First Step Act: An Early Analysis of Recidivism

Methodology

The analysis, First Step Act: An Early Analysis of Recidivism, estimates recidivism rates among people released from the federal Bureau of Prisons (BOP) prior to the implementation of the First Step Act (FSA) who had similar risk profiles and were tracked for similar periods of time as those released under the FSA. Because of a lack of access to data on individuals, several plausible assumptions were made to produce estimates using aggregate data that has been made public by the BOP and Office of the Attorney General (OAG). This supplemental methodology report details those assumptions. The analysis does not seek to evaluate the FSA or its implementation.

The First Step Act Annual Report, published in June 2024 by OAG,[1] indicates that 44,673 people were released under the FSA (or benefitted from the FSA and were released under a different release code) from 2020 to January 2024. These people are included in the BOP's recidivism analyses and referred to in the current analysis as "people released under the FSA."

The 2024 OAG report[2] says that 4,328 people (9.7%) have recidivated as of January 2024. BOP defines recidivism as any rearrest or return to federal prison for a new crime or technical violation of supervision regardless of the subsequent outcome of that arrest (whether or not a person is charged or convicted).[3] That rate is considerably lower than the 44.8% recidivism rate[4] for all prisoners released from BOP facilities in 2019, but it is not valid to compare these two numbers; people released under FSA differ in important ways from all persons released from federal prisons, including their assessed risk levels and the length of time they have been out of prison. To account for these differences, this analysis estimates recidivism among people released prior to the FSA who are similar to FSA releases in two key ways: (1) They had a similar risk assessment according to BOP's current risk assessment tool, PATTERN,[5] and (2) They had been released to the community for a similar amount of time.

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[1] Office of the Attorney General. (2024). *First step act annual report*. U.S. Department of Justice. https://www.bop.gov/inmates/fsa/docs/first-step-act-annual-report-june-2024.pdf

[2] Throughout this document, the OAG's First Step Act Annual Reports are referred to as the OAG report, differentiated by their year of publication. For example, the OAG First Step Act Annual Report for 2024 is referred to herein as the 2024 OAG report.

[3] People are tracked for recidivism after they complete both their term of imprisonment and any pre-release supervision, including home confinement.

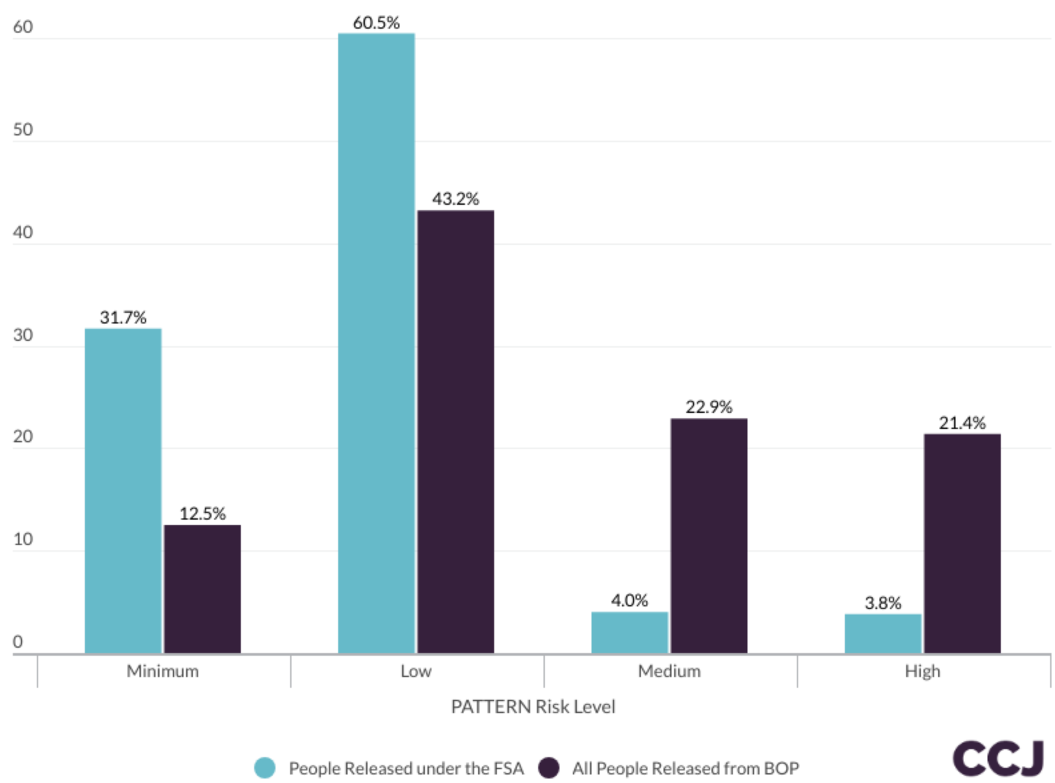
[4] National Institute of Justice. (2024). *2023 review and revalidation of the first step act risk assessment tool* (NCJ 309264). https://www.ojp.gov/pdffiles1/nij/309264.pdf

[5] Federal Bureau of Prisons. (n.d.). *PATTERN risk assessment*. https://www.bop.gov/inmates/fsa/pattern.jsp

RISK LEVEL

People released under the FSA have a lower overall risk profile when compared to all people released from BOP (Figure 1). This is by design, as the FSA lists risk levels as one of several eligibility criteria.

Figure 1. PATTERN Risk Levels



Comparing the distribution of risk levels for people released under the FSA[6] to a 2019 release cohort of 40,293 people released from BOP and included in a revalidation study of the PATTERN risk assessment tool[7] highlights the imbalance. The number of medium- and high-risk people in the PATTERN revalidation sample sums to nearly the same number as those identified as low-risk. When examining risk levels for people released under the FSA, those at medium- and high-risk sum to a fraction of the low-risk population. This imbalance needs to be accounted for to aggregate to an appropriate overall recidivism rate.

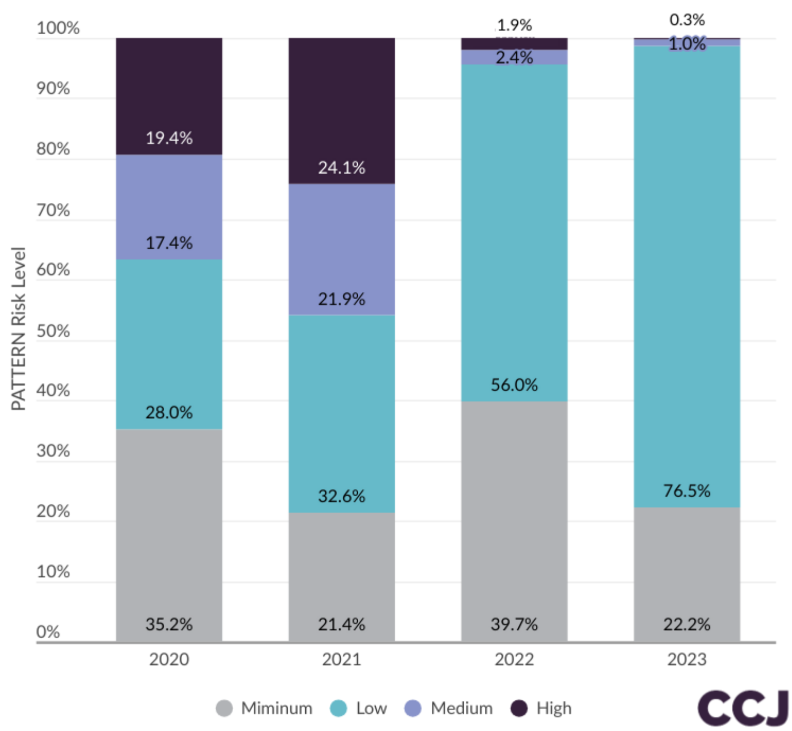
In addition, even among FSA releases, risk levels have changed dramatically between the earlier cohorts of FSA releases and more recent cohorts. Figure 2 shows the risk profiles of new or additional FSA releases (with available PATTERN assessments) included in

[6] Note that the data presented in Table 6 of the 2024 OAG report are incorrect. We obtained corrected values directly from BOP.
[7] National Institute of Justice, 2024.

successive reports published by OAG. New FSA releases in the OAG reports exclude FSA releases already included in the previous year's report.

In the 2020 OAG report,[8] 36% of the 2,523 FSA releases were classified by PATTERN as medium or high risk. In the 2022 OAG report,[9] 46% of the additional 2,471 FSA releases were medium or high risk. In contrast, in the 2023 OAG report,[10] fewer than 5% of the additional19,923 FSA releases with valid PATTERN classifications were medium or high risk. The 2024 OAG report,[11] covering FSA releases through 2023, indicates that fewer than 2% of the 14,877 releases were classified as medium or high risk. This dramatic shift in the risk profile of FSA releases in the last two reports may explain, in large part, the reduction in recidivism rates reported in the last two FSA reports (from 12.4% in the 2023 report to 9.7% in the 2024 report), even though the latter report includes longer follow-up periods (up to four years).

Figure 2. New FSA Releases Included in Successive OAG reports by PATTERN Risk Level



[8] Office of the Attorney General. (2020). *The attorney general's first step act section 3634 annual report*. U.S. Department of Justice. https://www.bop.gov/inmates/fsa/docs/20201221_fsa_section_3634_report.pdf
[9] Office of the Attorney General. (2022). F*irst step act annual report*. U.S. Department of Justice. https://www.bop.gov/inmates/fsa/docs/First-Step-Act-Annual-Report-April-2022.pdf
[10] Office of the Attorney General. (2023). *First step act annual report*. U.S. Department of Justice. https://www.bop.gov/inmates/fsa/docs/first-step-act-annual-report-april-2023.pdf
[11] Office of the Attorney General, 2024.

FOLLOW-UP PERIOD

The reported 9.7% recidivism rate for people released under the FSA was generated from individuals who were released at different times over the past four years. For example, the most recent recidivism analysis[12] includes all people released under the FSA from 2020 to 2023. Therefore, when recidivism rates were calculated for the sample in February 2024, some people included in the analysis were tracked for over four years, while others were tracked for just a few months.

While the risk level and follow-up period comprise obvious differences between groups, there are standard (e.g., current charge) and discretionary criteria (e.g., requiring a warden's approval) that guide eligibility for release under the FSA and are not accounted for in the analysis. For example, not all people assessed as minimum or low risk for recidivism are released under the FSA. Therefore, additional eligibility or discretion will further limit the comparability of FSA releases with general releases that do not occur under the FSA. Additionally, more than half (54%) of people released under the FSA completed at least one evidence-based recidivism reduction program.[13] While participation in these programs may be associated with reduced recidivism, it is also possible that people with the most motivation for post-release success were more likely to complete these programs and therefore may have had lower rates of recidivism, regardless of program participation.

This supplemental methodology report describes the strategy used to correct for imbalances in risk level and follow-up period and generate recidivism estimates for a "comparable" group (i.e., similar risk level and follow-up period) released from BOP prior to the implementation of the FSA. Using a set of clearly stated assumptions detailed below, the author also generated estimates of the total number of arrests incurred by people released under the FSA. These arrests are contextualized with the estimated total number of arrests reported nationwide from 2020 to 2023.

COMPARABLE RECIDIVISM RATES

This section describes the strategy used to generate a recidivism rate estimate that is more comparable to the 9.7% recidivism rate reported for people released under the FSA than the 44.8% three-year recidivism rate for all people released from federal prisons prior to the implementation of the FSA. To accomplish this, we first need to generate recidivism rates by risk level and one-, two-, three-, and four-year follow-up periods for both groups. Recidivism by risk level is shown below for the 39,794 people released under FSA who had a risk score on the PATTERN tool (Table 1).[14] The overall recidivism rate for these 39,794 individuals is reported as 6.6%.

[12] See results beginning on p. 40: Office of the Attorney General, 2024.
[13] See Table A.5: Office of the Attorney General, 2024.
[14] Note that the data presented in Table 6 of the 2024 OAG report are incorrect. We obtained corrected values directly from BOP.

Table 1. Recidivism Rate for People Released Under the FSA with a PATTERN Classification

Risk Level	No Recidivism	Recidivism	Total (*n*)
Minimum	97.2%	2.8%	12,618
Low	94.4%	5.6%	24,057
Medium	78.1%	21.9%	1,607
High	61.8%	38.2%	1,512
Total (*n*)	**37,160**	**2,634**	**39,794**
Total (%)	**93.4%**	**6.6%**	

Notes: A total of 4,879 people released under the FSA are not included here because they were released prior to the implementation of the PATTERN risk assessment tool.

As the risk level on all 44,673 people released under the FSA is reported as 9.7%, then the recidivism rate among the 4,879 for whom risk data are not available must be 34.7% as this is the only rate compatible with a 9.7% rate for the full sample. These individuals were released prior to the implementation of the PATTERN risk assessment tool, meaning that they had the longest follow-up period of all FSA releases and therefore are expected to have the highest recidivism based on time in the community/exposure. Our first set of assumptions are used to impute the risk levels and recidivism rates for the full sample of 44,673 FSA release (including the 4,879 pre-PATTERN FSA releases).

ASSUMPTION 1:

Although these 4,879 people were released prior to the implementation of the PATTERN risk assessment tool, we assume that their risk profile is identical to the remaining 39,794 people released under the FSA for whom we have PATTERN risk level data (Table 2). As such, we proportionally allocate these 4,879 into the four risk categories. This gives us the following estimated distribution of people released under the FSA by risk level.

Table 2. Allocation of People Released Under the FSA Without a PATTERN Classification

Risk Level	Published Number	Allocated Number
Minimum	12,618	14,165
Low	24,057	27,007
Medium	1,607	1,804
High	1,512	1,697
Total (*n*)	**39,794**	**44,673**

ASSUMPTION 2:

Next, we assume that the distribution of recidivism rates among the full sample (the allocated risk levels among the 44,673 people) is proportional to the observed recidivism rates among the 39,794 individuals for whom PATTERN risk level data are available (Table 3). This assumption allows us to allocate the 9.7% recidivism rate across the full sample of 44,673 by risk level in a way that is proportional to the observed rates.

Table 3. Allocated Rate of Recidivism for All People Released Under the FSA

Risk Level	Published Rate of Recidivism	Relative Risk (RR)	Allocated Rate of Recidivism
Minimum	2.8%	0.42	4.1%
Low	5.6%	0.85	8.2%
Medium	21.9%	3.31	32.1%
High	38.2%	5.77	55.9%
Total	**6.6%**		**9.7%**

This calculation is based on the relative risk (RR) between the observed risk-level specific rate (e.g., 2.8% for minimum risk) and the overall observed rate (6.6%). The RR is 0.42. By applying this RR to the 9.7% number for the full sample, we obtain an estimated 4.1% recidivism rate for the 14,165 total FSA releases with an allocated minimum risk classification. Similar RR calculations and applications to the remaining risk levels yield estimated recidivism rates for all four risk levels.

Taken together, these two assumptions provide a risk-level specific estimate of recidivism for all 44,673 people released under the FSA (Table 4).

Table 4. Risk-Level Estimation for All People Released Under the FSA

Risk Level	Total Releases (*n*)	Recidivism Rate
Minimum	14,165	4.1%
Low	27,007	8.2%
Medium	1,804	32.1%
High	1,697	55.9%
Total	**44,673**	**9.7%**

The estimated breakdown of the 9.7% recidivism rate by risk level for the full FSA release sample, however, still combines different follow-up periods (even among the different risk levels).

ASSUMPTION 3:

The goal is to compute a recidivism column for the 44,673 people released under the FSA using data from the PATTERN revalidation sample[15] of all people released from the BOP in 2019. However, those data are provided only in one-, two-, and three-year time intervals in the latest PATTERN revalidation sample (Table 5). Therefore, we first need to extrapolate the reported recidivism rates to estimate a four-year recidivism rate.

Table 5 shows that each successive year of follow-up has a slightly higher recidivism rate (within each risk level). The increase, however, is not linearly proportional to the number of follow-up years. Graphical analysis of the data reported in Table 5 suggest that the relationship between recidivism rates and follow-up periods is non-linear and that the percent (not absolute) increase in recidivism rates between years is approximately proportional to the percent (not absolute) increase in the follow-up period.

Table 5. One-, Two-, and Three-Year Recidivism Rates for the PATTERN Revalidation Sample

Risk Level	Total (*n*)	One-Year Recidivism Rate	Two-Year Recidivism Rate	Three-Year Recidivism Rate
Minimum	5,041	4.72%	6.69%	9.01%
Low	17,419	16.09%	25.12%	31.80%
Medium	9,216	34.97%	49.78%	58.67%
High	8,617	53.77%	69.63%	77.20%

Using the data in Table 5 we can create these estimates for three different comparisons—two-year to one-year follow-up, three-year to two-year follow-up, and three-year to one-year follow-up. The three resulting elasticities (the percent increase in recidivism rate divided by the percent increase in follow-up period) for each risk level, along with the corresponding annualized average elasticity, are provided in Table 6.

Table 6. Annualized Recidivism Change Elasticities

	% Change in Recidivism/% Change in Follow-Up			
Risk Level	Two-Year to One-Year	Three-Year to Two-Year	Three-Year to One-Year	Average
Minimum	0.42	0.69	0.45	0.52
Low	0.56	0.53	0.49	0.53
Medium	0.42	0.36	0.34	0.37
High	0.30	0.22	0.22	0.24

[15] See Appendix D: National Institute of Justice, 2024.

Applying the average elasticity over all three comparisons (shown in the last column of Table 6) to the reported recidivism rate for the three-year follow-up period allows us to extrapolate and obtain a four-year recidivism rate estimate (within each risk category) as:

RecidRate(4yr) = RecidRate(3yr) + RecidRate(3yr)*(Elasticity)*(4-3)/3

These calculations result in an extrapolated four-year recidivism rate that mimics the proportional increase in recidivism rates between different follow-up periods shown in Table 5. The resulting recidivism rates table, including an extrapolated four-year recidivism rate, is provided in Table 7.

Table 7. One-, Two-, Three-, and Four-Year Recidivism Rates for the PATTERN Revalidation Sample

Risk Level	Total (*n*)	One-Year Recidivism Rate	Two-Year Recidivism Rate	Three-Year Recidivism Rate	Extrapolated Four-Year Recidivism Rate
Minimum	5,041	4.72%	6.69%	9.01%	10.57%
Low	17,419	16.09%	25.12%	31.80%	37.39%
Medium	9,216	34.97%	49.78%	58.67%	65.97%
High	8,617	53.77%	69.63%	77.20%	83.46%

ASSUMPTION 4:

Follow-up periods vary continuously when we study a release cohort (like the 44,673 people released under the FSA). However, if we assume that people released under the FSA can be grouped into four samples with discrete follow-up periods (approximately one, two, three, and four years) and we assume that the four annual reports provide estimated sizes of those groups, then we can compute an approximate share of the different follow-up periods for people released under the FSA.

That is, among the 44,673 total FSA releases in the 2024 OAG report, roughly 7,251 had a four-year follow-up period, 2,540 had a three-year follow-up period, 20,155 had a two-year follow-up period, and the remaining 14,727 had a one-year follow-up period. This suggests that the 9.7% estimate is a weighted average of one-, two-, three-, and four-year recidivism rates, with respective weights of 32.97%,45.12%, 5.69%, and 16.23% (Table 8).

Table 8. Number of People Released Under the FSA by Length of Follow-Up

	One-Year Follow-Up	Two-Year Follow-Up	Three-Year Follow-Up	Four-year Follow-Up	Full Sample
Total (*n*)	14,727	20,155	2,540	7,251	44,673
Weights	32.97%	45.12%	5.69%	16.23%	100%

This assumption allows us to apply these weights to the one-, two-, and three-year recidivism rates reported for the PATTERN revalidation sample (as well as the extrapolated four-year recidivism rate) within risk level. This is used to estimate risk-level specific recidivism rates for people with different follow-up periods. Finally, by aggregating these risk-level specific estimates by the number of people released under the FSA at each risk level, we arrive at an estimated recidivism rate for people in the PATTERN revalidation sample who have similar risk profiles *and* who also have similar follow-up periods to those released under the FSA (Table 9).

The estimated overall recidivism rate among people in the PATTERN revalidation sample who have the same risk profiles and follow-up periods as the 44,673 people released under the FSA is 21.5%. This estimate is more comparable to the 9.7% recidivism of people released under the FSA as it accounts for the risk profile and follow-up period imbalances noted above.

Table 9. Comparison of Recidivism Rate by Risk Level

Risk Level	Total (*n*)	People Released Under the FSA	People from the PATTERN Revalidation Sample
Minimum	14,165	4.1%	6.8%
Low	27,007	8.2%	24.5%
Medium	1,804	32.1%	48.0%
High	1,697	55.9%	67.1%
Overall	**44,673**	**9.7%**	**21.5%**

COMPARABLE NUMBER OF INCURRED ARRESTS

In this section, we extend the analysis conducted above to convert recidivism rates into estimates of incurred arrests. While recidivism rates typically only count a single arrest per person, it is possible that people may be arrested multiple times if they are not removed from the risk pool after that initial rearrest. Without looking at individual-level data, it is impossible to determine how many times a person is rearrested. However, we can make two extreme assumptions and proceed with calculations. First, we can assume that each person who is rearrested is rearrested only once. In other words, once a person is rearrested, we assume that they are reincarcerated and therefore no longer at risk of further rearrest. We refer to this value as the “lower bound.” Second, we can assume that each person who is rearrested is allowed to remain in the risk pool (i.e., is not returned to BOP custody) and can therefore be rearrested multiple times. We refer to this value as the "upper vound." Clearly, both assumptions are extreme, and reality lies somewhere in between.

ASSUMPTION 5:

To compute the lower bound value for incurred arrests, we assume that each arrest results in a person's reincarceration, thus removing them from the risk pool. For example, among the group of 100 people with a three-year recidivism rate of 75%, we expect 75 people to generate 75 arrests (one arrest each), since we assume that people cannot be rearrested more than once.

To compute the upper bound value for incurred arrests, we assume that no person is removed from the risk pool and therefore all people in the sample can contribute to multiple arrests after their initial release from prison. Under this assumption, a simple relationship between the survival probability up to a certain point (or 1 minus the risk of failure up to that point) and the cumulative hazard (or an estimate of the count of multiple events) is given by the equation:

$$S(t) = exp\left(-\int^{t} h(z)dz\right) = exp\big(-C(t)\big)$$

Where C(t) is an estimate of the count (up to point t) and S(t) is the survival probability up to that point. Rearranging terms we get:

$$C(t) = -ln\big(1 - P(t)\big)$$

Where *ln* is the natural log and P(t) is the risk of recidivism (up to point t). This suggests that the number of repeatable events C(t) up to a certain follow-up period is an increasing function of P(t) (the probability of any event up to that point). For example, a group of 100 people with a 3-year recidivism rate of 50% can be expected to have 50 people with at least one rearrest but can be expected to produce 69 total rearrests (events) if none of the 50 people are removed from the risk pool for the entire three-year period. The same 100 people with a recidivism rate of 75% can be expected to have 75 people with at least one rearrest but produce a total of 138 total rearrests if all people remain in the risk pool. To use this calculation, we need to create an estimate of the number of people released under the FSA at different risk levels and different follow-up periods.

ASSUMPTION 6:

To compute recidivism rates by different follow-up periods for people released under the FSA, we use the relative risk (RR) of different follow-up recidivism rates from the PATTERN revalidation sample. These RR values, all with respect to the three-year recidivism rate, is provided in Table 10.

Table 10. Recidivism Rates and Relative Risk by Risk Level and Follow-Up Period in the PATTERN Revalidation Sample

							Relative Risk with respect to Three-Year Recidivism Rate			
Risk Level	Total (*n*)	One-Year Recidivism Rate	Two-Year Recidivism Rate	Three-Year Recidivism Rate	Extrapolated Four-Year Recidivism Rate		One-Year	Two-Year	Three-Year	Four-Year
Minimum	5,041	4.72%	6.69%	9.01%	10.57%		0.52	0.74	1.00	1.17
Low	17,419	16.09%	25.12%	31.80%	37.39%		0.51	0.79	1.00	1.18
Medium	9,216	34.97%	49.78%	58.67%	65.97%		0.60	0.85	1.00	1.12
High	8,617	53.77%	69.63%	77.20%	83.46%		0.70	0.90	1.00	1.08
Overall	**40,293**	**27.04%**	**37.97%**	**44.80%**	**50.42%**					

This table suggests that, among people identified by PATTERN as minimum risk, the one-year recidivism rate is about half (52%) of the three-year recidivism rate, resulting in a one-year RR of 0.52. The two-year recidivism rate is three-quarters (74%) of the three-year recidivism rate, and the four-year recidivism rate is 117% of the three-year rate. Each value results in a corresponding RR. Although the one-year rates are substantially different from the three- and four-year rates for those at minimum and low risk, the one-, two-, three-, and four-year recidivism rates are more similar for those at medium or high risk.

We can now combine this assumption with the distribution of follow-up periods. For each follow-up period, we use the same ratios/weights assumed above (Assumption 4, Table 8). That is, we assume that approximately 32.9% of people released under the FSA are followed for one year, another 45.1% are followed for two years, 5.7% are followed for three years, and the remaining 16.2% are followed for four years. Let the one-, two-, three-, and four-year recidivism rates for those at low-risk be denoted by *w*, *x*, *y*, and *z*. Then, by our assumption:

$$w * .329 + x * 0.451 + y * 0.057 + z * 0.162 = 4.1\%$$

In other words, the weighted sum of the recidivism rates from four different follow-up periods should be 4.1%--the recidivism rate calculated for low-risk people released under FSA. But, by examining the RR values in the table 10, we see that (among those who are categorized as low risk):

$$w = 0.52 * y \text{ ; } x = 0.74 * y \text{ ; and } z = 1.17 * y$$

Therefore, if we assume that the RR among *w*, *x*, *y*, and *z* in the FSA sample is the same as the PATTERN revalidation sample, these two pieces of information can be combined and the equations above can be solved in terms of just *y* to get:

$$(0.52 * 0.329 + 0.74 * 0.451 + 1 * 0.57 + 1.17 * 0.162) * y = 4.1\%$$

This yields an estimate of y=7.3%. From this, we can estimate *w*, *x* and *z* as 3.8%, 5.4% and 8.5% respectively.

This means that the only recidivism rates that provide a weighted sum of 4.1% *and* that have the same RR as the one-, two-, three-, and four-year recidivism rates reported (or extrapolated) for the PATTERN revalidation sample are 3.8%, 5.4%, 7.3% and 8.5%.

Similar calculations can be done for people allocated in the other risk levels to get one-, two-, three-, and four-year recidivism rates for people released under the FSA. In a similar manner, the total number of people released under the FSA by risk level can also be allocated into groups with different follow-up periods (Table 11).

Table 11. Estimated Recidivism Count and Rate for People Released Under the FSA by Follow-Up Period

Risk Level	Recidivism Count (*n*)	One-Year	Two-Year	Three-Year	Four-Year
Minimum	14,165	4,670	6,391	805	2,299
Low	27,007	8,903	12,185	1,536	4,384
Medium	1,804	595	814	103	293
High	1,697	559	766	96	275
	Recidivism Rate (%)	One-Year	Two-Year	Three-Year	Four-Year
Minimum	4.1%	3.8%	5.4%	7.3%	8.5%
Low	8.2%	7.1%	11.2%	14.1%	16.6%
Medium	32.1%	30.0%	42.8%	50.4%	56.7%
High	55.9%	56.2%	72.7%	80.6%	87.2%

This table allows us to use the link between recidivism counts and rates (derived above) to estimate the upper bound number of arrests attributable to the 44,673 people released under the FSA. Using $C(t) = -ln(1 - P(t))$ for each cell from the table above, we can get the average number of arrests per person in that cell and multiply that by the expected number of persons in that cell, which yields a count of the total number of arrests from that cell (Table 12).

Table 12. Upper Bound of Arrests Incurred by People Released Under the FSA by Follow-Up Period

Risk Level	One-Year Follow-Up	Two-Year Follow-Up	Three-Year Follow-Up	Four-Year Follow-Up
Minimum	181.2	354.0	60.7	204.8
Low	660.5	1442.2	233.9	796.5
Medium	212.4	454.0	71.9	244.8
High	461.3	994.9	158.4	565.7

The lower bound number of arrests attributable to the 44,673 people released under the FSA is presented in Table 13.

Table 13. Lower Bound of Arrests Incurred by People Released Under the FSA by Follow-Up Period

Risk Level	One-Year Follow-Up	Two-Year Follow-Up	Three-Year Follow-Up	Four-Year Follow-Up
Minimum	177.7	344.4	58.5	195.9
Low	636.6	1360.1	217.0	728.3
Medium	178.6	348.0	51.7	165.9
High	314.2	556.8	77.8	240.1

Adding arrests by risk level and follow-up period yields the final estimate of the lower bound and the upper bound numbers of arrests that people released under the FSA could have incurred in the community (Table 14).

Table 14. Lower and Upper Bound Arrests Incurred by People Released Under the FSA

Risk Level	People Released under the FSA (*n*)	Lower Bound # of Arrests Incurred	Upper Bound # of Arrests Incurred
Minimum	14,165	776	801
Low	27,007	2,942	3,133
Medium	1,804	744	983
High	1,697	1,189	2,180
Total	**44,673**	**5,651**	**7,097**

To produce a comparable number of arrests incurred for people released from federal prison prior to the implementation of the FSA, we repeat the above calculations using the recidivism rates of people in the PATTERN revalidation sample with risk level distributions adjusted to reflect the risk profiles of FSA releases (Tables 15 and 16).

Table 15. Lower Bound of Arrests Incurred by People in the PATTERN Revalidation Sample with Adjusted Risk Profiles by Follow-Up Period

Risk Level	One-Year Follow-Up	Two-Year Follow-Up	Three-Year Follow-Up	Four-Year Follow-Up
Minimum	220.5	427.2	72.5	243.1
Low	1432.7	3061.0	488.4	1639.1
Medium	208.0	405.2	60.2	193.2
High	300.8	533.1	74.5	229.9

Table 16. Upper Bound of Arrests Incurred by People in the PATTERN Revalidation Sample with Adjusted Risk Profiles by Follow-Up Period

Risk Level	One-Year Follow-Up	Two-Year Follow-Up	Three-Year Follow-Up	Four-Year Follow-Up
Minimum	225.8	442.2	76.0	256.9
Low	1562.0	3525.1	587.8	2052.8
Medium	255.9	560.6	90.6	315.6
High	431.6	912.4	142.6	495.6

Adding arrests by risk level and follow-up period yields the final estimate of the lower bound and the upper bound numbers of arrests that people in the adjusted PATTERN revalidation sample could have incurred in the community (Table 17).

Table 17. Lower and Upper Bound Arrests Incurred by People in the PATTERN Revalidation Sample

Risk Level	Adjusted PATTERN Revalidation Sample (*n*)	Lower Bound # of Arrests Incurred	Upper Bound # of Arrests Incurred
Minimum	14,165	963	1,001
Low	27,007	6,621	7,728
Medium	1,804	867	1,223
High	1,697	1,138	1,982
Total	**44,673**	**9,589**	**11,934**

COMPUTING TOTAL ARRESTS AS A PERCENTAGE OF NATIONWIDE ARRESTS

Finally, we can situate the arrest numbers calculated above within all arrests made in the U.S. over the same period (i.e., 2020, 2021, 2022, and 2023). The FBI provides annual estimates of the total number of arrests reported by law enforcement agencies around the nation. The latest data are available through 2023 from the FBI's Crime Data Explorer.[16] These annual totals are provided in Table 18.

Table 18. Number of National Arrests, 2020-2023

	National Arrests (#)
2020	7,701,539
2021	5,187,697
2022	6,664,396
2023	6,863,369
Four-Year Estimate	**26,417,001**

Using the counts of all arrests nationwide over the four-year period (2020, 2021, 2022, and 2023), we see that the upper bound of estimated arrests by people released under the FSA (7,097) comprises 0.027% of all national arrests over four years (7,097/26,417,001). For people in the PATTERN revalidation sample with similar risk levels and follow-up periods, the upper bound of estimated arrests (11,934) comprises 0.045% of all arrests nationwide (11,934/26,417,001).

[16] Federal Bureau of Investigation. (n.d.). *Crime data explorer*. https://cde.ucr.cjis.gov/LATEST/webapp/#/pages/explorer/crime/arrest