

The released from prison in Finland 1993-2001

and the re-entered

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Abstract

The research examines how great a share of the sentenced prisoners start to serve a new unconditional sentence within **five years** of their release. The total data collected from the central prisoner register in 1993-2002 include 30.000 separate persons and their 100.000 prison terms. Foreigners and the dead during the follow-up time have been taken into account when calculating the share of the recidivists.

Over a half (59 %) of all the released returned to prison during five years after release. The majority of those for the first time (42 %) in prison did not return to prison. 95 percent of the young offenders returned to prison at least once. Men re-offend more often (59 %) than women (45 %). Persons sentenced for homicides (18 %) and sexual offences (18 %) re-offend more rarely than others. One in four of those returned to prison did not commit a new crime after release. The share of recidivists is increasing in Finland. Under 10 out of 100 of the first-timers ended up in prison vortex and they are the most socially excluded part of the Finnish adult population.

Introduction

By the recidivism of released prisoners is meant in this research only discovered and registered criminality that has led to an unconditional prison sentence. Unconditional prison sentences constitute a small, but remarkable part of all recidivism. The research looks into how many released prisoners return back to prison. The returned are examined in relation to their age, times in prison, sex and year of release. The number of those receiving a new prison sentence is influenced by legislation, the number of discovered crimes and their share of detection. Recidivism in case of serious crimes is more rare than in case of slight crimes or petty offences.¹

The total number of those returned to prison and their proportional share of the released depend on the following criteria:

- Has the crime been committed before a new prison sentence has been imposed for another crime,
- what is the length of the follow-up time,
- are the dead during the follow-up time taken into account,
- are the deported or emigrated eliminated from the follow-up and
- are the persons in prisons or other institutions (irresponsible) taken into account?

Recidivism is influenced, besides legislation and court praxis, by the length of the follow-up times. The longer the released prisoners are followed, the bigger share of them commit a new crime. As the follow-up time increases, the number of the dead increases at the same time. The life expectancy of persons having served prison sentences is considerably shorter than the one of the rest of the population. This must be taken into consideration when calculating the risk of re-offending. A part of the released are left outside the follow-up because of emigration. A part have not the nationality of the country of release, and they can be deported to their native country after release. A part of the released may be in institutional care when the likelihood of recidivism may be smaller.

The number of recidivists and the ratio describing recidivism increase if the follow-up time is lengthened. The number of recidivists and the ratio describing recidivism decrease if

¹ Bonta & al. 2003, s. 2–6; Smith & al. 2002, s. 9–11

those who have committed a new crime after release are considered as recidivists. The number of recidivists and the ratio describing recidivism increase if those who are serving a new sentence imposed for a crime committed before release are considered as recidivists.

The number of recidivists does not increase even if the dead during the follow-up time are eliminated from the data. The percent ratios concerning recidivism increase also because the dead during the follow-up time can belong to the group of non-recidivists only. The number of recidivists does not increase if the deported abroad are taken into account. However, the proportional share of the recidivists increases if the deported are eliminated from the follow-up data.

The number of those whose sentence has been waived (irresponsible) is small but if they are taken into account, it either somewhat increases or decreases the number of recidivists or the ratio depending whether they are considered to be recidivists. Sentences imposed for crimes committed during imprisonment may be combined to the prison term being served.

Research issues

1. How many of those serving a prison sentence return to prison,
2. how soon after release does a new prison sentence start,
3. how many of the released serving their first prison sentence return to prison,
4. does re-offending vary according to age, sex or corresponding factors and
5. are there differences between various types of crimes in re-offending,
6. how do times in prison cumulate to different persons
7. is recidivism more common in Finland than in other Nordic countries?

Data

By the recidivism of released prisoners is meant in this research only discovered and registered crime that has led to an unconditional prison sentence. The research data are the total data of the central prisoner register of the Criminal Sanctions Agency on the sentenced prisoners since 1993. The data include at the largest 100.000 prison terms and 30.000 separate persons. (Figure 1)

By a recidivist of a prison sentence is meant in this research a person who in 1993-2001 has served at least two prison terms. Thus a recidivist has been released after 31.12.1992 from unconditional imprisonment and started to serve a new prison sentence before the year 2002. The follow-up time is from the release to the starting of a new prison sentence. The date of committing a crime could not have been used as a criterion because it cannot be collected from the central prisoner register. (Figure 2)

The definition restricts the data as follows:

1. A part of the recidivists evade the enforcement, and therefore they have not been counted as recidivists despite a legally force punishment. They could not have been taken into account as such data cannot be collected from the information on statements of judgement available in the Criminal Sanctions Agency.

2. A person who has been sentenced to a new prison sentence is considered as a recidivist even if the crime has been committed before release. From the Criminal Sanctions Agency's own registers it is not possible to collect automatically the date of the crime. The Legal Registers Centre is responsible for keeping of legal registers.
3. The definition excludes the prisoners who during the next prison term after their release are still remand prisoners. Their court proceedings are unfinished, and they were not included in the data.

The restrictions divide the data into two big groups: the first-timers and the recidivists.

Methods

The accumulation of returning to prison can be examined on the personal level by taking into account the person's all previous prison sentences. A retrospective way of study is not very interesting as thus only rutted recidivists can be analysed. A more useful starting point to examine recidivism of prison sentence is monitoring the likelihood of a new prison sentence in different groups for a certain period.

This forward-looking way of examination of recidivism is based on the method of German Köbner which he presented in Paris over a hundred years ago, in 1893 in a conference held by an international criminologist society. According to the method, recidivism percentage is calculated as a ratio on such persons able to re-offend who have a possibility to commit crimes. The dead, the migrated abroad and the ones in penal institutions during the follow-up time are eliminated from the total number. (Figure 3)

The Köbler model is used in this research, but the follow-up is continued longer than five years, i.e. for the time that the follow-up time enables in case of each cohort. The follow-up time is some nine years in the cohort of the released in 1993, and less in the case of those released later, but at least a year. The dead during the follow-up time are eliminated from the data, as well as the citizens of foreign countries without Finnish identity number. In the research the recidivists of a new prison sentence are examined as ratios: how many of the released in a certain year have re-offended within a certain time. The recidivism has been calculated at the accuracy of a calendar day from the day of release to the value day of the next sentence.

Results

Follow-up time: Over a half (59 %) of all the released returned to prison within five years of their release

Year of release: The share of recidivists is increasing in Finland

Times in prison: The majority of those for the first time (41 %) in prison did not return to prison

Age: 95 percent of the young offenders returned to prison at least once

Sex: Men re-offend (59 %) more often than women (45 %)

Type of crime: Persons sentenced for homicides and sexual offences re-offend more rarely (18 %) than others

Fictitious recidivism: One in four of those returned to prison did not commit a new crime after release

Process: Under 10 out of 100 of the first-timers ended up in prison vortex

Vortex: The persons in prison vortex are the most socially excluded part of the Finnish adult population.

Of the first-timers released in 1993-1997, 41 percent started to serve a new unconditional prison sentence during five years after release. The share of offenders receiving a new prison sentence barely increased after five follow-up years even if the follow-up time was continued to last nearly ten years at most. A quarter of the released returned to prison without a new crime after release. They returned to prison to serve a sentence which was not legally valid before release. 35 percent of the first-timers and those released in 1996 were genuine recidivists. (Appendix 1, 9)

Men re-offend more often (59 %) than women (45 %) and the young more often than the old. First-time prisoners re-offend less frequently than those having served a prison sentence at least twice. 95 percent of the ones released at under 18 years of age re-entered prison. The size of this age group is small, annually 27 released on the average. In the eldest age group, re-offenders constitute 30 percent. Also the size of this group is relatively small, annually some 280 released on the average. The highest risk of recidivism is among the ones sentenced for robbery (46 %) and property offences (60 %) and the lowest among those sentences for homicides (18 %) and sexual offences (18 %). The share of recidivists increased along with times in prison. Four out of five ending up in prison vortex returned to prison within five years of their release. (Appendix 2-8)

However, only a few out of a hundred released first-timers end up in prison vortex. The general idea of a great probability of ending up in prison vortex is false, and it is based on the fact that most prisoners are recidivists. When about 40 of a hundred first-timers return to prison, the flow of thousands of first-timers that has continued for decades has caused that despite a small probability some offenders have ended up in prison vortex. Since 1991, 30.000 separate persons have been sentenced to unconditional imprisonment, and all in all during the past 30 years some 100.000 separate persons. (Appendix 4-5)

The prisoners caught in the prison vortex are a challenge both to the Criminal Sanctions Agency and to the society at large: they are the sickest, poorest and socially most excluded part of our adult population. Even though, one third of them will after their each prison term remain permanently at liberty. The likelihood of staying at liberty is the greatest among those who are able to keep away from intoxicants. The considerably higher mortality rate than that of the rest of the population only partly explains the breaking off of the prison vortex. According to the central prisoner register, since 1991 in Finland prison sentence was served by 13.340 such persons who at the time of the comparison run of the population register 1.3.2002 were alive and who had been at liberty at the end of the follow-up at least for five years and therefore not likely to return to prison any more.

The follow-up time of those released after 1999 is yet too short, so the observed increase in the share of recidivists is only so far a prognosis based on the time series of the data.

Discussion

Several various recidivism figures may be attained on the numbers of those returned to prison in relation to the released. The highest figures are obtained if the shares are examined only concerning the ones in prison. This retrospective way of examination easily leads to erroneous figures of recidivism because it is best suited to describe the accumulation of prison sentences on the same persons.

The forward-looking genuine follow-up gives smaller shares of recidivists. The proportional shares and numbers of recidivists are reduced if only so called genuine recidivists are considered as recidivists. By these are meant persons who have returned to prison after committing a new crime after release. It is important to separate the person in prison for the first time from those in prison for several times because the risk of the first-timers to return to prison is considerably smaller than that of the rutted recidivists.

As the share of the returned increases rapidly along with the follow-up, it is important to notify exactly the follow-up time and also whether the dead during the follow-up have been eliminated. It is especially important to eliminate the dead during the follow-up lasting over three years because the mortality rate of the released prisoners is manifold compared to the rest of the population of the same age². In international research, often only the follow-up of two or three years and genuine recidivists are used. In this comparison, Finland's 30-40 percent share of the first-timers who have only after release committed a new crime leading to an unconditional prison sentence is not especially high.³

The probability of re-entering prison many times is extremely small: under ten in a hundred of the first-timers return to prison over six times. In prisons there are, however, manifold recidivists, about a half of the sentenced prisoners. During decades, the continuous flow of first-timers brings about that despite a small probability some end up in prison vortex: that is why the prison vortex is a strongly selective process. This recruitment causes that the prisoners caught up in the prison vortex are the most socially excluded, poorest and sickest part of the population.

This research has examined only the association of static factors (age, sex and times in prison) with the level of recidivism. Later on it is important to clarify the association of dynamic factors (education, health, ability to work, intoxicant problems etc.) with the return to prison. The Criminal Sanctions Agency has started to collect data on dynamic factors, and the first preliminary data indicate that intoxicant rehabilitation provided in prison considerably lowers the statistical risk of ending up in prison again.

² Sattar G. 2001a; 2001b

³ KVS 1990; Kristofferesen 1997; Kershaw et al. 1999; KVS 1999; Ash et al 2001; Peersen 2001; SPS 2001; Bonta et al. 2003.

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APPENDIX

Specifications of appendix tables

Data include sentenced prisoners released in 1993-2000 (total data)

The appendices have been grouped first according to the main components

- Age classified at the time of release
- Gender
- Year of release
- Times in prison classified
- Genuine recidivism (only those released in 1996)
- Main crime (only those released in 1997-2001)

After the main components, there are the co-effects of two, three and four levels.

Age * gender * times in prison etc.

Age * gender * year of release etc.

Age * gender * year of release * times in prison

In the appendix tables is the number of the dead during the corresponding follow-up time is included in the group of the non-re-offended. The percent of recidivism has been calculated by the formula $U \% = (\text{Recidivists during T} / (\text{N-the dead during T})) * 100$.

Persons without a Finnish identity number have been eliminated from the data. The ones released more than once during the same year are included in the data – also in the possible sub-groups – as many times as there have been releases. The follow-up time has then been started again.

App. 1 Main effects: year released, age, prison terms and gender.

The share of those re-entered prison during the follow-up times of different lengths (%)

Year released	Prison		Recidivism (%) in different follow-up time (in years)								Recidive		
	Age	terms	Gender	N	1	2	3	4	5	max	Yes	No	Death
				40096	26,5	44,7	52,8	56,7	58,8	62,2	23406	14225	2465
			Male	38586	26,8	45,1	53,3	57,2	59,4	62,8	22720	13459	2407
			Female	1510	17,5	32,1	39,6	42,6	44,9	48,4	703	749	58
		1		11385	17,1	29,7	36,0	39,4	41,5	44,9	4787	5874	724
		2		6719	24,3	41,7	49,4	53,0	55,4	59,1	3733	2583	403
		3-9		17878	30,4	51,5	60,8	65,0	67,2	70,5	11897	4978	1003
		10-		4114	38,9	61,6	70,4	74,3	76,3	79,1	2989	790	335
	15-<18			125	68,8	90,4	92,0	93,6	95,2	96,8	121	4	0
	18-<21			2080	50,9	72,3	78,7	81,8	83,2	84,6	1725	314	41
	21-<30			13307	31,6	52,1	60,7	64,5	66,6	69,9	8986	3869	452
	30-<40			12868	24,4	42,9	51,7	55,6	58,0	61,6	7474	4659	735
	40-<50			8658	19,5	35,0	42,2	46,1	48,5	52,2	4091	3747	820
	50-<60			2563	13,5	24,8	31,8	35,7	37,5	40,2	903	1343	317
	60-			495	12,4	21,8	25,4	28,0	29,8	31,6	125	270	100
1993				6042	23,1	41,3	50,8	54,6	57,0	64,0	3529	1985	528
1994				5557	22,8	40,2	48,2	52,9	56,2	63,6	3239	1853	465
1995				4686	25,2	41,7	49,6	54,2	57,3	63,0	2737	1608	341
1996				4413	24,2	42,1	51,2	56,6	60,1	64,5	2655	1462	296
1997				3843	26,2	44,4	53,8	59,1	62,3	64,6	2317	1269	257
1998				3884	27,8	47,2	57,0	62,9	65,5		2397	1263	224
1999				3829	29,5	49,6	59,1	63,4			2324	1342	163
2000				3881	32,8	51,8	60,0				2255	1503	123
2001				3961	30,4	48,2					1876	2017	68

App 2. Release year and prison terms

The share of those re-entered prison during the follow-up times of different lengths (%)

Release year	Prison terms	Follow-up in years							Death
		N	1	2	3	4	5	max	
1993	1	2041	14,2	25,9	33,1	36,3	38,7	45,4	200
1994	1	1612	14,5	26,4	32,3	36,4	39,2	46,6	139
1995	1	1273	18,1	28,4	33,7	37,9	40,6	46,5	100
1996	1	1162	14,2	26,7	34,0	39,0	41,9	45,9	79
1997	1	1021	15,3	27,0	34,2	38,9	42,4	44,9	69
1998	1	1069	18,2	33,9	41,1	46,9	49,4		59
1999	1	1044	18,5	31,6	40,5	43,4			33
2000	1	1045	23,1	37,5	44,7				30
2001	1	1118	21,3	34,7					15
1993	2	1122	24,3	41,7	50,1	53,5	56,0	63,5	101
1994	2	995	20,5	37,6	44,8	49,0	52,3	59,8	82
1995	2	794	22,3	36,3	44,3	48,3	51,5	57,7	49
1996	2	705	21,9	38,5	47,1	52,3	57,7	62,1	42
1997	2	600	21,1	39,9	49,3	52,8	57,4	59,1	37
1998	2	606	26,9	45,7	54,6	61,3	63,2		30
1999	2	601	27,9	47,8	57,1	62,0			28
2000	2	680	28,9	48,2	56,0				23
2001	2	616	27,9	44,0					11
1993	3-9	2390	26,7	49,8	61,3	65,8	68,4	75,2	184
1994	3-9	2453	26,3	46,7	56,0	61,1	64,8	72,3	193
1995	3-9	2140	27,9	47,5	56,7	61,6	65,0	70,8	141
1996	3-9	2027	28,3	48,6	58,9	64,7	67,7	71,9	128
1997	3-9	1807	31,5	52,3	62,8	68,7	71,2	73,5	115
1998	3-9	1785	31,2	52,3	63,7	69,5	72,7		89
1999	3-9	1762	34,3	57,4	67,3	72,4			74
2000	3-9	1732	37,1	58,0	67,3				52
2001	3-9	1782	34,4	54,5					27
1993	10-	489	39,2	63,4	75,1	78,6	80,1	86,3	43
1994	10-	497	37,6	58,0	68,4	74,0	77,5	83,0	51
1995	10-	479	37,3	60,8	69,4	74,1	77,3	81,3	51
1996	10-	519	34,1	56,2	65,9	70,8	74,4	80,5	47
1997	10-	415	37,5	60,1	69,2	77,0	80,5	82,3	36
1998	10-	424	39,3	61,5	73,5	78,3	79,9		46
1999	10-	422	39,2	65,2	74,7	78,4			28
2000	10-	424	46,3	68,0	74,6				18
2001	10-	445	40,9	63,0					15

App 3. Year released and gender

The share of those re-entered prison during the follow-up times of different lengths (%)

Year released	Gender	N	Follow-up in years					max	Death
			1	2	3	4	5		
1993	Male	5844	23,3	41,8	51,2	55,0	57,4	64,3	514
1994	Male	5384	23,2	40,6	48,6	53,4	56,7	64,0	456
1995	Male	4530	25,4	42,2	50,1	54,8	57,9	63,6	333
1996	Male	4242	24,6	42,5	51,7	57,1	60,6	65,0	289
1997	Male	3688	26,8	45,2	54,7	60,2	63,3	65,5	252
1998	Male	3713	28,3	47,8	57,9	63,6	66,2		217
1999	Male	3674	30,1	50,2	59,6	63,9			161
2000	Male	3719	33,2	52,4	60,6				119
2001	Male	3792	30,6	48,6					66
	Total	38586	26,8	45,1	53,3	57,2	59,4	62,8	2407
1993	Female	198	16,0	28,5	40,1	44,2	47,1	55,4	14
1994	Female	173	10,5	26,9	34,1	37,5	41,3	48,8	9
1995	Female	156	18,7	26,8	34,9	36,2	38,7	46,6	8
1996	Female	171	15,6	31,3	39,6	43,9	47,0	50,6	7
1997	Female	155	11,2	25,7	32,2	34,9	39,3	43,3	5
1998	Female	171	17,9	34,1	39,2	46,3	50,0		7
1999	Female	155	16,2	37,3	48,4	51,6			2
2000	Female	162	24,8	38,0	46,8				4
2001	Female	169	26,9	40,7					2
	Total	1510	17,5	32,1	39,6	42,6	44,9	48,4	58

App 4. Year released and age at release time

The share of those re-entered prison during the follow-up times of different lengths (%)

Year released	Age	N	Follow-up in years						max	Death
			1	2	3	4	5			
1993	15-<18	26	80,8	88,5	92,3	96,2	96,2	100,0	0	
1994	15-<18	23	47,8	87,0	91,3	91,3	95,7	100,0	0	
1995	15-<18	24	83,3	95,8	95,8	100,0	100,0	100,0	0	
1996	15-<18	10	70,0	100,0	100,0	100,0	100,0	100,0	0	
1997	15-<18	10	60,0	90,0	90,0	90,0	100,0	100,0	0	
1998	15-<18	13	69,2	92,3	92,3	92,3	92,3		0	
1999	15-<18	7	85,7	100,0	100,0	100,0			0	
2000	15-<18	8	62,5	75,0	75,0				0	
2001	15-<18	4	25,0	75,0					0	
1993	18-<21	337	46,5	72,8	81,2	84,1	85,0	86,8	11	
1994	18-<21	296	48,8	74,4	82,2	85,6	86,9	88,7	5	
1995	18-<21	269	47,9	67,8	75,3	79,3	81,2	84,9	4	
1996	18-<21	241	48,1	69,3	73,5	77,3	81,1	83,5	4	
1997	18-<21	199	54,6	73,0	81,5	84,6	87,1	88,1	5	
1998	18-<21	195	45,8	68,9	79,9	84,1	84,7		6	
1999	18-<21	173	55,9	74,1	79,4	85,9			3	
2000	18-<21	171	65,9	83,4	85,8				2	
2001	18-<21	199	53,0	69,2					1	
1993	21-<30	1998	27,2	48,3	58,4	62,2	64,2	70,3	80	
1994	21-<30	1885	26,7	47,2	54,9	59,8	62,5	69,2	67	
1995	21-<30	1613	30,5	47,8	55,8	60,1	63,3	68,8	57	
1996	21-<30	1479	27,7	48,2	57,3	62,5	66,1	70,7	56	
1997	21-<30	1269	31,5	51,6	62,4	68,2	71,8	74,1	59	
1998	21-<30	1297	34,2	56,2	66,9	73,1	74,9		44	
1999	21-<30	1227	36,5	59,3	69,2	72,7			41	
2000	21-<30	1271	40,1	61,2	70,1				32	
2001	21-<30	1268	35,8	56,1					16	
1993	30-<40	1973	20,4	39,2	49,0	52,8	55,6	62,7	168	
1994	30-<40	1785	21,2	37,6	46,4	51,1	54,7	62,8	142	
1995	30-<40	1525	23,0	39,7	48,5	52,6	55,8	62,2	101	
1996	30-<40	1405	22,4	39,6	50,7	56,7	59,9	64,1	80	
1997	30-<40	1210	24,1	44,1	53,2	58,0	60,8	63,4	74	
1998	30-<40	1240	25,4	45,4	55,2	61,1	64,3		67	
1999	30-<40	1211	28,2	49,0	59,9	64,8			46	
2000	30-<40	1245	29,9	49,4	58,5				39	
2001	30-<40	1274	29,5	47,9					18	
1993	40-<50	1315	17,0	29,7	38,3	42,2	44,8	53,4	178	
1994	40-<50	1217	15,5	28,8	36,0	41,0	45,0	52,8	174	
1995	40-<50	970	15,6	31,3	38,6	43,7	46,6	52,4	122	
1996	40-<50	964	18,5	34,8	42,8	47,7	51,6	56,5	113	
1997	40-<50	847	19,8	34,1	41,9	47,3	50,4	52,6	67	
1998	40-<50	822	21,0	37,6	47,0	52,2	55,8		67	
1999	40-<50	866	22,7	40,8	48,8	53,6			47	
2000	40-<50	831	25,5	44,0	50,9				29	
2001	40-<50	826	24,0	39,7					23	
1993	50-<60	330	9,7	22,6	30,6	34,2	36,4	43,4	65	
1994	50-<60	287	11,4	19,3	27,0	30,2	33,7	41,3	57	
1995	50-<60	235	11,8	22,1	26,7	32,5	36,2	40,4	47	
1996	50-<60	254	14,2	23,6	30,8	37,4	39,3	44,6	32	
1997	50-<60	264	10,0	22,2	30,6	38,5	41,4	43,2	42	
1998	50-<60	268	15,2	24,5	32,5	38,9	42,3		29	
1999	50-<60	290	12,1	24,8	34,2	37,7			22	
2000	50-<60	296	18,4	29,6	38,2				16	
2001	50-<60	339	17,8	32,2					7	
1993	60-	63	17,5	26,8	32,1	34,0	38,3	48,6	26	
1994	60-	64	13,3	24,6	28,3	34,7	39,1	45,5	20	
1995	60-	50	12,2	18,8	22,2	26,7	28,6	32,5	10	
1996	60-	60	8,8	14,5	17,3	20,0	22,4	22,4	11	
1997	60-	44	10,0	24,3	30,6	30,6	32,4	32,4	10	
1998	60-	49	13,0	21,4	22,0	26,3	28,9		11	
1999	60-	55	9,4	28,3	29,4	29,4			4	
2000	60-	59	10,3	20,4	25,9				5	
2001	60-	51	16,7	16,7					3	

App. 5 Age and gender

The share of those re-entered prison during the follow-up times of different lengths (%)

Age	Gender	N	Follow-up in years						max	Death
			1	2	3	4	5			
15-<18	Male	124	69,4	91,1	92,7	94,4	96,0	97,6	0	
18-<21	Male	2044	51,4	72,7	79,2	82,3	83,6	85,0	41	
21-<30	Male	12832	31,9	52,6	61,2	65,1	67,1	70,4	445	
30-<40	Male	12241	24,9	43,4	52,2	56,2	58,5	62,1	707	
40-<50	Male	8368	19,7	35,4	42,6	46,7	49,0	52,8	803	
50-<60	Male	2494	13,6	25,3	32,3	36,3	38,2	41,0	313	
60-	Male	483	12,7	22,3	25,8	28,5	30,4	32,2	98	
	Total	38586	26,8	45,1	53,3	57,2	59,4	62,8	2407	
15-<18	Female	1	0,0	0,0	0,0	0,0	0,0	0,0	0	
18-<21	Female	36	25,0	47,2	50,0	55,6	58,3	58,3	0	
21-<30	Female	475	23,5	38,7	47,0	50,2	52,7	56,0	7	
30-<40	Female	627	15,8	33,1	41,6	44,8	47,8	51,8	28	
40-<50	Female	290	13,1	23,8	28,7	31,0	32,2	36,3	17	
50-<60	Female	69	9,0	9,0	15,2	15,2	15,2	15,4	4	
60-	Female	12	0,0	0,0	9,1	9,1	9,1	10,0	2	
	Total	1510	17,5	32,1	39,6	42,6	44,9	48,4	58	

App 6. Age at release time and prison terms

The share of those re-entered prison during the follow-up times of different lengths (%)

Age	Prison terms	N	Follow-up in years						max	Death
			1	2	3	4	5			
15-<18	1	88	62,5	86,4	88,6	90,9	93,2	95,5	0	
15-<18	2	25	88,0	100,0	100,0	100,0	100,0	100,0	0	
15-<18	3-9	12	75,0	100,0	100,0	100,0	100,0	100,0	0	
18-<21	1	1236	45,4	66,7	73,3	77,3	78,4	80,2	24	
18-<21	2	539	56,0	78,4	84,0	87,0	89,4	90,4	9	
18-<21	3-9	305	64,8	84,2	90,9	91,2	91,6	91,9	8	
21-<30	1	4330	20,8	36,5	44,4	48,2	50,4	54,3	150	
21-<30	2	2889	29,1	49,5	58,5	62,4	64,8	68,4	92	
21-<30	3-9	6021	40,1	64,3	73,1	77,1	78,7	81,5	208	
21-<30	10-	67	68,2	86,4	92,3	92,3	95,4	96,9	2	
30-<40	1	2814	9,4	19,8	25,6	29,1	31,4	35,4	190	
30-<40	2	1823	16,5	32,3	39,4	43,2	45,8	50,2	119	
30-<40	3-9	7079	28,3	49,9	60,3	64,5	66,9	70,3	365	
30-<40	10-	1152	50,2	74,0	82,6	85,8	86,7	88,8	61	
40-<50	1	1993	5,6	12,0	16,3	18,8	20,4	23,4	222	
40-<50	2	1063	13,1	24,1	29,7	32,8	35,1	38,7	127	
40-<50	3-9	3493	19,6	36,6	44,6	49,3	52,1	56,3	281	
40-<50	10-	2109	35,7	59,7	69,0	73,1	75,4	78,5	190	
50-<60	1	757	4,2	8,5	12,4	14,4	15,3	16,6	101	
50-<60	2	316	6,3	17,2	24,6	26,3	27,6	30,4	40	
50-<60	3-9	826	11,7	23,6	32,2	38,1	40,6	43,5	113	
50-<60	10-	664	29,8	48,6	56,5	61,2	63,5	66,7	63	
60-	1	167	5,8	7,3	8,3	9,8	10,9	11,5	37	
60-	2	64	6,9	19,6	25,5	30,2	30,8	33,3	16	
60-	3-9	142	16,9	30,0	33,9	36,4	39,1	39,5	28	
60-	10-	122	18,6	32,7	38,5	42,3	44,2	47,6	19	

App 7. Age at release time, prison terms and gender

The share of those re-entered prison during the follow-up times of different lengths (%)

Age	Prison		N	Follow-up in years					Death	
	terms	Gender		1	2	3	4	5		max
15-<18	1	Male	87	63,2	87,4	89,7	92,0	94,3	96,6	0
15-<18	2	Male	25	88,0	100,0	100,0	100,0	100,0	100,0	0
15-<18	3-9	Male	12	75,0	100,0	100,0	100,0	100,0	100,0	0
15-<18	1	Female	1	0,0	0,0	0,0	0,0	0,0	0,0	0
18-<21	1	Male	1205	46,0	67,3	74,1	78,0	79,1	80,9	24
18-<21	2	Male	536	55,9	78,4	84,1	87,1	89,4	90,3	9
18-<21	3-9	Male	303	64,9	84,1	90,8	91,2	91,5	91,9	8
18-<21	1	Female	31	19,4	41,9	45,2	51,6	51,6	51,6	0
18-<21	2	Female	3	66,7	66,7	66,7	66,7	100,0	100,0	0
18-<21	3-9	Female	2	50,0	100,0	100,0	100,0	100,0	100,0	0
21-<30	1	Male	4081	20,8	36,8	44,6	48,5	50,7	54,6	144
21-<30	10-	Male	67	68,2	86,4	92,3	92,3	95,4	96,9	2
21-<30	2	Male	2760	29,3	49,9	58,9	62,9	65,3	68,9	92
21-<30	3-9	Male	5924	40,3	64,5	73,3	77,3	78,9	81,6	207
21-<30	1	Female	249	21,1	32,2	40,0	43,3	45,5	48,6	6
21-<30	2	Female	129	23,3	41,1	49,6	51,2	52,7	57,4	0
21-<30	3-9	Female	97	30,2	52,1	61,5	66,7	70,8	72,9	1
30-<40	1	Male	2585	9,6	20,0	25,9	29,3	31,6	35,7	177
30-<40	10-	Male	1144	50,1	74,1	82,7	85,8	86,8	88,7	61
30-<40	2	Male	1708	16,4	31,9	38,8	42,6	45,3	49,8	116
30-<40	3-9	Male	6804	28,6	50,2	60,6	64,9	67,1	70,5	353
30-<40	1	Female	229	6,3	17,2	22,8	26,7	28,7	31,9	13
30-<40	10-	Female	8	62,5	62,5	75,0	75,0	75,0	100,0	0
30-<40	2	Female	115	17,4	37,7	48,2	50,9	52,2	56,3	3
30-<40	3-9	Female	275	21,6	43,2	53,0	56,0	60,6	64,6	12
40-<50	1	Male	1855	6,0	12,4	16,8	19,4	21,0	24,0	212
40-<50	10-	Male	2082	35,7	59,8	69,0	73,1	75,4	78,4	190
40-<50	2	Male	1034	13,1	24,1	29,9	33,1	35,3	38,9	123
40-<50	3-9	Male	3397	19,6	36,5	44,6	49,4	52,2	56,4	278
40-<50	1	Female	138	0,8	6,9	10,0	11,5	13,1	16,4	10
40-<50	10-	Female	27	40,7	51,9	66,7	74,1	74,1	81,5	0
40-<50	2	Female	29	14,8	22,2	23,1	24,0	28,0	32,0	4
40-<50	3-9	Female	96	21,9	39,6	44,8	47,4	47,9	51,6	3
50-<60	1	Male	708	4,4	9,0	13,0	15,2	16,2	17,5	98
50-<60	10-	Male	658	29,6	48,6	56,2	61,0	63,3	66,6	63
50-<60	2	Male	310	6,4	17,5	24,7	26,5	27,8	30,7	40
50-<60	3-9	Male	818	11,6	23,6	32,2	38,1	40,7	43,6	112
50-<60	1	Female	49	2,1	2,1	4,3	4,3	4,3	4,3	3
50-<60	10-	Female	6	50,0	50,0	83,3	83,3	83,3	83,3	0
50-<60	2	Female	6	0,0	0,0	16,7	16,7	16,7	16,7	0
50-<60	3-9	Female	8	28,6	28,6	28,6	28,6	28,6	28,6	1
60-	1	Male	161	6,0	7,5	8,6	10,1	11,3	12,0	36
60-	10-	Male	122	18,6	32,7	38,5	42,3	44,2	47,6	19
60-	2	Male	59	7,5	21,6	26,0	31,3	31,9	34,1	15
60-	3-9	Male	141	17,0	30,2	34,1	36,7	39,5	39,8	28
60-	1	Female	6	0,0	0,0	0,0	0,0	0,0	0,0	1
60-	2	Female	5	0,0	0,0	20,0	20,0	20,0	25,0	1
60-	3-9	Female	1	0,0	0,0	0,0	0,0	0,0	0,0	0
		Total	40096	26,5	44,7	52,8	56,7	58,8	62,2	2465

App 8.**Main crime**

The share of those re-entered prison during the follow-up times of different lengths (%)

Released since 1998	N	Follow-up in years			Death
		1	2	3	
Total	4223	26,2	41,7	47,1	127
Male	4036	26,5	42,0	47,5	125
Femal	187	21,1	35,7	38,9	2
(Aggravated) robbery	246	24,6	41,8	46,2	10
Theft	973	36,6	53,8	60,2	23
Other property offence	412	21,0	35,5	39,3	10
Homicide	60	10,3	17,5	18,2	5
Crime of violence	692	23,3	37,6	44,1	23
Sexual offence	90	6,7	15,9	18,2	2
Other crimes against Penal code	178	25,9	38,5	42,5	4
Narcotics offence	488	25,5	36,9	41,5	11
Drunken driving	1005	23,4	41,8	47,7	37
Other offence	79	32,5	45,5	46,8	2

Only those who has been on prison at 1. may in given year on counting day since 1998.
Those serving a sentence less than a year are under representative.

App 9. Only genuine recidivism, all released in 1996.

The share of those re-entered prison during the follow-up times of different lengths (%)
 A quarter of the released in 1996 returned to prison without a new crime after release.
 They returned to prison to serve a sentence which was not legally valid before release.
 They are censored in this data.

Age	Prison terms	Gender	N	Follow-up in years					
				1	2	3	4	5	6
.	.	.	3680	15,1	32,1	42,1	48,2	52,2	55,3
.	.	Male	3532	15,3	32,5	42,5	48,8	52,8	55,9
.	.	Female	148	9,7	22,4	30,5	34,8	38,3	40,4
.	1	.	1045	8,2	19,2	26,8	31,9	35,0	37,1
.	2	.	592	14,1	29,1	37,7	43,8	49,9	53,1
.	3-9	.	1630	17,9	37,9	49,5	56,3	60,0	63,3
.	10-	.	413	23,2	47,3	58,5	64,3	68,7	73,3
15-<18	.	.	7	57,1	100,0	100,0	100,0	100,0	100,0
18-<21	.	.	179	35,6	60,8	64,8	69,9	75,0	76,6
21-<30	.	.	1192	17,5	37,1	47,7	53,9	58,2	61,5
30-<40	.	.	1181	13,7	30,1	41,9	48,6	52,4	55,3
40-<50	.	.	837	11,3	26,6	35,1	40,2	44,1	47,8
50-<60	.	.	229	8,1	16,6	23,9	30,7	32,7	35,5
60-	.	.	55	5,8	8,0	8,5	11,1	13,6	13,6
.	1	Male	969	8,2	19,2	27,0	32,1	35,3	37,5
.	1	Female	76	8,2	18,1	23,9	29,6	31,0	31,0
.	2	Male	564	13,9	29,0	37,5	44,0	50,2	53,5
.	2	Female	28	17,9	32,1	40,7	40,7	44,4	44,4
.	3-9	Male	1589	18,1	38,3	49,8	56,8	60,4	63,6
.	3-9	Female	41	7,5	25,0	37,5	40,0	47,5	52,5
.	10-	Male	410	23,4	47,7	58,9	64,6	69,0	73,4
.	10-	Female	3	0,0	0,0	0,0	33,3	33,3	66,7
15-<18	.	Male	7	57,1	100,0	100,0	100,0	100,0	100,0
18-<21	.	Female	174	36,6	62,0	66,1	71,3	76,6	78,2
18-<21	.	Female	5	0,0	20,0	20,0	20,0	20,0	20,0
21-<30	.	Male	1149	17,3	37,2	48,1	54,4	58,7	62,1
21-<30	.	Female	43	21,4	33,3	35,7	40,5	45,2	45,2
30-<40	.	Male	1119	14,0	30,4	42,3	49,1	52,9	55,7
30-<40	.	Female	62	8,1	24,2	35,5	40,3	45,2	48,4
40-<50	.	Male	809	11,7	27,2	35,5	40,7	44,7	48,4
40-<50	.	Female	28	0,0	8,0	21,7	26,1	26,1	30,4
50-<60	.	Male	221	8,4	17,2	24,9	32,0	34,0	37,0
50-<60	.	Female	8	0,0	0,0	0,0	0,0	0,0	0,0
60-	.	Male	53	5,9	8,2	8,7	11,4	14,0	14,0
60-	.	Female	2	0,0	0,0	0,0	0,0	0,0	0,0

Figure 1. Follow-up data

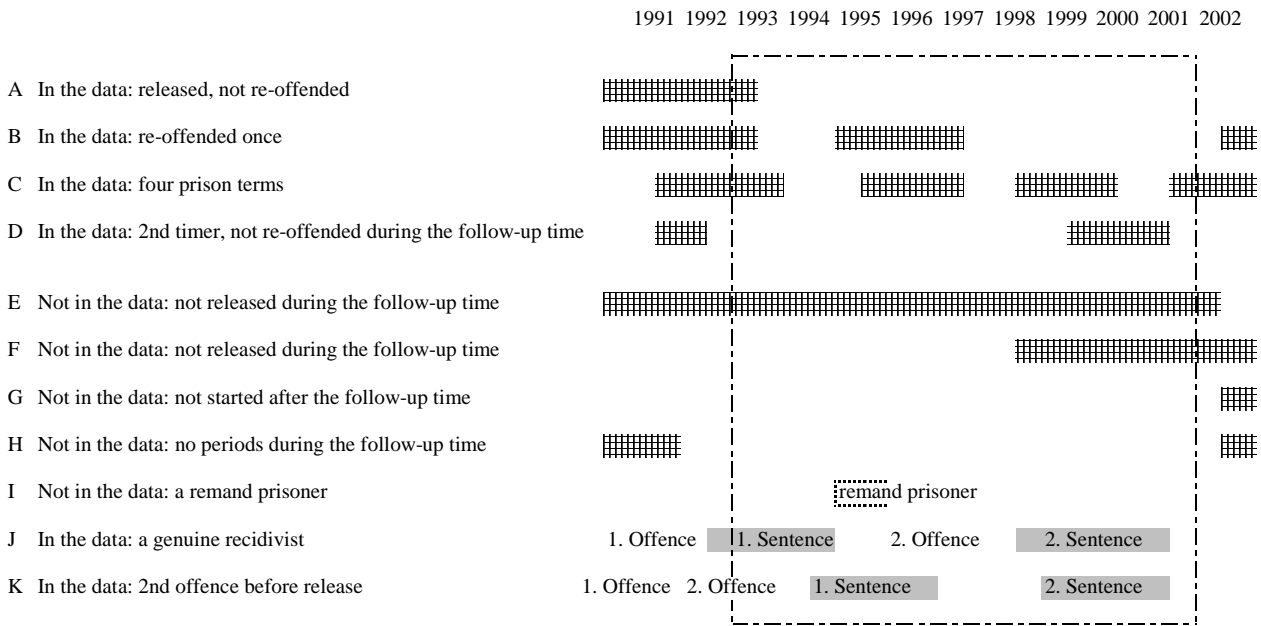


Figure 2. Sample, research data and follow-up time

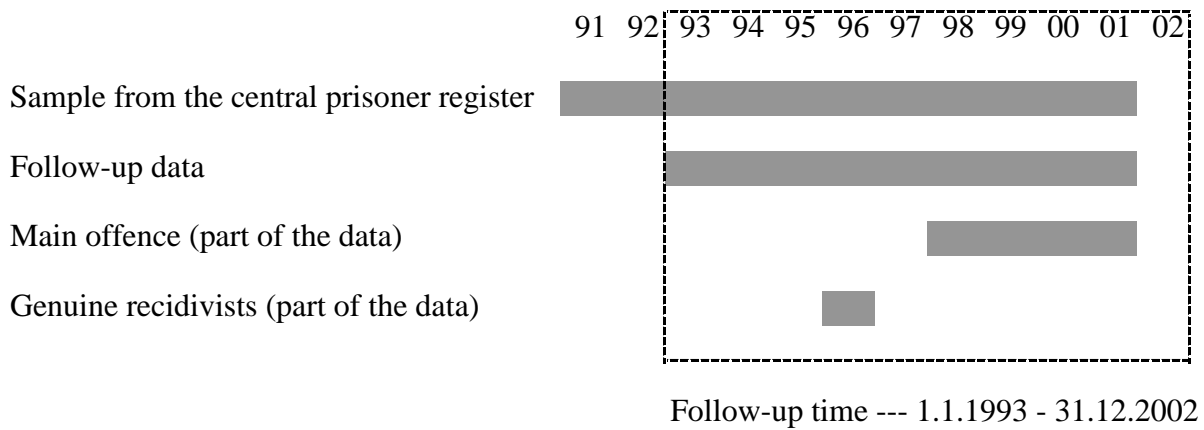


Figure 3. The average age of death of released persons in the central prisoner register in 1993-2001

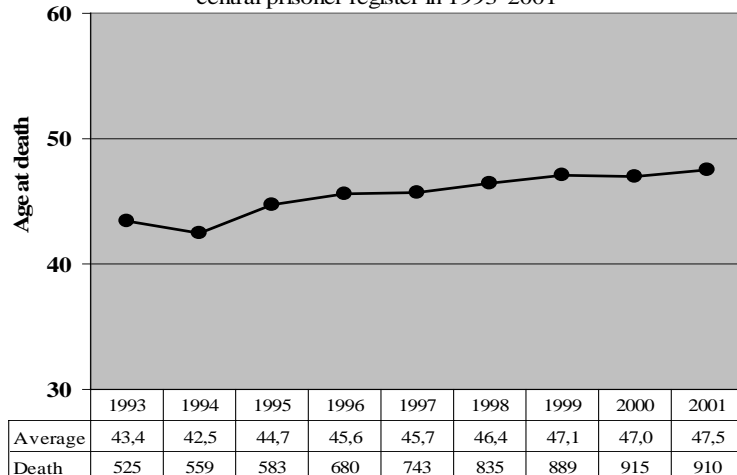
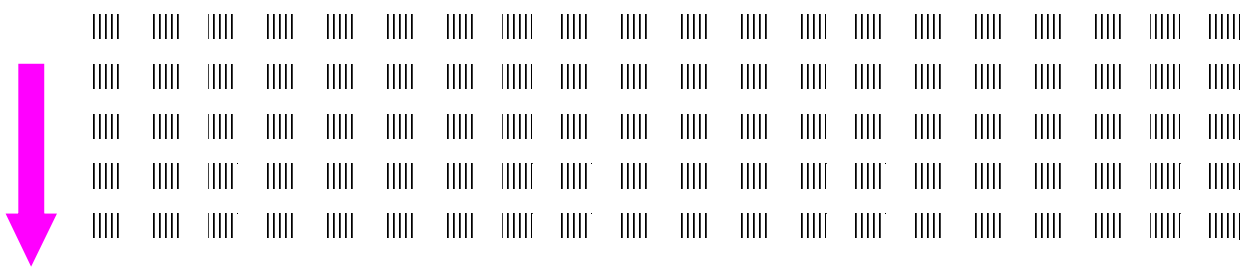
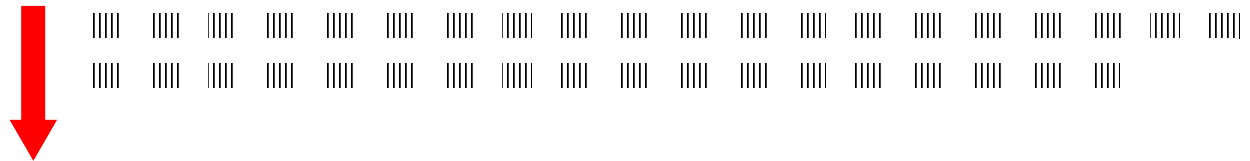


Figure 4.
Model: Statistical probability of re-entering prison

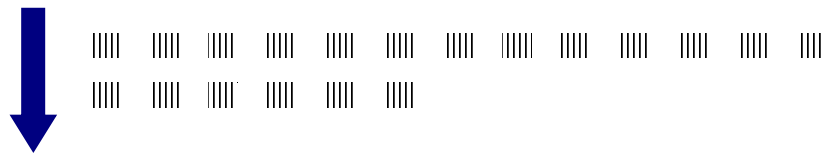
100 first-timers



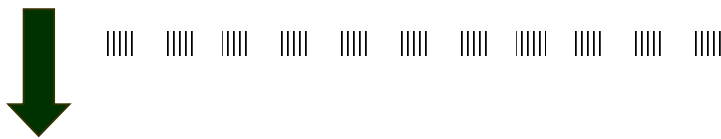
38 re-entered 2nd timers (recidivism ~ 38 %)



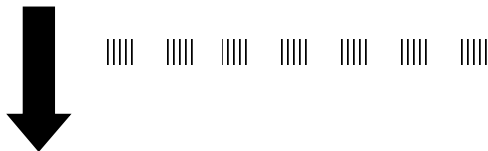
19 re-entered 3rd timers (recidivism ~50 %)



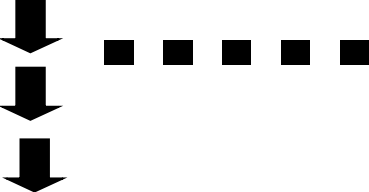
11 re-entered ruttet recidivist 4th time (recidivism ~60 %)



7 re-entered 5th timer in prison vortex (recidivism ~65 %)



5 re-entered 6th timer in prison vortex (recidivims ~70 %)



Even the probability to re-enter several time is small the several time re-entered are the biggest group in prison. The flow of thousands of first-timers that has continued for decades has caused that despite a small probability some offenders have ended up in prison vortex

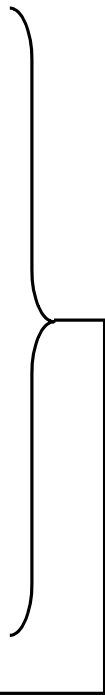
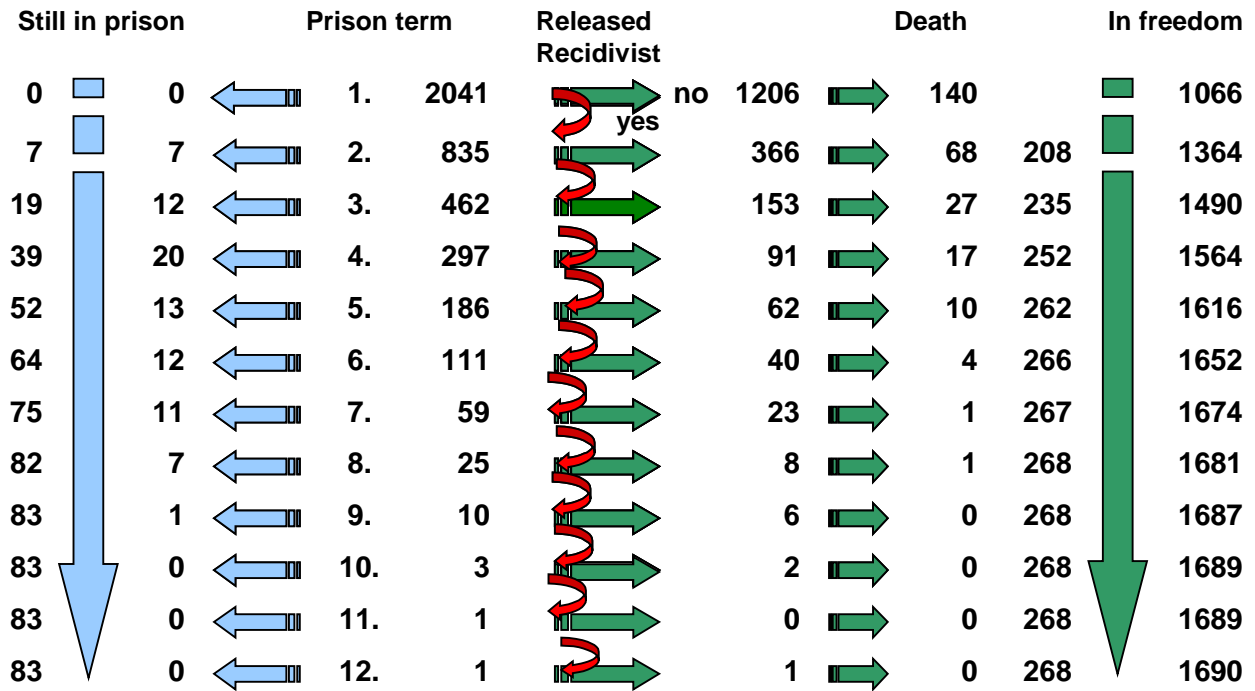


Figure 5.

Flowchart: All in year 1993 released first-time offenders



Situation at 1.1.2003:

In prison 83 + death together 268 + in freedom 1690 = all first-timers (2041)