# Online Appendix: Methodology Notes and Data Tables

The authors wish to make additional information available for those curious about the details of the report and for other researchers seeking to build on its findings. Toward that end, this online appendix offers information that may be relevant to subject-matter experts. For additional information — on research reviewed during this report's development, or for further discussions of the methodology — see appendix A and appendix B, respectively.

# I. Data Used to Estimate Population Totals

#### **TABLE OA-1**

#### YEAR PRISON RELEASES **RECIDIVISM RATE** SURVIVAL RATE ESTIMATE 0% 1965 89,900 58% 1966 90.283 58% 0% 13 1967 0% 90.667 58% 47 1968 91,050 58% 0% 152 245 1969 91,433 58% 1% 1970 92,200 58% 1% 340 1971 445 94,633 58% 1% 1972 97,067 58% 2% 805 1973 99,500 58% 5% 1.931 1974 101,933 58% 6% 2,474 1975 106.800 58% 8% 3,491 1976 118,755 58% 11% 5,314 1977 130,710 58% 15% 7.988 1978 58% 18% 10,439 142,665 1979 154,958 58% 21% 13,207 1980 158,331 58% 23% 15,404

#### **Data Used to Estimate the Formerly Imprisoned Population**

1982175.60758%34%24.7201983213.19858%38%33.7601984209.65558%42%36.8281985220.48558%47%42.6601986248.90958%51%52.5421987290.30158%55%66.3831988320.46058%58%77.3321989369.03258%61%93.7251990405.37458%67%117.7561991421.68758%77%125.5751993436.68463%72%116.6531994437.77764%74%118.2561995477.65465%76%128.6121996492.06965%79%133.9931997517.43265%81%145.9111998549.63465%82%156.0161999574.62466%83%164.4002000635.09465%86%187.622001628.62665%86%187.622002633.94765%87%196.622003656.57463%88%214.652004672.20262%89%226.412005701.63263%90%234.942006709.87462%91%243.6922007721.16161%92%261.83	YEAR	PRISON RELEASES	RECIDIVISM RATE	SURVIVAL RATE	ESTIMATE
1983   213.198   58%   38%   33.760     1984   209.655   58%   42%   36.88     1985   220.485   58%   47%   42.666     1986   248.909   58%   51%   52.542     1987   290.301   58%   55%   66.383     1988   320.460   58%   58%   77.332     1989   369.032   58%   61%   93.722     1990   405.374   58%   64%   108.07     1991   421.687   58%   67%   117.75     1992   430.198   58%   70%   125.57     1993   436.684   63%   72%   116.65     1994   437.777   64%   74%   118.256     1995   477.654   65%   76%   128.618     1996   492.069   65%   79%   133.993     1997   517.432   65%   81%   145.913     1998   549.634	1981	163,085	58%	29%	19,317
1984209,65558%42%36,8851985220,48558%47%42,6661986248,90958%51%52,5421987290,30158%55%66,3831988320,46058%58%77,3321989369,03258%61%93,7201990405,37458%64%108,0761991421,68758%67%117,7561992430,19858%70%125,5761993436,68463%72%116,6531994437,77764%74%118,2561995477,65465%76%128,6181996492,06965%79%133,9931997517,43265%81%145,9111998549,63465%82%156,0161999574,62466%83%164,4002000635,09465%86%187,7652001628,62665%86%187,7652002633,94765%86%186,2762003656,57463%88%246,6532004672,20262%89%226,4172005701,63263%90%234,9442006709,87462%91%243,6932007721,16161%92%261,834	1982	175,607	58%	34%	24,720
1985220,48558%47%42,6661986248,90958%51%52,5421987290,30158%55%66,3831988320,46058%58%77,3321989369,03258%61%93,7201990405,37458%64%108,0761991421,68758%67%117,7561992430,19858%70%125,5761993436,68463%72%116,6531994437,77764%74%118,2561995477,65465%76%128,6181996492,06965%76%128,6181997517,43265%81%144,5111998549,63465%85%186,2762001628,62665%86%187,7652002633,94765%87%196,4672003656,57463%88%214,6572004672,20262%89%226,4172005701,63263%90%234,9422006709,87462%91%243,6922007721,16161%92%261,834	1983	213,198	58%	38%	33,760
1986248.90958%51%52.5421987290.30158%55%66.3831988320.46058%58%77.3321989369.03258%61%93.7201990405.37458%64%108.0761991421.68758%67%117.7561992430.19858%70%125.5761993436.68463%72%116.6551994437.77764%74%118.2561995477.65465%76%128.6561996492.06965%79%133.9931997517.43265%81%145.9111998549.63465%85%186.2762000635.09465%85%186.2762001628.62665%86%187.7652002633.94765%87%196.4672003656.57463%88%214.6532004672.20262%89%226.4172005701.63263%90%234.9442006709.87462%91%243.6922007721.16161%92%261.844	1984	209,655	58%	42%	36,885
1987290,30158%55%663.831988320,46058%58%77.331989369,03258%61%93.7201990405,37458%64%108.071991421,68758%67%117.7561992430,19858%70%125.571993436,68463%72%116.6551994437.77764%74%118.2561995477,65465%76%128.6161996492,06965%79%133.9351997517,43265%81%145.9111998549,63465%82%156.0161999574,62466%83%164.6172000635,09465%86%187.7652001628,62665%86%187.7652002633,94765%88%214.6552003656,57463%90%234.9142005701,63263%90%234.9142006709,87462%91%243.6242007721,16161%92%261.834	1985	220,485	58%	47%	42,666
1988320,46058%58%77,3321989369,03258%61%93,7201990405,37458%64%108,0761991421,68758%67%117,7561992430,19858%70%125,5751993436,68463%72%116,6531994437,77764%74%118,2561995477,65465%76%128,6181996492,06965%79%133,9931997517,43265%81%145,9111998549,63465%82%156,0161999574,62466%83%164,4012000635,09465%85%186,2762001628,62665%86%187,7652003656,57463%88%214,6532004672,20262%89%226,4172005701,63263%90%234,9142006709,87462%91%243,6922007721,16161%92%261,844	1986	248,909	58%	51%	52,542
1989369,03258%61%93,7201990405,37458%64%108,0761991421,68758%67%117,7551992430,19858%70%125,5751993436,68463%72%116,6551994437,77764%74%118,2561995477,65465%76%128,6181996492,06965%79%133,9951997517,43265%81%145,9111998549,63465%82%156,0161999574,62466%83%164,4002000635,09465%85%186,2762001628,62665%86%187,7652002633,94765%87%196,4672004672,20262%89%226,4172005701,63263%90%234,9442006709,87462%91%243,6922007721,16161%92%261,834	1987	290,301	58%	55%	66,383
1990405,37458%64%108,0761991421,68758%67%117,7581992430,19858%70%125,5781993436,68463%72%116,6531994437,77764%74%118,2581995477,65465%76%128,6181996492,06965%79%133,9931997517,43265%81%145,9111998549,63465%82%156,0161999574,62466%83%164,4012000635,09465%85%186,2762001628,62665%86%187,7652003656,57463%88%214,6532004672,20262%89%226,4172005701,63263%90%234,9442006709,87462%91%243,6942007721,16161%92%261,834	1988	320,460	58%	58%	77,332
1991421,68758%67%117,7581992430,19858%70%125,5751993436,68463%72%116,6531994437,77764%74%118,2561995477,65465%76%128,6181996492,06965%79%133,9931997517,43265%81%145,9131998549,63465%82%156,0161999574,62466%83%164,4032000635,09465%85%186,2762001628,62665%86%187,7652002633,94765%87%196,4672003656,57463%88%214,6532004672,20262%89%226,4172005701,63263%90%234,942006709,87462%91%243,6942007721,16161%92%261,834	1989	369,032	58%	61%	93,720
1992430.19858%70%125.571993436,68463%72%116,6531994437,77764%74%118,2581995477,65465%76%128,6181996492,06965%79%133,9931997517,43265%81%145,9111998549,63465%82%156,0161999574,62466%83%164,4012000635,09465%85%186,2762001628,62665%86%187,7652002633,94765%87%196,4672003656,57463%89%226,4172005701,63263%90%234,9142006709,87462%91%243,6922007721,16161%92%261,834	1990	405,374	58%	64%	108,076
1993436.68463%72%116.6531994437,77764%74%118.2581995477.65465%76%128.6181996492.06965%79%133.9931997517.43265%81%145.9111998549.63465%82%156.0161999574.62466%83%164.4012000635.09465%85%186.2762001628.62665%86%187.7652002633.94765%87%196.4672003656.57463%88%214.6532004672.20262%89%226.4172005701.63263%90%234.942006709.87462%91%243.6922007721.16161%92%261.83	1991	421,687	58%	67%	117,758
1994 437,777 64% 74% 118,258   1995 477,654 65% 76% 128,618   1996 492,069 65% 79% 133,993   1997 517,432 65% 81% 145,913   1998 549,634 65% 82% 156,016   1999 574,624 66% 83% 164,403   2000 635,094 65% 85% 186,276   2001 628,626 65% 86% 187,765   2002 633,947 65% 87% 196,467   2003 656,574 63% 88% 214,653   2004 672,202 62% 89% 226,417   2005 701,632 63% 90% 234,94   2006 709,874 62% 91% 243,692   2007 721,161 61% 92% 261,834	1992	430,198	58%	70%	125,575
1995477,65465%76%128,6181996492,06965%79%133,9931997517,43265%81%145,9131998549,63465%82%156,0161999574,62466%83%164,4032000635,09465%85%186,2762001628,62665%86%187,7652002633,94765%87%196,4672003656,57463%88%214,6532004672,20262%89%226,4172005701,63263%90%234,9142006709,87462%91%243,6922007721,16161%92%261,834	1993	436,684	63%	72%	116,653
1996492,06965%79%133,9931997517,43265%81%145,9131998549,63465%82%156,0161999574,62466%83%164,4032000635,09465%85%186,2762001628,62665%86%187,7652002633,94765%87%196,4672003656,57463%88%214,6532004672,20262%89%226,4172005701,63263%90%234,9442006709,87462%91%243,6922007721,16161%92%261,834	1994	437,777	64%	74%	118,258
1997517,43265%81%145,9171998549,63465%82%156,0161999574,62466%83%164,4072000635,09465%85%186,2762001628,62665%86%187,7652002633,94765%87%196,4672003656,57463%88%214,6532004672,20262%89%226,4172005701,63263%90%234,9142006709,87462%91%243,6922007721,16161%92%261,834	1995	477,654	65%	76%	128,618
1998549,63465%82%156,0161999574,62466%83%164,4012000635,09465%85%186,2762001628,62665%86%187,7652002633,94765%87%196,4672003656,57463%88%214,6532004672,20262%89%226,4172005701,63263%90%234,9142006709,87462%91%243,6932007721,16161%92%261,834	1996	492,069	65%	79%	133,993
1999574,62466%83%164,4072000635,09465%85%186,2762001628,62665%86%187,7652002633,94765%87%196,4672003656,57463%88%214,6532004672,20262%89%226,4172005701,63263%90%234,9142006709,87462%91%243,6922007721,16161%92%261,834	1997	517,432	65%	81%	145,911
2000635,09465%85%186,2762001628,62665%86%187,7652002633,94765%87%196,4672003656,57463%88%214,6532004672,20262%89%226,4172005701,63263%90%234,9142006709,87462%91%243,6922007721,16161%92%261,834	1998	549,634	65%	82%	156,016
2001628,62665%86%187,7692002633,94765%87%196,4672003656,57463%88%214,6592004672,20262%89%226,4172005701,63263%90%234,9142006709,87462%91%243,6922007721,16161%92%261,834	1999	574,624	66%	83%	164,401
2002633,94765%87%196,4672003656,57463%88%214,6532004672,20262%89%226,4172005701,63263%90%234,9142006709,87462%91%243,6922007721,16161%92%261,834	2000	635,094	65%	85%	186,276
2003656,57463%88%214,6532004672,20262%89%226,4172005701,63263%90%234,9142006709,87462%91%243,6922007721,16161%92%261,834	2001	628,626	65%	86%	187,765
2004672,20262%89%226,4172005701,63263%90%234,9142006709,87462%91%243,6922007721,16161%92%261,834	2002	633,947	65%	87%	196,467
2005 701,632 63% 90% 234,914   2006 709,874 62% 91% 243,692   2007 721,161 61% 92% 261,834	2003	656,574	63%	88%	214,653
2006   709,874   62%   91%   243,692     2007   721,161   61%   92%   261,834	2004	672,202	62%	89%	226,417
2007 721,161 61% 92% 261,834	2005	701,632	63%	90%	234,914
	2006	709,874	62%	91%	243,692
2008 735.651 50% 03% 291.021	2007	721,161	61%	92%	261,834
	2008	735,651	59%	93%	281,931
2009 729,749 57% 94% 296,470	2009	729,749	57%	94%	296,470

YEAR	PRISON RELEASES	RECIDIVISM RATE	SURVIVAL RATE	ESTIMATE
2010	708,677	53%	95%	314,291
2011	691,072	49%	96%	339,888
2012	636,716	40%	96%	369,868
2013	623,990	32%	97%	411,984
2014	636,346	26%	98%	461,895
2015	641,027	19%	99%	514,243
2016	626,019	10%	99%	557,318
2017	622,377	3%	100%	601,212
Total				7,725,998

# Data Used to Estimate the Prevalence of Non-Prison Felony Convictions

YEAR	PROBATION ENTRIES	RECIDIVISM RATE	SURVIVAL RATE	FELONY RATE	ESTIMATE
1980	689,878	58%	71%	49%	91,980
1981	753,460	58%	73%	49%	103,101
1982	817,042	58%	75%	49%	111,657
1983	891,153	58%	77%	49%	123,771
1984	1,032,202	58%	78%	48%	146,796
1985	1,174,832	58%	80%	50%	180,397
1986	1,265,748	58%	82%	46%	181,728
1987	1,376,244	58%	83%	46%	200,666
1988	1,465,388	58%	84%	47%	222,090
1989	1,567,156	58%	85%	47%	236,290
1990	1,637,557	58%	87%	48%	249,187
1991	1,577,528	58%	88%	49%	246,490
1992	1,517,499	63%	89%	49%	206,588
1993	1,479,624	64%	90%	54%	218,423
1994	1,397,505	65%	90%	54%	201,358
1995	1,501,589	65%	91%	54%	208,216
1996	1,651,544	65%	92%	55%	238,982
1997	1,725,431	65%	93%	54%	242,565
1998	1,672,910	66%	93%	57%	232,781
1999	1,819,403	65%	94%	51%	242,012
2000	2,032,089	65%	94%	52%	284,020
2001	2,110,550	65%	95%	53%	295,181
2002	2,129,084	63%	95%	50%	288,976
2003	2,229,668	62%	96%	52%	316,631
2004	2,217,900	63%	96%	49%	281,182
2005	2,228,300	62%	96%	50%	299,886

YEAR	PROBATION ENTRIES	RECIDIVISM RATE	SURVIVAL RATE	FELONY RATE	ESTIMATE
2006	2,272,300	61%	97%	49%	335,221
2007	2,363,900	59%	97%	47%	355,625
2008	2,369,300	57%	97%	49%	401,692
2009	2,313,600	53%	98%	51%	443,837
2010	2,190,200	49%	98%	50%	443,507
2011	2,109,500	40%	98%	53%	543,494
2012	2,048,300	32%	99%	53%	610,007
2013	2,094,100	43%	99%	55%	522,640
2014	2,067,100	40%	99%	56%	561,319
2015	1,966,100	35%	100%	57%	589,310
2016	2,012,200	28%	100%	59%	709,820
2017	2,058,300	18%	100%	61%	884,095
Total	63,767,884				12,051,518

### **Data Used to Estimate the Misdemeanor Population**

YEAR	MISDEMEANOR ARRESTS (SELECTED OFFENSES)	MISDEMEANOR CONVICTION RATE	MISDEMEANOR RECONVICTION RATE	SURVIVAL RATE	ESTIMATE
1995	9,264,100	50%	51%	91%	1,478,933
1996	9,441,500	50%	51%	92%	1,519,809
1997	9,560,000	50%	51%	93%	1,551,597
1998	9,177,800	58%	51%	93%	1,737,551
1999	9,013,500	40%	51%	94%	1,183,399
2000	8,984,260	67%	51%	94%	1,986,680
2001	8,731,994	84%	51%	95%	2,434,130
2002	8,829,732	65%	51%	95%	1,915,046
2003	8,675,753	85%	51%	96%	2,470,514
2004	8,892,593	83%	51%	96%	2,482,583
2005	8,912,048	73%	51%	96%	2,196,983
2006	9,242,601	62%	51%	97%	1,942,828
2007	9,134,383	71%	51%	97%	2,207,504
2008	9,054,812	79%	51%	97%	2,442,892
2009	8,835,339	67%	51%	98%	2,028,265
2010	8,565,951	67%	50%	98%	2,021,101
2011	8,032,034	57%	48%	98%	1,665,787
2012	7,845,666	66%	46%	99%	1,948,309
2013	7,187,866	74%	44%	99%	2,101,008
2014	7,025,494	73%	41%	99%	2,143,940
2015	6,798,722	72%	37%	99%	2,201,395
2016	6,689,346	72%	30%	100%	2,401,701
2017	6,620,185	72%	19%	100%	2,757,780
Total					46,819,738

This table does not illustrate the authors' adjustment for intrayear recidivism. For more on that adjustment, see appendix B.

## II. Additional Sensitivity Checks of Earnings Loss Estimates

In analyzing earnings loss due to criminal justice involvement, as described in appendix B, the authors used a series of techniques to confirm their findings. In addition to those sensitivity checks, the authors performed the following analyses, which further buttress the report's findings:

- Nearest neighbor and regression adjustment matching produce results statistically similar to those of the report's propensity-score matching model.
- Defining incarceration at any stage of life produces less-conservative findings compared to the report's definition of incarceration during early adulthood.
- The Heckman two-step correction procedure described in appendix B produces less-conservative findings when alternative instruments (e.g., job growth) are used.