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CORN TRADE REPORT: APPENDIX
Section VI



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Acknowledgments

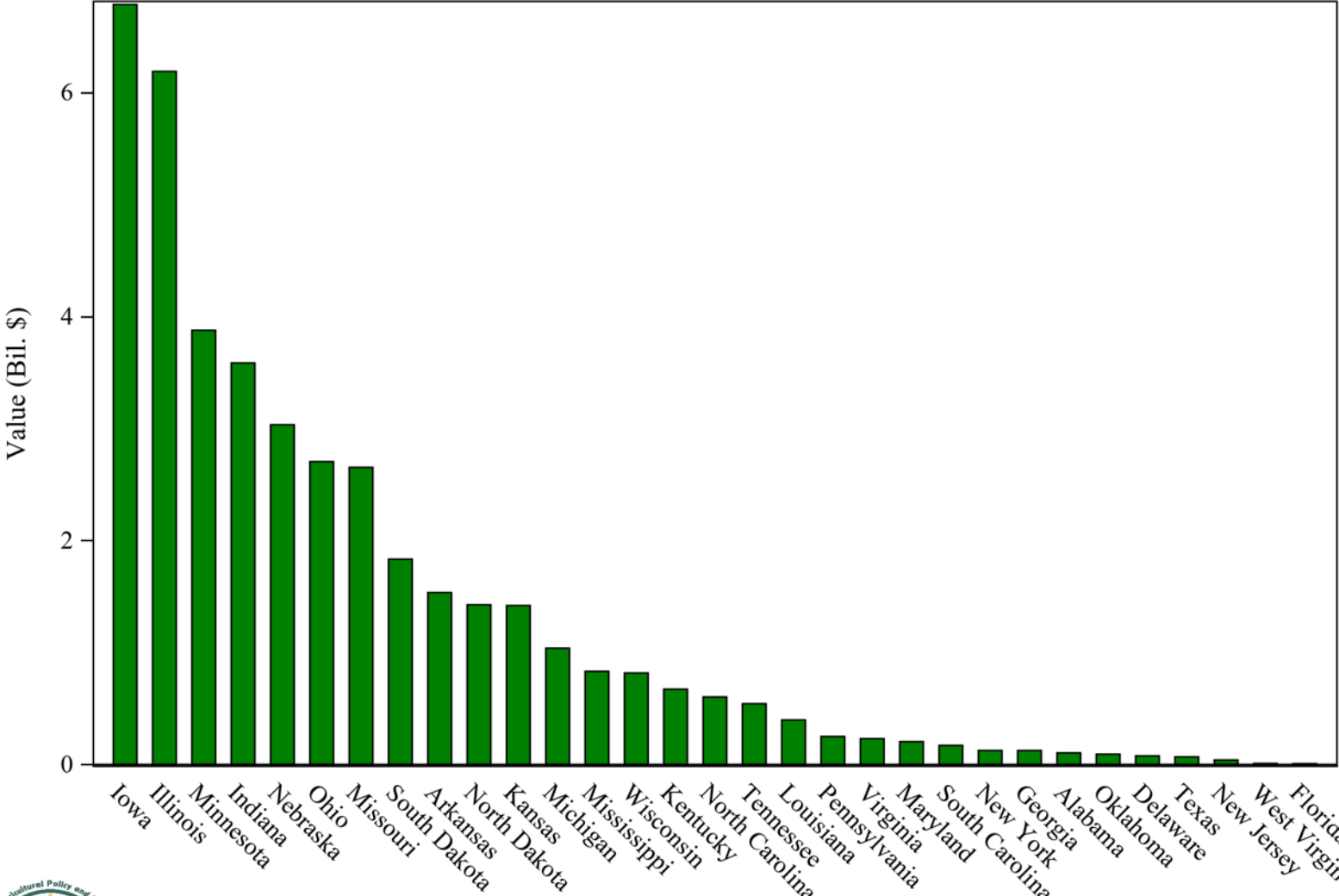
The authors express their gratitude to the North Dakota Corn Utilization Council and North Dakota Corn Growers' Association for their support, suggestions, comments and several days of discussion during the project. Reviews and suggestions provided by Dr. Bill Wilson and Dr. Frayne Olson are greatly appreciated. Thanks to Ellen Crawford and Edie Nelson for their editorial revisions. All views expressed in this publication are those of the authors and do not reflect the opinions and interest of the supporting organizations or NDSU.

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Section VI: U.S. State Level Corn Export

Figure 1: U.S. State Corn Grain Export Value, 2004-2008



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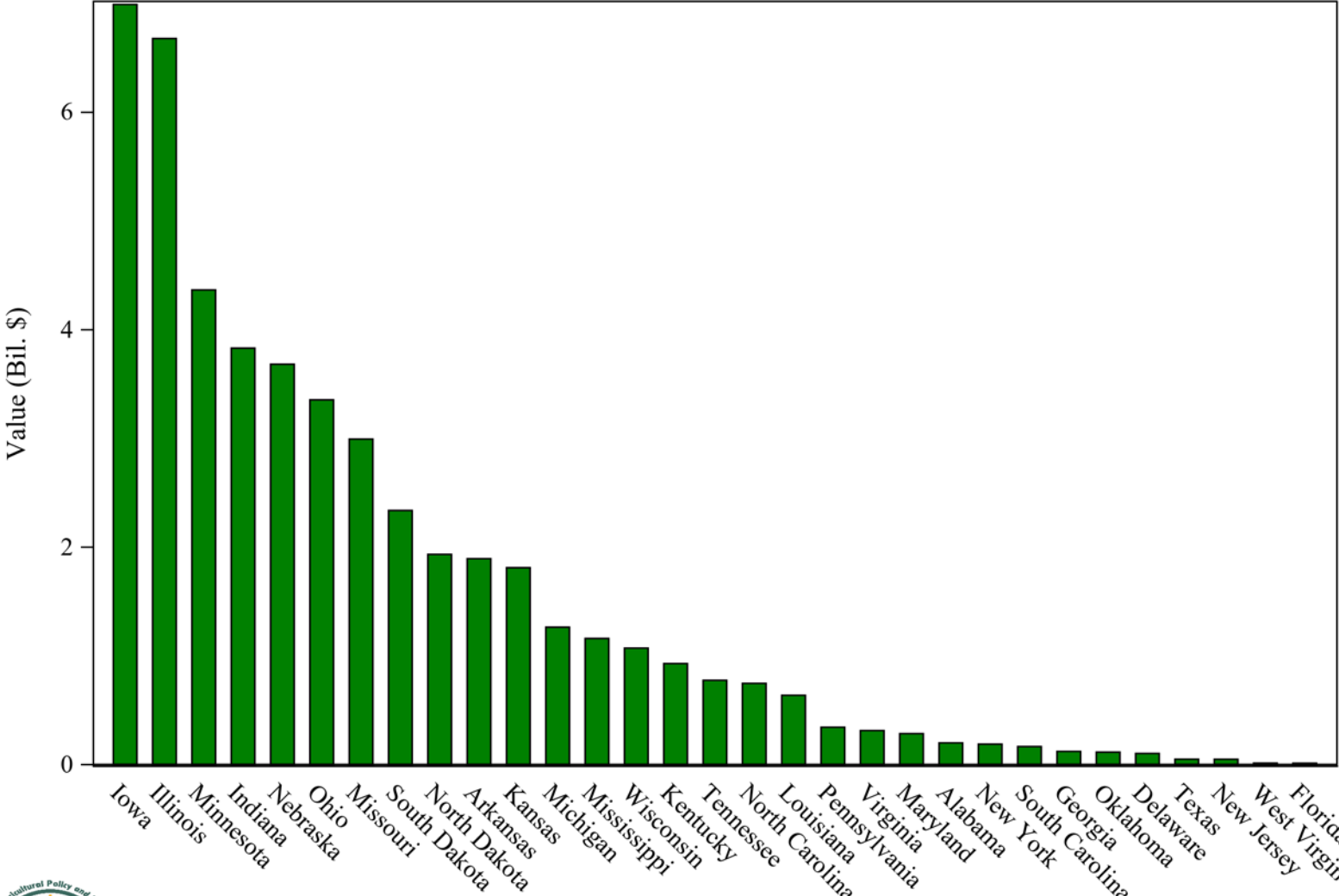
Table 1: U.S. State Corn Grain Export Value Descriptive Statistics, 2004-2008

| State | N | Sum | Share | Mean | Risk | Coefficient of Variation |
|----------------|---|---------------|-------|---------------|-------------|--------------------------|
| Iowa | 5 | 6,788,542,497 | 16.4 | 1,357,708,499 | 543,988,718 | 40.1 |
| Illinois | 5 | 6,190,604,288 | 14.9 | 1,238,120,858 | 493,549,267 | 39.9 |
| Minnesota | 5 | 3,878,029,758 | 9.35 | 775,605,952 | 334,605,533 | 43.1 |
| Indiana | 5 | 3,586,201,033 | 8.65 | 717,240,207 | 280,391,702 | 39.1 |
| Nebraska | 5 | 3,034,640,406 | 7.32 | 606,928,081 | 266,222,646 | 43.9 |
| Ohio | 5 | 2,705,045,394 | 6.53 | 541,009,079 | 195,349,723 | 36.1 |
| Missouri | 5 | 2,653,605,879 | 6.40 | 530,721,176 | 222,471,146 | 41.9 |
| South Dakota | 5 | 1,833,695,005 | 4.42 | 366,739,001 | 172,137,045 | 46.9 |
| Arkansas | 5 | 1,535,691,856 | 3.70 | 307,138,371 | 146,518,398 | 47.7 |
| North Dakota | 5 | 1,426,872,147 | 3.44 | 285,374,429 | 138,378,240 | 48.5 |
| Kansas | 5 | 1,419,975,547 | 3.43 | 283,995,109 | 143,616,168 | 50.6 |
| Michigan | 5 | 1,038,593,017 | 2.51 | 207,718,603 | 79,069,586 | 38.1 |
| Mississippi | 5 | 831,435,956 | 2.01 | 166,287,191 | 100,209,545 | 60.3 |
| Wisconsin | 5 | 817,223,563 | 1.97 | 163,444,713 | 62,801,411 | 38.4 |
| Kentucky | 5 | 672,063,035 | 1.62 | 134,412,607 | 50,721,803 | 37.7 |
| North Carolina | 5 | 602,904,728 | 1.45 | 120,580,946 | 67,170,626 | 55.7 |
| Tennessee | 5 | 542,973,431 | 1.31 | 108,594,686 | 61,038,746 | 56.2 |
| Louisiana | 5 | 397,105,679 | 0.96 | 79,421,136 | 34,166,309 | 43.0 |
| Pennsylvania | 5 | 249,682,403 | 0.60 | 49,936,481 | 23,471,409 | 47.0 |

| State | N | Sum | Share | Mean | Risk | Coefficient of Variation |
|----------------|---|-------------|-------|------------|------------|--------------------------|
| Virginia | 5 | 230,956,614 | 0.56 | 46,191,323 | 20,640,937 | 44.7 |
| Maryland | 5 | 203,942,068 | 0.49 | 40,788,414 | 13,486,159 | 33.1 |
| South Carolina | 5 | 169,839,589 | 0.41 | 33,967,918 | 21,406,805 | 63.0 |
| New York | 5 | 125,163,001 | 0.30 | 25,032,600 | 15,950,673 | 63.7 |
| Georgia | 5 | 124,878,600 | 0.30 | 24,975,720 | 21,239,466 | 85.0 |
| Alabama | 5 | 103,342,170 | 0.25 | 20,668,434 | 21,215,457 | 103 |
| Oklahoma | 5 | 91,689,470 | 0.22 | 18,337,894 | 11,393,841 | 62.1 |
| Delaware | 5 | 76,282,078 | 0.18 | 15,256,416 | 5,641,270 | 37.0 |
| Texas | 5 | 67,611,848 | 0.16 | 13,522,370 | 5,771,379 | 42.7 |
| New Jersey | 5 | 39,800,514 | 0.10 | 7,960,103 | 2,986,884 | 37.5 |
| West Virginia | 5 | 9,125,553 | 0.02 | 1,825,111 | 900,628 | 49.3 |
| Florida | 5 | 7,010,975 | 0.02 | 1,402,195 | 1,658,025 | 118 |

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Figure 2: U.S. State Corn Grain Export Value, 2009-2013



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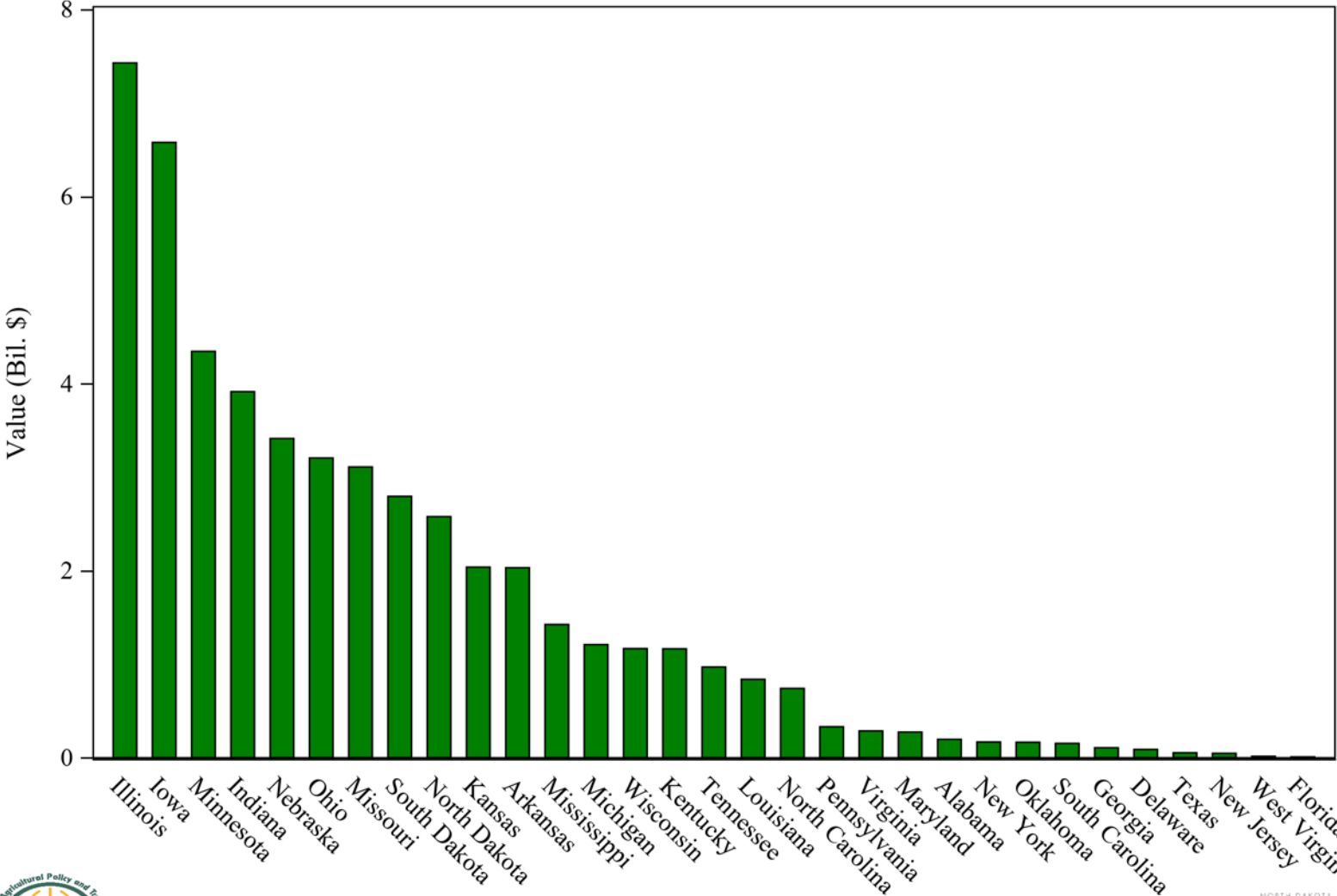
Table 2: U.S. State Corn Grain Export Value Descriptive Statistics, 2009-2013

| State | N | Sum | Share | Mean | Risk | Coefficient of Variation |
|----------------|---|---------------|-------|---------------|-------------|--------------------------|
| Iowa | 5 | 6,989,537,960 | 14.4 | 1,397,907,592 | 475,180,257 | 34.0 |
| Illinois | 5 | 6,675,908,425 | 13.8 | 1,335,181,685 | 379,294,814 | 28.4 |
| Minnesota | 5 | 4,363,846,940 | 9.02 | 872,769,388 | 253,856,320 | 29.1 |
| Indiana | 5 | 3,828,678,399 | 7.92 | 765,735,680 | 204,571,465 | 26.7 |
| Nebraska | 5 | 3,680,523,563 | 7.61 | 736,104,713 | 237,724,738 | 32.3 |
| Ohio | 5 | 3,352,984,222 | 6.93 | 670,596,844 | 211,055,199 | 31.5 |
| Missouri | 5 | 2,992,009,934 | 6.19 | 598,401,987 | 171,037,503 | 28.6 |
| South Dakota | 5 | 2,335,842,327 | 4.83 | 467,168,465 | 113,398,065 | 24.3 |
| North Dakota | 5 | 1,932,177,153 | 3.99 | 386,435,431 | 106,266,847 | 27.5 |
| Arkansas | 5 | 1,892,461,049 | 3.91 | 378,492,210 | 111,574,635 | 29.5 |
| Kansas | 5 | 1,809,673,028 | 3.74 | 361,934,606 | 93,756,735 | 25.9 |
| Michigan | 5 | 1,262,372,263 | 2.61 | 252,474,453 | 77,562,350 | 30.7 |
| Mississippi | 5 | 1,158,787,685 | 2.40 | 231,757,537 | 52,247,256 | 22.5 |
| Wisconsin | 5 | 1,070,164,372 | 2.21 | 214,032,874 | 81,236,853 | 38.0 |
| Kentucky | 5 | 928,038,491 | 1.92 | 185,607,698 | 42,758,536 | 23.0 |
| Tennessee | 5 | 774,019,045 | 1.60 | 154,803,809 | 24,238,827 | 15.7 |
| North Carolina | 5 | 745,995,942 | 1.54 | 149,199,188 | 38,381,770 | 25.7 |
| Louisiana | 5 | 636,320,801 | 1.32 | 127,264,160 | 28,649,928 | 22.5 |
| Pennsylvania | 5 | 342,218,721 | 0.71 | 68,443,744 | 18,558,813 | 27.1 |

| State | N | Sum | Share | Mean | Risk | Coefficient of Variation |
|----------------|---|-------------|-------|------------|------------|--------------------------|
| Virginia | 5 | 311,891,799 | 0.64 | 62,378,360 | 21,645,166 | 34.7 |
| Maryland | 5 | 283,523,374 | 0.59 | 56,704,675 | 16,811,979 | 29.6 |
| Alabama | 5 | 198,499,564 | 0.41 | 39,699,913 | 8,920,794 | 22.5 |
| New York | 5 | 187,170,441 | 0.39 | 37,434,088 | 11,078,444 | 29.6 |
| South Carolina | 5 | 164,703,510 | 0.34 | 32,940,702 | 9,065,756 | 27.5 |
| Georgia | 5 | 119,750,977 | 0.25 | 23,950,195 | 11,430,612 | 47.7 |
| Oklahoma | 5 | 113,227,175 | 0.23 | 22,645,435 | 10,338,875 | 45.7 |
| Delaware | 5 | 101,251,656 | 0.21 | 20,250,331 | 6,092,214 | 30.1 |
| Texas | 5 | 48,220,374 | 0.10 | 9,644,075 | 4,218,463 | 43.7 |
| New Jersey | 5 | 47,701,035 | 0.10 | 9,540,207 | 3,162,879 | 33.2 |
| West Virginia | 5 | 12,355,600 | 0.03 | 2,471,120 | 807,202 | 32.7 |
| Florida | 5 | 11,582,251 | 0.02 | 2,316,450 | 642,099 | 27.7 |

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Figure 3: U.S. State Corn Grain Export Value, 2014-2018



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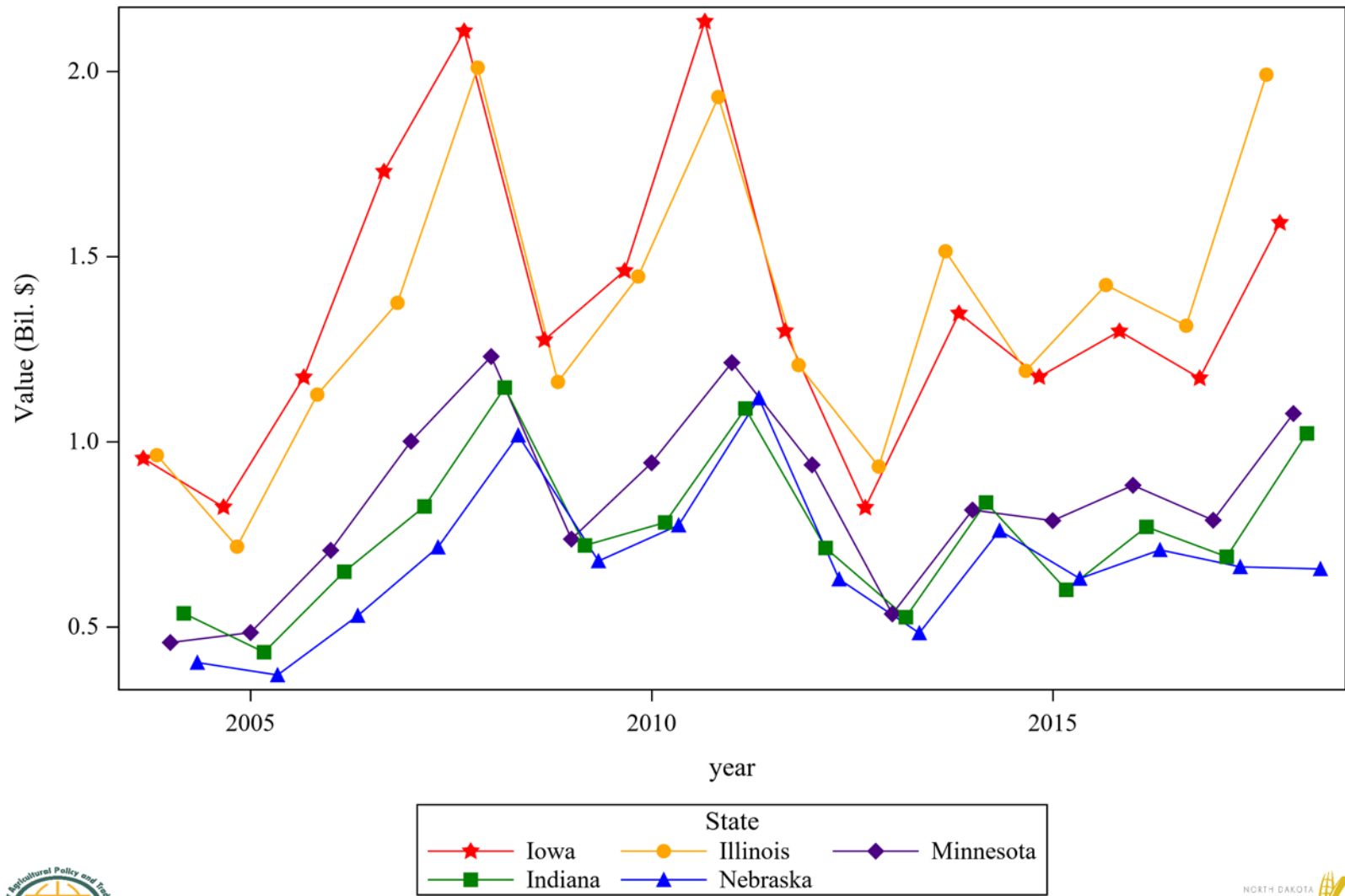
Table 3: U.S. State Corn Grain Export Value Descriptive Statistics, 2014-2018

| State | N | Sum | Share | Mean | Risk | Coefficient of Variation |
|----------------|---|---------------|-------|---------------|-------------|--------------------------|
| Illinois | 5 | 7,431,070,942 | 14.6 | 1,486,214,188 | 306,769,169 | 20.6 |
| Iowa | 5 | 6,580,888,812 | 12.9 | 1,316,177,762 | 171,540,095 | 13.0 |
| Minnesota | 5 | 4,346,720,849 | 8.54 | 869,344,170 | 121,651,024 | 14.0 |
| Indiana | 5 | 3,915,653,599 | 7.70 | 783,130,720 | 160,053,428 | 20.4 |
| Nebraska | 5 | 3,415,134,060 | 6.71 | 683,026,812 | 51,110,189 | 7.5 |
| Ohio | 5 | 3,206,205,385 | 6.30 | 641,241,077 | 127,637,287 | 19.9 |
| Missouri | 5 | 3,110,523,415 | 6.11 | 622,104,683 | 137,510,962 | 22.1 |
| South Dakota | 5 | 2,795,937,237 | 5.49 | 559,187,447 | 84,547,506 | 15.1 |
| North Dakota | 5 | 2,579,480,747 | 5.07 | 515,896,149 | 100,523,151 | 19.5 |
| Kansas | 5 | 2,039,139,240 | 4.01 | 407,827,848 | 91,108,881 | 22.3 |
| Arkansas | 5 | 2,033,192,506 | 4.00 | 406,638,501 | 62,593,050 | 15.4 |
| Mississippi | 5 | 1,425,796,463 | 2.80 | 285,159,293 | 58,523,862 | 20.5 |
| Michigan | 5 | 1,210,298,737 | 2.38 | 242,059,747 | 46,875,972 | 19.4 |
| Wisconsin | 5 | 1,167,996,965 | 2.30 | 233,599,393 | 43,579,213 | 18.7 |
| Kentucky | 5 | 1,165,849,042 | 2.29 | 233,169,808 | 37,980,407 | 16.3 |
| Tennessee | 5 | 971,009,750 | 1.91 | 194,201,950 | 24,181,890 | 12.5 |
| Louisiana | 5 | 839,066,838 | 1.65 | 167,813,368 | 42,224,019 | 25.2 |
| North Carolina | 5 | 742,367,771 | 1.46 | 148,473,554 | 27,992,176 | 18.9 |
| Pennsylvania | 5 | 331,991,042 | 0.65 | 66,398,208 | 11,524,503 | 17.4 |

| State | N | Sum | Share | Mean | Risk | Coefficient of Variation |
|----------------|---|-------------|-------|------------|------------|--------------------------|
| Virginia | 5 | 287,317,270 | 0.56 | 57,463,454 | 11,174,909 | 19.4 |
| Maryland | 5 | 275,249,038 | 0.54 | 55,049,808 | 9,560,300 | 17.4 |
| Alabama | 5 | 197,805,273 | 0.39 | 39,561,055 | 7,777,101 | 19.7 |
| New York | 5 | 168,836,302 | 0.33 | 33,767,260 | 8,956,923 | 26.5 |
| Oklahoma | 5 | 166,263,452 | 0.33 | 33,252,690 | 8,381,856 | 25.2 |
| South Carolina | 5 | 154,319,374 | 0.30 | 30,863,875 | 8,134,104 | 26.4 |
| Georgia | 5 | 107,641,685 | 0.21 | 21,528,337 | 9,082,977 | 42.2 |
| Delaware | 5 | 89,613,288 | 0.18 | 17,922,658 | 3,166,547 | 17.7 |
| Texas | 5 | 54,190,001 | 0.11 | 10,838,000 | 3,114,677 | 28.7 |
| New Jersey | 5 | 47,972,720 | 0.09 | 9,594,544 | 2,222,069 | 23.2 |
| West Virginia | 5 | 16,374,530 | 0.03 | 3,274,906 | 605,693 | 18.5 |
| Florida | 5 | 10,351,298 | 0.02 | 2,070,260 | 1,134,562 | 54.8 |

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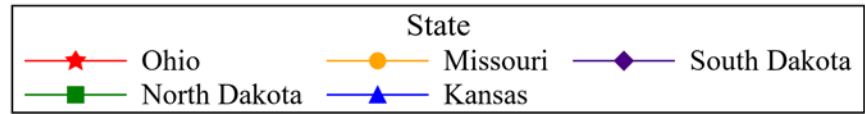
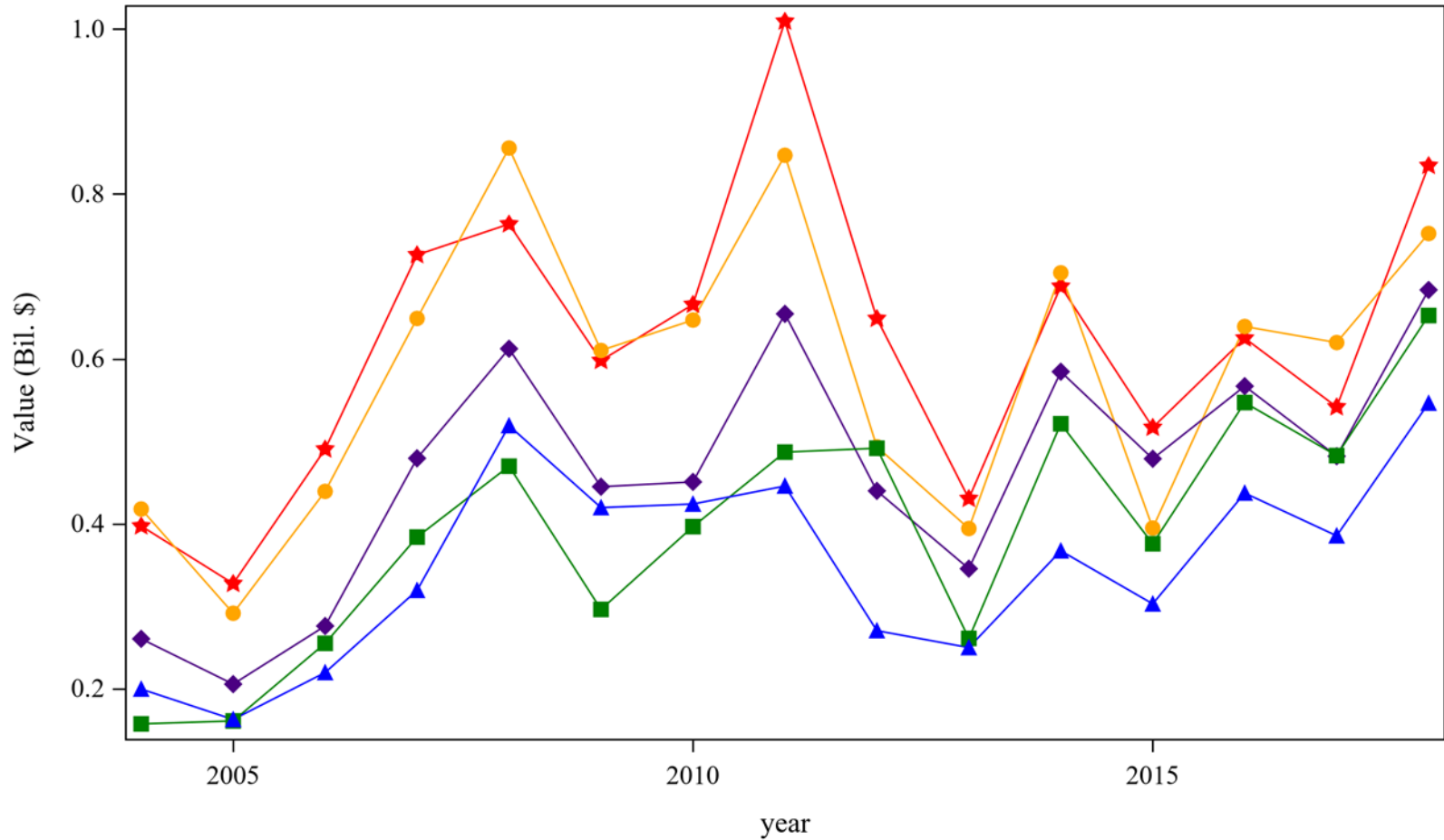
Figure 4: U.S. Corn Grain Export Value of Top 5 States, Annual Trends



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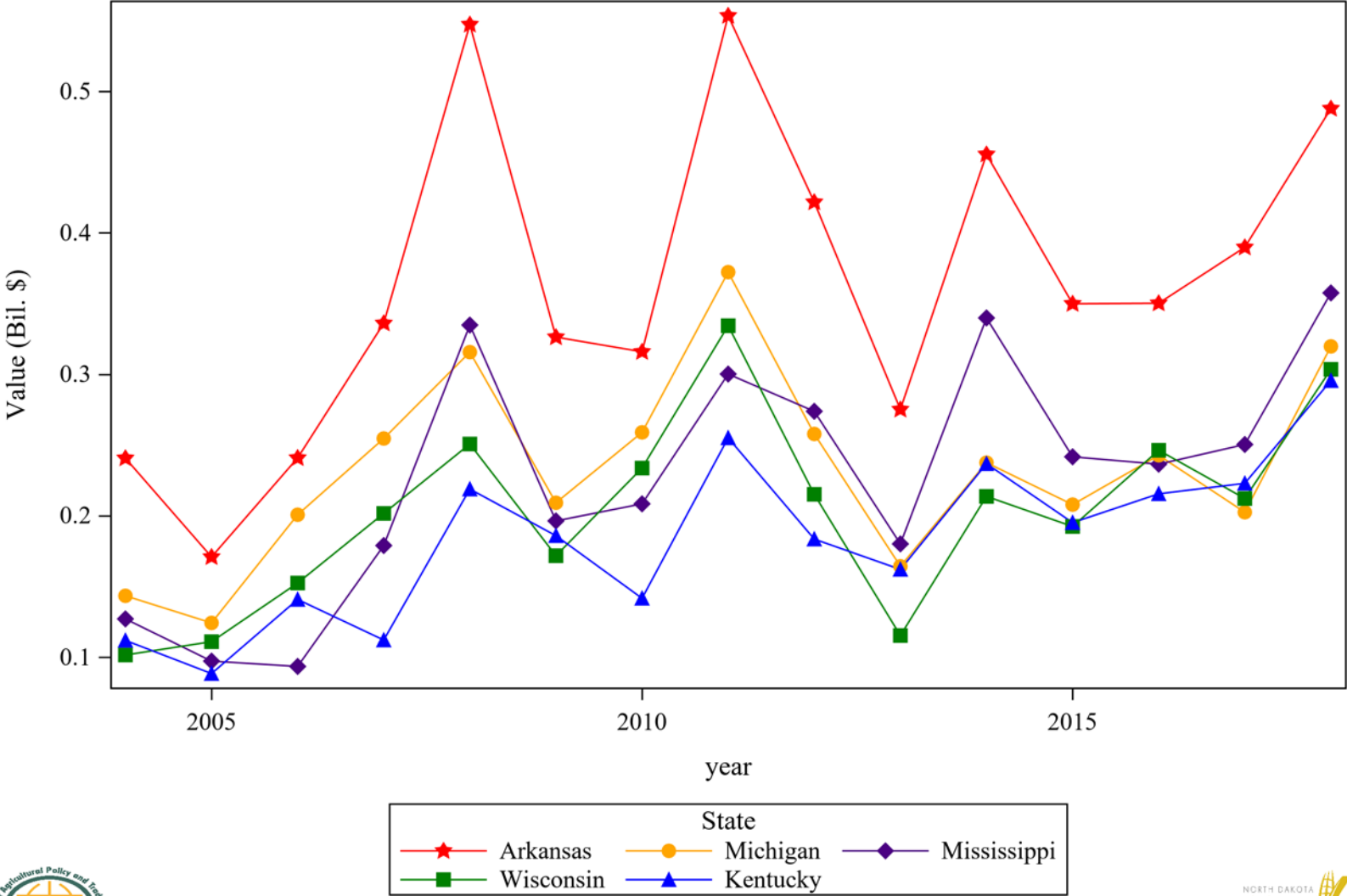
Figure 5: U.S. Corn Grain Export Value of Top 6 to 10 States, Annual Trends



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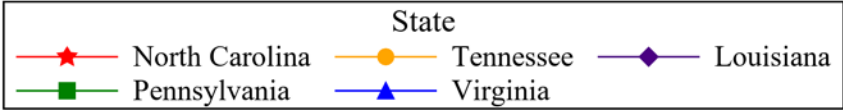
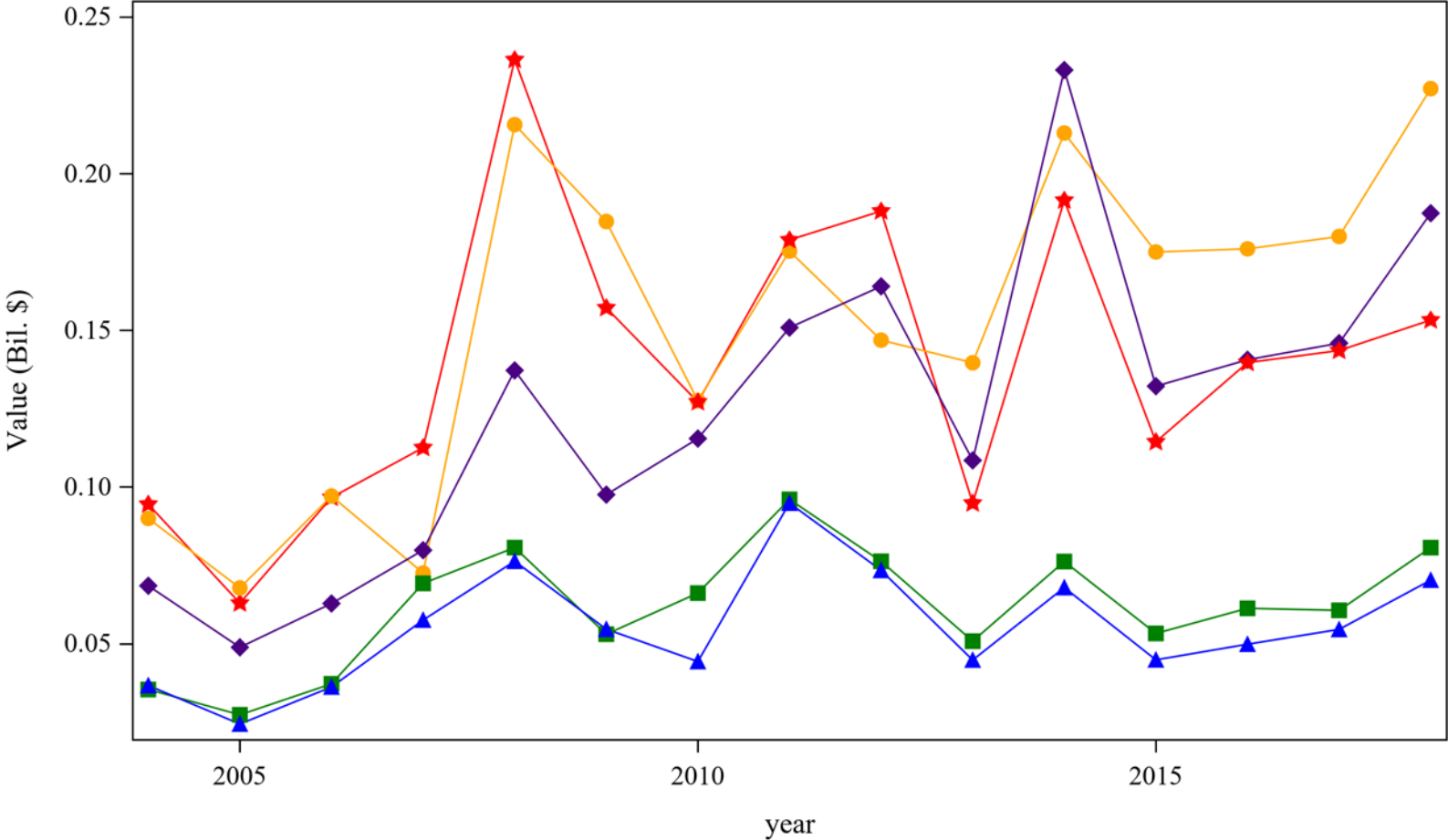
Figure 6: U.S. Corn Grain Export Value of Top 11 to 15 States, Annual Trends



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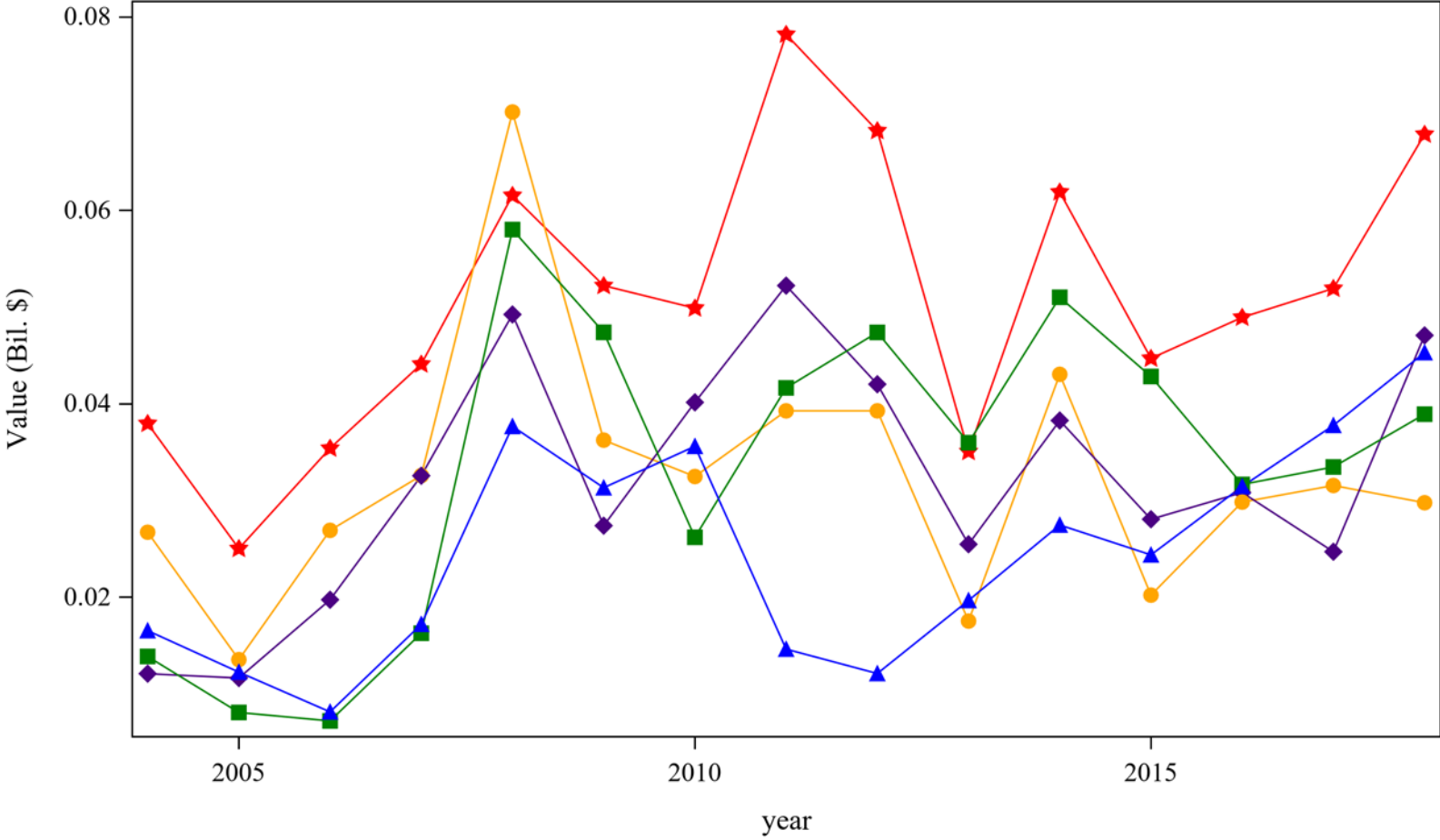
Figure 7: U.S. Corn Grain Export Value of Top 16 to 20 States, Annual Trends



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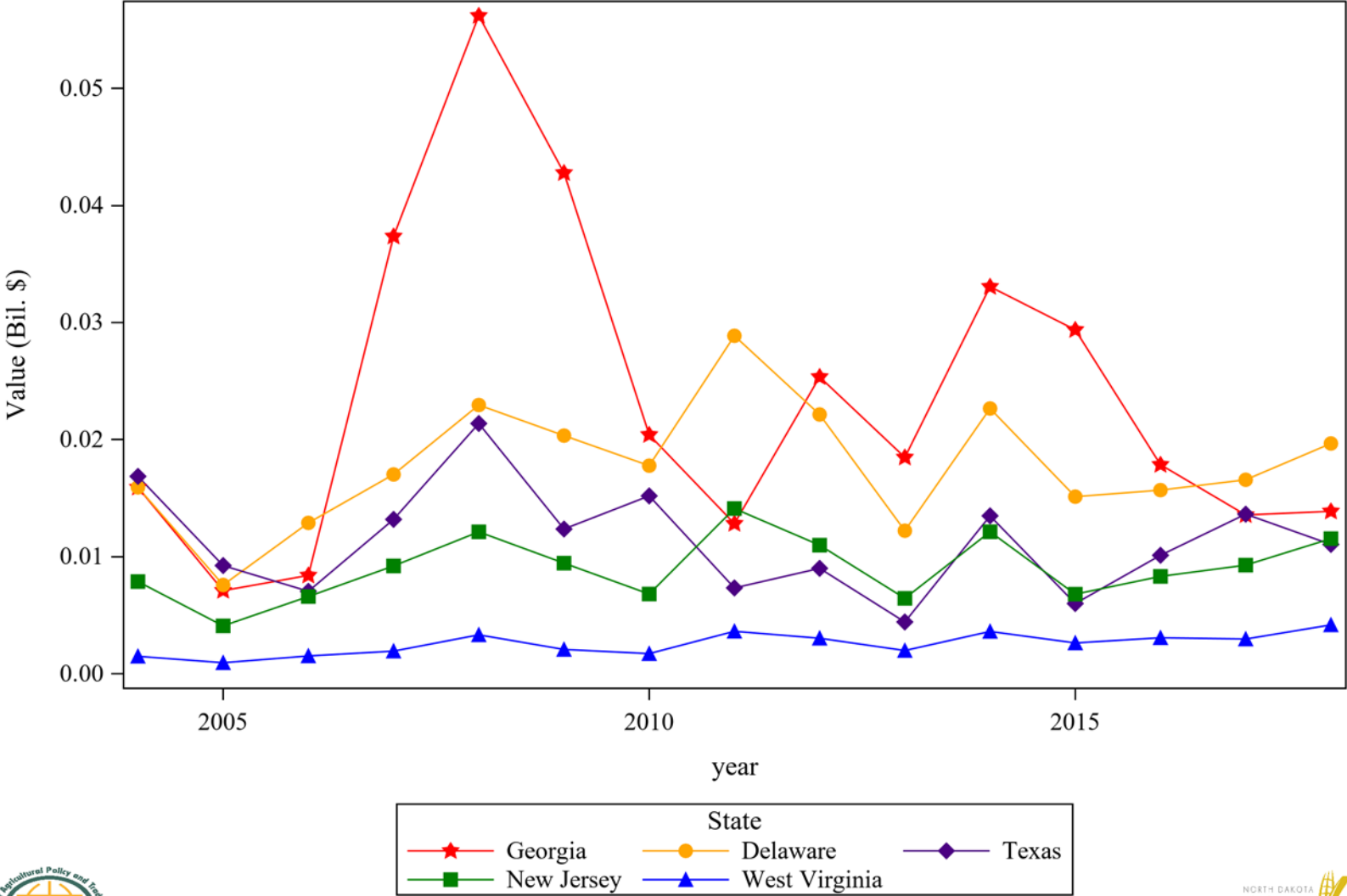
Figure 8: U.S. Corn Grain Export Value of Top 21 to 25 States, Annual Trends



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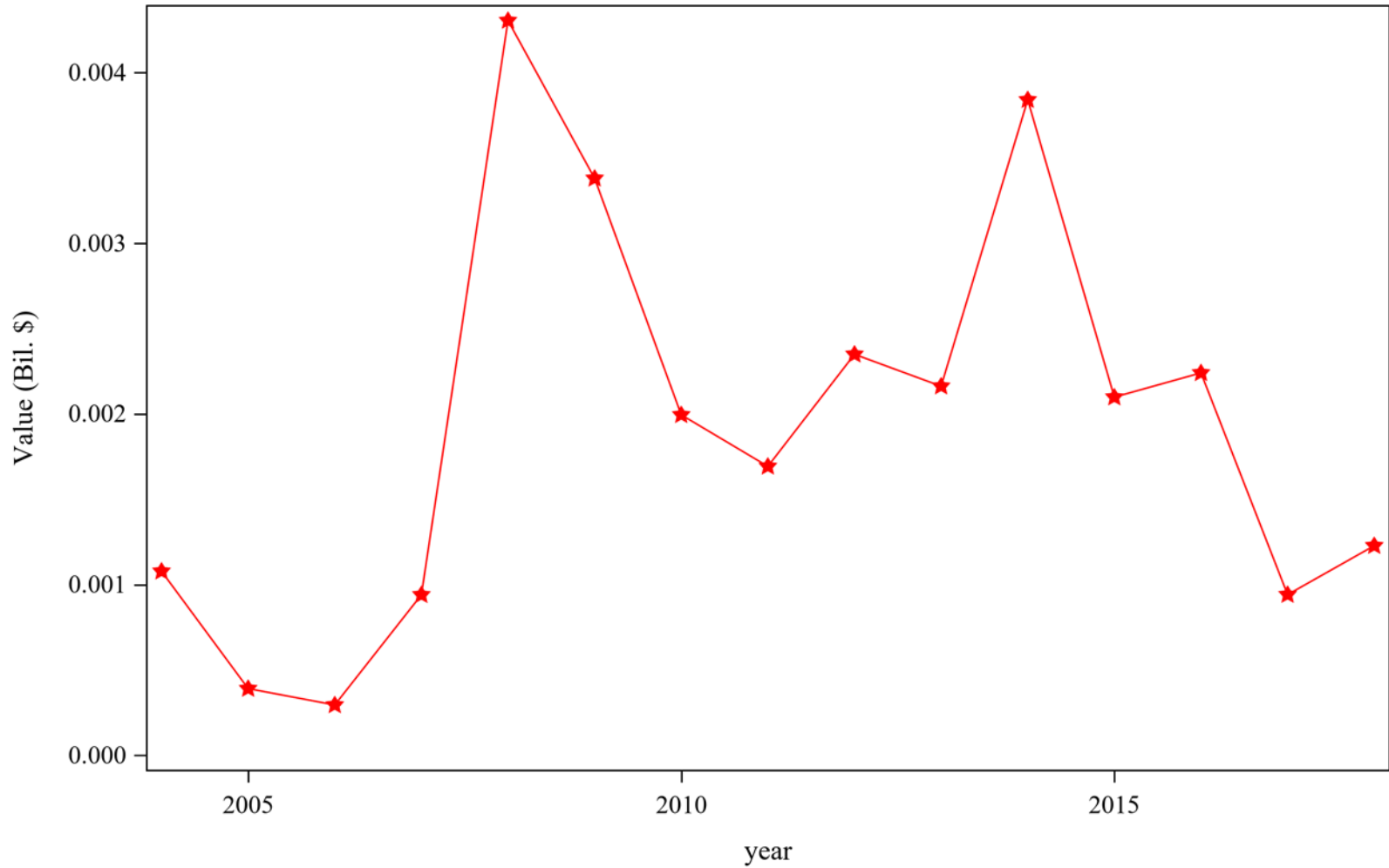
Figure 9: U.S. Corn Grain Export Value of Top 26 to 30 States, Annual Trends



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Figure 10: U.S. Corn Grain Export Value of Top 31 to 35 States, Annual Trends



State —★— Florida

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Table 4: NDSU Estimate of U.S. State Corn Grain Export Value, Annual Trends

| Reporter | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|-----------------|---------------|---------------|---------------|-------------|---------------|---------------|---------------|---------------|---------------|
| Alabama | 26,173,819 | 41,624,953 | 47,364,118 | 35,959,929 | 50,999,370 | 42,810,036 | 31,639,862 | 33,447,903 | 38,908,101 |
| Arkansas | 315,905,196 | 553,447,252 | 421,672,458 | 275,154,152 | 455,478,630 | 349,854,895 | 350,231,958 | 389,774,431 | 487,852,592 |
| Delaware | 17,754,412 | 28,847,069 | 22,125,851 | 12,200,251 | 22,638,566 | 15,108,248 | 15,667,092 | 16,550,961 | 19,648,420 |
| Florida | 1,995,232 | 1,693,218 | 2,349,968 | 2,163,006 | 3,841,229 | 2,099,003 | 2,241,065 | 941,612 | 1,228,389 |
| Georgia | 20,391,589 | 12,804,964 | 25,333,170 | 18,463,191 | 33,041,081 | 29,357,229 | 17,840,202 | 13,545,536 | 13,857,638 |
| Illinois | 1,445,737,642 | 1,930,268,992 | 1,206,457,554 | 932,444,046 | 1,513,873,985 | 1,190,998,563 | 1,422,665,547 | 1,312,901,813 | 1,990,631,034 |
| Indiana | 781,481,199 | 1,089,199,446 | 712,654,856 | 525,798,116 | 835,408,747 | 599,749,072 | 769,565,993 | 688,944,458 | 1,021,985,329 |
| Iowa | 1,461,008,397 | 2,134,106,193 | 1,298,266,837 | 821,665,347 | 1,346,266,454 | 1,174,609,867 | 1,297,824,615 | 1,171,341,511 | 1,590,846,365 |
| Kansas | 423,986,846 | 445,802,459 | 270,374,988 | 249,853,515 | 367,245,651 | 302,874,948 | 437,262,800 | 385,456,381 | 546,299,461 |
| Kentucky | 141,628,365 | 255,026,058 | 183,478,257 | 162,039,127 | 236,770,815 | 195,113,920 | 215,502,864 | 222,910,176 | 295,551,266 |
| Louisiana | 115,431,676 | 150,850,368 | 164,016,994 | 108,476,351 | 233,055,186 | 132,159,791 | 140,599,531 | 145,885,057 | 187,367,273 |
| Maryland | 49,872,919 | 78,188,066 | 68,221,158 | 35,037,291 | 61,882,582 | 44,681,425 | 48,920,718 | 51,909,132 | 67,855,182 |
| Michigan | 258,936,979 | 372,206,251 | 257,803,521 | 164,256,081 | 237,545,843 | 207,853,648 | 242,708,435 | 202,470,065 | 319,720,746 |
| Minnesota | 942,557,952 | 1,213,096,926 | 937,049,668 | 534,524,354 | 815,171,220 | 786,441,506 | 881,927,125 | 787,575,250 | 1,075,605,748 |
| Mississippi | 208,406,343 | 300,161,446 | 273,813,215 | 180,075,797 | 339,818,569 | 241,652,448 | 236,442,040 | 250,365,779 | 357,517,627 |
| Missouri | 647,133,197 | 846,987,972 | 493,331,843 | 394,282,194 | 704,429,072 | 394,820,361 | 639,326,879 | 619,842,915 | 752,104,187 |
| Nebraska | 774,236,850 | 1,117,524,153 | 628,357,938 | 482,999,250 | 759,697,740 | 630,228,420 | 707,498,676 | 661,633,237 | 656,075,987 |
| New Jersey | 6,791,150 | 14,089,843 | 10,965,871 | 6,423,444 | 12,109,638 | 6,780,093 | 8,300,404 | 9,260,117 | 11,522,469 |
| New York | 40,133,084 | 52,202,223 | 42,003,953 | 25,454,584 | 38,251,969 | 28,042,495 | 30,802,806 | 24,680,383 | 47,058,648 |
| North Carolina | 127,127,049 | 178,838,356 | 188,027,553 | 94,832,009 | 191,475,508 | 114,408,266 | 139,684,460 | 143,532,703 | 153,266,833 |
| North Dakota | 396,507,583 | 486,941,396 | 491,640,383 | 260,959,447 | 521,351,099 | 375,775,531 | 547,032,540 | 482,727,166 | 652,594,412 |
| Ohio | 666,044,791 | 1,009,431,826 | 648,959,108 | 430,591,447 | 687,980,961 | 516,874,655 | 625,122,183 | 541,724,649 | 834,502,937 |
| Oklahoma | 35,586,899 | 14,607,572 | 12,085,549 | 19,643,798 | 27,446,884 | 24,356,622 | 31,431,825 | 37,748,520 | 45,279,602 |

| Reporter | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|-----------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Pennsylvania | 66,128,936 | 96,027,433 | 76,273,241 | 50,788,305 | 76,205,266 | 53,256,241 | 61,272,211 | 60,621,223 | 80,636,100 |
| South Carolina | 32,461,824 | 39,251,881 | 39,254,362 | 17,511,790 | 43,029,362 | 20,193,139 | 29,815,118 | 31,532,941 | 29,748,813 |
| South Dakota | 450,777,374 | 654,624,891 | 439,915,697 | 345,542,142 | 584,494,016 | 478,880,468 | 566,929,811 | 482,002,574 | 683,630,369 |
| Tennessee | 127,542,657 | 175,273,761 | 146,852,330 | 139,636,357 | 212,959,264 | 175,002,208 | 175,988,731 | 179,941,107 | 227,118,441 |
| Texas | 15,173,228 | 7,311,625 | 8,985,829 | 4,405,294 | 13,466,275 | 5,979,872 | 10,101,106 | 13,615,939 | 11,026,809 |
| Virginia | 44,289,423 | 94,851,587 | 73,391,303 | 44,753,380 | 67,892,098 | 44,816,184 | 49,811,256 | 54,539,745 | 70,257,988 |
| West Virginia | 1,703,439 | 3,609,848 | 3,015,792 | 1,966,734 | 3,597,083 | 2,614,706 | 3,057,760 | 2,949,774 | 4,155,208 |
| Wisconsin | 233,697,685 | 334,335,098 | 215,112,439 | 115,312,605 | 213,654,808 | 192,398,740 | 246,274,267 | 212,194,841 | 303,474,308 |

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Table 5: FAS Estimate of U.S. State Corn Grain Export Value, Annual Trends

| Reporter | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|-----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Alabama | 34,716,607 | . | 9,754,265 | 6,419,243 | 23,848,117 | 46,955 | 21,780 | 11,000 | 24,945 |
| Alaska | . | . | . | . | . | . | 978,670 | . | . |
| Arizona | . | 26,034 | 25,501 | 9,912 | 23,961 | . | 34,164 | 25,907 | 33,574 |
| Arkansas | . | 4,596,593 | 4,706,259 | 5,963,638 | 10,594,436 | 184,999 | . | . | 3,707,450 |
| California | 38,608,040 | 31,562,613 | 22,223,909 | 37,129,983 | 19,354,187 | 13,409,608 | 15,081,212 | 12,092,151 | 11,733,298 |
| Colorado | 3,979,586 | 12,416,909 | 1,438,190 | 2,864,276 | 5,260,694 | 3,384,282 | 9,583,554 | 1,269,494 | 19,473,166 |
| Connecticut | 169,032,653 | 127,085,742 | 39,305 | . | 4,958 | 12,902 | 2,206,640 | 65,018 | 2,495,242 |
| Delaware | . | . | . | . | 30,720 | 4,536 | . | 6,737,278 | 1,550,223 |
| Florida | 3,377,652 | 7,266,910 | 2,121,445 | 15,910,852 | 1,873,905 | 2,949,063 | 3,752,378 | 1,733,719 | 5,010,728 |
| Georgia | 7,627,334 | 1,768,181 | 2,886,409 | 1,240,654 | 532,492 | 54,470 | 92,167 | 917,449 | 2,346,296 |
| Hawaii | 9,865 | . | . | 84,087 | 274,766 | . | . | 28,092 | . |
| Idaho | 2,658,367 | 401,556 | 101,489 | 603,057 | 2,141,683 | 91,812 | 68,299 | 26,237 | 3,260,095 |
| Illinois | 447,832,696 | 733,550,745 | 511,974,466 | 657,771,692 | 1,008,456,636 | 708,896,992 | 504,743,230 | 433,249,827 | 829,134,925 |
| Indiana | 41,767,638 | 35,116,977 | 38,787,756 | 46,659,489 | 61,681,087 | 79,216,473 | 55,823,850 | 67,394,533 | 44,161,064 |
| Iowa | 401,253,223 | 733,890,595 | 887,916,560 | 539,960,724 | 1,145,681,143 | 966,229,035 | 1,176,124,824 | 1,184,048,710 | 1,441,396,092 |
| Kansas | 215,900,047 | 249,707,330 | 106,868,939 | 255,179,408 | 281,136,247 | 212,769,600 | 304,939,213 | 217,675,627 | 194,918,897 |
| Kentucky | 7,519,770 | 8,764,309 | 7,422,900 | 1,331,335 | 2,321,019 | 14,061,614 | 2,903,478 | 3,405,043 | 3,129,965 |
| Louisiana | 4,989,696,005 | 7,190,836,624 | 4,710,476,567 | 3,283,377,169 | 5,404,078,218 | 4,020,538,238 | 4,493,936,202 | 4,185,334,437 | 4,894,774,277 |
| Maine | . | . | 4,726 | 6,484,895 | 635,223 | 183,740 | 45,925 | . | 45,421 |
| Maryland | 926,645 | 52,632 | 4,682,812 | 1,090,127 | 208,922 | 548,214 | 466,758 | 1,029,238 | 247,719 |
| Massachusetts | 20,703 | . | 23,895 | 23,947 | 9,186 | . | . | 32,181 | . |
| Michigan | 35,890,132 | 43,210,268 | 4,006,943 | 2,467,592 | 39,773,447 | 25,422,504 | 16,773,037 | 18,586,688 | 33,350,754 |

| Reporter | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|-----------------|---------------|---------------|---------------|-------------|---------------|---------------|---------------|---------------|---------------|
| Minnesota | 189,294,729 | 392,579,176 | 185,872,238 | 112,108,491 | 195,564,309 | 126,468,052 | 169,817,962 | 195,471,804 | 135,332,694 |
| Mississippi | . | 3,346,921 | 10,512,100 | 8,700,824 | . | . | 562,982 | 194,064 | . |
| Missouri | 134,462,425 | 177,689,176 | 262,892,377 | 109,883,441 | 167,811,191 | 231,982,780 | 231,742,083 | 247,670,341 | 263,937,162 |
| Montana | 982,941 | 519,192 | 788,697 | 714,944 | 628,472 | 1,528,062 | 2,600,857 | 2,569,082 | 19,973,642 |
| Nebraska | 438,284,353 | 646,853,697 | 574,637,247 | 144,176,236 | 194,659,736 | 229,580,529 | 343,966,130 | 429,565,846 | 447,420,498 |
| Nevada | 57,400 | 40,654 | . | . | 69,750 | . | . | . | . |
| New Jersey | 411,124 | 1,039,736 | 2,092,023 | 1,108,810 | 926,434 | 918,590 | 225,282 | 349,435 | 226,330 |
| New Mexico | 3,365,531 | 3,342,966 | 5,754,203 | 5,784,317 | 3,278,652 | 3,495,337 | 3,943,659 | 4,222,355 | 7,073,855 |
| New York | 130,492,731 | 46,305,410 | 54,802,562 | 4,827,621 | 4,862,019 | 4,174,000 | 7,285,873 | 1,523,473 | 3,471,391 |
| North Carolina | 630,530 | 552,510 | 17,117 | 6,261,191 | 3,187,624 | 1,294,031 | 842,911 | 19,224 | 939,198 |
| North Dakota | 82,289,805 | 59,113,932 | 84,033,573 | 75,667,677 | 27,735,598 | 82,134,314 | 89,292,071 | 69,436,021 | 134,183,209 |
| Ohio | 34,274,110 | 33,769,085 | 32,877,932 | 96,459,078 | 87,965,749 | 65,688,228 | 97,358,974 | 54,807,083 | 47,377,789 |
| Oklahoma | . | 861,596 | . | 283,284 | . | . | . | 5,421,991 | 2,691,606 |
| Oregon | 77,072,958 | 96,191,789 | 75,234,342 | 57,863,558 | 22,377,766 | 12,094,924 | 56,731,521 | 72,723,213 | 149,612,067 |
| Pennsylvania | 991,163 | 1,145,742 | 1,248,835 | 2,532,065 | 2,339,283 | 606,763 | 346,061 | 749,611 | 1,124,755 |
| Puerto Rico | 26,815 | 15,820 | 19,579 | 56,937 | 5,339 | 31,074 | 15,091 | 10,551 | 66,150 |
| South Carolina | 385,804 | 16,962 | . | 667,534 | 590,036 | 1,562,763 | 14,647,217 | 60,225 | 168,295 |
| South Dakota | 4,230,703 | 23,807 | 357,281 | 18,420,405 | 172,819 | 6,719,014 | 7,429,689 | 14,121,965 | 8,915,985 |
| Tennessee | 20,334 | 189,952 | 16,343 | 552,998 | . | 4,874,654 | . | 133,063 | 16,813 |
| Texas | 326,451,305 | 343,512,660 | 88,331,351 | 84,988,821 | 73,342,649 | 62,671,607 | 172,194,405 | 112,711,758 | 95,493,871 |
| Utah | 230,557 | 20,999 | 28,008 | 123,968 | 52,784 | 107,629 | 110,677 | 25,748 | . |
| Vermont | 69,468 | 58,525 | 202,243 | 79,116 | 162,562 | 479,712 | 80,367 | 50,746 | . |
| Virgin Islands | 490,474 | . | . | . | . | . | . | . | . |
| Virginia | 108,866,765 | 103,838,847 | 46,113,415 | 57,835,210 | 145,630,111 | 58,718,198 | 51,190,704 | 10,763,586 | 24,687,480 |
| Washington | 1,944,958,439 | 2,599,445,013 | 1,649,271,071 | 834,818,481 | 1,751,248,565 | 1,418,342,789 | 2,103,228,076 | 1,880,065,016 | 3,713,992,731 |

| Reporter | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|-----------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| West Virginia | . | . | . | . | . | . | 12,029,211 | . | . |
| Wisconsin | 39,906,647 | 54,045,107 | 18,302,810 | 8,185,282 | 12,315,858 | 25,241,992 | 42,361,311 | 13,459,499 | 24,022,254 |
| Wyoming | . | . | 224,474 | . | . | . | . | . | . |

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Table 6: ERS Estimate of U.S. State Corn Grain Export Value, Annual Trends

| Reporter | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|-------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Alabama | 27,024,048 | 33,465,421 | 25,542,396 | 20,488,604 | 37,042,412 | 26,234,117 | 28,648,344 | 27,960,699 | 41,445,189 |
| Arizona | 3,967,449 | 6,374,915 | 5,457,336 | 4,549,638 | 8,375,551 | 5,379,481 | 8,365,372 | 7,682,691 | 6,137,702 |
| Arkansas | 49,090,535 | 68,768,877 | 81,832,625 | 82,648,534 | 125,816,844 | 64,286,419 | 84,418,410 | 82,827,320 | 112,105,289 |
| California | 30,774,195 | 35,553,039 | 24,445,317 | 19,131,040 | 26,477,543 | 10,302,699 | 12,605,373 | 14,502,037 | 13,873,032 |
| Colorado | 134,275,543 | 189,940,571 | 125,561,917 | 69,902,496 | 106,002,056 | 87,452,804 | 104,535,901 | 100,295,455 | 151,867,083 |
| Delaware | 18,714,486 | 24,776,806 | 19,397,123 | 14,235,354 | 23,392,682 | 19,015,509 | 22,509,019 | 20,752,688 | 27,271,843 |
| Florida | 2,696,596 | 3,298,976 | 3,399,730 | 3,859,034 | 6,667,417 | 3,535,254 | 4,558,462 | 4,117,492 | 8,106,369 |
| Georgia | 42,486,634 | 49,519,449 | 46,018,107 | 41,116,308 | 64,315,258 | 34,221,725 | 41,318,553 | 36,993,417 | 51,109,338 |
| Idaho | 15,130,558 | 24,859,493 | 20,874,637 | 14,594,609 | 16,546,546 | 10,480,701 | 14,302,983 | 16,028,094 | 26,468,806 |
| Illinois | 1,670,923,501 | 2,290,903,223 | 1,459,146,653 | 806,865,745 | 1,820,489,328 | 1,336,373,673 | 1,565,070,870 | 1,413,486,544 | 2,002,812,469 |
| Indiana | 725,770,816 | 1,110,404,375 | 630,353,015 | 399,500,134 | 895,922,307 | 640,048,512 | 642,046,825 | 664,564,484 | 875,156,364 |
| Iowa | 1,720,966,660 | 2,489,273,252 | 1,728,165,656 | 1,090,663,768 | 1,587,676,202 | 1,414,348,888 | 1,790,825,953 | 1,587,508,590 | 2,127,909,904 |
| Kansas | 517,672,344 | 481,251,584 | 312,863,253 | 210,789,938 | 381,054,651 | 328,070,084 | 439,366,277 | 407,907,151 | 575,274,821 |
| Kentucky | 123,590,909 | 178,530,045 | 108,422,962 | 80,093,277 | 172,870,288 | 131,940,819 | 162,033,242 | 139,563,454 | 191,247,546 |
| Louisiana | 68,331,899 | 83,088,229 | 72,164,000 | 60,747,621 | 90,845,057 | 48,019,574 | 62,796,547 | 63,606,089 | 82,553,118 |
| Maryland | 45,306,196 | 50,812,188 | 38,559,545 | 31,097,326 | 53,705,709 | 40,400,108 | 46,315,825 | 44,469,073 | 60,094,745 |
| Michigan | 234,848,164 | 371,839,222 | 244,990,716 | 163,535,729 | 251,429,326 | 210,344,330 | 220,921,598 | 193,148,860 | 257,504,272 |
| Minnesota | 885,222,212 | 1,221,042,237 | 933,955,362 | 800,128,092 | 904,054,061 | 717,176,983 | 914,941,961 | 885,069,741 | 1,166,982,734 |
| Mississippi | 78,155,567 | 101,277,746 | 96,914,750 | 83,172,665 | 113,730,524 | 62,003,165 | 81,771,138 | 75,972,368 | 88,936,507 |
| Missouri | 319,344,193 | 433,472,686 | 252,011,429 | 167,657,414 | 394,614,633 | 324,338,887 | 345,841,750 | 351,493,070 | 461,030,916 |
| Montana | 3,963,329 | 5,461,011 | 4,302,325 | 3,903,555 | 6,172,052 | 4,134,342 | 4,359,079 | 3,657,015 | 4,227,092 |
| Nebraska | 1,131,439,252 | 1,780,512,900 | 1,093,752,645 | 769,433,157 | 1,183,510,547 | 1,009,979,840 | 1,142,887,072 | 1,036,755,432 | 1,476,573,551 |
| New Jersey | 7,399,574 | 9,832,301 | 7,917,101 | 5,675,013 | 8,784,081 | 6,828,831 | 7,673,149 | 7,130,398 | 9,280,180 |

| Reporter | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|-----------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| New Mexico | 9,262,392 | 11,040,395 | 6,732,736 | 4,249,816 | 6,995,717 | 5,833,634 | 5,725,940 | 4,213,708 | 6,194,439 |
| New York | 70,358,466 | 97,987,909 | 65,464,368 | 49,088,507 | 78,157,306 | 58,498,517 | 61,099,572 | 50,499,487 | 82,986,964 |
| North Carolina | 73,179,676 | 93,806,799 | 83,858,032 | 60,327,443 | 97,399,608 | 66,335,737 | 99,124,184 | 96,182,364 | 115,582,651 |
| North Dakota | 145,901,268 | 244,165,538 | 211,819,714 | 188,068,586 | 252,243,472 | 154,252,368 | 249,378,399 | 251,331,038 | 337,701,587 |
| Ohio | 395,285,758 | 532,541,178 | 389,027,894 | 291,136,919 | 438,183,234 | 349,886,146 | 371,141,487 | 336,596,567 | 507,306,728 |
| Oklahoma | 30,720,230 | 28,087,532 | 18,851,169 | 20,071,621 | 36,467,789 | 25,106,826 | 27,550,151 | 24,434,706 | 34,779,958 |
| Oregon | 6,613,170 | 10,977,727 | 9,438,968 | 5,673,628 | 6,437,606 | 4,662,370 | 5,419,768 | 6,689,724 | 8,809,125 |
| Pennsylvania | 118,367,643 | 113,871,124 | 102,234,370 | 69,218,388 | 109,900,480 | 87,414,811 | 115,186,436 | 80,540,135 | 132,728,790 |
| South Carolina | 32,508,280 | 31,133,661 | 27,473,147 | 24,617,851 | 33,345,436 | 19,583,992 | 27,078,923 | 33,736,870 | 48,226,270 |
| South Dakota | 400,942,802 | 642,687,491 | 441,765,029 | 302,477,359 | 546,556,048 | 413,516,664 | 487,981,462 | 438,953,969 | 581,696,212 |
| Tennessee | 55,989,389 | 90,852,278 | 68,739,959 | 60,981,728 | 94,613,521 | 69,838,802 | 88,230,406 | 76,420,443 | 101,668,979 |
| Texas | 255,994,777 | 177,625,498 | 191,104,260 | 124,699,352 | 254,132,658 | 187,737,634 | 248,083,790 | 202,104,965 | 249,160,924 |
| Utah | 2,987,842 | 5,279,754 | 4,660,389 | 3,544,726 | 4,737,436 | 2,707,858 | 3,082,905 | 3,154,730 | 3,770,815 |
| Virginia | 26,513,235 | 30,892,129 | 30,035,844 | 22,847,459 | 42,559,417 | 29,424,623 | 37,938,164 | 34,109,932 | 46,266,312 |
| Washington | 23,478,019 | 28,604,105 | 19,790,359 | 13,959,922 | 22,506,659 | 16,940,863 | 16,482,417 | 16,845,031 | 19,591,403 |
| West Virginia | 2,629,655 | 3,281,350 | 2,973,907 | 2,606,808 | 4,178,937 | 3,102,207 | 3,788,901 | 3,422,775 | 4,800,803 |
| Wisconsin | 278,715,846 | 457,147,150 | 295,830,851 | 193,495,433 | 267,739,262 | 236,248,123 | 276,702,259 | 261,658,973 | 358,823,588 |
| Wyoming | 5,444,892 | 7,956,839 | 7,206,404 | 4,817,402 | 6,250,339 | 4,984,076 | 6,471,134 | 6,076,421 | 8,784,582 |

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Table 7: NDSU, FAS and ERS Corn Grain Export Value for North Dakota

| Year | NDSU | FAS | ERS |
|-------------|-------------|-------------|-------------|
| 2004 | 157,304,687 | 12,171,791 | 71,136,990 |
| 2005 | 160,848,513 | 4,134,773 | 49,821,539 |
| 2006 | 254,917,151 | 14,886,252 | 94,574,977 |
| 2007 | 383,898,233 | 73,701,411 | 145,898,482 |
| 2008 | 469,903,563 | 182,966,287 | 275,387,915 |
| 2009 | 296,128,345 | 80,522,948 | 168,867,945 |
| 2010 | 396,507,583 | 82,289,805 | 145,901,268 |
| 2011 | 486,941,396 | 59,113,932 | 244,165,538 |
| 2012 | 491,640,383 | 84,033,573 | 211,819,714 |
| 2013 | 260,959,447 | 75,667,677 | 188,068,586 |
| 2014 | 521,351,099 | 27,735,598 | 252,243,472 |
| 2015 | 375,775,531 | 82,134,314 | 154,252,368 |
| 2016 | 547,032,540 | 89,292,071 | 249,378,399 |
| 2017 | 482,727,166 | 69,436,021 | 251,331,038 |
| 2018 | 652,594,412 | 134,183,209 | 337,701,587 |

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Statistical Method

The current data on state corn exports do not reflect the major corn production states. This is because of the dual problem of the absence of ports of exit in these states and the USDA, FAS's method of reporting state exports based on the ports of exit rather than state of origin. To address these issues, accurate state corn export values are computed from state corn production, U.S. corn production and U.S. corn export datasets. The following steps are implemented in the computation of accurate state corn exports.

- State corn production, $Y_{State}^{USDA,NASS}$ and total U.S. corn production, $Y_{US}^{USDA,NASS}$ data is obtained over the study period from USDA, NASS
- State corn export, $EX_{State}^{USDA,FAS}$ and total U.S. corn export, $EX_{US}^{USDA,FAS}$ data is obtained over the study period from USDA, FAS.
- Computed the proportion of each state's corn production relative to the total U.S. corn production. This is defined as the state corn production share, $Y_{State_US}^{Share}$. Hence, the corn produced in each state is divided by the total corn produced in U.S. for each year.
- Based on the assumption the total U.S. corn export recorded by the USDA FAS is correct, we multiplied this value by the state corn production share. This gives the estimated state corn export based on the state corn production and its contribution to the total U.S. corn production.

Using the USDA, NASS and FAS variables, the accurate state corn export is computed as:

$$\hat{EX}_{State} = \frac{Y_{State}^{USDA,NASS}}{Y_{US}^{USDA,NASS}} * EX_{US}^{USDA,FAS}$$

Where,

$Y_{State}^{USDA,NASS}$ is state corn production obtained from NASS,

$Y_{US}^{USDA,NASS}$ is the total U.S. corn production and computed by summing individual state production

as, $Y_{US}^{USDA,NASS} = \sum_{s=1}^S Y_{State}^{USDA,NASS}$ and s is the number of states from 1 to S,

$Y_{State_US}^{Share}$ is the proportion of each state's corn production relative to the total U.S. corn production,

$EX_{US}^{USDA,FAS}$ is the total U.S. corn export reported by USDA FAS,

\hat{EX}_{State} is the estimated state corn export.