

SEMICONDUCTOR STOCKS: THE BELLWETHER BOTTOMS OUT?

Key Points

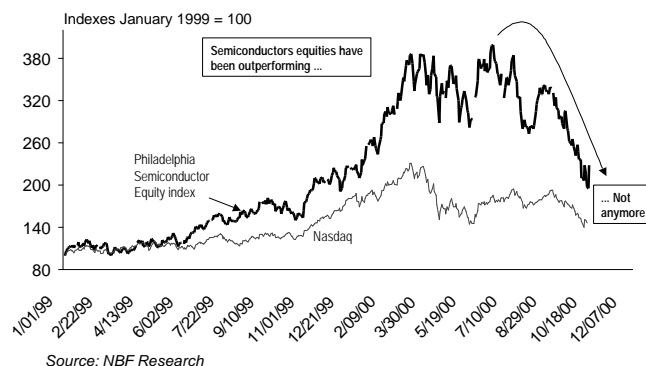
- Judging by the stock market's recent flip-flops, there is a lot of uncertainty out there about what lies ahead.
- As the U.S. growth engine, the recently beaten down semiconductor sector deserves particular attention. A slowdown here means a slowdown of the U.S. economy.
- Current semiconductor stock prices are consistent with a deceleration of both the U.S. and the global economy. Since this is our baseline scenario, we believe tech equities have hit bottom.
- However, another significant downleg in semiconductor stocks would be very bad news for both the U.S. and the global economy.

Dance of the jitters

Stock markets have been flip-flopping all week on investor worries about what lies ahead. Slowdown or recession? Fed hike or Fed easing? The uncertainties will have to dissipate before equities can rally convincingly. In our opinion, the semiconductor sector deserves particular attention as a bellwether of the market. Intrigued? Read on.

(1) Chip Dip

Equity indices: Nasdaq vs. Philadelphia semiconductor index



Hard times?

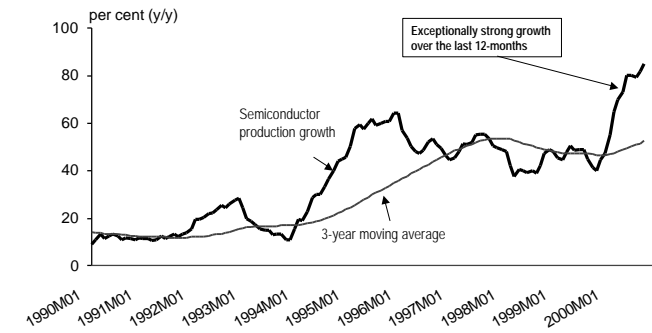
Times have been tough for tech stocks in general, but for semiconductors things have turned really ugly. Chart 1 tracks the Nasdaq alongside the Philadelphia semiconductor index,¹ which until recently was significantly outperforming the market. In the last two months, chipmaker shares, beset by worries about slowing demand, have tumbled roughly 45% from their late-August peak. Since semiconductors account for almost 10% of the Nasdaq's market cap, their dramatic slide has helped pull the Nasdaq index down 20% over the same period.

¹ Composed of 16 equities: Xiling, Rambus, Linear Technology, Applied Material, Texas Instruments, Novellus Systems, Intel, Teradyne, National Semiconductor, KLA Tencor, Micron Technology, Altera, LSI Logic, Lattice Semiconductor, Motorola, Advanced Micro Devices.

Many investors have been caught off guard by the debacle and it's not hard to understand why. The chip industry has been roaring lately – no other part of the economy has matched its sizzling growth. As chart 2 shows, U.S. semiconductor production has risen a breathtaking 85% over the last 12 months. Growth in this sector has averaged 50% (y/y) over the last 3 years, and has never dropped below 40% for the last 5 years.

(2) A Sizzling Sector

Yearly production growth: U.S. semiconductor industry



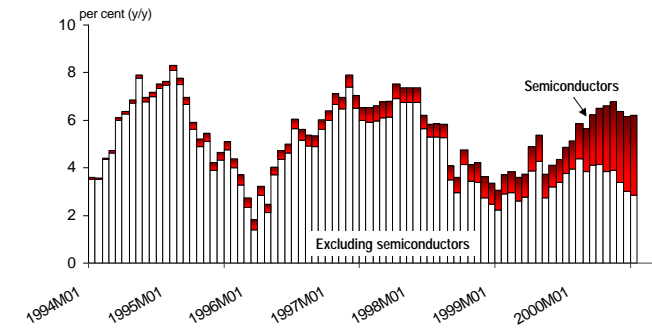
Source: NBF Research

This makes the semiconductor industry the U.S. growth engine. As chart 3 illustrates, it is responsible for more than half of all growth in U.S. manufacturing and has added more than 3 percentage points to production growth over the last 12 months. This is huge.

So why are semiconductor stocks having such a hard time?

(3) America's Growth Engine

Contribution to U.S. manufacturing growth: semiconductors vs. the rest



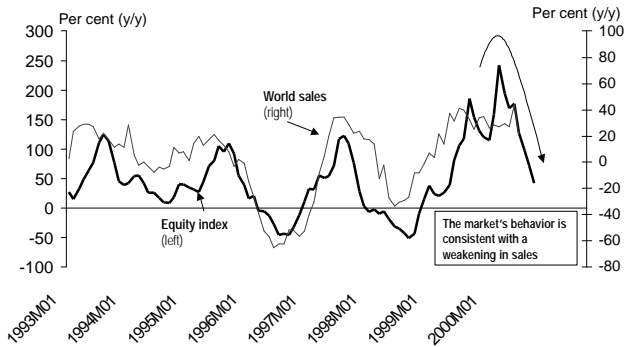
Source: NBF Economic Research

The market's call

We believe the market is simply adjusting to reality: the growth of demand for chips is slowing down. Of course, given the breathtaking acceleration recorded last year, a downshift shouldn't come as a surprise, but the market's call on semiconductors is particularly important. It reflects expectations of a slowdown in world demand for chips and, by extension, chip production. Chart 4 shows the close fit between the Philadelphia semiconductor index and world chip sales.

(4) The Market's Call

World semiconductor chip sales & Philadelphia semiconductor equity index



Source: NBF Economic Research & SIA

The market's call is consistent with our evaluation of the global economic landscape. As discussed in last week's letter, we think the world economy is quickly shedding momentum,² and semiconductor sales will feel the drag. This view is reinforced by a look at the distribution of world chip sales: 33.8% in the U.S., 21.2% in Europe, 22% in Japan and 26% in ex-Japan Asia. In other words, Asia including Japan is the world's largest market for semiconductors. Unfortunately, Asia is cooling rapidly, hard hit by the oil crunch (chart 5).

² See "Will this Cliff-Hanger Have A Storybook Ending?" *Weekly Economic Letter*, Oct. 16, 2000.

(5) Asian Slowdown

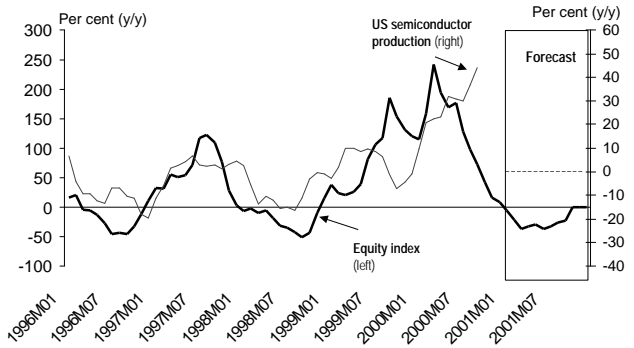
Asian industrial production growth (y/y)



Source: NBF Economic Research

(7) Just What the Doctor Ordered

U.S. semiconductor production growth and Philadelphia semiconductor equity index with forecast



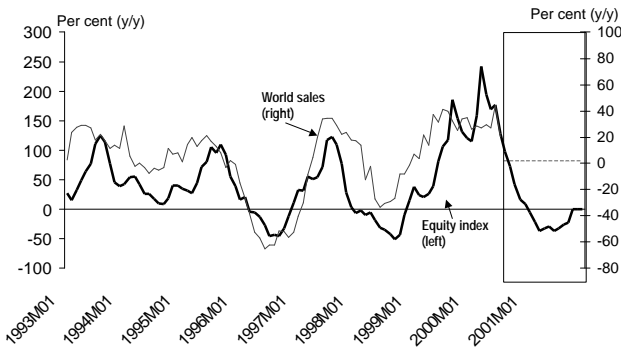
Source: NBF Research

What is already priced in?

At this juncture, the relevant question is what sort of slowdown is already priced in. To explore this question, we performed a very simple simulation in which we naively assumed that semiconductor equities would remain around current prices over the coming months. Given that these stocks are already down roughly 45%, we feel this is a very pessimistic view. The results, presented in chart 6, indicate that current semiconductor stock prices are consistent with a deceleration in world demand of a magnitude similar to previous slowdowns.

(6) Gone Overboard?

World semiconductor sales growth and Philadelphia semiconductor equity index with forecast



Source: NBF Economic Research

Of course, a softening of demand growth means a slowing of production growth. As chart 7 illustrates, current semiconductor stock prices are also consistent with this corollary. This implicit projection is key in shaping the U.S. and global economic outlook

The projected deceleration of chip production will have a huge impact on aggregate U.S. production growth. Remember, semiconductors are the U.S. economy's growth engine. Our simulations indicate that current semiconductor stock prices are consistent with a slowing of semiconductor production growth to 40% or 50% annually from the recent 85%. This will shave about 1.5 percentage points off overall U.S. production growth. In short, no contraction ahead, but a significant cooling of growth. Isn't this just what the doctor ordered? The semiconductor slowdown will have a similar but less intense impact on the rest of the world.

Is the correction over?

In short, a slowdown in chipmaking means a slowdown of the U.S. economy. Current semiconductor stock prices are consistent with a deceleration (not a contraction) of both the U.S. and the global economy. Since this is our baseline scenario, we believe tech stocks have hit bottom. In this regard, the rally in semiconductor equities over the last few days is encouraging news. By the same token, another significant downleg would spell trouble for both the U.S. and the global economy.

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The Week Ahead (October 23 – October 27)

US Indicators

Date	Time Release	Month	Previous	Estimate	
				Consensus	NBF
25-Oct	10:00 Existing Home Sales	September	5.27M	5.13M	5.10M
26-Oct	08:30 Employment Cost Index	2000Q3	1.0%	1.0%	0.8%
26-Oct	08:30 GDP	2000Q3	5.6%	3.5%	3.3%
26-Oct	08:30 Deflator	2000Q3	2.4%	2.3%	2.5%
27-Oct	08:30 Durable Goods	September	2.9%	0.7%	-0.3%

Canadian Indicators

Date	Time Release	Month	Previous	Estimate	
				Consensus	NBF
23-Oct	08:30 Retail Sales	August	1.3%	0.8%	-0.2%
23-Oct	08:30 ex-autos	August	1.2%	0.5%	-0.4%
24-Oct	08:30 Securities Transactions	August	0.445B	1.2B	1.5B
25-Oct	08:30 Leading Indicator	September	0.4%	0.4%	-0.1%
26-Oct	08:30 Industrial product price	September	0.2%	0.5%	0.4%
26-Oct	08:30 Raw material price index	September	2.1%	2.0%	1.8%

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