

SAP IBM



Input interpretation:

SAP (SAP) | IBM (IBM)

Latest trades:

|     |   |
|-----|---|
| SAP | €29.58 (A\$ 53.27) (SAP   Xetra   Friday 11:35 am EDT   57 hours ago)   |
| IBM | \$ 101.37 (A\$ 135.89) (IBM   NYSE   Friday 4:00 pm EDT   53 hours ago) |

Fundamentals and financials:

|                          |                  |
|--------------------------|------------------|
| market cap               | \$ 134 billion   |
| revenue                  | \$ 100.8 billion |
| employees                | 398 455          |
| revenue / employee       | \$ 266 000       |
| net income               | \$ 12.31 billion |
| shares outstanding       | 1.321 billion    |
| annual earnings / share  | \$ 9.10          |
| P/E ratio                | 11.14            |
| annual dividends / share | \$ 2.00          |
| dividend yield           | 1.94%            |

(based on trailing 12-month totals, last close price and annual employees)

Recent returns:

|     | day    | month  | YTD     | year    | 5 year  |
|-----|--------|--------|---------|---------|---------|
| SAP | -0.94% | +0.63% | +17.18% | -9.25%  | -5.21%  |
| IBM | +0.32% | +2.55% | +20.45% | -21.09% | +17.79% |

# Wolfram|Alpha: SAP IBM

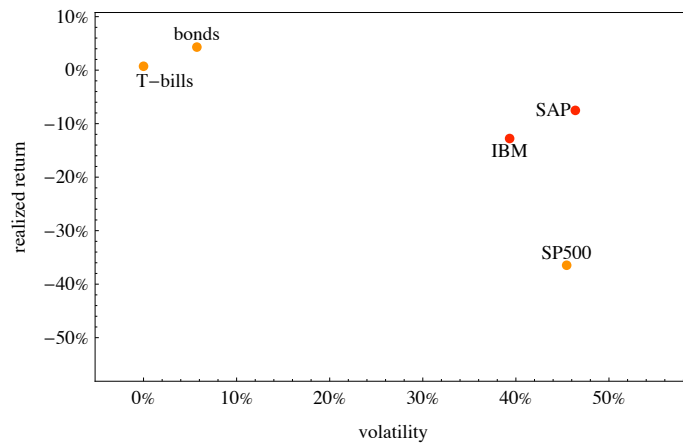
Relative price history:



(normalized relative to May 21, 2008 starting date)

Performance comparisons:

|          | average daily return | daily volatility | annual return | annual volatility |
|----------|----------------------|------------------|---------------|-------------------|
| SAP      | -0.031%              | 2.93%            | -7.52%        | 46.39%            |
| IBM      | -0.054%              | 2.48%            | -12.78%       | 39.33%            |
| SP500    | -0.181%              | 2.87%            | -36.47%       | 45.46%            |
| bonds    | +0.017%              | 0.36%            | +4.31%        | 5.73%             |
| T- bills | +0.003%              | 0.00%            | +0.73%        | 0.00%             |



Correlation matrix:

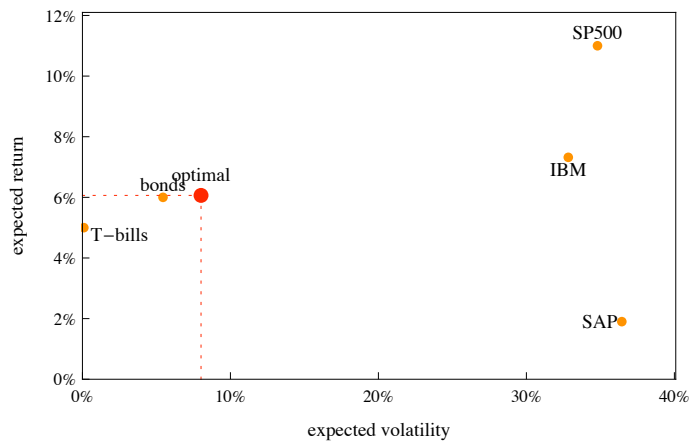
|       | SAP   | IBM   | SP500 |
|-------|-------|-------|-------|
| SAP   | 1     | 0.331 | 0.402 |
| IBM   | 0.331 | 1     | 0.756 |
| SP500 | 0.402 | 0.756 | 1     |

Projections:

Mean–variance optimal portfolio:

|         | weight | shares | cost                     |
|---------|--------|--------|--------------------------|
| SAP     | 13.01% | 4399   | \$ 130 100 (A\$ 174 400) |
| IBM     | 14.18% | 1399   | \$ 141 800 (A\$ 190 100) |
| SP500   | 14.08% | 1587   | \$ 140 800 (A\$ 188 700) |
| bonds   | 29.38% | 294    | \$ 294 000 (A\$ 394 100) |
| T–bills | 29.35% | 294    | \$ 294 000 (A\$ 394 100) |

(amounts based on \$1 million portfolio)



|  |       |
|--|-------|
| optimal portfolio's expected yearly return | 6.06% |
| optimal portfolio's yearly volatility      | 8.01% |