

## ***ONE GAUGE OF A RECOVERY IN TECHNOLOGY: THE SEMICONDUCTOR INDUSTRY***

The semiconductor industry is often the first sector to lead the technology market downward, and it is also often the first to lead the rest of the market upward in a recovery. That's because semiconductors—the “chips” of silicon used in electronic circuitry—are the basic building blocks of electronic products and systems, such as computers and telecommunications. Demand or lack of demand for chips is one of the first signs of a pickup or slowdown in demand for technology end products.

### **What Signals an Improved Semiconductor Market?**

We want to recognize the signals of a rebound in the economy and in the stock market early enough to make profitable investments. The bottom in the chip cycle could be the optimal entry point for investing in the technology sector. What would identify this bottoming?

- **Improving Book-to-Bill ratio:** The Semiconductor Industry Association (SIA) publishes the book-to-bill ratio report monthly. It measures demand for chips. A ratio of more than 1.00 implies increased demand.
- **Reduced inventories at firms ordering chips:** Look for comments in reports from semiconductor companies that customers are demanding immediate delivery, or that order times have shortened, i.e. that they are burning through their inventory.
- **More demand for personal computers (PCs):** This kind of announcement could come from the PC makers, such as Microsoft, Dell, Gateway, or from the companies that make the microprocessors for PCs, such as Intel or Advanced Micro Devices.
- **More demand for communication devices:** Cell phones, hand-held computers, cable modems, DSL, and other communication devices require communication chips, wireless chips, or memory chips, such as DRAM and flash. This news could come from the device companies, such as Nokia, Palm or Scientific Atlanta, or from the chip makers, such as Motorola, Micron Technology, or Advanced Micro Devices.
- **Positive forecasts from the SIA:** In their annual mid-year forecast on June 4 and 5, 2002, the SIA forecast a total worldwide semiconductor growth of 3.1% for 2002 over 2001, but for The Americas –3.5% year-over-year. (2001 was –32% from 2000 worldwide and –44.2% for The Americas.)\*

**Conclusion:** Although investors usually want to be invested *before* the recovery, if they wait until they see a pickup in orders for semiconductors, they will likely be getting in during the first stage of the recovery. If the SIA forecasts turn out to be accurate, 2001 was the bottom for semiconductors worldwide, and in The Americas the bottom will be sometime this year, as growth is anticipated at 24.1% for 2003 year-over-year.

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June 18, 2002

\*Forecasts are from firms around the world participating in the World Semiconductor Trade Statistics (WSTS) program.