

Appendix table 5-14

(Page 1 of 3)

## Current expenditures for research equipment at academic institutions, by field: Selected years, 1983–2001

| Field                                      | 1983 | 1985 | 1987 | 1989 | 1990  | 1991  | 1992  | 1993  | 1994  | 1995  | 1996  | 1997  | 1998  | 1999  | 2000  | 2001  |
|--|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Millions of current dollars                |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |
| All fields .....                           | 450  | 672  | 837  | 986  | 1,013 | 1,025 | 1,034 | 1,042 | 1,107 | 1,238 | 1,213 | 1,288 | 1,294 | 1,318 | 1,421 | 1,490 |
| Sciences .....                             | 371  | 547  | 659  | 784  | 793   | 791   | 809   | 824   | 856   | 966   | 928   | 987   | 996   | 1,032 | 1,115 | 1,157 |
| Physical sciences .....                    | 81   | 142  | 166  | 181  | 191   | 190   | 198   | 207   | 207   | 239   | 233   | 243   | 253   | 248   | 249   | 240   |
| Astronomy.....                             | 4    | 7    | 7    | 10   | 13    | 14    | 14    | 17    | 20    | 22    | 21    | 26    | 25    | 29    | 25    | 15    |
| Chemistry .....                            | 32   | 54   | 66   | 76   | 73    | 69    | 70    | 75    | 78    | 81    | 88    | 89    | 91    | 102   | 103   | 100   |
| Physics .....                              | 37   | 71   | 82   | 83   | 91    | 88    | 94    | 90    | 90    | 114   | 105   | 108   | 122   | 106   | 110   | 113   |
| Other .....                                | 8    | 10   | 12   | 12   | 14    | 18    | 20    | 26    | 19    | 22    | 19    | 19    | 16    | 11    | 12    | 13    |
| Mathematics .....                          | 4    | 6    | 10   | 10   | 10    | 11    | 10    | 15    | 15    | 14    | 13    | 15    | 14    | 12    | 10    | 12    |
| Computer sciences.....                     | 20   | 35   | 43   | 43   | 48    | 59    | 45    | 54    | 59    | 77    | 67    | 71    | 63    | 63    | 56    | 65    |
| Earth, atmospheric, and ocean sciences.... | 31   | 48   | 55   | 68   | 72    | 70    | 78    | 77    | 83    | 83    | 88    | 93    | 102   | 100   | 100   | 89    |
| Atmospheric sciences .....                 | 5    | 8    | 11   | 13   | 11    | 10    | 11    | 15    | 12    | 14    | 14    | 15    | 15    | 15    | 13    | 13    |
| Earth sciences.....                        | 12   | 18   | 20   | 26   | 27    | 29    | 30    | 27    | 30    | 27    | 31    | 35    | 37    | 35    | 37    | 29    |
| Ocean sciences.....                        | 11   | 16   | 17   | 18   | 20    | 19    | 28    | 24    | 27    | 28    | 29    | 31    | 33    | 37    | 34    | 35    |
| Other.....                                 | 3    | 5    | 7    | 11   | 13    | 12    | 9     | 11    | 15    | 15    | 14    | 13    | 17    | 13    | 17    | 11    |
| Life sciences .....                        | 209  | 283  | 335  | 431  | 420   | 412   | 430   | 418   | 434   | 464   | 444   | 478   | 495   | 547   | 614   | 665   |
| Agricultural sciences.....                 | 41   | 52   | 49   | 59   | 54    | 53    | 59    | 53    | 68    | 63    | 63    | 69    | 76    | 72    | 76    | 81    |
| Biological sciences.....                   | 74   | 105  | 130  | 175  | 171   | 168   | 174   | 171   | 175   | 191   | 180   | 196   | 190   | 243   | 268   | 282   |
| Medical sciences.....                      | 87   | 114  | 142  | 177  | 177   | 169   | 176   | 178   | 173   | 187   | 183   | 198   | 213   | 213   | 248   | 281   |
| Other.....                                 | 7    | 12   | 14   | 20   | 19    | 22    | 21    | 16    | 18    | 23    | 18    | 15    | 16    | 19    | 21    | 20    |
| Psychology .....                           | 7    | 9    | 11   | 11   | 11    | 11    | 11    | 15    | 13    | 12    | 12    | 13    | 13    | 12    | 14    | 14    |
| Social sciences .....                      | 9    | 10   | 12   | 14   | 15    | 14    | 18    | 19    | 21    | 27    | 25    | 24    | 22    | 18    | 19    | 17    |
| Economics .....                            | 2    | 3    | 3    | 4    | 4     | 5     | 5     | 5     | 6     | 7     | 6     | 5     | 4     | 4     | 3     | 2     |
| Political science .....                    | 1    | 1    | 1    | 2    | 1     | 2     | 2     | 3     | 3     | 3     | 3     | 3     | 2     | 2     | 2     | 2     |
| Sociology .....                            | 1    | 2    | 2    | 3    | 3     | 3     | 3     | 4     | 4     | 4     | 4     | 4     | 4     | 3     | 3     | 3     |
| Other .....                                | 5    | 4    | 5    | 6    | 7     | 5     | 7     | 8     | 9     | 12    | 11    | 11    | 9     | 11    | 9     | 9     |
| Other sciences .....                       | 10   | 15   | 27   | 26   | 25    | 25    | 18    | 18    | 23    | 51    | 45    | 48    | 33    | 32    | 51    | 55    |
| Engineering .....                          | 80   | 124  | 178  | 202  | 220   | 234   | 225   | 218   | 251   | 272   | 285   | 301   | 298   | 286   | 306   | 334   |
| Aeronautical/astronautical.....            | 3    | 7    | 9    | 11   | 13    | 17    | 12    | 13    | 19    | 16    | 16    | 19    | 20    | 22    | 20    | 24    |
| Bioengineering/biomedical .....            | NA   | NA   | NA   | NA   | NA    | NA    | NA    | NA    | NA    | NA    | NA    | 4     | 6     | 8     | 14    | 15    |
| Chemical .....                             | 6    | 11   | 15   | 19   | 18    | 20    | 20    | 22    | 19    | 22    | 24    | 23    | 28    | 27    | 26    | 31    |
| Civil .....                                | 7    | 10   | 12   | 16   | 20    | 18    | 16    | 18    | 19    | 22    | 26    | 28    | 21    | 23    | 29    | 32    |
| Electrical/electronic .....                | 23   | 33   | 44   | 49   | 58    | 52    | 57    | 56    | 66    | 68    | 75    | 83    | 83    | 70    | 72    | 79    |
| Mechanical .....                           | 11   | 17   | 25   | 29   | 32    | 34    | 31    | 35    | 37    | 42    | 43    | 46    | 51    | 51    | 55    | 49    |
| Materials .....                            | NA   | NA   | NA   | NA   | 27    | 33    | 29    | 23    | 25    | 28    | 32    | 36    | 29    | 28    | 30    | 49    |
| Other .....                                | 29   | 46   | 75   | 78   | 51    | 59    | 61    | 51    | 66    | 73    | 69    | 62    | 60    | 57    | 61    | 55    |

Appendix table 5-14  
Current expenditures for research equipment at academic institutions, by field: Selected years, 1983–2001

| Field                                     | 1983 | 1985 | 1987  | 1989  | 1990  | 1991  | 1992  | 1993  | 1994  | 1995  | 1996  | 1997  | 1998  | 1999  | 2000  | 2001  |
|---|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Millions of constant 1996 dollars         |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| All fields .....                          | 657  | 914  | 1,082 | 1,189 | 1,177 | 1,147 | 1,127 | 1,109 | 1,153 | 1,263 | 1,213 | 1,263 | 1,252 | 1,257 | 1,330 | 1,361 |
| Sciences .....                            | 541  | 745  | 852   | 946   | 921   | 885   | 882   | 877   | 892   | 986   | 928   | 968   | 963   | 984   | 1,043 | 1,057 |
| Physical sciences.....                    | 118  | 193  | 215   | 218   | 222   | 212   | 216   | 221   | 216   | 244   | 233   | 238   | 245   | 236   | 233   | 219   |
| Astronomy.....                            | 6    | 10   | 8     | 12    | 15    | 16    | 15    | 18    | 21    | 23    | 21    | 26    | 24    | 27    | 23    | 13    |
| Chemistry.....                            | 47   | 73   | 85    | 91    | 85    | 77    | 77    | 80    | 81    | 83    | 88    | 88    | 88    | 97    | 96    | 91    |
| Physics .....                             | 53   | 97   | 106   | 100   | 106   | 98    | 102   | 95    | 93    | 117   | 105   | 106   | 118   | 101   | 103   | 103   |
| Other .....                               | 11   | 13   | 16    | 15    | 16    | 20    | 22    | 28    | 20    | 22    | 19    | 19    | 15    | 11    | 12    | 12    |
| Mathematics .....                         | 5    | 8    | 13    | 12    | 12    | 12    | 11    | 16    | 16    | 15    | 13    | 15    | 14    | 11    | 9     | 11    |
| Computer sciences.....                    | 29   | 48   | 55    | 52    | 56    | 65    | 49    | 57    | 62    | 78    | 67    | 70    | 61    | 60    | 53    | 59    |
| Earth, atmospheric, and ocean sciences... | 45   | 65   | 72    | 81    | 84    | 78    | 85    | 82    | 87    | 85    | 88    | 92    | 98    | 95    | 94    | 81    |
| Atmospheric sciences .....                | 8    | 11   | 15    | 15    | 13    | 12    | 12    | 15    | 12    | 14    | 14    | 15    | 14    | 14    | 12    | 12    |
| Earth sciences.....                       | 17   | 25   | 26    | 31    | 32    | 32    | 33    | 29    | 31    | 27    | 31    | 34    | 36    | 33    | 35    | 27    |
| Ocean sciences.....                       | 17   | 22   | 22    | 22    | 23    | 21    | 30    | 26    | 28    | 28    | 29    | 30    | 32    | 36    | 32    | 32    |
| Other.....                                | 4    | 7    | 9     | 14    | 16    | 13    | 10    | 12    | 15    | 15    | 14    | 12    | 16    | 13    | 15    | 10    |
| Life sciences.....                        | 305  | 385  | 434   | 520   | 488   | 461   | 469   | 445   | 453   | 473   | 444   | 469   | 478   | 522   | 575   | 607   |
| Agricultural sciences.....                | 60   | 70   | 64    | 71    | 62    | 59    | 64    | 57    | 71    | 65    | 63    | 68    | 73    | 69    | 72    | 74    |
| Biological sciences.....                  | 108  | 143  | 168   | 211   | 199   | 188   | 190   | 182   | 182   | 195   | 180   | 192   | 184   | 232   | 251   | 258   |
| Medical sciences.....                     | 127  | 156  | 184   | 213   | 206   | 189   | 191   | 189   | 181   | 190   | 183   | 194   | 206   | 203   | 233   | 257   |
| Other.....                                | 10   | 16   | 19    | 24    | 22    | 24    | 23    | 17    | 19    | 23    | 18    | 15    | 15    | 18    | 20    | 18    |
| Psychology.....                           | 10   | 12   | 14    | 13    | 12    | 12    | 12    | 16    | 13    | 12    | 12    | 13    | 13    | 11    | 13    | 13    |
| Social sciences .....                     | 14   | 14   | 15    | 17    | 17    | 16    | 19    | 20    | 22    | 27    | 25    | 24    | 21    | 17    | 18    | 15    |
| Economics .....                           | 3    | 4    | 4     | 5     | 5     | 5     | 5     | 5     | 6     | 7     | 6     | 5     | 4     | 4     | 3     | 2     |
| Political science .....                   | 1    | 2    | 2     | 2     | 2     | 2     | 3     | 3     | 3     | 3     | 3     | 3     | 3     | 2     | 2     | 2     |
| Sociology .....                           | 2    | 3    | 3     | 4     | 3     | 3     | 4     | 4     | 4     | 4     | 4     | 4     | 4     | 3     | 3     | 3     |
| Other .....                               | 7    | 6    | 7     | 7     | 8     | 5     | 7     | 8     | 9     | 12    | 11    | 11    | 11    | 8     | 11    | 9     |
| Other sciences .....                      | 15   | 20   | 35    | 32    | 29    | 28    | 20    | 19    | 24    | 52    | 45    | 48    | 32    | 31    | 48    | 50    |
| Engineering .....                         | 116  | 169  | 231   | 243   | 256   | 262   | 245   | 232   | 261   | 277   | 285   | 295   | 289   | 273   | 286   | 305   |
| Aeronautical/astronautical.....           | 5    | 9    | 11    | 14    | 15    | 19    | 13    | 14    | 20    | 17    | 16    | 19    | 19    | 21    | 19    | 22    |
| Bioengineering/biomedical .....           | NA   | NA   | NA    | NA    | NA    | NA    | NA    | NA    | NA    | NA    | NA    | NA    | 4     | 6     | 7     | 13    |
| Chemical .....                            | 9    | 15   | 19    | 23    | 21    | 22    | 22    | 23    | 20    | 22    | 24    | 23    | 28    | 26    | 24    | 28    |
| Civil .....                               | 11   | 14   | 15    | 19    | 23    | 20    | 17    | 20    | 20    | 23    | 26    | 27    | 21    | 22    | 27    | 29    |
| Electrical/electronic .....               | 33   | 45   | 56    | 59    | 68    | 58    | 62    | 59    | 68    | 70    | 75    | 81    | 80    | 67    | 67    | 72    |
| Mechanical .....                          | 16   | 24   | 33    | 35    | 38    | 38    | 34    | 37    | 39    | 43    | 43    | 45    | 49    | 48    | 51    | 45    |
| Materials.....                            | NA   | NA   | NA    | NA    | 31    | 37    | 31    | 25    | 26    | 28    | 32    | 35    | 28    | 27    | 28    | 45    |
| Other .....                               | 42   | 62   | 97    | 94    | 60    | 66    | 66    | 54    | 69    | 75    | 69    | 61    | 58    | 54    | 57    | 50    |

Appendix table 5-14

(Page 3 of 3)

## Current expenditures for research equipment at academic institutions, by field: Selected years, 1983–2001

| Field                                     | 1983  | 1985  | 1987  | 1989  | 1990  | 1991  | 1992  | 1993  | 1994  | 1995  | 1996  | 1997  | 1998  | 1999  | 2000  | 2001  |
|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Percent distribution                      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| All fields .....                          | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Sciences .....                            | 82.3  | 81.5  | 78.7  | 79.5  | 78.3  | 77.2  | 78.2  | 79.1  | 77.4  | 78.0  | 76.5  | 76.6  | 76.9  | 78.3  | 78.5  | 77.6  |
| Physical sciences .....                   | 17.9  | 21.1  | 19.9  | 18.3  | 18.9  | 18.5  | 19.2  | 19.9  | 18.7  | 19.3  | 19.2  | 18.9  | 19.6  | 18.8  | 17.6  | 16.1  |
| Astronomy.....                            | 0.9   | 1.0   | 0.8   | 1.0   | 1.3   | 1.4   | 1.4   | 1.6   | 1.8   | 1.8   | 1.7   | 2.0   | 2.0   | 2.2   | 1.7   | 1.0   |
| Chemistry .....                           | 7.2   | 8.0   | 7.9   | 7.7   | 7.2   | 6.8   | 6.8   | 7.2   | 7.1   | 6.5   | 7.2   | 6.9   | 7.0   | 7.7   | 7.2   | 6.7   |
| Physics .....                             | 8.1   | 10.6  | 9.7   | 8.4   | 9.0   | 8.6   | 9.1   | 8.6   | 8.1   | 9.2   | 8.7   | 8.4   | 9.4   | 8.1   | 7.7   | 7.6   |
| Other .....                               | 1.7   | 1.4   | 1.5   | 1.2   | 1.4   | 1.8   | 1.9   | 2.5   | 1.8   | 1.7   | 1.6   | 1.5   | 1.2   | 0.9   | 0.9   | 0.9   |
| Mathematics .....                         | 0.8   | 0.9   | 1.2   | 1.0   | 1.0   | 1.0   | 1.0   | 1.5   | 1.3   | 1.2   | 1.1   | 1.2   | 1.1   | 0.9   | 0.7   | 0.8   |
| Computer sciences.....                    | 4.4   | 5.3   | 5.1   | 4.4   | 4.7   | 5.7   | 4.4   | 5.1   | 5.3   | 6.2   | 5.5   | 5.5   | 4.9   | 4.8   | 4.0   | 4.4   |
| Earth, atmospheric, and ocean sciences... | 6.9   | 7.1   | 6.6   | 6.8   | 7.1   | 6.8   | 7.5   | 7.4   | 7.5   | 6.7   | 7.3   | 7.3   | 7.9   | 7.6   | 7.1   | 6.0   |
| Atmospheric sciences .....                | 1.2   | 1.2   | 1.3   | 1.3   | 1.1   | 1.0   | 1.1   | 1.4   | 1.0   | 1.1   | 1.1   | 1.2   | 1.1   | 1.1   | 0.9   | 0.9   |
| Earth sciences.....                       | 2.6   | 2.7   | 2.4   | 2.6   | 2.7   | 2.8   | 2.9   | 2.6   | 2.7   | 2.2   | 2.6   | 2.7   | 2.9   | 2.6   | 2.6   | 2.0   |
| Ocean sciences.....                       | 2.5   | 2.4   | 2.0   | 1.8   | 2.0   | 1.9   | 2.7   | 2.3   | 2.5   | 2.2   | 2.4   | 2.4   | 2.5   | 2.8   | 2.4   | 2.3   |
| Other.....                                | 0.7   | 0.8   | 0.8   | 1.2   | 1.3   | 1.2   | 0.9   | 1.1   | 1.3   | 1.2   | 1.2   | 1.0   | 1.3   | 1.0   | 1.2   | 0.8   |
| Life sciences .....                       | 46.4  | 42.1  | 40.1  | 43.7  | 41.5  | 40.2  | 41.6  | 40.1  | 39.2  | 37.4  | 36.6  | 37.1  | 38.2  | 41.5  | 43.2  | 44.6  |
| Agricultural sciences.....                | 9.1   | 7.7   | 5.9   | 6.0   | 5.3   | 5.2   | 5.7   | 5.1   | 6.1   | 5.1   | 5.2   | 5.4   | 5.9   | 5.5   | 5.4   | 5.4   |
| Biological sciences.....                  | 16.4  | 15.6  | 15.5  | 17.8  | 16.9  | 16.4  | 16.9  | 16.4  | 15.8  | 15.4  | 14.9  | 15.2  | 14.7  | 18.5  | 18.9  | 19.0  |
| Medical sciences.....                     | 19.4  | 17.0  | 17.0  | 17.9  | 17.5  | 16.5  | 17.0  | 17.1  | 15.7  | 15.1  | 15.1  | 15.4  | 16.4  | 16.2  | 17.5  | 18.9  |
| Other.....                                | 1.6   | 1.7   | 1.7   | 2.1   | 1.9   | 2.1   | 2.0   | 1.5   | 1.6   | 1.8   | 1.5   | 1.2   | 1.2   | 1.4   | 1.5   | 1.4   |
| Psychology.....                           | 1.4   | 1.3   | 1.3   | 1.1   | 1.1   | 1.1   | 1.1   | 1.5   | 1.1   | 1.0   | 1.0   | 1.0   | 1.0   | 0.9   | 1.0   | 0.9   |
| Social sciences .....                     | 2.1   | 1.5   | 1.4   | 1.5   | 1.5   | 1.4   | 1.7   | 1.8   | 1.9   | 2.1   | 2.1   | 1.9   | 1.7   | 1.4   | 1.4   | 1.1   |
| Economics .....                           | 0.5   | 0.4   | 0.3   | 0.4   | 0.4   | 0.4   | 0.5   | 0.4   | 0.5   | 0.6   | 0.5   | 0.4   | 0.3   | 0.3   | 0.2   | 0.2   |
| Political science .....                   | 0.2   | 0.2   | 0.2   | 0.2   | 0.1   | 0.2   | 0.2   | 0.3   | 0.3   | 0.3   | 0.3   | 0.3   | 0.3   | 0.2   | 0.1   | 0.1   |
| Sociology .....                           | 0.3   | 0.3   | 0.3   | 0.3   | 0.3   | 0.3   | 0.3   | 0.4   | 0.3   | 0.3   | 0.4   | 0.3   | 0.3   | 0.3   | 0.2   | 0.2   |
| Other .....                               | 1.1   | 0.6   | 0.7   | 0.6   | 0.7   | 0.5   | 0.7   | 0.8   | 0.8   | 1.0   | 0.9   | 0.9   | 0.8   | 0.7   | 0.8   | 0.6   |
| Other sciences .....                      | 2.3   | 2.2   | 3.2   | 2.7   | 2.5   | 2.5   | 1.8   | 1.7   | 2.1   | 4.1   | 3.7   | 3.8   | 2.5   | 2.4   | 3.6   | 3.7   |
| Engineering .....                         | 17.7  | 18.5  | 21.3  | 20.5  | 21.7  | 22.8  | 21.8  | 20.9  | 22.6  | 22.0  | 23.5  | 23.4  | 23.1  | 21.7  | 21.5  | 22.4  |
| Aeronautical/astronautical .....          | 0.8   | 1.0   | 1.0   | 1.1   | 1.2   | 1.7   | 1.1   | 1.3   | 1.7   | 1.3   | 1.5   | 1.5   | 1.7   | 1.4   | 1.6   |       |
| Bioengineering/biomedical .....           | NA    | 0.3   | 0.5   | 0.6   | 1.0   |       |       |
| Chemical .....                            | 1.3   | 1.7   | 1.8   | 2.0   | 1.8   | 1.9   | 1.9   | 2.1   | 1.7   | 1.8   | 2.0   | 1.8   | 2.2   | 2.1   | 1.8   | 2.1   |
| Civil .....                               | 1.6   | 1.6   | 1.4   | 1.6   | 2.0   | 1.7   | 1.5   | 1.8   | 1.7   | 1.8   | 2.1   | 2.1   | 1.7   | 1.8   | 2.0   | 2.2   |
| Electrical/electronic .....               | 5.0   | 4.9   | 5.2   | 4.9   | 5.8   | 5.1   | 5.5   | 5.4   | 5.9   | 5.5   | 6.2   | 6.4   | 6.4   | 5.3   | 5.0   | 5.3   |
| Mechanical .....                          | 2.5   | 2.6   | 3.0   | 3.0   | 3.2   | 3.3   | 3.0   | 3.3   | 3.4   | 3.4   | 3.5   | 3.6   | 3.9   | 3.8   | 3.9   | 3.3   |
| Materials.....                            | NA    | NA    | NA    | NA    | 2.7   | 3.2   | 2.8   | 2.2   | 2.3   | 2.3   | 2.6   | 2.8   | 2.2   | 2.1   | 2.1   | 3.3   |
| Other .....                               | 6.5   | 6.8   | 8.9   | 7.9   | 5.1   | 5.8   | 5.9   | 4.9   | 6.0   | 5.9   | 5.7   | 4.8   | 4.7   | 4.3   | 4.3   | 3.7   |

NA not available

NOTES: Details may not add to totals because of rounding. See appendix table 4-1 for gross domestic product implicit price deflators used to convert current dollars to constant 1996 dollars.

SOURCES: National Science Foundation, Division of Science Resources Statistics (NSF/SRS), *Academic Research and Development Expenditures: Fiscal Year 2001*, NSF 03-316 (Arlington, VA, 2003); and NSF/SRS, WebCASPAR database system, <http://caspar.nsf.gov>.

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