

Appendix 2 : Potential Data Biases

Note, this section uses exclusively D&B data, as we are trying to compare the surveyed population against the general population.

Are any industries under/over sampled?

Formula for Percent Sampling Error:

$$\text{PercentSamplingError} = \frac{\text{PercentRespondents} - \text{PercentSurveyed}}{\text{PercentSurveyed}}$$

| <i>db_PrimaryNaics3digit_frame</i> | Frequency Respondents | Percent Respondents | Frequency Surveyed | Percent Surveyed | Percent Sampling Error |
|--|-----------------------|---------------------|--------------------|------------------|------------------------|
| 332 Fabricated Metal Product Manufacturing | 447 | 7.2 | 1386 | 5.84 | 23% |
| 333 Machinery Manufacturing | 435 | 7.01 | 1380 | 5.82 | 20% |
| 314 Textile Product Mills | 82 | 1.32 | 263 | 1.11 | 19% |
| 339 Miscellaneous Manufacturing | 408 | 6.57 | 1334 | 5.63 | 17% |
| 331 Primary Metal Manufacturing | 318 | 5.12 | 1058 | 4.46 | 15% |
| 316 Leather and Allied Product Manufacturing | 27 | 0.44 | 93 | 0.39 | 13% |
| 337 Furniture and Related Product Manufacturing | 295 | 4.75 | 1007 | 4.25 | 12% |
| 323 Printing and Related Support Activities | 185 | 2.98 | 639 | 2.69 | 11% |
| 321 Wood Product Manufacturing | 77 | 1.24 | 269 | 1.13 | 10% |
| 335 Electrical Equipment, Appliance, and Component Manufacturing | 370 | 5.96 | 1342 | 5.66 | 5% |
| 327 Nonmetallic Mineral Product Manufacturing | 331 | 5.33 | 1215 | 5.12 | 4% |
| 3344 Semiconductor and Other Electronic Component Manufacturing | 351 | 5.66 | 1317 | 5.55 | 2% |
| 326 Plastics and Rubber Products Manufacturing | 343 | 5.53 | 1307 | 5.51 | 0% |
| 336 Transportation Equipment Manufacturing | 333 | 5.37 | 1313 | 5.54 | -3% |
| 325 Chemical Manufacturing (except Pharmaceutical and Medicine) | 326 | 5.25 | 1292 | 5.45 | -4% |
| 322 Paper Manufacturing | 159 | 2.56 | 638 | 2.69 | -5% |
| 324 Petroleum and Coal Products Manufacturing | 63 | 1.02 | 261 | 1.1 | -7% |
| 311 Food Manufacturing | 320 | 5.16 | 1331 | 5.61 | -8% |
| 533 Lessors of Nonfinancial Intangible Assets (except Copyrighted Works) | 13 | 0.21 | 55 | 0.23 | -9% |
| 334 Computer and Electronic Product Manufacturing (except Semicon) | 305 | 4.91 | 1310 | 5.52 | -11% |

| | | | | | |
|--|-----|------|------|------|------|
| 541 Professional, Scientific, and Technical Services | 307 | 4.95 | 1340 | 5.65 | -12% |
| 518 Data Processing, Hosting and Related Services | 128 | 2.06 | 568 | 2.4 | -14% |
| 313 Textile Mills | 58 | 0.93 | 264 | 1.11 | -16% |
| 512 Motion Picture and Sound Recording Industries | 45 | 0.73 | 213 | 0.9 | -19% |
| 315 Apparel Manufacturing | 75 | 1.21 | 367 | 1.55 | -22% |
| 511 Publishing Industries (except Internet) | 82 | 1.32 | 419 | 1.77 | -25% |
| 312 Beverage and Tobacco Product Manufacturing | 52 | 0.84 | 268 | 1.13 | -26% |
| 517 Telecommunications | 133 | 2.14 | 713 | 3.01 | -29% |
| 3254 Pharmaceutical and Medicine Manufacturing | 138 | 2.22 | 753 | 3.18 | -30% |

While there can be up to a 30% difference between Surveyed % and Respondent %, there seems to be no real pattern among industries that over/under surveyed.

Are any size categories under/over sampled?

| db_EmploymentAllSites_B | Frequency Respondents | Percent Respondents | Frequency Surveyed | Percent Surveyed | Percent Sampling Error |
|---------------------------|-----------------------|---------------------|--------------------|------------------|------------------------|
| 1. Very Small (10-49) | 3108 | 50.08 | 9674 | 40.79 | 23% |
| 2. Small (50-99) | 526 | 8.48 | 1837 | 7.75 | 9% |
| 3. Medium small (100-249) | 517 | 8.33 | 1897 | 8 | 4% |
| 4. Medium large (250-499) | 207 | 3.34 | 807 | 3.4 | -2% |
| 5. Large (500-999) | 379 | 6.11 | 1714 | 7.23 | -15% |
| 6. Very Large (1000+) | 1469 | 23.67 | 7786 | 32.83 | -28% |

Small respondents appear to be over-surveyed, at the expense of larger companies. This was to be expected however, as larger firms often have an explicit or implicit “no surveys” policies put in place in order to protect corporate secrecy. We are attempting to correct for this deficiency by surveying more large (especially Fortune 500) firms

Are any age categories under/over sampled?

| db_YearEstablished_B | Frequency Respondents | Percent Respondents | Frequency Surveyed | Percent Surveyed | Percent Sampling Error |
|----------------------|-----------------------|---------------------|--------------------|------------------|------------------------|
| 1. Before 1945 | 562 | 9.15 | 2093 | 8.98 | 2% |
| 2. 1945-1959 | 511 | 8.32 | 1803 | 7.73 | 8% |
| 3. 60s (1960-69) | 473 | 7.7 | 1691 | 7.25 | 6% |
| 4. 70s (1970-79) | 755 | 12.29 | 2661 | 11.41 | 8% |

| | | | | | |
|-----------------------|------|-------|------|-------|------|
| 5. 80s (1980-89) | 1135 | 18.47 | 4258 | 18.26 | 1% |
| 6. 90s (1990-99) | 1257 | 20.46 | 5020 | 21.53 | -5% |
| 7. 2000-2003 | 473 | 7.7 | 2098 | 9 | -14% |
| 8. Start-up (2004-09) | 978 | 15.92 | 3695 | 15.85 | 0% |

With the exception of companies established 2000-2003, **sampling percentage generally fell within 10% of the desired amount.** Most importantly, the sampling percentage for startups was very good.