

# Bollinger Bands Around the World

IFTA 2004

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# Bollinger Bands Around the World

A comparison of the characteristics of Bollinger Bands in which we consider Asian, European and North American stock market indices

# The Theoretical Story

- 20 days, +/- 2 standard deviations
- 95% containment

# The Theoretical Story

- Non-normal distributions and small sample sizes mean we get approximately 89% containment in the financial markets

# In the days of yore...

- Bollinger Band defaults circa 1985:
- 10-day            +/- 1.5 standard deviations
- 20-day           +/- 2.0 standard deviations
- 50-day           +/- 2.5 standard deviations
- Chosen largely by eye and experience

# “Bollinger on Bollinger Bands”

- Published 2002
- Conducted new set of tests for the book
- Chapter 7, pages 53 and 54

# “Bollinger on Bollinger Bands”

- Markets tested:
- Deutsch mark / US dollar
- Gold bullion
- IBM
- NASDAQ Composite
- Nikkei 225
- S&P 500

# “Bollinger on Bollinger Bands”

- 10 year test period
- 1990 through 1999
- 20-day
- 2.0 standard deviations
- 89% average containment

# “Bollinger on Bollinger Bands”

- Resulting recommended settings:
- 10-day            1.9 standard deviations
- 50-day            2.1 standard deviations

# 2004 – Real Time Test

- Stock market indices from:

|        |             |           |
|--------|-------------|-----------|
| US     | China       | Japan     |
| India  | Germany     | UK        |
| France | Italy       | Brazil    |
| Russia | Canada      | Mexico    |
| Spain  | South Korea | Australia |

# 2004 – Real Time Test

- Period tested:
- July 1997 through September 2004
- Seven and a quarter years
- Two and one half year overlap

# 2004 – Real Time Test

- Parameters used:
- 10-day            1.90 standard deviations
- 20-day            2.00 standard deviations
- 30-day            2.05 standard deviations
- 50-day            2.10 standard deviations

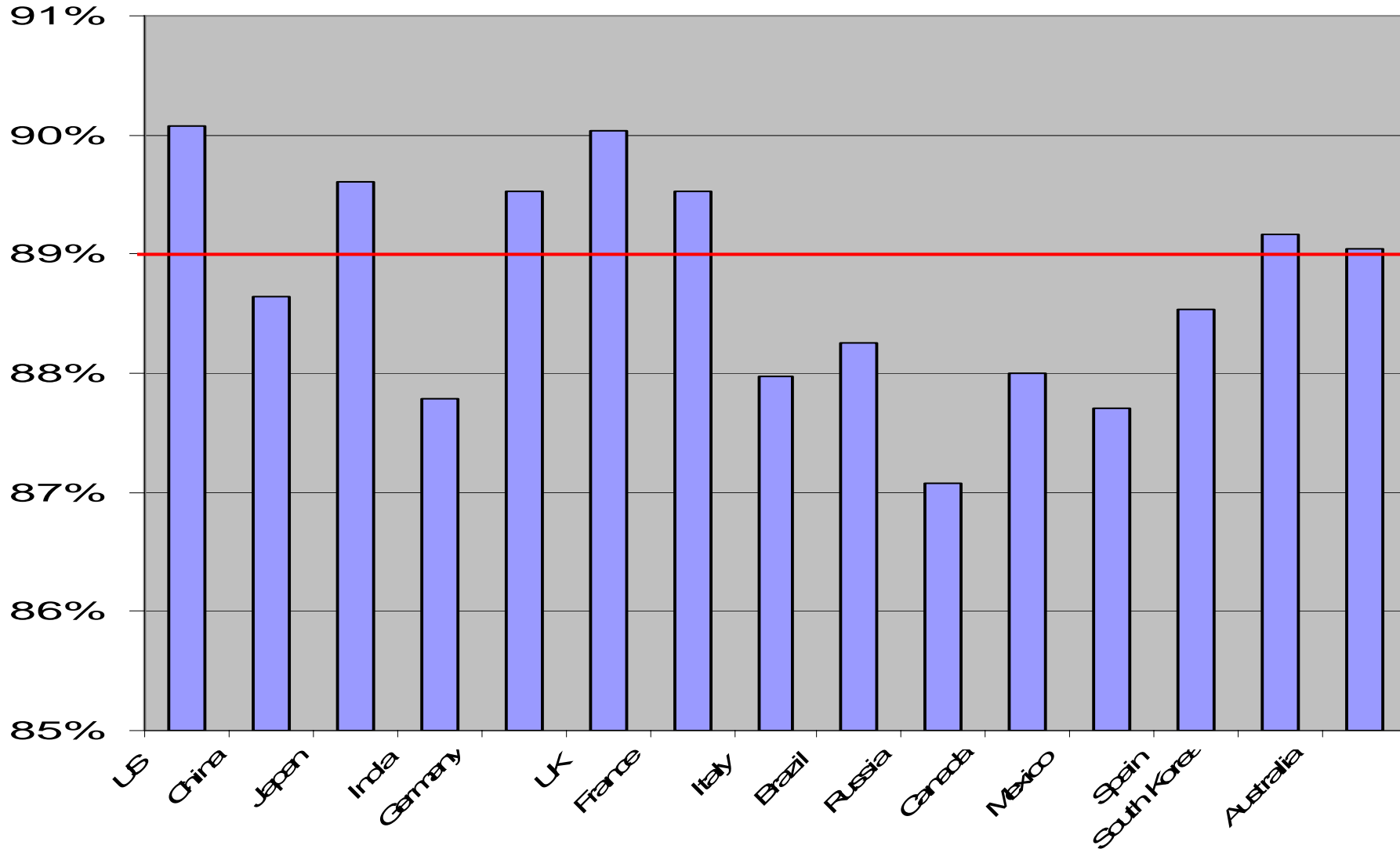
# 2004 – Real Time Test

- Method:
- Count closes above, inside and below the bands

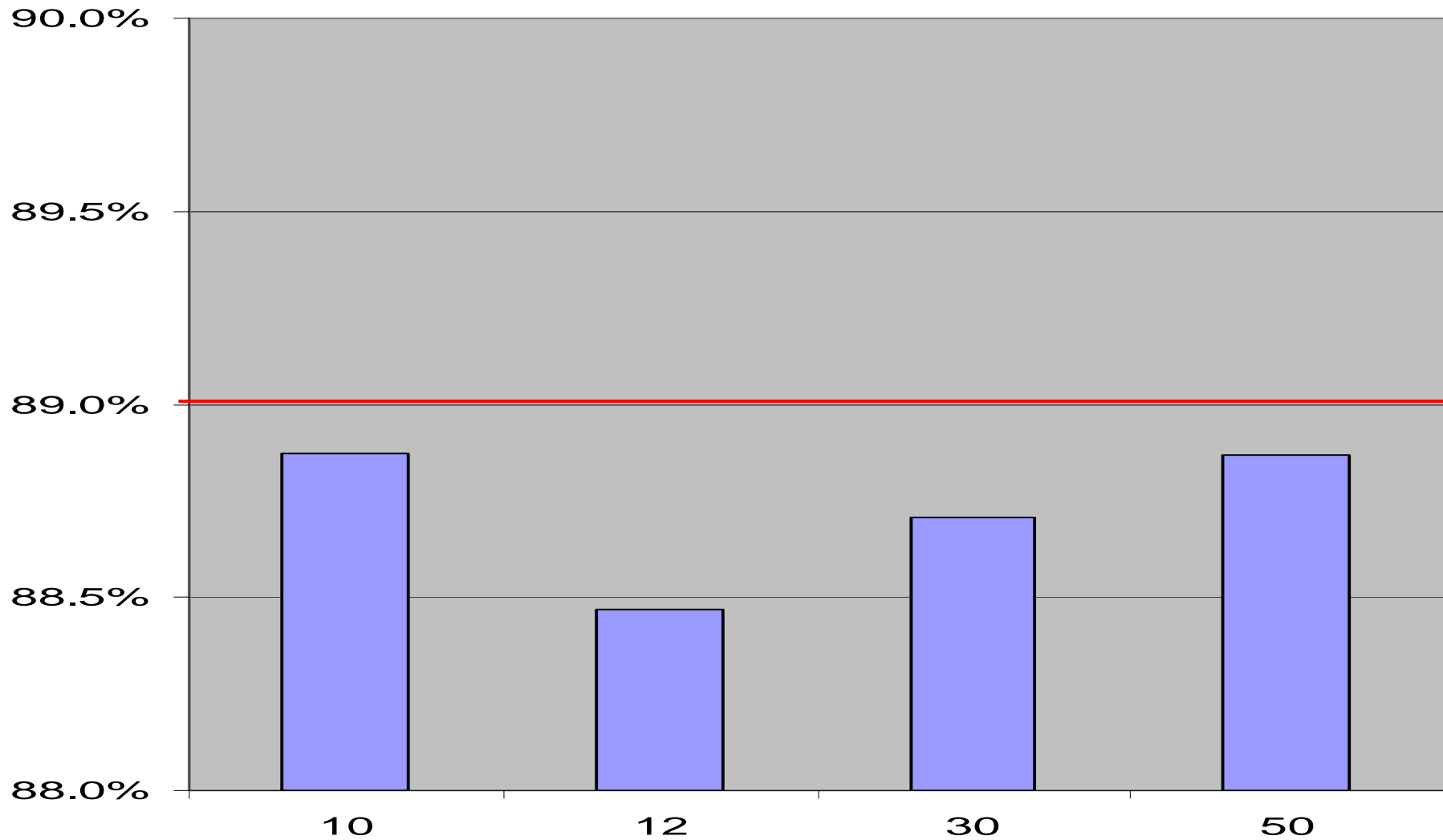
# 2004 – Real Time Test

- Average overall containment
- 88.7% of all closes inside the bands
- Largest deviations from 89%
- +1.1% US
- -1.9% Russia

# Containment by Country



# Containment by Period



# Results Tables - I

|         | 10 periods |      | 20 periods |      | 30 periods |      | 50 periods |      | Averages |       |
|---------|------------|------|------------|------|------------|------|------------|------|----------|-------|
| US      | 1          | 77   | 4.3%       | 70   | 3.9%       | 72   | 4.1%       | 72   | 4.1%     | 90.1% |
|         | 0          | 1600 | 90.1%      | 1601 | 90.2%      | 1598 | 90.0%      | 1596 | 89.9%    |       |
|         | -1         | 98   | 5.5%       | 104  | 5.9%       | 105  | 5.9%       | 107  | 6.0%     |       |
| China   | 1          | 81   | 4.8%       | 81   | 4.8%       | 80   | 4.7%       | 79   | 4.7%     | 88.6% |
|         | 0          | 1502 | 88.7%      | 1506 | 89.0%      | 1499 | 88.5%      | 1496 | 88.4%    |       |
|         | -1         | 110  | 6.5%       | 106  | 6.3%       | 114  | 6.7%       | 118  | 7.0%     |       |
| Japan   | 1          | 75   | 4.3%       | 79   | 4.6%       | 65   | 3.7%       | 82   | 4.7%     | 89.6% |
|         | 0          | 1560 | 89.9%      | 1546 | 89.1%      | 1561 | 89.9%      | 1555 | 89.6%    |       |
|         | -1         | 101  | 5.8%       | 111  | 6.4%       | 110  | 6.3%       | 99   | 5.7%     |       |
| India   | 1          | 96   | 5.5%       | 114  | 6.5%       | 128  | 7.3%       | 118  | 6.8%     | 87.8% |
|         | 0          | 1537 | 88.2%      | 1531 | 87.8%      | 1521 | 87.3%      | 1531 | 87.8%    |       |
|         | -1         | 110  | 6.3%       | 98   | 5.6%       | 94   | 5.4%       | 94   | 5.4%     |       |
| Germany | 1          | 89   | 5.0%       | 81   | 4.5%       | 68   | 3.8%       | 53   | 3.0%     | 89.5% |
|         | 0          | 1595 | 89.2%      | 1596 | 89.2%      | 1592 | 89.0%      | 1624 | 90.8%    |       |
|         | -1         | 105  | 5.9%       | 112  | 6.3%       | 129  | 7.2%       | 112  | 6.3%     |       |

# Results Tables - II

|        | 10 periods |      | 20 periods |      | 30 periods |      | 50 periods |      | Averages |       |
|--------|------------|------|------------|------|------------|------|------------|------|----------|-------|
| UK     | 1          | 78   | 4.4%       | 67   | 3.8%       | 71   | 4.0%       | 60   | 3.4%     | 90.0% |
|        | 0          | 1609 | 90.3%      | 1606 | 90.1%      | 1595 | 89.5%      | 1608 | 90.2%    |       |
|        | -1         | 95   | 5.3%       | 109  | 6.1%       | 116  | 6.5%       | 114  | 6.4%     |       |
| France | 1          | 99   | 5.6%       | 87   | 4.9%       | 76   | 4.3%       | 93   | 5.2%     | 89.5% |
|        | 0          | 1591 | 89.3%      | 1597 | 89.7%      | 1606 | 90.2%      | 1584 | 88.9%    |       |
|        | -1         | 91   | 5.1%       | 97   | 5.4%       | 99   | 5.6%       | 104  | 5.8%     |       |
| Italy  | 1          | 83   | 4.6%       | 97   | 5.4%       | 102  | 5.7%       | 85   | 4.7%     | 88.0% |
|        | 0          | 1592 | 88.7%      | 1576 | 87.8%      | 1560 | 86.9%      | 1588 | 88.5%    |       |
|        | -1         | 120  | 6.7%       | 122  | 6.8%       | 133  | 7.4%       | 122  | 6.8%     |       |
| Brazil | 1          | 98   | 5.6%       | 118  | 6.8%       | 115  | 6.6%       | 78   | 4.5%     | 88.3% |
|        | 0          | 1541 | 88.3%      | 1522 | 87.2%      | 1538 | 88.1%      | 1559 | 89.3%    |       |
|        | -1         | 106  | 6.1%       | 105  | 6.0%       | 92   | 5.3%       | 108  | 6.2%     |       |
| Russia | 1          | 136  | 8.0%       | 151  | 8.9%       | 149  | 8.8%       | 141  | 8.3%     | 87.1% |
|        | 0          | 1475 | 87.0%      | 1468 | 86.6%      | 1473 | 86.9%      | 1488 | 87.8%    |       |
|        | -1         | 84   | 5.0%       | 76   | 4.5%       | 73   | 4.3%       | 66   | 3.9%     |       |

# Results Tables - III

|             | 10 periods |      | 20 periods |      | 30 periods |      | 50 periods |      | Averages |
|-------------|------------|------|------------|------|------------|------|------------|------|----------|
| Canada      |            |      |            |      |            |      |            |      |          |
|             | 1          | 117  | 6.6%       | 111  | 6.3%       | 96   | 5.4%       | 101  | 5.7%     |
|             | 0          | 1559 | 88.2%      | 1546 | 87.4%      | 1564 | 88.5%      | 1554 | 87.9%    |
|             | -1         | 92   | 5.2%       | 111  | 6.3%       | 108  | 6.1%       | 113  | 6.4%     |
| Mexico      |            |      |            |      |            |      |            |      |          |
|             | 1          | 116  | 6.6%       | 108  | 6.1%       | 111  | 6.3%       | 152  | 8.6%     |
|             | 0          | 1544 | 87.7%      | 1544 | 87.7%      | 1562 | 88.8%      | 1524 | 86.6%    |
|             | -1         | 100  | 5.7%       | 108  | 6.1%       | 87   | 4.9%       | 84   | 4.8%     |
| Spain       |            |      |            |      |            |      |            |      |          |
|             | 1          | 94   | 5.3%       | 95   | 5.4%       | 85   | 4.8%       | 86   | 4.9%     |
|             | 0          | 1567 | 88.7%      | 1558 | 88.2%      | 1561 | 88.4%      | 1568 | 88.8%    |
|             | -1         | 105  | 5.9%       | 113  | 6.4%       | 120  | 6.8%       | 112  | 6.3%     |
| South Korea |            |      |            |      |            |      |            |      |          |
|             | 1          | 77   | 4.5%       | 97   | 5.6%       | 96   | 5.6%       | 96   | 5.6%     |
|             | 0          | 1554 | 90.2%      | 1524 | 88.5%      | 1532 | 88.9%      | 1535 | 89.1%    |
|             | -1         | 92   | 5.3%       | 102  | 5.9%       | 95   | 5.5%       | 92   | 5.3%     |
| Australia   |            |      |            |      |            |      |            |      |          |
|             | 1          | 113  | 6.3%       | 103  | 5.8%       | 93   | 5.2%       | 96   | 5.4%     |
|             | 0          | 1585 | 88.5%      | 1584 | 88.5%      | 1606 | 89.7%      | 1601 | 89.4%    |
|             | -1         | 92   | 5.1%       | 103  | 5.8%       | 91   | 5.1%       | 93   | 5.2%     |

# Our Web Sites

[www.BollingerBands.com](http://www.BollingerBands.com)

[www.BollingerOnBollingerBands.com](http://www.BollingerOnBollingerBands.com)

[www.EquityTrader.com](http://www.EquityTrader.com)

[www.GroupPower.com](http://www.GroupPower.com)