held in Europe are foreigners, but this percentage varies widely across countries. In Eastern Europe, that percentage is usually lower than 5%, while in Central and Western Europe it varies from 1% to 71% in countries with at least one million inhabitants and from 72% to 100% in smaller countries. These percentages are presented in Figure 2.

Roughly one third of the foreign inmates held in Europe come from EU member states (see SPACE I, Table 13). Only a few countries have data on the resident status of the foreigners held in their prisons. Among them, the percentage of those who have a legal resident status varies from none to 84% (see SPACE I, Table 13).

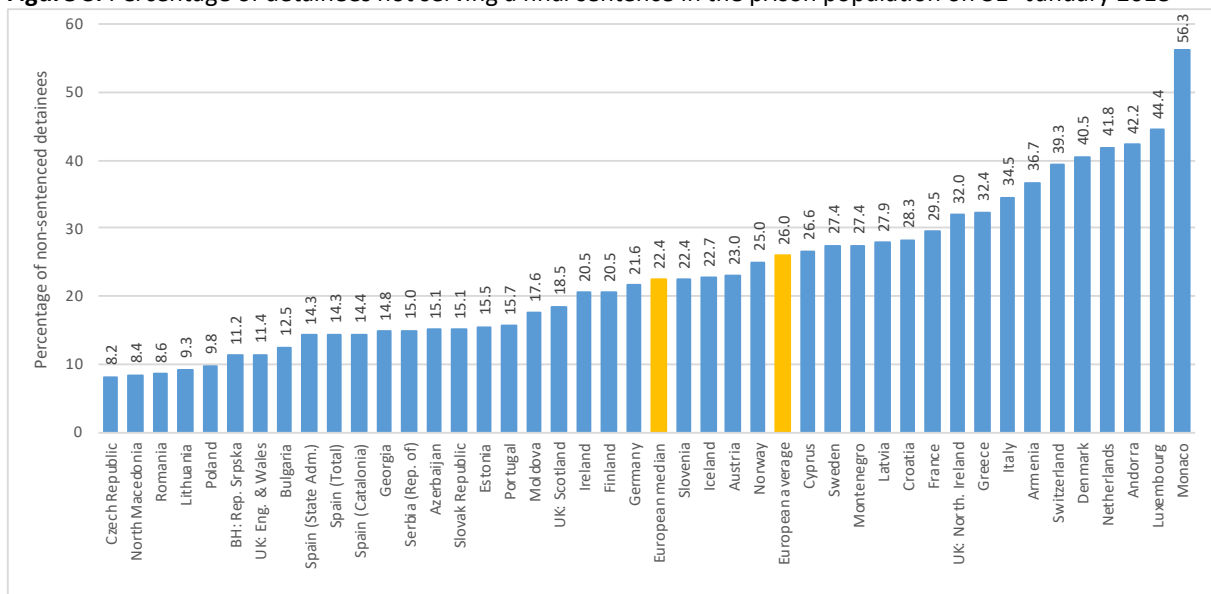
**Figure 2.** Percentage of foreign inmates in the prison population on 31<sup>st</sup> January 2018



**Legal status:** Roughly 22% of the inmates held in European prisons are not serving a final sentence (see SPACE I, Table 8). According to the terminology of the Council of Europe, these inmates are referred to as *detainees* and are placed in *remand on custody*. The Council of Europe — in its Recommendation Rec (2006) 13— adopted a large definition of remand on custody, which lasts until the conclusion of the final appeal process (i.e. until the sentence becomes final). In practice, researchers refer to them quite frequently as detainees placed in pre-trial detention, or simply pre-trial detainees.

The percentage of detainees not serving a final sentence varies broadly across countries, ranging from 1.1% to 42% in countries with at least one million inhabitants, and reaching 56% in smaller countries. These percentages are presented in Figure 3.

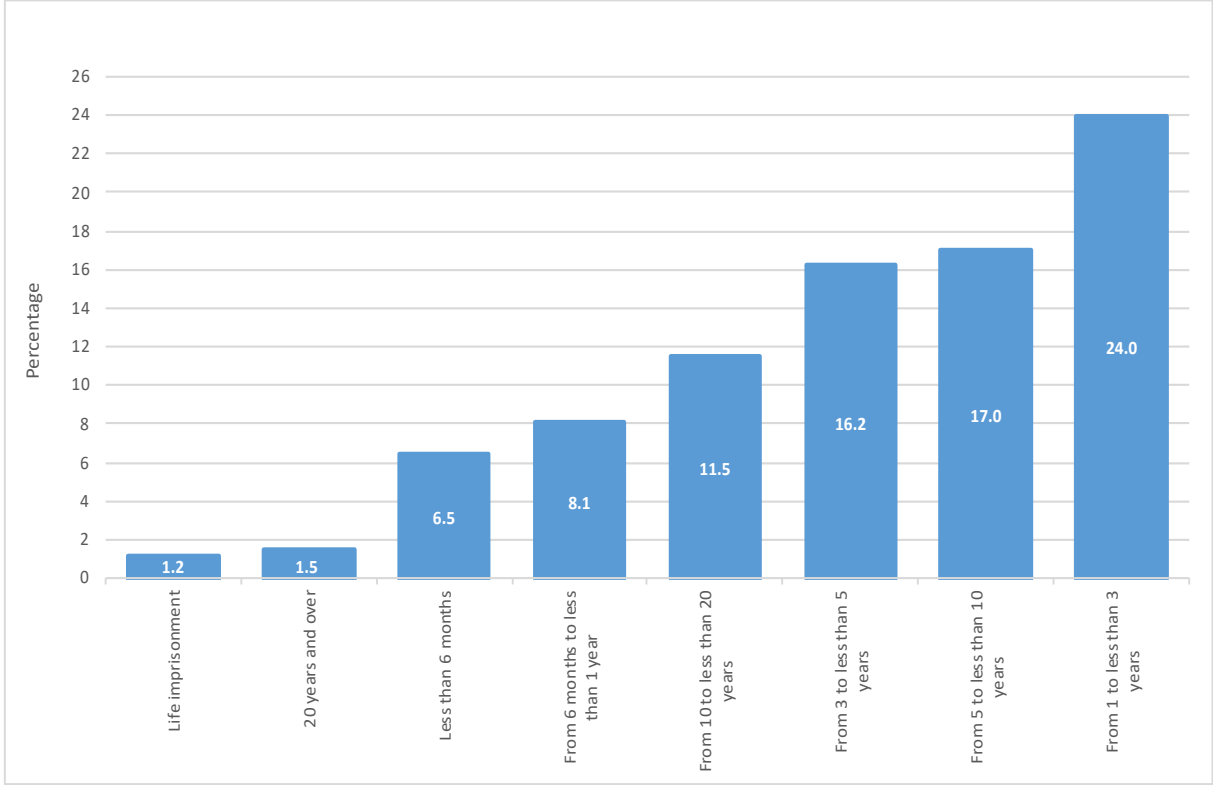
**Figure 3.** Percentage of detainees not serving a final sentence in the prison population on 31<sup>st</sup> January 2018



**Length of sentence imposed:** Roughly 16% of the prisoners (i.e. inmates serving a final sentence) held in European prisons are serving sentences of less than one year. Inmates are mainly serving sentences from 1 to less than 3

years (24%), from 5 to less than 10 years (17%), and from 3 to less than 5 years (16%). Only 1.2% are serving life imprisonment, and less than 1% are under security measures. Figure 4 illustrates that distribution (for further details, see SPACE I, Table 11).

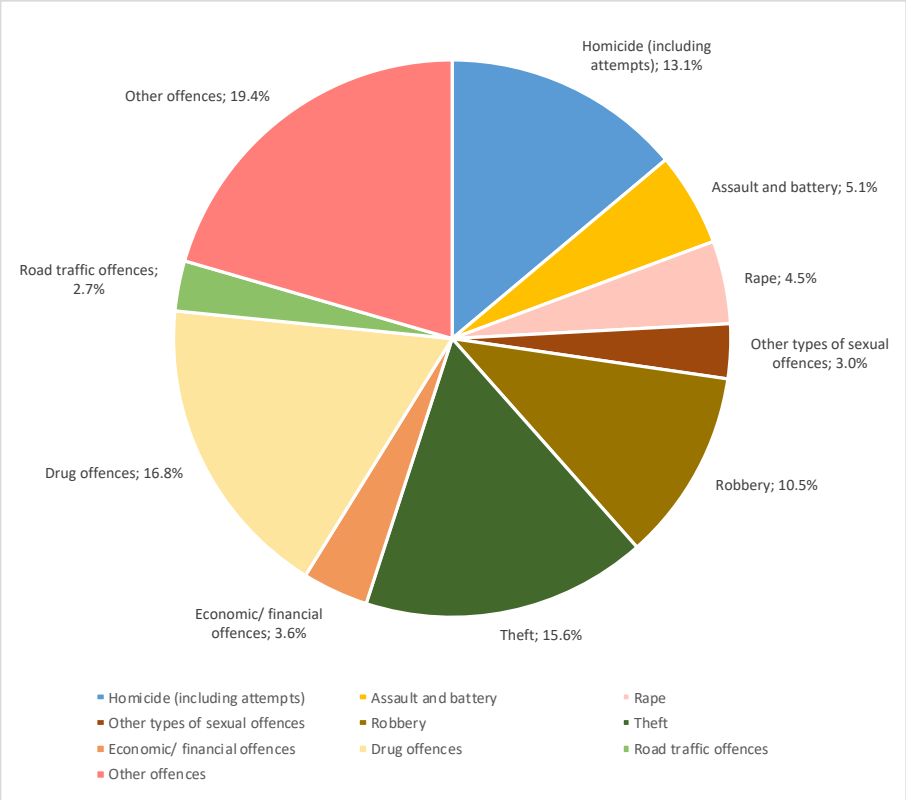
**Figure 4.** Distribution of sentenced prisoners according to the length of the sentence they are serving, in percentages, on 31<sup>st</sup> January 2018



*Type of offence:* Roughly 17% of the prisoners (i.e. inmates with a final sentence) held in European prisons have been sentenced for drug offences. Prisoners sentenced for theft (16%) represent the second largest category, followed by those sentenced for homicide (13%).

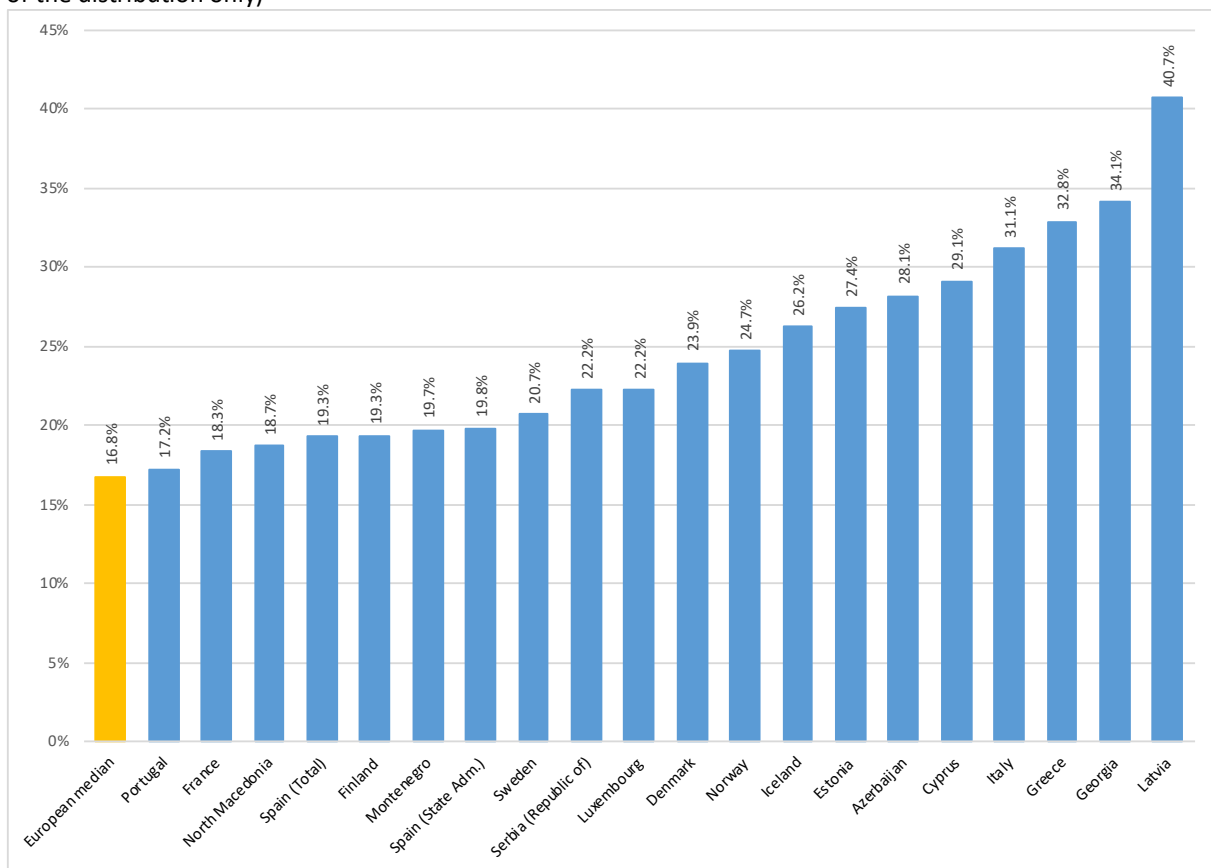
If one combines all the offences involving violence (homicide, assault and battery, rape, other sexual offences, and robbery), the percentage of prisoners serving sentences for these offences is slightly higher than one third of the prison population (roughly 35%). Figure 5 illustrates that distribution (for further details, see SPACE I, Table 9).

**Figure 5.** Distribution of sentenced prisoners according to the offence for which they were sentenced, in percentages, on 31<sup>st</sup> January 2018



*Focus on drug offences:* Figure 6 presents the upper half of the distribution of countries according to the percentage of prisoners serving sentences for drug offences. It can be seen that, in several countries, prisoners sentenced for that kind of offences represent more than one fourth of the prison population.

**Figure 6.** Percentage of sentenced prisoners serving sentences for drug offences on 31<sup>st</sup> January 2018 (upper half of the distribution only)

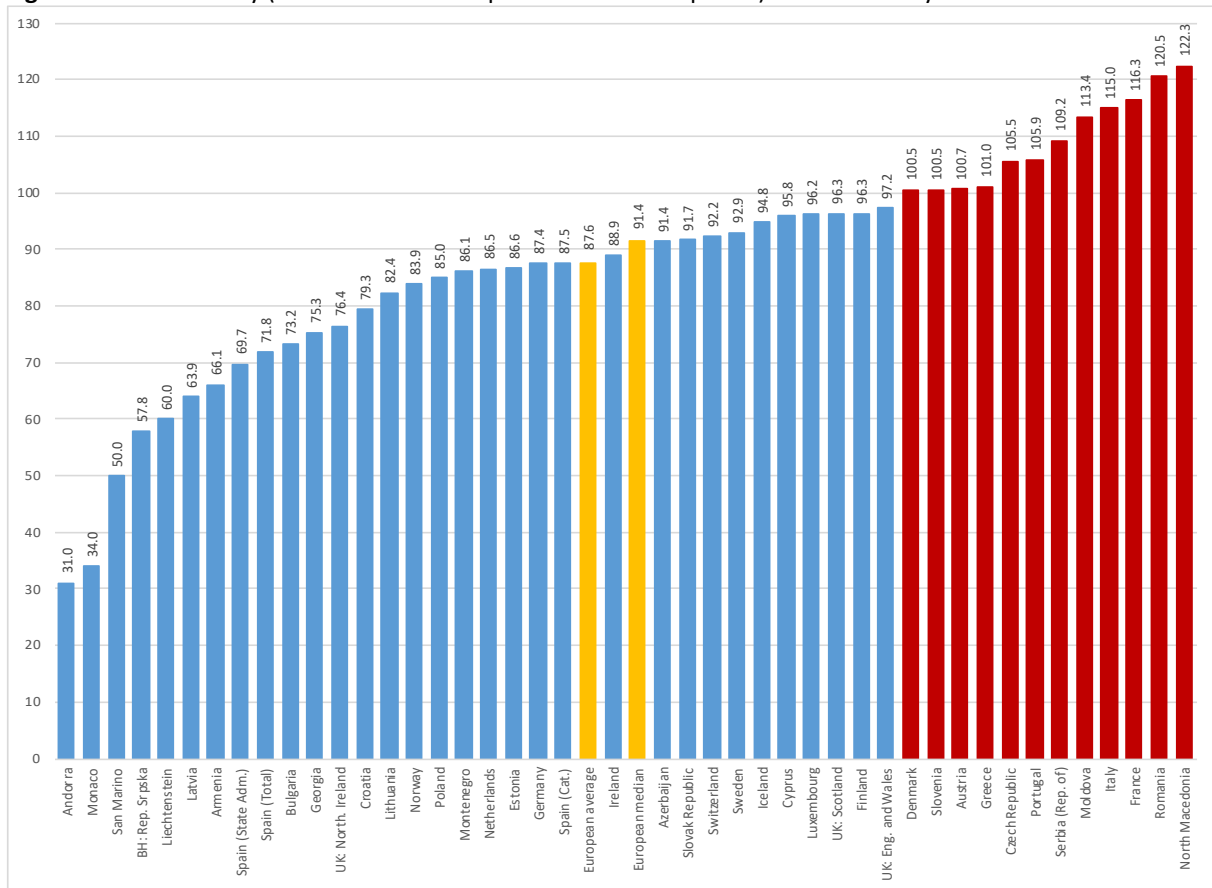


### Prison density and overcrowding

*Disclaimer:* Data on prison capacity is provided by the countries and therefore corresponds to their own estimation of it. The SPACE questionnaire provides a definition of overcrowding based on the design capacity of the prisons but most countries use the concept of operational capacity. As a consequence, the rates concerning prison capacity and overcrowding do not allow reliable cross-national comparisons.

According to the information provided by the Prison Administrations, only 12 of them had a prison density of more than 100 inmates per 100 places. Among these 12 Prison Administrations, four had a density that was between 100 and 101; while the other eight were experiencing serious overcrowding, with rates of more than 105 inmates per 100 places. These 12 countries are presented in a different colour in Figure 7, which presents the distribution of countries according to their prison density. At the same time, the level of occupation of the cells varies widely among the countries that provided the relevant data, ranging from 0.7 to 9.6 inmates per cell (See SPACE I, Table 16), suggesting that penal institutions who are theoretically not experiencing overcrowding may have in practice overcrowded cells. At the continental level, there were roughly 1.3 inmates per cell in Europe.

**Figure 7.** Prison density (number of inmates per 100 detention places) on 31<sup>st</sup> January 2018

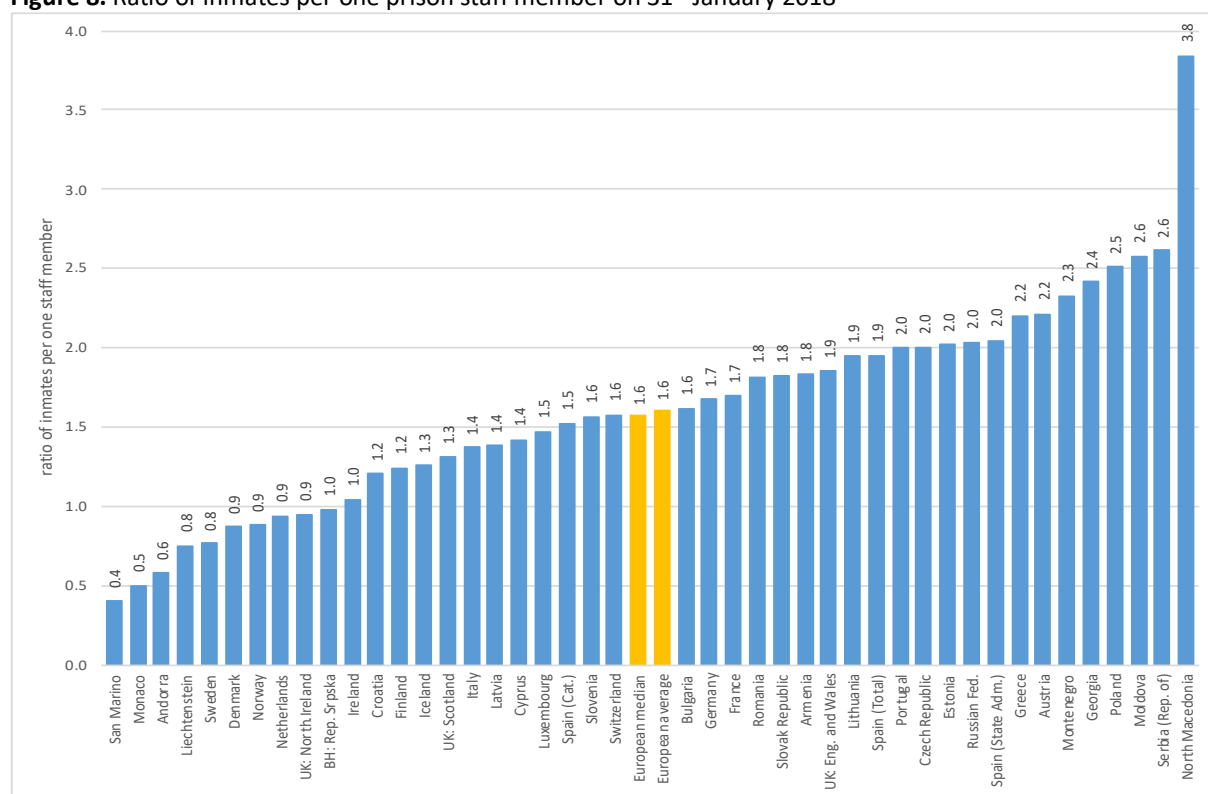


## Prison staff

At the European level, there were 1.6 inmates per 1 member of prison staff, but this ratio varies across countries from a maximum of 3.8 to a minimum of 0.4 inmates, as can be seen in Figure 8.

When the ratio is calculated taking into consideration only the custodial staff, it increases to 2.6 inmates per custodian; while, if the calculation is restricted to the custodial staff dedicated exclusively to custody, it increases to 2.8 inmates per custodian solely dedicated to custody (See SPACE I, Table 21).

**Figure 8.** Ratio of inmates per one prison staff member on 31<sup>st</sup> January 2018



### 3. Flow indicators: Entries, exits, turnover ratio, IALI, and cost of imprisonment in 2017

**Entries into penal institutions:** During the whole year 2017, there were 765,477 entries into penal institutions in the 40 Prison Administrations that provided data for this indicator, representing a European rate of 141 entries per 100,000 inhabitants (see SPACE I, Table 23).

**Exits (releases, deaths and escapes) from penal institutions:** At the same time, there were 538,719 exits during 2017 in the 39 Prison Administrations that provided data for this indicator, which corresponds to a European rate of 113 exits per 100,000 inhabitants (see SPACE I, Table 23). The vast majority (more than 99%) of these exits were due to releases. Thus, the European rate was 111 releases per 100,000 inhabitants. Escapes represent only 0.1% of the exits, while deaths in penal institutions account for 2% of them (See SPACE I, Table 26).

**Mortality rate:** The European prison mortality rate in 2017 was 26 inmates per 10,000 inmates.

**Suicide rate:** The prison suicide rate in 2017 was 5.5 inmates per 10,000 inmates.

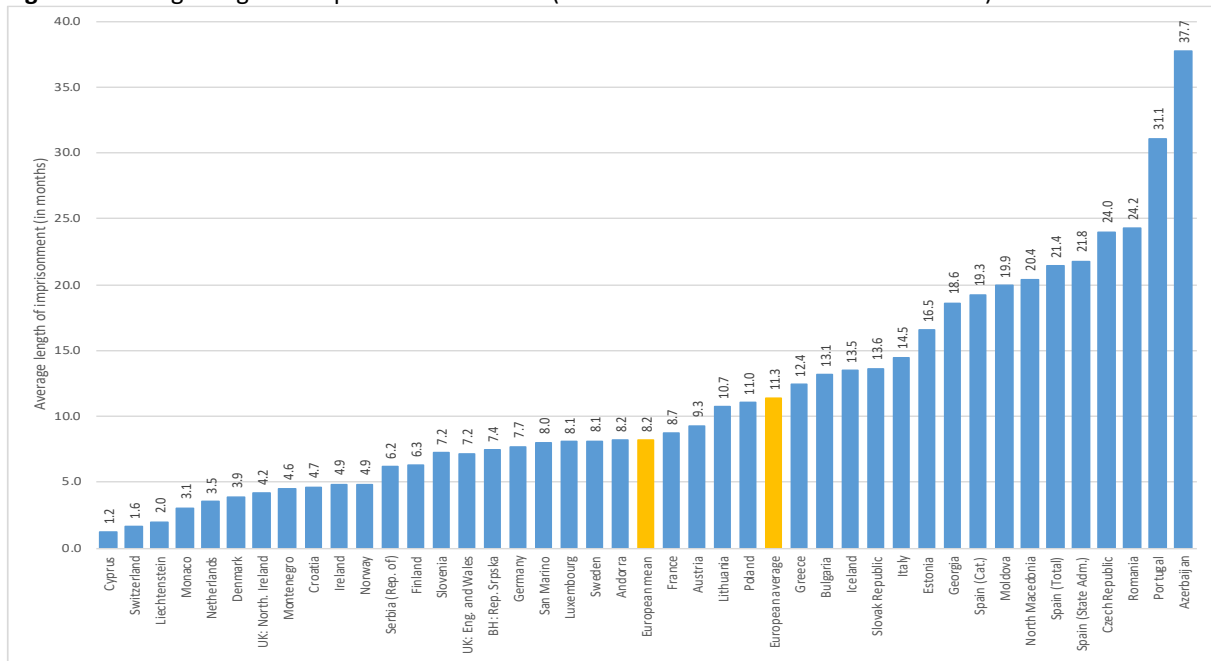
**Turnover ratio:** The European turnover ratio of the prison population in 2017 was 46%. The turnover ratio is an estimation of the release rate per 100 potential releases (i.e. the percentage of effective releases from the total number of potential releases). The calculations are based on raw data: the prison population (stock) on 31<sup>st</sup> September 2016 (used as a proxy of the prison population on 1st January 2017) is taken from the 2016 SPACE I report, while the numbers of entries (flow of entries) and releases (flow of releases) in 2017 can be found in the 2018 report. The sum of the stock and the flow of entries provides an estimation of the total number of inmates likely to be released during the year (i.e. potential releases). This number is then put in relation with the effective number of releases during 2017. A low turnover ratio (less than 50%) implies relatively long periods of custody and could thus be seen as an early warning sign of a risk of prison overcrowding (See SPACE I, Table 27). The European turnover ratio is based on the 38 Prison Administrations that provided data for all the indicators required for the estimation of it.

**Indicator of the average length of detention (IALI):** In 2017, the average length of detention in Europe was roughly 8 months. The IALI has been calculated on the basis of the stock and flow of prisoners as well as on the basis of



the total number of days spent in penal institutions (for details, see SPACE I, Part E). Both ways of estimating the IALI provided almost the same average length of detention. Figure 9 illustrates the wide differences in the average length of detention observed in Europe.

**Figure 9.** Average length of imprisonment in 2017 (based on the stock and flow of inmates)



**Cost of imprisonment:** At the European level, imprisonment cost more than 20 billion Euro in 2017. More precisely, the 42 countries that provided data indicated that the budget spent by their Prison Administrations in 2017 was 20,218,965,114 Euro.

Forty Prison Administrations provided also the daily amount spent for the detention in custody of one inmate. At the European level, each inmate cost 67 Euro per day. This amount does not take into account differences in the cost of living and other economic indicators across countries (e.g. GDP, purchase power, poverty rate, Euro-national currency exchange rate).

## 4. Overview of the main indicators by country

Table 1 shows the relative position of each European Prison Administration according to their score in a series of selected indicators. The Prison Administration are divided in three clusters according to their score on **each** of these indicators:

1. **High:** This cluster includes the Prison Administrations whose score is higher than the European median value by more than 5%. In order to simplify the reading, we indicate that they are **above** the European median value.
2. **Medium:** This cluster includes the Prison Administrations whose score is **close** (i.e. between -5% and +5%) to the European median value
3. **Low:** This cluster includes the Prison Administrations whose score is lower than the European median value by more than 5%. In order to simplify the reading, we indicate that they are **below** the European median value.

The number of Prison Administrations included in Table 1 varies for each indicator, because not all the countries provided data for all of them. Two of the countries that answered the SPACE questionnaire (United Kingdom and Spain) have more than one Prison Administration. When the Table includes only the name of one of these countries, it means that the three Administrations of the United Kingdom and/or both Administrations of Spain are in the same cluster. Otherwise, each Prison Administration is mentioned separately.

**Table 1.** Ranking of countries according to the main prison indicators, 2018 (or 2017)

	<b>High: Above the European median value</b>	<b>Medium: Close to the European median value</b>	<b>Low: Below the European median value</b>
<b>Prison population rate</b>	Armenia, Azerbaijan,, Czech Rep., Estonia, Georgia, Latvia, Lithuania, Luxembourg, Moldova, Montenegro, North Macedonia, Poland, Portugal, Romania, Russia, Serbia, Spain, Slovak Republic, UK: E&W, UK:SCO.	Austria, Bulgaria, France.	Andorra, Rep. Srpska, Croatia, Cyprus, Denmark, Finland, Germany, Greece, Iceland, Ireland, Italy, Liechtenstein, Monaco, Netherlands, Norway, San Marino, Slovenia, Sweden, Switzerland, UK:NIR.
<b>% of female inmates</b>	Andorra, Austria, Cyprus, Czech Rep., Finland, Germany, Greece, Iceland, Latvia, Luxembourg, Moldova, Norway, Portugal, Russia, Slovak Rep., Slovenia, Spain, Sweden, Switzerland.	Estonia, Lithuania, Netherlands.	Armenia, Azerbaijan, Rep. Srpska, Bulgaria, Croatia, Denmark, France, Georgia, Ireland, Italy, Liechtenstein, Monaco, Montenegro, North Macedonia, Poland, Romania, San Marino, Serbia, UK.
<b>% of detainees not serving a final sentence</b>	Andorra, Armenia, Croatia, Cyprus, Denmark, France, Greece, Italy, Latvia, Liechtenstein, Luxembourg, Monaco, Montenegro, Netherlands, Norway, San Marino, Sweden, Switzerland, UK:NIR.	Austria, Germany, Iceland, Slovenia.	Azerbaijan, Rep. Srpska, Bulgaria, Czech Rep., Estonia, Finland, Georgia, Ireland, Lithuania, Moldova, North Macedonia, Poland, Portugal, Romania, Serbia, Slovak Rep., Spain, UK: E&W, UK:SCO.
<b>% of foreigners</b>	Andorra, Austria, Cyprus, Denmark, Finland, France, Germany, Greece, Iceland, Italy, Liechtenstein, Luxembourg, Monaco, Netherlands, Norway, San Marino, Spain, Sweden, Switzerland.	Montenegro, Portugal.	Armenia, Azerbaijan, Rep. Srpska, Bulgaria, Croatia, Czech Rep., Estonia, Georgia, Ireland, Latvia, Lithuania, Moldova, North Macedonia, Poland, Romania, Serbia, Slovak Rep., Slovenia, UK: E&W, UK: NIR.
<b>Prison density</b>	Austria, Czech Rep., Denmark, Finland, France, Greece, Italy, Luxembourg, Moldova, North Macedonia, Portugal, Romania, Serbia, Slovenia, UK: E&W, UK:SCO.	Azerbaijan, Cyprus, Germany, Iceland, Ireland, Slovak Rep., Spain (Catalonia), Sweden, Switzerland.	Andorra, Armenia, Rep. Srpska, Bulgaria, Croatia, Estonia, Georgia, Latvia, Liechtenstein, Lithuania, Monaco, Montenegro, Netherlands, Norway, Poland, San Marino, Spain (State Adm.), UK:NIR.
<b>Ratio of inmates per staff</b>	Armenia, Austria, Czech Republic, Estonia, Georgia, Greece, Lithuania, Moldova, Montenegro, North Macedonia, Poland, Portugal, Romania, Russia, Serbia, Spain (State Admin.), UK:E&W.	Bulgaria, France, Germany, Luxembourg, Slovenia, Spain (Catalonia), Switzerland.	Andorra, Rep. Srpska , Croatia, Cyprus, Denmark, Finland, Iceland, Ireland, Italy, Latvia, Liechtenstein, Monaco, Netherlands, Norway, San Marino, UK:NIR, UK:SCO.
<b>Rate of releases (2017)</b>	Austria, Croatia, Cyprus, Estonia, France, Ireland, Liechtenstein, Lithuania, Luxembourg, Moldova, Monaco, Montenegro, Netherlands, Norway, Poland, Serbia, Slovak Rep.	Rep. Srpska, Czech Rep., Denmark, Slovenia, UK: E&W.	Andorra, Armenia, Azerbaijan, Bulgaria, Finland, Greece, Iceland, Italy, North Macedonia, Portugal, Romania, San Marino, Spain, Sweden, , UK: NIR.
<b>% of inmates who committed suicide (2017)</b>	Andorra, Austria, Rep. Srpska, Czech Rep., Denmark, Estonia, Finland, France, Germany, Italy, Latvia, Netherlands, Norway, Serbia, Slovak Rep., Slovenia, Spain, Sweden, Switzerland.	Portugal, UK: E&W.	Armenia, Azerbaijan, Bulgaria, Croatia, Cyprus, Georgia, Greece, Iceland, Liechtenstein, Lithuania, Luxembourg, Moldova, Monaco, Montenegro, North Macedonia, Poland, Romania, Russia, San Marino, UK: SCO.
<b>Rate of escapes (2017)</b>	Armenia, Austria, Rep. Srpska, Croatia, Cyprus, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Montenegro, Norway, Portugal, Serbia, Sweden, Switzerland, North Macedonia.	Bulgaria.	Andorra, Azerbaijan, Czech Rep., Estonia, Georgia, Latvia, Liechtenstein, Lithuania, Moldova, Monaco, Netherlands, Poland, Romania, Russia, San Marino, Slovak Rep., Slovenia, Spain, UK: E&W. UK:NIR.
<b>Average length of imprisonment, in months, based on the stock and the flow (2017)</b>	Austria, Azerbaijan, Bulgaria, Czech Rep., Estonia, Georgia, Greece, Iceland, Italy, Lithuania, Moldova, North Macedonia, Poland, Portugal, Romania, Slovak Republic, Spain.	Andorra, Luxembourg, San Marino, Sweden.	Rep. Srpska, Croatia, Cyprus, Denmark, Finland, France, Germany, Ireland, Liechtenstein, Monaco, Montenegro, Netherlands, Norway, Serbia, Slovenia, Switzerland, UK: E&W, UK:NIR.

## 5. Evolution from 2015/2016 to 2017/2018

Since the present SPACE I report, the date of reference for stock indicators refers to 31<sup>st</sup> January of the year preceding the publication instead of 1<sup>st</sup> September of the year before that one, as it was the case from 1983 to 2016. The aim of that change of date is to publish the latest available data. This means that, exceptionally, in this report we cannot compare the data on 31<sup>st</sup> January 2018 to the data on the same day of the previous year, but to that on 1<sup>st</sup> September 2016. However, the latter can be considered as an acceptable proxy of the situation on 31<sup>st</sup> January 2017. In the case of flow indicators, the comparison takes place between the situation during the whole year 2017 and the whole year 2015. Researchers interested in establishing time series can interpolate the value for 2016 on the basis of those observed in 2015 and 2017.

Table 2 shows the evolution of stock indicators between 2016 and 2018, as well as flow indicators from 2015 to 2017. **Comparisons are restricted to the Prison Administrations (PA) that provided data for both years, which are not the same for all indicators.** This means that the figures included in the Table may not coincide with those included in the SPACE I report. For example, 42 PA provided their budget for 2017 (see SPACE I, Table 33), but only 38 of them had provided also their budget for 2015 and are therefore included in Table 2. **The number of PA that provided data for both years is indicated between brackets for each indicator.**

**Table 2.** Evolution of stock indicators (2016 to 2018) and flow indicators (2015 to 2017)

	2016	2018	% change 2016-2018
<b>Stock indicators</b>			
Prison population rate (non-adjusted) (44 PA)	109.7	102.5	-6.6
% of female inmates (44 PA)	5.4	5.0	-7.4
% of foreign inmates (41 PA)	16.7	15.9	-4.8
<i>Of which:</i> % of foreign inmates from EU countries (36 PA)	29.2	32.3	10.6
% of non-sentenced detainees (43 PA)	17.4	22.4	28.7
Prison density (43 PA)	91.1	91.4	0.3
Number of Overcrowded Prison Administrations (more than 100 inmates per 100 places) (42 PA)	9	12	(33.3%)
Ratio of inmates per prison staff (40 PA)	1.7	1.6	-5.9
Ratio of inmates per custodian solely dedicated to custody (35 PA)	2.9	2.8	-3.4
<b>Sentenced prisoners by offence</b>			
% of prisoners sentenced for drug offences (37 PA)	17.6	19.3	9.7
% of prisoners sentenced for theft (35 PA)	18.6	15.8	-15.1
% of prisoners sentenced for homicide (37 PA)	12.3	12.9	4.9
<b>Sentenced prisoners by length of sentence imposed</b>			
% of prisoners sentenced to less than one year (38 PA)	16.5	16.3	-1.2
% of prisoners sentenced from 1 to less than 3 years (38 PA)	26.5	23.5	-11.3
% of prisoners sentenced from 3 to less than 5 years (38 PA)	17.2	16.5	-4.1
% of prisoners sentenced from 5 to less than 10 years (38 PA)	20.4	18.2	-10.8
	<b>2015</b>	<b>2017</b>	<b>% change 2015-2017</b>
<b>Flow indicators</b>			
Rate of admissions (40 PA)	143.1	135.1	-5.6
Rate of releases (34 PA)	123.2	110.6	-10.2
Average length of imprisonment in months, based on the stock and flow (36 PA)	8.8	8.2	-6.8
<b>Cost indicator</b>			
Total budget (38 PA)	15 373 433 052 €	15 523 749 762 €	1.0

Notes:

– PA = Prison Administration

– The number between brackets indicates the number of PA that provided data for both years

Considering that increases up to +5% or decreases up to -5% reflect stability, it can be seen, at the European level, the following indicators *remained relatively stable*:

- The percentage of foreign inmates remained relatively stable (-4.8%) between 2016 and 2018.
- The prison density remained relatively stable (+0.3%) between 2016 and 2018.
- The ratio of inmates per custodian solely dedicated to custody remained relatively stable (-3.4%) between 2016 and 2018.
- The percentage of prisoners sentenced to less than one year remained relatively stable (-1.2%) between 2016 and 2018.
- The percentage of prisoners sentenced from 3 years to less than 5 years remained relatively stable (-4.1%) between 2016 and 2018.
- The total budget spent by Prison Administrations remained relatively stable (+1.0%) between 2015 and 2017.

At the same time, at the European level, the following indicators registered a *decrease*:

- The prison population rate decreased by 6.6% between 2016 and 2018.
- The percentage of female inmates decreased by 7.4% between 2016 and 2018.
- The ratio of inmates per prison staff decreased by 5.9% between 2016 and 2018.
- The percentage of prisoners sentenced for theft decreased by 15% between 2016 and 2018.
- The percentage of prisoners sentenced from 1 year to less than 3 years decreased by 11% between 2016 and 2018.
- The percentage of prisoners sentenced from 5 years to less than 10 years decreased by 11% between 2016 and 2018.
- The rate of admissions decreased by 5.6% between 2015 and 2017.
- The rate of releases decreased by 10% between 2015 and 2017.
- The average length of imprisonment in months estimated on the basis of the stock and flow of inmates decreased by 6.8% between 2015 and 2017.

Finally, at the European level, the following indicators registered an *increase*:

- The percentage of foreign inmates from EU countries increased by 11% between 2016 and 2018.
- The percentage of non-sentenced detainees increased by 29% between 2016 and 2018.
- The percentage of prisoners sentenced for homicide increased by 4.9% between 2016 and 2018.
- The percentage of prisoners sentenced for drug offences increased by 9.7% between 2016 and 2018.
- The number of PA experiencing overcrowding increased by 33% between 2016 and 2018. However, this increase must be interpreted cautiously because three PA that were experiencing overcrowding in 2016 (Albania, Belgium and Hungary) did not answer the 2018 SPACE I report.

Table 3 shows the evolution of the Prison population rate in the 42 Prison Administrations (PA) that provided data for 2016 and 2018. If the two Spanish PA are analysed separately, it can be seen that the PPR was stable in 25 PA, increase in only 6 PA, and decreased in 11 PA.

**Table 3.** Percentage change in prison population rates between 2016 and 2018 in 42 Prison Administrations

		UK: Northern Ireland	-4.6	
		UK: Scotland	-4.1	
		Andorra	-3.8	
		Lithuania	-3.8	
		Sweden	-3.5	
		Moldova	-3.3	
		Spain (Total)	-3.0	
		UK: England & Wales	-2.7	
		Spain (State Adm.)	-2.6	
		Portugal	-2.0	
		Czech Republic	-2.0	
		Switzerland	-1.9	
		Slovak Republic	-1.8	
		Georgia	-1.6	
		Germany	-1.1	
		Monaco	-1.0	Romania
		Azerbaijan	-0.6	Bulgaria
		Austria	0.0	Norway
		BH: Republika Srpska	0.4	Finland
		France	0.9	North Macedonia
Montenegro	5.5	Ireland	1.8	Armenia
Denmark	5.8	Serbia (Republic of)	2.3	Latvia
Netherlands	5.9	Slovenia	2.8	Luxembourg
Italy	7.5	Poland	3.2	Estonia
Iceland	25.4	Greece	4.7	Cyprus
San Marino	196.8	Croatia	4.8	Spain (Catalonia)
		<b>Increase of more than 5%</b>	<b>Between -5% and 5%</b>	<b>Decrease of more than 5%</b>

## 6. Trends from 2008 to 2018

Figure 10 presents the evolution from 2008 to 2018 of the prison population rates (PPR) of the 44 Prison Administrations that provided the necessary data. The values for a few missing years were interpolated using linear interpolation. The data included in this Figure are taken from the study *Prisons in Europe 2005-2015* (Aebi et al., 2018), available on the SPACE website, which updated the whole SPACE series for the period under study.

The PA included are shown in Figure 11 below. As can be seen in Figure 10, the median European prison population rate increased from 2008 to 2013 and decreased after that, in such a way that the 2018 rate is lower than the one of 2008. If the comparison is based on the average European PPR, the only difference is that the rate started decreasing two years before (in 2012 instead of 2014).

**Figure 10.** Trends in the prison population rates of 44 Prison Administrations from 2008 to 2018

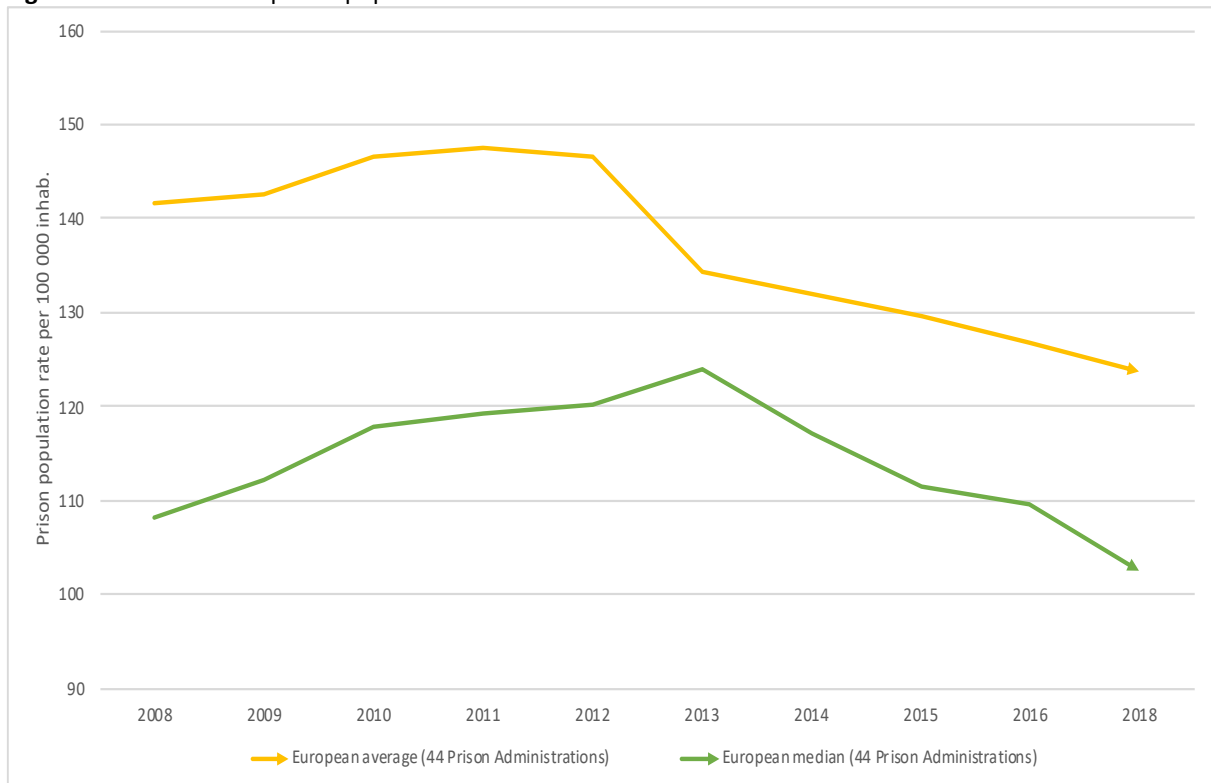
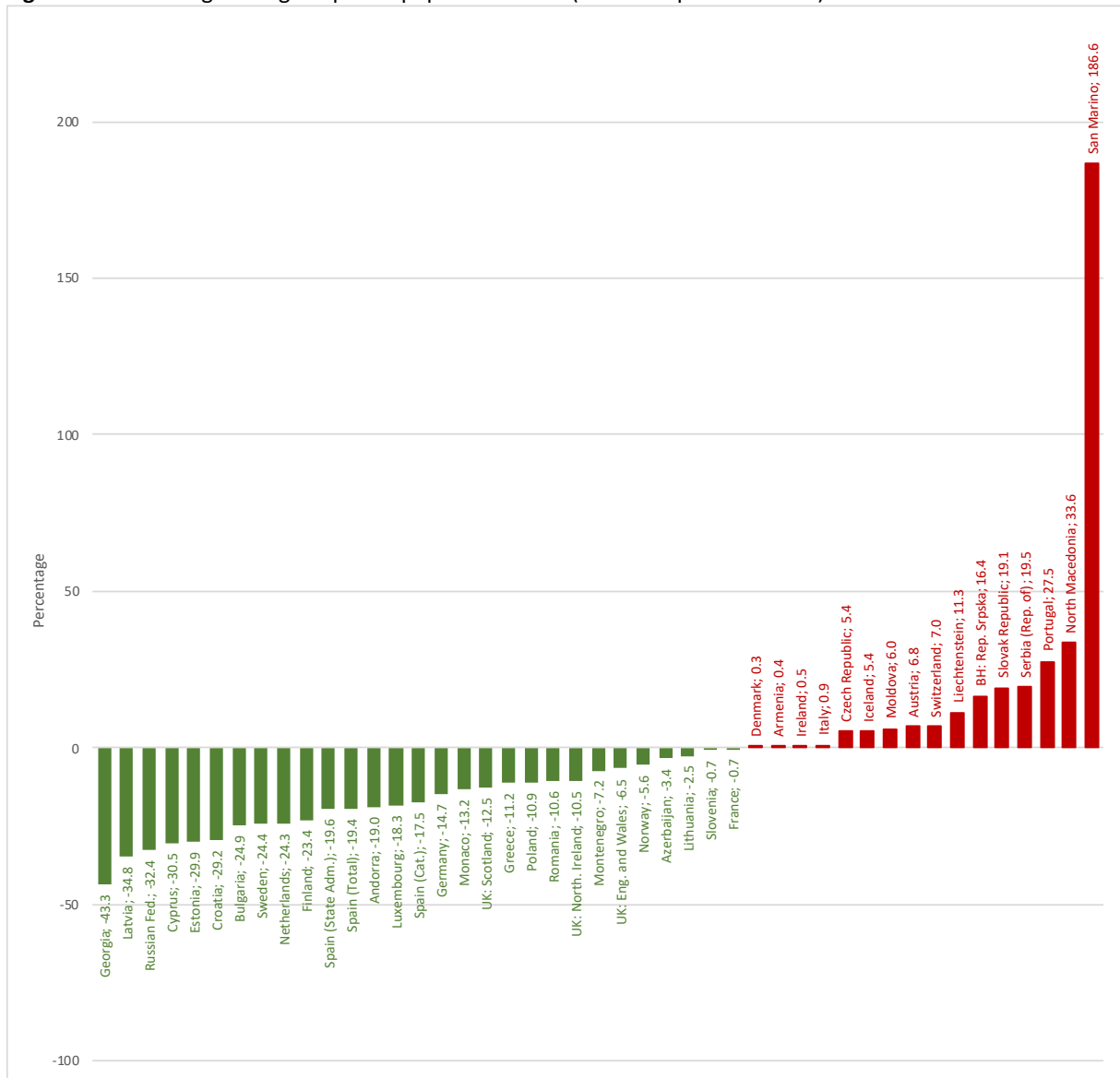


Figure 11 presents the percentage change in the prison population rates (PPR) of the 44 Prison Administrations (PA) that provided data for 2018 and had provided data for 2008. For example, the 2018 PPR of Georgia was 43% lower than the one of 2008. Following again the logic of considering increases and decreases up to 5% as a synonym of relative stability, it can be seen that eight countries were in that situation. At the same time, the 2018 PPR was higher than the one of 2008 in 12 Prison Administrations. On the contrary, it was lower in 24 PA.

**Figure 11.** Percentage change in prison population rates (2018 compared to 2008) in 44 Prison Administrations



## 7. Methodology

Unless stated otherwise, this document presents, for each indicator, the *European median value*. The median is the value that divided the data in two equal groups so that 50% of the countries are above the median and 50% are below it. The median is preferred to the *arithmetic mean* (commonly referred to as the *average*) because the latter is extremely sensitive to very high or very low values (technically known as *outliers*). Outliers are quite common in the sample of countries included in the SPACE report because some member States, like Liechtenstein, Monaco or San Marino, have a very low population and, as a consequence, a change in only one person can have a big impact on its percentages and rates. For example, San Marino only had 6 inmates on 31<sup>st</sup> January 2018 and three of them were foreigners of which one had received a final sentence. This leads to percentages of 50% of foreigners and 33% of foreigners with a final sentence; but a change in only one person could increase the first percentage to 67% (if there were 4 foreign prisoners) or decrease it to 33% (if there were 2), while the second one could oscillate between 66% (if two of them were serving a final sentence) and 0% (if none of them was serving a final sentence). As the country has a population of 33,500 inhabitants, its prison population rate corresponds to 18 inmates per 100,000 inhabitants (i.e. it is higher than the real number of inmates and inhabitants), and the addition of only one inmate would increase it to 21 per 100,000 inhabitants. In that perspective, the inclusion of a percentage of, for example, 100% will artificially increase the European average. Moreover, these percentages may vary widely from one year to the other, which can entail extremely instable time series.

The European median values are weighted according to the population and the number of inmates in each country. This means that they are estimated on the basis of the percentages and rates per 100,000 inhabitants of each country and not on the absolute numbers for the whole continent. Using the latter would produce different values, which could hide the diversity observed across countries. For example, on 31<sup>st</sup> January 2018, there were 1,229,385 inmates in the penal institutions of the 44 PA of the Council of Europe member states whose data are presented in the 2018 SPACE I report. At the same, the total population of the territories in which these PA are located was 680 million inhabitants, which would lead to a prison population rate of 180.6 inmates per 100,000 inhabitants. However, when the European median value is estimated on the basis of the population and the number of inmates of each country, it corresponds to 102.5 inmates per 100,000 inhabitants, as stated at the beginning of this document.

While the Tables include always one decimal, in the comments all figures equal or superior to 10 are in principle presented in round numbers (i.e. without decimals), while those inferior to 10 are presented with one decimal.

In order to avoid duplication of data, the total calculated for the whole territory of Spain (addition of the figures for the National Administration and the Catalan Administration) is not included in the computation of the average and median European values.

Whenever Bosnia and Herzegovina is represented in maps, data refers only to the Republika Srpska, which is the only Prison Administration of the country that answered the SPACE I questionnaire.

