

Crime Harm Index – Methodology

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Online Appendix – A Serious Case: Police priorities in criminal investigations

The Netherlands Court of Audit audited the choices made by the police when conducting criminal investigations. This was firstly because of the financial interests at stake: of the € 8.1 billion spent by the police in 2024, criminal investigations accounted for a total of € 3.3 billion and over 25,200 full-time jobs. These investigations are also of major societal importance, given the direct impact that criminality has on citizens' safety. One way of measuring the severity of a crime is through a Crime Harm Index. Our audit used the index that we developed in liaison with the Dutch Research and Data Centre (WODC).

This appendix explains the methodology underlying our Crime Harm Index.

Crime Harm Index

The police have to make choices on what to investigate and what not to investigate. We audited the role that these choices play in determining whether people suspected of a 'serious crime' are investigated. Together we and the WODC devised a Crime Harm Index (CHI) for measuring the severity of crimes. This is a new, objective way for the Netherlands to express a crime's relative severity as a figure.

Until mid-2025, no CHI was available for the Netherlands. For the purposes of our audit, we calculated the CHI on the basis of the median sentences imposed by the Public Prosecution Service or courts on first-time offenders, specifically those convicted for the first time under adult criminal law. The CHI represents an average of all the sentences imposed for each crime, expressed as the number of days of

detention. There are other ways to calculate such an index, including the method recently used by the Netherlands Institute for the Study of Crime and Law Enforcement (NSCR) to devise an index based on the maximum sentences that can be imposed.¹ This is referred to as the Crime Severity Index (CSI). Another way is to consult a citizens panel to gain greater insight into how citizens view the severity of specific crimes.

Reliability

An index is generally regarded as reliable and meaningful if it can be reproduced and has been validated. The various steps taken to assess reproducibility are explained in this appendix. We validated the index as follows:

- Firstly, we consulted the research conducted by the WODC in 2015 and that produced the Crime Punishment Index (MSI). This index was subsequently updated to include data on criminality in 2021-2023;²
- Secondly, we discussed our calculation methods and the quality of our results with colleagues from the NSCR and WODC;
- Thirdly, we compared the results of the CHI and CSI.

The comparison between our CHI (based on the average severity of a crime) and the CSI used by the NSCR (based on the maximum severity of a crime) showed correlation $r = 0.72$ (statistical significance $p < 0.001$), indicating a moderate correlation. If we compare the top 20 in the CHI and CSI, we see that these consist for 80% of the same crimes. All in all, therefore, we regard the CHI as a reliable measure of crimes' relative severity.

Calculation method

Step 1: Definition and operationalisation

The Court of Audit based its CHI on the sentences imposed on first-time adult offenders by the Public Prosecution Service or courts in 2021-2023. The dataset used by the WODC reflected the median sentence for each crime. We restricted the dataset for our index to *first-time offenders* so that the figures were not distorted by higher sentences imposed on recidivists. We also restricted ourselves to *sentences imposed under adult criminal law*; in other words, we disregarded sentences imposed under juvenile criminal law.

The index expresses the severity of a crime, as experienced by society, as a number. The various sentences that can be imposed (for example, a fine, a community service order or detention) were combined to calculate the 'days of detention equivalent' of sentences, with 1 day of detention equating to 2 hours of community service and a fine of € 50. This is the conversion rate used by the Public Prosecution Service in its Sentencing Guidelines for Adult Offenders [*Aanwijzing kader strafvordering voor meerderjarigen*], which have applied since April 2019.³ The CHI analysis excluded crimes with fewer than 10 entries in the police's BOSZ registration system or fewer than 10 criminal cases in the WODC dataset.

Step 2: Relationship between legislation and societal category

The police classify crimes into 'societal categories', with each category comprising a range of different crimes. The WODC data were derived from data on sentences actually imposed (2021-2023), such that the median sentence for a breach of a section of law could be calculated. However, the categories used by the police do not align directly with criminal law and so cannot be directly linked to the sentences set in the relevant sections of law, as used by the WODC. Around one third of the police categories correspond to a section of law; on this basis, we were able to link our data to the WODC data and calculate the CHI.

Step 3: Calculation

Relative severity of a crime

The WODC updated and supplemented its 2015 Crime Punishment Index for us as follows:⁴

- Updated to include sentences imposed in 2021-2023;
- Expanded to include sentences imposed by subdistrict courts and under the Economic Offences Act [*WED*];
- Various forms of violent theft were combined into a single category, given the low number of entries in the BOSZ registration system and the fact that these offences often related to the same sections of law.

The calculation also excluded cases involving detention under a hospital order and acquittals. Suspended sentences were assigned the same weighting as non-suspended sentences.

To calculate the CHI, we took the weighted average number of days of detention for each of the relevant sections of law. This weighted average was calculated by multiplying the number of times that a section of law was linked to a societal

category by the median sentence, adding these weighted sentences up and then dividing the result by the number of crimes reported to the police within the specific category. We opted for this approach because the NSCR calculated its *Crime Severity Index* (CSI) in the same way. When calculating the weighted average, we set the extreme outliers (>99th or <1st percentile) at the 99th or 1st percentile. Outliers where the 99th or 1st percentile were equal to the 75th and 25th percentile, respectively, were not adjusted. This is an adjusted form of *Winsorizing*, a statistical method used to limit extreme outliers in data so as to reduce their distorting effect on the average. The weighted average of all crime reports amounted to 18 days of detention.

Crimes were classified in terms of severity as follows:

- **Low-level offences:** crimes of below-average severity; these have a CHI of no more than 18 days of detention;
- **Offences of average or moderate severity:** offences between low-level and serious offences; in other words, those with a CHI of between 19 and 39 days of detention;
- **Serious offences:** 5% of all offences with the highest CHI (= 95th percentile), with the threshold being a CHI of 40 days of detention. We regard offences with a CHI of at least 40 days of detention as serious offences.

Societal harm

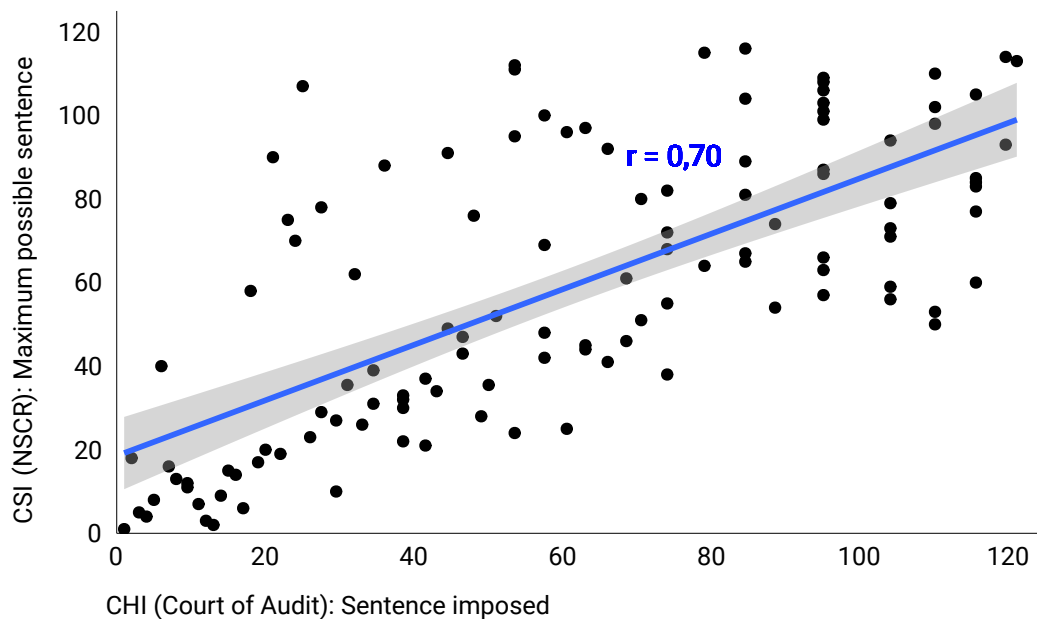
Societal harm is the harm caused by all or a certain group of crimes, with the crime's relative severity being multiplied by the number of such crimes reported to the police. The number of crime reports was taken from the BOSZ registration system. Our workflow comprised 755,300 crime reports, of which 754,800 could be used for calculating societal harm. This difference of 500 (< 1%) arose where cases could not be linked to a section of law or where there were too few reported cases in a subgroup to allow a CHI to be calculated. We do not consider it likely that the low percentage of missing values will have had any impact on the calculations.

Comparing the CHI and CSI

We compared our CHI with the NSCR's CSI, which was published on the NSCR's website in mid-June 2025.⁵ The CSI is based on the maximum sentences set in four Dutch codes of law: the Criminal Code [*Wetboek van Strafrecht*], the Opium Act [*Opiumwet*], the Weapons and Ammunition Act [*Wet Wapens en Munitie*] and the Road Traffic Act [*Wegenverkeerswet*]. The CSI therefore reflects the maximum severity of crimes as defined in these pieces of legislation.

We compared only the societal categories for which both a CHI and CSI have been calculated; in other words, a total of 116 societal categories. The results of this comparison can be seen below. This shows the differences in the ranking of crimes in the CHI and the CSI. The light-grey diagonal band in the diagram also shows the rank correlation (and margin of error) in the dataset.

Rank correlation between CHI (sentences imposed) and CSI (maximum possible sentences)



Source: Politie, BOSZ Registration System (2024); NSCR CSI; WODC and Court of Audit: CHI, as modified by the Court of Audit.

Of the top 20 categories in the CHI, 18 are also in the top 20 of the CSI. The 2 categories in the top 20 of the CHI, but not in the CSI are other drug-related crimes and child pornography. Of the top 20 categories in the CSI, 18 are also in the top 20 of the CHI. The 2 categories in the top 20 of the CSI, but not in the CHI are aggravated assault and sexual assault involving coercion, violence or threats. The Pearson correlation coefficient between the CHI and CSI is $r = 0.72$, while the rank correlation between the CHI and CSI is $r = 0.70$ (both with statistical significance $p < 0.001$, thus indicating a very significant relationship). These are moderately strong correlations. We can conclude from this that the CHI and CSI both measure the severity of crimes, but that each has a slightly different emphasis.

Relative severity of crimes in the Crime Harm Index

This following overview shows the CHI score for each type of crime in order of severity (starting with the highest score). The CHI shown is for the 'societal category' as a whole. This table is also available for download from the webpage of this publication (www.rekenkamer.nl).

Societal category	CHI (days of detention)	CHI ranking
Manslaughter/murder (actual or attempted)	661	1
Production of hard drugs (list I)	560	2
Rape involving coercion, violence or threats	544	3
Human trafficking/Sexual exploitation	348	4
Sexual abuse in a codependent relationship (18+ victim)	336	5
Child pornography	263	6
Sexual abuse of a child (rape/assault)	253	7
Aggravated theft in/from a residential property and involving violence	233	8
Street robbery	192	9
Robbery in a residential property	192	9
Blackmail/extortion	187	10
Arson	161	11
Bombing	157	12
Other theft involving violence	150	13
Violent theft in/from another means of transport	150	13
Violent theft of a moped/scooter	150	13
Aggravated theft in/from a shop and involving violence	150	13
Violent theft in/from a residential property (non-aggravated)	150	13
Aggravated theft in/from a storage unit/garage/shed and involving violence	150	13
Bicycle theft involving violence	150	13
Aggravated theft in/from a business/office and involving violence	150	13
Other vehicle theft involving violence	150	13
Violent theft in/from a business/office (non-aggravated)	150	13
Robbery at other locations	140	14
Violent theft in/from a car	137	15
Hostage-taking/kidnapping	123	16
Other drug-related crimes	111	17
Hard drugs trading etc (list II)	96	18
Violent shoplifting	90	19
Discrimination	75	20
Aggravated assault	72	21
Stalking	60	22
Money laundering	59	23

Societal category	CHI (days of detention)	CHI ranking
Presence in the Netherlands as a foreign national declared undesirable	55	24
Identity fraud	48	25
Theft of other means of transport	41	26
Abuse of sexual imagery	41	26
Other aggravated theft	40	27
Assault involving coercion/violence/threats	40	27
Aggravated theft in/from a sports complex	39	28
Fraud involving request for assistance	38	29
Aggravated theft in/from a shop	37	30
Watercraft theft	36	31
Aggravated theft in/from a hotel/boarding house	36	31
Fatal traffic accident	35	32
Aggravated theft in/from a residential property	33	33
Aggravated theft in/from a business/office	33	33
Online identity fraud	33	33
Aggravated theft in/from a school	33	33
Other vertical fraud	32	34
Aggravated theft in/from a storage unit/garage/shed	32	34
Aggravated theft in/from another building	31	35
Other crimes	29	36
Other traffic offences	29	36
Theft in/from a residential property (non-aggravated)	28	37
Theft out of/from a watercraft	28	37
Production of soft drugs (list II)	27	38
Care-sector fraud	26	39
Motorbike theft	25	40
Other crimes against personal liberty	24	41
Refusal to be breathalysed	20	42
Refusal to provide a blood sample	20	42
Issuing counterfeit money	20	42
Driving while suspended	20	42
Theft out of/from a car	19	43
Cybercrime	19	43
Theft in/from a storage unit/garage/shed (non-aggravated)	19	43
Driving after licence has been surrendered	19	43
Driving after licence has been invalidated	17	44
Violence against persons in a public place	17	44
Theft out of/from other means of transport	15	45
Driving under influence of drugs/medication, either in combination with alcohol or otherwise	15	45
Theft of moped/scooter	15	45
Theft of a car	14	46
Traffic accident including injury	14	46

Societal category	CHI (days of detention)	CHI ranking
Waste transport	14	46
Other horizontal fraud	13	47
Theft of a lorry/delivery vehicle	13	47
Bicycle theft	12	48
Other public order offences	12	48
Handling stolen goods	11	49
Possession of hard drugs (list I)	11	49
Trading etc of soft drugs (list II)	11	49
Violence against property in a public place	11	49
Theft in/from a school (not aggravated)	11	49
Payment product fraud	10	50
Being in charge of a watercraft while under influence of alcohol	10	50
Transporting dangerous substances by road	10	50
Driving while banned	10	50
Transporting dangerous substances on inland waterway	10	50
Leaving the scene of a traffic accident	9	51
Other public order offences	9	51
Fraud involving telephone helpdesks	9	51
Online trading fraud	9	51
Vandalism on/to public transport or bus shelter	9	51
Breach of domestic exclusion order	9	51
Common assault	8	52
Theft in/from a hotel/boarding house (non-aggravated)	8	52
Driving under influence (alcohol only)	7	53
Theft in/from a business/office (non-aggravated)	7	53
Resisting a public official	7	53
Biting	7	53
Possession of firearms	7	53
Investment fraud	7	53
Offences involving animal health and welfare/transportation under Animals Act	7	53
False vehicle registration plate	7	53
Offensive behaviour (desecration)	7	53
Fraud involving advances	7	53
IP fraud/counterfeit goods	7	53
Criminal threat	6	54
Other forms of theft	6	54
Embezzlement (in employment relationship or otherwise)	6	54
Theft in/from other buildings (non-aggravated)	6	54
Possession/manufacture/storing or supplying of fireworks	6	54
Submitting a false statement	6	54
Credit, mortgage or deposit fraud	6	54
Possession of other weapons	5	55
Pickpocketing/Bag-snatching	5	55

Societal category	CHI (days of detention)	CHI ranking
Theft in/from a sports complex (non-aggravated)	5	55
Issuing insults	5	55
Driving while disqualified	5	55
Shoplifting	4	56
Vandalism of other objects	4	56
Possession of soft drugs (list II)	4	56
Vandalising a car	4	56
Vandalising a public building	4	56
Joyriding	4	56
Failure to comply with an order/instruction	3	57
Unlawful entry of residential premises	3	57
Unlawful entry of public premises	2	58

Source: WODC and Netherlands Court of Audit *CHI*, as modified by the Court of Audit.

Eindnoten

1. NSCR (2025). <https://nscr.nl/de-nederlandse-crime-severity-index>.
2. WODC (2015). *De misdrijf-straf index; Op weg naar een maat voor de ernst van delicten afgeleid van de afdoening van strafzaken*. [The Crime Punishment Index: Devising a way to assess the severity of crimes, based on sentencing], Memorandum 2015-3.
3. Policy rule. *Aanwijzing kader voor strafvordering meerderjarigen*. Ministry reference 2019A003 Identification No. BWBR0042068.
4. WODC (2015). *De misdrijf-straf index; Op weg naar een maat voor de ernst van delicten afgeleid van de afdoening van strafzaken*. [The Crime Punishment Index: Devising a way to assess the severity of crimes, based on sentencing], Memorandum 2015-3.
5. NSCR (2025). <https://nscr.nl/de-nederlandse-crime-severity-index>.