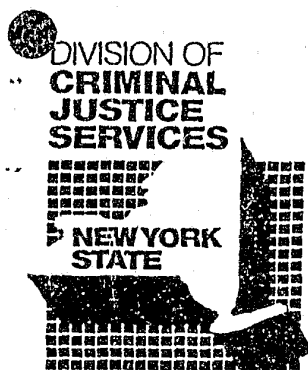


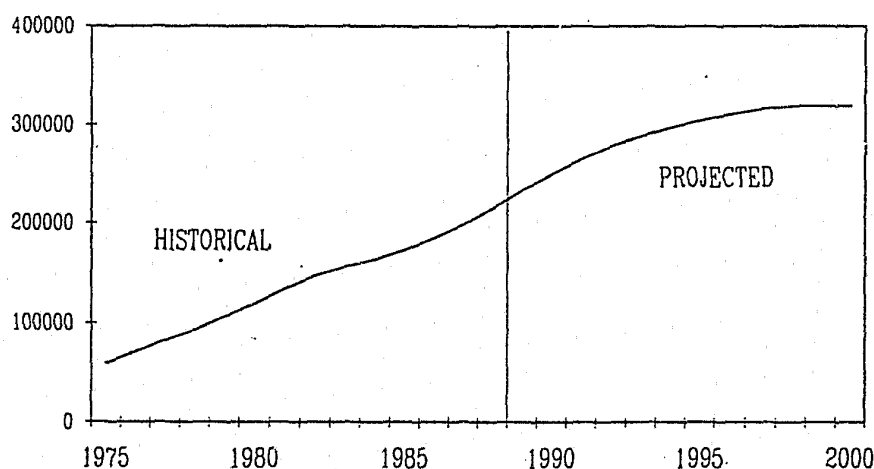
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# RESEARCH NOTE

## SENSITIVITY OF PRISON POPULATION PROJECTIONS TO INFORMATION ABOUT THE POPULATION OF POTENTIAL PREDICATE FELONS

Population Estimate of Potential Predicate Felons



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## Sensitivity of Prison Population Projections to Information about the Population of Potential Predicate Felons

### Abstract

Previous reports in this series have discussed the magnitude of the impact that individuals with prior felony convictions (FELCONs) have on criminal justice system resources. This paper explores the implications of these findings by incorporating projections of growth in the "FELCON pool" into the estimation of future prison populations. Earlier prison population projection methods did not explicitly account for the size of the FELCON pool. The new methods rely on separate population estimates for FELCONs and NOCONs (i.e., persons in the general population who have no prior felony convictions). NOCON arrest rates are estimated as the ratio of NOCON arrests to the size of the NOCON population. FELCON arrest rates are estimated as the ratio of FELCON arrests to the size of the FELCON population. The populations of FELCONs and NOCONs exhibit different trends, and because FELCONs have higher arrest rates, conviction rates, and incarceration rates than NOCONs, the new methods generate substantially higher prison population projections than earlier methods.

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## Background And Overview

Previous reports in this series have examined arrest rates and post-arrest processing of individuals having at least one prior felony conviction. This group is referred to herein as FELCONs, while the group of individuals having no prior felony convictions is referred to as NOCONs. To summarize previous findings (Greenstein, 1987; Greenstein et al., 1987, Greenstein, 1989), compared to persons with no prior felony conviction, FELCONs are:

- o more likely to be arrested for a felony;
- o more likely to be convicted of a felony once arrested;
- o more likely to be sentenced to prison;
- o likely to be sentenced to longer minimum periods of incarceration; and
- o more likely to be held past their minimum periods of incarceration.

Other analyses have indicated that overall arrest rates have remained generally constant over time<sup>1</sup>. This is also the case for FELCON and NOCON arrest rates. As a consequence, these differentiated arrest rates are suitable as a foundation for the projection of future prison populations in conjunction with the traditional demographic population measures.

## Predicate Felon Laws

Some of the most straightforward distinctions in New York State criminal justice processing stem directly from predicate felon laws. These laws, which define *Second Felons*, *Second Violent Felons*, *Persistent Felons*, and *Persistent Violent Felons*, explicitly articulate differential processing for these individuals: a sentence to prison is mandatory upon subsequent felony conviction. For predicate felons, a longer minimum period of incarceration must also be served prior to parole eligibility<sup>2</sup>. The laws specify a ten year period of time-at-risk for determining predicate status; time spent in custody does not count toward this period.

It is important to note that "FELCONs" and "predicate felons" are not interchangeable categorizations in this paper. Because of limitations in the completeness of the data used for these analyses<sup>3</sup>, persons categorized as FELCONs include [1] persons whose only prior felony convictions were replaced by Youthful Offender adjudications and [2] some persons whose only prior

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<sup>1</sup> This is true for most crime types, but not the case for drug crimes.

<sup>2</sup> This stems from differences in the relationship, for a given maximum sentence, between the minimum and maximum prison term to be served. Generally, first felons serve one-third the maximum sentence before eligibility for parole release. Second felons must serve one-half the minimum sentence before eligibility. There are certain exceptions; for instance, first felons convicted of armed felony offenses may be sentenced to a minimum of at least one-third and as much as one-half the maximum. For A-1 felony offenses, there are no practical distinctions among the sentences for first, second, and third felony offenders.

<sup>3</sup> The FELCON pool within each demographic group is derived from information on the DCJS Offender-Based Transaction Statistics Trends File, a subset of the complete Computerized Criminal History (CCH) database. Persons enter the pool at the age of first felony conviction and leave the pool ten years after their last conviction. Felony convictions adjudicated as YO's are included because they could not be isolated on the basis of information in the Trends File at the time this study was conducted.

felony convictions fell outside the time limits mandated for predicate status. Throughout this paper, the term FELCON will be used to refer to a person with a prior felony conviction, whether or not that person would be covered by specific predicate felon legislation. However, the majority of FELCONs are also predicate felons in the legal sense.

In New York State, the majority of persons receiving a first felony conviction do not receive a sentence to prison upon conviction -- only about 30% of all offenders with first felony convictions go to prison. This group includes those individuals convicted in the instant case of offenses that carry mandatory sentences of imprisonment. Upon conviction for a second felony offense, sentencing options become much more restrictive and a sentence to prison becomes much more certain. Over 80% of all offenders with prior felony convictions (FELCONs) are sentenced to prison.

Because the range of sentencing outcomes for FELCONs is restricted and generally more severe relative to that for NOCONs, the distinction between these persons is an important factor in the calculation of projected prison populations. Given the need to incorporate a FELCON/NOCON dichotomy into the prison population projection process, this paper compares the effects of some reasonable alternative assumptions on the baseline model used by DCJS for prison population projections (in spring 1988). Some resulting implications for population forecasting are also presented and discussed.

### Prison Population Projections

The DCJS Prison Population Projection Model (PPPM) is a disaggregated flow model, supported by a number of collateral processes which generate the parameters through which case processing assumptions are introduced into the model. The projection of future prison populations has been a responsibility of the Office Of Justice Systems Analysis at DCJS for several years. Over time, a number of improvements have been incorporated into the projection process. This paper presents a discussion of one of these advances. The prison population projection process includes a series of stages outlined briefly below. It is important to also keep in mind that all projections are made in the context of a complex series of assumptions, not all of which are enumerated in this paper.

The principal stages in the DCJS prison population projection process are as follows:

- o an estimate of the statewide population of adult males (with and without prior felony convictions) is built for various demographic groups for both historical and future years;
- o historical arrest rates are calculated by demographic group and by crime group and then applied to the population estimates to produce projected annual arrests;
- o historical conviction rates are applied to produce projections of annual convictions;
- o historical sentencing practices are then applied to generate counts of individuals sentenced to prison;

- o the DOCS under custody population is then estimated as the new commitments plus those remaining from the previous year's under custody population.

The following steps are added to model the FELCON and NOCON populations:

- o from the counts of persons newly receiving a first felony conviction, and from counts of persons who have previously received a felony conviction, the "FELCON pool" (the number of FELCONs at risk of rearrest) is projected for future years;
- o special FELCON re-arrest rates are then applied to the counts of persons already having a felony conviction, and future re-arrests of such persons are then promulgated.

Using this process as a basis, several different scenarios were constructed to investigate the effects of the incorporation of the FELCON/NOCON distinction into the model.

A special remark is added here to call the reader's attention to the fact that all of the projections presented in this report are those produced in spring 1988 under the model parameters and assumptions that were operational at the time. Because the modeling process is continually being updated and revised to reflect the best knowledge and judgments of the various agencies involved, as well as changes in processing itself, *the numbers projected by the current model are different from those presented in this report.* However, general trends and differences among methods are expected to remain valid.

## Estimation Of The FELCON Pool

The size of the male FELCON pools (by age, race and region) can be estimated with reasonable confidence for historical years and for future years, subject to some simplifying assumptions and practical limitations on the accuracy of estimating FELCON counts. Factors that affect the accurate accounting of the size of the pool of persons with prior felony convictions include:

- o some persons with first felony convictions prior to 1970 have no subsequent arrest activity and do not have computerized arrest records;
- o first felony convictions outside of New York State are not incorporated;
- o there is migration of FELCONs from and to other states; and
- o we are not presently able to incorporate mortality rates for persons with prior felony convictions (expected to be above the general population norms) into projections of the FELCON population.

The FELCON pools are calculated here through two different procedures: [1] offender-based (OBTS) and [2] aggregate-based (PPPM) methods, both of which differ from the actual pool of "predicate felons" which would derive from strict legal definitions. For both procedures, the following considerations apply:

- o no attempt has been made to adjust for periods of incarceration in specifying the interval following a felony conviction during which an offender is subject to predicate treatment for a subsequent felony arrest;
- o prior felony convictions for which an adjudication of Youthful Offender was substituted are treated as prior felony convictions<sup>4</sup>; and
- o the FELCON pools as defined in this paper differ from those of Greenstein (1989) in that this pool has been reduced to eliminate persons who are likely to be no longer criminally active, rather than leaving them in the pool indefinitely.

### OBTS FELCON Pool

The OBTS FELCON pool reflects persons with computerized criminal history information on the CCH database and thus can only be generated for historical periods. It is constructed as follows:

- o persons enter the pool in the year of first felony conviction;
- o persons with a first felony conviction prior to FY 70/71 or outside of New York State never enter the pool;

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<sup>4</sup> This caveat is due to a complication inherent in the CCH data extraction process used at the time of these analyses; the current modeling procedures do not have this limitation.

- o persons remain in the pool for a 10 year period following the year of last known felony conviction.

From available OBTS data, it appears that about 70% of the FELCON pool remain in the pool exactly 10 years -- that is, they did not have a new conviction during the at-risk period. The average length of stay for all persons entering the pool is estimated at about 12 years. Since these are historical events, the maximum potential length of active time is truncated by the date of analysis.

#### PPPM FELCON Pool

An alternative estimate of the FELCON pool can be generated using aggregate event-based (rather than person-based) data from the DCJS Prison Population Projection Model (PPPM). It is constructed as follows:

- o the model is first run to generate aggregate counts of first felony convictions for historical and forecast years;
- o the counts of conviction events are then used to generate counts of persons entering the FELCON pool at an estimated age of first felony conviction;
- o as the passage of time is modeled, new entrants to the pool are combined with entrants to the pool from previous years (aged accordingly) to create the FELCON pool for that year.

The use of aggregate data results in a number of difficulties when estimating the size of FELCON pools. First of all, aggregate counts of conviction events must be adjusted to aggregate counts of persons receiving first felony convictions. Persons may have more than a single arrest event with a first felony conviction, since more than one arrest event can be in process before any felony convictions are obtained; for all such arrest events a given person would have no prior felony convictions as of the arrest date. A second problem occurs in using data grouped by age at arrest, since the actual information needed is age at first felony conviction, which was not available for these analyses. A further difficulty arises in estimating length of stay in the FELCON pool, since, for aggregate data, only an aggregate distribution of lengths of stays can be used (rather than actual lengths of stays). However, while these factors do affect the accuracy of the counts being projected, they should not alter the general conclusions that are drawn from the analyses presented in this paper.

#### Annual Entrants Into the FELCON Pool

The number of persons receiving first felony convictions for historical years is shown in Table 1. Recall that both the OBTS and the PPPM information sources can be used to generate pools of FELCONs for historical years, while only the PPPM estimates can be projected for future years. The PPPM projection involves generally less than 28,000 adult males receiving first felony convictions for each of the forecast years; these numbers are comparable to those observed in recent years. The seemingly low value based on OBTS data for the FY ending 3/31/88 arises from the inherent delays in receiving some dispositions and the date at which the source file for this analysis was created.



For the historical period, the PPPM modeled counts are generally similar to those derived directly from the OBTS file; together these two procedures give a reasonable indication of the approximate size of the new annual entrants to the FELCON pools (subject to the previously stated assumptions). The projection of the PPPM series through the end of the century reflects then current (spring 1988) DCJS modeling assumptions and indicates a short-term increase in the numbers of new first felony convictions followed by slight declines through the remainder of the century.

#### Composition of the FELCON Pool for Historical and Forecast Years

The two sets of FELCON pools appear in Table 2. The spring 1988 size of the total FELCON Pool is estimated to be about 230,000 persons, and it is projected to increase to about 320,000 by the end of the century.

It is important to point out that the methods used in generating the total FELCON pool do not force the size of that pool to continually increase. Persons receiving a first felony conviction are projected to eventually leave the pool: the model is set up so that 70% leave after exactly 10 years and an additional 2% leave in each of the next 15 years (until 100% have left the pool by the end of the 25th year after entry).

The size of the total FELCON pool is projected to peak just before the end of the century and then remain level as a function of the relatively constant numbers of new entrants to the FELCON pool. While the overall pool is projected to increase by nearly 50%, however, the age-specific groups show different tendencies:

- o The group aged 16-19 seems to hover at a size of about 14,500 throughout the forecast period. This size does not differ greatly from that which has been estimated for recent historical years by either the PPPM method or from OBTS CCH information.
- o The FELCON group aged 20-29 is estimated to be about 108,000 currently; it is projected to grow to about 133,000 before beginning to decrease to 125,000 at the end of the century.
- o The largest increases in pool size occur for the older age groups. Much of the increase in these two groups comes from persons receiving their first felony convictions at this age rather than by the continued criminal activity of offenders from younger age groups. About 6,000 persons a year at ages 30 through 39, and about 2750 persons a year at ages 40 and older, are projected to receive first felony convictions each year through the end of the century.

**Table 1**  
**Counts Of Persons Entering FELCON Pool, By Year Of Entry**

Fiscal Year End:	Age At Entry Into FELCON Pool									
	1 6 - 1 9		2 0 - 2 9		3 0 - 3 9		4 0 & +		T o t a l	
	OBTS	PPPM	OBTS	PPPM	OBTS	PPPM	OBTS	PPPM	OBTS	PPPM
3/71	2459	1530	4845	3144	1647	1017	974	577	9265	6267
3/72	3504	3163	7097	6700	2323	2245	1428	1303	14352	13411
3/73	3851	3749	7037	7196	2450	2460	1654	1639	14992	15045
3/74	3807	3480	6093	6111	2171	2199	1538	1490	13609	13280
3/75	4333	3751	5213	4752	1861	1684	1377	1203	12784	11390
3/76	4321	3970	5466	5065	1945	1699	1392	1187	13124	11921
3/77	4373	3915	5706	5051	1895	1587	1369	1114	13343	11668
3/78	4046	3488	5081	4313	1880	1444	1266	960	12273	10204
3/79	4678	4628	5297	5288	1950	1750	1314	1122	13239	12788
3/80	4973	4708	5884	5365	2301	1841	1508	1252	14666	13166
3/81	5333	5202	6285	6166	2235	1992	1439	1312	15292	14671
3/82	6476	6366	8056	7982	2781	2621	1703	1549	19016	18518
3/83	6088	6215	8641	8461	3265	3038	1948	1744	19942	19458
3/84	6136	6254	9116	8995	3550	3335	2071	1836	20873	20420
3/85	5798	5919	9311	9139	3929	3684	2369	2082	21407	20823
3/86	5925	5926	10171	9861	4495	4083	2566	2282	23157	22153
3/87	6053	6191	11207	11061	4820	4613	2583	2397	24663	24262
3/88	5656	6696	11142	12550	5060	5412	2383	2599	24241	27258
3/89		6894		13021		5772		2656		28343
3/90		6660		12981		5855		2676		28173
3/91		6338		12853		5899		2696		27786
3/92		6047		12648		5965		2717		27377
3/93		5860		12358		6046		2735		26999
3/94		5756		12034		6114		2755		26659
3/95		5722		11699		6164		2779		26364
3/96		5766		11397		6189		2808		26160
3/97		5957		11134		6199		2835		26124
3/98		6240		10913		6194		2860		26207
3/99		6531		10728		6169		2888		26315
3/2000		6806		10556		6135		2918		26414

All of the projections presented in this report are those produced in spring 1988 under the model parameters and assumptions that were used at the time. The numbers projected under current assumptions are different from those presented in this report.

Table 2  
Comparison Of FELCON Pools

Fiscal Year End:	Age In Year Of Analysis									
	1 6 - 1 9		2 0 - 2 9		3 0 - 3 9		4 0 & +		T o t a l	
	OBTS	PPPM	OBTS	PPPM	OBTS	PPPM	OBTS	PPPM	OBTS	PPPM
3/75	9545	8431	34800	31451	12897	12137	8420	7373	65662	59392
3/76	10258	8819	41770	37964	16144	15272	10614	9258	78786	71313
3/77	10696	9005	48701	44081	19726	18645	13006	11250	92129	82982
3/78	10444	8673	54402	48959	24055	22279	15501	13274	104402	93186
3/79	10790	9505	59617	54178	28981	26633	18253	15658	117641	105974
3/80	11427	10234	64578	58957	34854	31532	21448	18417	132307	119140
3/81	12254	11222	69413	64100	40989	36956	24943	21532	147599	133811
3/82	13819	12955	74428	69994	44288	40915	26560	23451	159095	147315
3/83	14540	13894	79757	75597	46174	42772	27590	23595	168061	155858
3/84	14702	14402	85627	81483	48248	44587	28415	23243	176992	163716
3/85	14324	14201	91452	87588	51747	47685	29885	23578	187408	173052
3/86	14002	13956	97236	93796	56574	52229	31995	25079	199807	185060
3/87	13976	14086	103317	100476	61518	57118	34426	26895	213237	198575
3/88	13739	14740	108316	108072	66521	62939	37201	29350	225777	215101
3/89		15429		115726		69979		32527		233661
3/90		15601		121962		76710		35627		249900
3/91		15267		127275		83759		38947		265247
3/92		14665		131103		90607		42513		278888
3/93		14087		132913		96359		45587		288946
3/94		13670		133631		101865		48406		297572
3/95		13434		133280		106977		51173		304864
3/96		13380		132353		111862		53683		311277
3/97		13573		130883		115967		55899		316322
3/98		14012		128976		118828		57702		319519
3/99		14602		126749		120129		58629		320109
3/2000		15245		124606		120514		59224		319590

All of the projections presented in this report are those produced in spring 1988 under the model parameters and assumptions that were used at the time. The numbers projected under current assumptions are different from those presented in this report.

## The Impact Of The FELCON Pool

### FELCON Pools and the Prison Population Projection Model

Integrating the FELCON pool directly into the PPPM framework provides a better means of allowing forecast assumptions to feed back within the model to directly affect projections; changes in the size of the pool impact on the number of persons receiving arrests in later years. One of the findings noted in Greenstein's (1989) paper was relatively constant arrest rates. If these arrest rates are applied to a larger pool of persons at risk of arrest, it results in a larger number of such arrests. The use of the PPPM methods allows quantification of precisely how the prison population and various stages in the criminal justice system (such as felony convictions and sentences) may be affected by the increasing pool of persons who have received first felony convictions.

Given the above reasoning, the DCJS Prison Population Projection Model (PPPM) was adapted to generate projections of future pools of persons with prior felony convictions, and hence to produce prison population projections using independent FELCON and NOCON populations. These modifications are a logical extension of the previous use of population demographic trends as a basis for projecting prison populations.

Patterns of change in the FELCON pool, when modeled in this way, can be observed to vary with no particular correlation to general population trends. Since the FELCON pools are directly integrated into the model, changes in aggregate values of processing characteristics can be estimated as a by-product of the size and composition of the FELCON pool, and of the manner in which arrests are assumed to be distributed across FELCON and NOCONs.

### Five PPPM Scenarios

To demonstrate the sensitivity of prison population projections to changes in assumptions about the FELCON pools, five scenarios were tested with the PPPM. The first two (BASE and +5PCT) are those previously used for making prison population projections (RATIO is a slight modification of these); the third and fourth (POOL and POOL+5) incorporate FELCON information directly into the model. The scenarios are constructed as follows:

BASE: Recent arrest rates are continued for forecast years without incorporating a FELCON/NOCON disaggregation factor. The FELCON arrest rate is based strictly on demographics (age, sex, race, region) without regard to the number of persons in the FELCON pool. That is, both the FELCON and NOCON arrest rates are generated from the same population base for any given demographic group. As such, the FELCON arrest rate under this scenario is generally lower than the rate for NOCONs. For a given crime and demographic group the two types of rates are based on the same population; in absolute numbers, fewer arrests involve persons with prior felony convictions. This leads to the smaller rate, although a lower value here should not be confused with lower rates of offending. Higher arrest rates (although the same number of arrests) are derived for historical years when "correct"

FELCON pools are used as the denominator for calculating FELCON arrest rates.

+5PCT: A simple modification of the BASE scenario that is a specific extrapolation of recent trends: a part of the Total (FELCON and NOCON) arrest rate for a given crime and demographic group combination is re-allocated from NOCONs to FELCONs. This reapportionment is such that the FELCON arrest rate increases at an annual growth of about 5% per year for 5 years and thereafter remains constant (these values are based on previous work with historical trends and population projections). The NOCON arrest rate is decreased in this reapportionment by an equal amount. Since the total arrest rate is unchanged by this procedure, the annual counts of arrests are the same as under the BASE scenario, although an increasing proportion of the arrests are of persons with prior felony convictions.

POOL: This scenario requires two passes through the computer model. In the first pass, the BASE scenario is used to project the size of the FELCON pool (as well as the remaining NOCON population). In the second pass, FELCON arrest rates are applied to the FELCON pool and NOCON rates are applied to the NOCON pool to produce an adjusted projection of future arrests.

POOL+5: This scenario also requires two passes through the computer model. In the first pass, the +5PCT scenario is used to project the size of the FELCON and NOCON populations. In the second pass, FELCON arrest rates are applied to the FELCON pool and NOCON arrest rates are applied to the NOCON population to produce an adjusted projection of future arrests. Because the +5PCT scenario generates fewer first felony convictions than the BASE scenario, the POOL+5 scenario generates fewer entries into the FELCON pool than the POOL scenario, resulting in a smaller number of later FELCON arrests.

RATIO: The ratio of FELCON to NOCON arrest rates is computed from the values obtained in the POOL scenario. The ratio between arrest rates is maintained, while both the FELCON and NOCON arrest rates are iteratively adjusted to the levels needed to arrive at the same number of arrests projected in the BASE and +5PCT scenarios. The rationale for this scenario is that the ratio of FELCON arrest rates to NOCON arrest rates historically has remained relatively constant, even when both rates were changing (e.g., during recent increases in drug arrest rates).

**Table 3**  
**Projected Annual Adult Male Felony Arrests**

Fiscal Year End:	BASE	+5PCT	POOL	POOL+5	RATIO
3/88	160371	160371	160371	160371	160371
3/89	159003	159003	159437	159407	159003
3/90	157328	157329	160368	160251	157328
3/91	155754	155755	161217	160953	155770
3/92	153767	153766	161504	161028	153767
3/93	152144	152143	161659	160903	152148
3/94	150426	150425	161562	160499	150417
3/95	149029	149029	161587	160216	149024
3/96	148118	148119	161925	160252	148110
3/97	148210	148212	162985	161010	148210
3/98	148403	148404	163845	161567	148399
3/99	148634	148635	164344	161771	148636
3/2000	148767	148768	164576	161731	148771

All of the projections presented in this report are those produced in spring 1988 under the model parameters and assumptions that were used at the time. The numbers projected under current assumptions are different from those presented in this report.

### Projected Felony Arrests

Table 3 displays projected annual felony arrests (adult males only) for each of the five scenarios. In three of the five scenarios (BASE, +5PCT, and RATIO), the total number of annual arrests are, by definition; necessarily equal within the limits of computational accuracy. The other two scenarios, which use FELCON pools as the population base for calculating and applying arrest rates, have larger numbers of arrests. This is attributable to an increasing number of persons in the FELCON pool -- a larger number of persons with high arrest rates leads to more arrests.

By the end of the century there is a spread of about 10% (16,000) in the number of arrests projected from the various assumptions. The POOL scenario leads to the greatest number of total arrests projected in later years. The POOL+5 scenario, which uses a slightly smaller FELCON pool derived from the +5PCT scenario, leads to annual arrests about 3,000 fewer than the POOL scenario by the year 2000. While the BASE, +5PCT and RATIO scenario all result in the same number of arrests each year (within rounding), the distribution of these arrests across FELCON and NOCON are not the same. The percentage of arrests that are FELCON is higher for the +5PCT scenario in early years, while the percentage is higher for the RATIO scenario in the later years of the projection. The smallest percentage of FELCON arrests occurs in all years for the BASE scenario.

A model based on the assumptions of constant FELCON arrest rates and estimated FELCON population pools leads to more projected future total arrests

than does a model based strictly on demographic population sizes. Comparing the BASE and POOL scenarios, the increases in total arrests are attributable to persons with prior felony convictions. Arrests of NOCONs in both scenarios are based on the same arrest rates, while the populations used in the BASE scenario are larger (i.e., the sum of the NOCON and FELCON population). The BASE scenario has more NOCON arrests but less TOTAL arrests than the POOL scenario; clearly the POOL scenario has more FELCON arrests.

**Table 4**  
Projected Annual Adult Male Felony Convictions

Fiscal Year End:	BASE	+5PCT	POOL	POOL+5	RATIO
3/88	44412	44412	44412	44412	44412
3/89	46790	46819	46673	46669	46879
3/90	46706	46845	46859	46835	46819
3/91	46187	46459	47188	47123	46418
3/92	45619	46028	47529	47398	45977
3/93	45055	45604	47759	47538	45522
3/94	44518	45175	47888	47558	45067
3/95	44025	44696	47978	47532	44639
3/96	43650	44317	48115	47553	44319
3/97	43509	44173	48393	47718	44221
3/98	43533	44196	48732	47945	44280
3/99	43599	44262	48992	48095	44369
3/2000	43655	44318	49135	48134	44438

All of the projections presented in this report are those produced in spring 1988 under the model parameters and assumptions that were used at the time. The numbers projected under current assumptions are different from those presented in this report.

### Projected Felony Convictions

Table 4 displays the numbers of adult male felony convictions derived for the five scenarios. Note the slight differences in numbers of convictions among the three scenarios with the same number of arrests (BASE, +5PCT, and RATIO): The greatest number of felony convictions for a given number of felony arrests shadows the greater percentage of FELCON arrests; the greater number of felony convictions occurs in the +5PCT scenario in the earlier years and in the RATIO scenario in the later years. These two scenarios (+5PCT and RATIO) each lead to about 800 more felony convictions each year than the BASE scenario. The two scenarios with higher numbers of arrests (POOL and POOL+5) also have the highest proportions of felony arrests that are of FELCONs. Compared to the other three scenarios, these two factors combine to result in more than 4,000 additional convictions towards the end of the decade.

Based on increasing numbers of FELCON arrests, the number of projected annual FELCON convictions may be as much as 5000 more per year by

the end of the forecast period than would be projected on a strictly population-demographic basis.

**Table 5**  
**Adult Male Felony Conviction Probability, Given Felony Arrest**

Fiscal Year End:	BASE	+5PCT	POOL	POOL+5	RATIO
3/88	.286	.286	.286	.286	.286
3/89	.294	.295	.293	.293	.295
3/90	.296	.297	.293	.293	.296
3/91	.295	.297	.294	.294	.297
3/92	.295	.298	.295	.295	.298
3/93	.295	.298	.296	.296	.298
3/94	.294	.299	.297	.296	.298
3/95	.294	.299	.297	.297	.298
3/96	.294	.298	.298	.297	.298
3/97	.294	.298	.298	.297	.298
3/98	.294	.298	.298	.297	.299
3/99	.294	.298	.299	.298	.299
3/2000	.294	.298	.299	.298	.299

All of the projections presented in this report are those produced in spring 1988 under the model parameters and assumptions that were used at the time. The numbers projected under current assumptions are different from those presented in this report.

### Felony Conviction Probabilities

The projected aggregate probabilities of felony conviction given felony arrest are remarkably constant across the different scenarios and across time (see Table 5). The constancy across time indicates that the demographic mix is such that it, by itself, does not result in substantially different conviction probabilities. The constancy across scenarios is an indication that changing the numbers of FELCON arrests does not greatly affect the resultant overall probability of felony convictions. Although larger percentages of arrests are FELCON, and have the higher FELCON conviction probabilities applied to them, arrests remain predominantly NOCON. Furthermore, the difference in conviction probabilities for FELCONS and NOCONS have narrowed in recent years.

The historical pattern of felony conviction probabilities is shown below in Table 6. While for the earlier historical period there was a considerably higher probability of conviction for FELCONS than for NOCONS, this difference has diminished in recent years. The TOTAL (weighted average) conviction probability has been increasing, while the FELCON conviction probability has been relatively constant. It is the NOCON conviction probability that has been increasing over time. This, of course, also fuels the growth in the FELCON pool.



The low probability of conviction for FY 87/88 is a reporting artifact that results from a preponderance of "no convictions" among very recent arrest cohorts. Persons in a recent arrest cohort whose cases are progressing, and who are likely to eventually receive felony convictions, are under-represented in recent arrests that have reached final disposition. As time progresses, more dispositions of cases being tried or plead in upper court are received, and the conviction probability will increase.

**Table 6**  
**Adult Male Felony Conviction Probability (Historical)**

FY End:	N O C O N				F E L C O N				T O T A L			
	VFO	DRUG	OTH	ALL	VFO	DRUG	OTH	ALL	VFO	DRUG	OTH	ALL
3/71	.289	.196	.151	.197	.375	.251	.214	.268	.293	.198	.154	.200
3/72	.252	.178	.130	.171	.385	.236	.214	.270	.262	.182	.135	.178
3/73	.235	.189	.141	.177	.363	.271	.214	.280	.249	.195	.147	.186
3/74	.207	.171	.132	.163	.329	.282	.169	.243	.223	.179	.136	.171
3/75	.212	.167	.121	.159	.318	.231	.175	.239	.227	.172	.128	.169
3/76	.199	.155	.960	.140	.291	.178	.136	.202	.213	.157	.101	.148
3/77	.181	.119	.790	.119	.266	.143	.129	.182	.194	.122	.860	.128
3/78	.189	.167	.910	.132	.284	.190	.138	.198	.204	.170	.980	.141
3/79	.200	.195	.104	.146	.278	.205	.151	.205	.212	.197	.111	.154
3/80	.210	.195	.113	.155	.294	.181	.170	.217	.223	.192	.122	.164
3/81	.268	.234	.144	.198	.343	.264	.206	.265	.282	.239	.154	.209
3/82	.293	.262	.147	.220	.385	.284	.212	.294	.311	.267	.159	.233
3/83	.299	.285	.142	.225	.407	.324	.221	.317	.321	.294	.156	.244
3/84	.291	.278	.144	.223	.394	.298	.226	.311	.314	.283	.160	.242
3/85	.276	.301	.160	.229	.371	.303	.235	.306	.299	.301	.175	.246
3/86	.277	.354	.166	.240	.370	.334	.249	.317	.301	.349	.184	.259
3/87	.251	.442	.170	.258	.340	.414	.245	.321	.275	.434	.188	.274
3/88	.208	.444	.152	.246	.271	.401	.209	.283	.225	.432	.167	.256

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**Table 7**  
**Adult Male Sentences to Prison**

Fiscal Year End:	BASE	+5PCT	POOL	POOL+5	RATIO
3/88	20701	20701	20701	20701	20701
3/89	22141	22280	22145	22141	22186
3/90	22236	22688	22620	22595	22482
3/91	22077	22881	23299	23235	22743
3/92	21883	23049	23974	23844	22952
3/93	21653	23189	24504	24284	23054
3/94	21408	23156	24893	24565	23068
3/95	21159	22920	25197	24756	23031
3/96	20943	22688	25459	24906	22989
3/97	20800	22534	25712	25051	22980
3/98	20717	22442	25926	25159	22989
3/99	20656	22373	26043	25174	22982
3/2000	20593	22304	26061	25094	22942

All of the projections presented in this report are those produced in spring 1988 under the model parameters and assumptions that were used at the time. The numbers projected under current assumptions are different from those presented in this report.

### Sentences to Prison

The largest numbers of sentences to prison naturally follow from the scenarios with the largest numbers of arrests and largest numbers of convictions. A more interesting observation is the similarity in results for the +5PCT and the RATIO scenarios. Once again, the number of sentences to prison (arrest events with sentences to prison) follows the pattern established for number of convictions (see Table 7). The RATIO scenario results in more prison sentences in the years in which it has more FELCON arrests than the +5PCT scenario, and vice versa.

The number of sentences to prison is strongly influenced by the set of assumptions about the development of the FELCON pool. In ever increasing numbers, more sentences to prison are projected to occur for scenarios with the largest increases in size of the FELCON pool. Toward the end of the projection period this difference is as much as 5,000 sentences to prison per year, and can be expected to remain at that level. Even if there were no increase in the total number of arrests, maintaining a constant ratio of FELCON:NOCON arrest rates is projected to result in as many as 2350 additional sentences to prison annually by the end of the projection period (see the RATIO versus BASE projection).

**Table 8**  
Overall Adult Male Probability of Prison, Given Felony Conviction

Fiscal Year End:	BASE	+5PCT	POOL	POOL+5	RATIO
3/88	.466	.466	.466	.466	.466
3/89	.473	.476	.474	.474	.473
3/90	.476	.484	.483	.482	.480
3/91	.478	.493	.494	.493	.490
3/92	.480	.501	.504	.503	.499
3/93	.481	.508	.513	.511	.506
3/94	.481	.513	.520	.517	.512
3/95	.481	.513	.525	.521	.516
3/96	.480	.512	.529	.524	.519
3/97	.478	.510	.531	.525	.520
3/98	.476	.508	.532	.525	.519
3/99	.474	.505	.532	.523	.518
3/2000	.472	.503	.530	.521	.516

All of the projections presented in this report are those produced in spring 1988 under the model parameters and assumptions that were used at the time. The numbers projected under current assumptions are different from those presented in this report.

### Probability of Prison Given Felony Conviction

The aggregate probability of prison given felony conviction is, as expected, highest for the scenarios in which the proportion of FELCON arrests (and hence convictions) is greatest (see Table 8). For the POOL and POOL+5 scenarios, there is an increase of about 6 percentage points in the probability of receiving a prison sentence upon felony conviction. The increase in the incarceration probability for the +5PCT scenario directly echoes the changes in the percentage of arrests that are predicate -- in years after the increase in percentage of arrests that are predicate, the probability of incarceration reaches its highest levels, then declines slightly, but remains above its initial values. The RATIO scenario is similar, although with slightly higher probabilities of incarceration.

Table 9

## Male New Court Commitments To Prison (Adms) and Under Custody Population (UCP)

Fiscal Year End:	B A S E		+ 5 P C T		R A T I O	
	Adms	UCP	Adms	UCP	Adms	UCP
3/88	16536	44531	16536	44531	16536	44531
3/89	17678	46301	17773	46400	17691	46312
3/90	17787	47865	18094	48266	17921	48010
3/91	17706	48871	18251	49757	18136	49445
3/92	17599	49763	18387	51265	18315	50975
3/93	17430	50248	18467	52466	18381	52182
3/94	17239	50599	18419	53498	18375	53257
3/95	17046	50774	18235	54176	18333	54120
3/96	16880	50842	18057	54591	18291	54825
3/97	16771	50875	17941	54875	18277	55430
3/98	16710	50908	17874	55095	18282	55958
3/99	16666	50944	17826	55272	18276	56404
3/2000	16621	50972	17775	55408	18247	56758

Fiscal Year End:	P O O L		P O O L + 5		R A T I O	
	Adms	UCP	Adms	UCP	Adms	UCP
3/88	16536	44531	16536	44531	16536	44531
3/89	17661	46294	17658	46291	17691	46312
3/90	18037	48143	18018	48122	17921	48010
3/91	18574	50015	18527	49953	18136	49445
3/92	19189	52200	19014	52059	18315	50975
3/93	19503	54178	19342	53915	18381	52182
3/94	19784	56069	19543	55637	18375	53257
3/95	20001	57761	19677	57123	18333	54120
3/96	20190	59284	19784	58417	18291	54825
3/97	20376	60678	19889	59564	18277	55430
3/98	20534	61933	19970	60563	18282	55958
3/99	20623	63011	19983	61378	18276	56404
3/2000	20637	63881	19925	61984	18247	56758

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## New Court Commitments and Under Custody Population

The annual admissions to prison (Adm) and the under custody populations (UCP) resulting from these admissions are shown in Table 9. The RATIO scenario was constructed to have features in common with the two scenarios based on demographically derived arrest rates (BASE and +5PCT) and with the two scenarios based on modeled FELCON pools (POOL and POOL+5). When

compared to the BASE and +5PCT scenarios, it has, in the early years of the projection, annual admissions and under custody population that is smaller than the +5PCT scenario but larger than the BASE scenario. In the later years of the projection, it has annual admissions and under custody population projected that is larger than even the +5PCT scenario. When compared to the two scenarios in which numbers of arrests are fully allowed to develop based on a continuation of current arrest rates and projected changes to the size and composition of the FELCON pool, it has both new court commitments and under custody population smaller than either.

The under custody populations projected by using FELCON population pools and applying the recent arrest rates for FELCONs to these pools are much larger than have been projected using demographic trends alone. Much of the additional increase in the projected demand for prison space does not occur for a few years -- until the FELCON pool has had a chance to grow beyond its current size. The magnitude of the additional demand that may be reasonably expected, if assumptions about a constant FELCON arrest rate hold true for long periods of time, is such that preparation and planning may be needed even now. For the POOL and the POOL+5 scenarios, and as early as FY 92/93, the demand for prison space may be 1500 more than was previously projected.

Beyond the issues of prison space is the usurpation of the other criminal justice system resources if FELCON arrest rates remain at recent levels. Projections made by continuing these rates with no changes in other processing characteristics lead to considerably higher numbers of annual felony convictions, with ever increasing demand for prison and jail space, than would otherwise be the case.

### Summary

The five scenarios presented here illustrate the range of the impact that changes in the size and composition of FELCON pools may have on prison population and other criminal justice system resources. The projections here are made with the assumptions [1] that FELCON arrests rates continue at current levels and [2] that the FELCON pool expands under reasonable assumptions. Incorporating projections of growth in the FELCON pool into the estimation of future prison populations generates substantially higher prison population projections than earlier methods.

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