Semiconductor Market Update
July 2004 VOLUME 1, NUMBER 4

Analysis of the Semiconductor, Equipment, and Materials Markets

Forecast for 2004

We're going to hell in a handbasket (to our foreign readers it's a popular American expression of unknown origin but means "deteriorating rapidly or utterly." Here's our analysis"

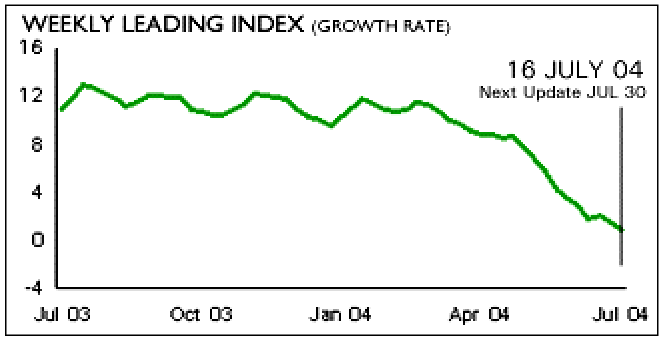
First of all the economy does not look good for the rest of the year. Three leading indexes we follow tell the story:

ECRI

Based on readings from its proprietary leading indexes for employment, manufacturing, services, construction and the overall economy, the ECRI says the U.S. economy is "on the cusp of a slowdown that will persist at least through year-end."

They aren't forecasting a recession; just a slowdown to trend growth, something on the order of 3 percent. The economy grew 3.9 percent in the first quarter following 6 percent second- half growth. Economists surveyed by Bloomberg News expect second- quarter real GDP growth of 3.7 percent.

The ECRI's forecast for a broad-based slowdown in growth is based on the growth rate of its long-leading index, which peaked in June 2003.



Confidence Board's U.S. Leading Index

To make matters worse. the Conference Board announced this month that the U.S. leading index decreased 0.2 percent, the coincident index increased 0.1 percent and the lagging index held steady in June.

- The leading index fell slightly in June, the first decline since March 2003, and last month's increase was revised down slightly. June's weakness was not widespread, and some of the decline was from the average manufacturing workweek (which was most likely the result of many businesses being closed for President Reagan's funeral).
- The coincident index continued increasing in June, keeping its growth rate in the 3.0 to 3.5 percent (annual rate) range. In addition, the upward trend of the coincident index continues to be widespread.

- While the leading index is still on an upward trend, its growth rate has slowed in recent months – into the 2.5 to 3.5 percent range (annual rate). The current behavior of the leading index is consistent with real GDP increasing at a 4.0 to 5.0 percent annual rate in the near term.

The leading index now stands at 116.2 (1996=100). Based on revised data, this index increased 0.4 in May and increased 0.1 percent in April. During the six-month span through June, the leading index increased 1.5 percent, with eight out of ten components advancing (diffusion index, six-month span equals 80 percent).

OECD Leading Indicators

The composite leading indicators (CLIs) for May 2004 signalled weakening performance in all of the Group of Seven major economies except Canada.

The CLI for the OECD area fell by 0.1 point in May 2004 to 103.7(**1**) from 103.8 in April 2004. Its six-month rate of change was down for the fourth month in a row following an upward trend which began in April 2003.

The CLI for the United States decreased by 0.2 point in May and its six-month rate of change fell sharply for the fifth month in a row after nine consecutive months of strong increases. The Euro area's CLI rose by 0.3 point in May though its six-month rate of change fell for the sixth consecutive month following seven months of increases. In May, the CLI for Japan decreased by 0.5 point and its six-month rate of change fell for the fourth consecutive month following a period of relative stability since July 2003.
The CLI for the United Kingdom decreased by 0.3 point in May while its six-month rate of change fell for the third time following 11 consecutive months of increases. The CLI for Canada increased by 1.0 point in May and its six-month rate of change shows an upward trend since April 2003. The CLI for France increased by 0.6 point in May but its six-month rate of change decreased for the third time after 11 consecutive months of increases. The CLI for Germany rose by 0.3 point in May but its six-month rate of change was down for the fifth month in a row following strong increases over the previous eight months. Finally, the CLI for Italy fell by 0.4 point in May while its six-month rate of change has shown a downward trend since November 2003.
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	2003								2004				
	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
OECD area	97.6	98.3	99.0	99.6	100.4	101.2	101.9	102.6	103.1	103.6	103.7	103.8	103.7
EU15	99.9	100.5	101.1	101.9	102.8	103.5	104.0	104.3	104.7	105.1	105.4	105.7	105.9
Euro area	99.9	100.5	101.1	101.9	103.0	103.8	104.4	104.6	104.9	105.2	105.7	105.9	106.2
G7	96.5	97.1	97.9	98.6	99.3	100.2	101.0	101.7	102.1	102.5	102.5	102.6	102.5
Canada	97.8	98.2	98.6	99.8	100.5	101.1	101.4	102.2	103.1	103.8	104.1	104.8	105.8
France	98.5	99.0	99.8	100.8	101.6	102.5	103.2	103.9	104.5	105.0	105.1	105.3	105.9
Germany	100.9	101.6	102.4	103.4	104.5	105.7	106.7	107.4	107.6	107.8	108.1	108.5	108.8
Italy	97.3	97.4	97.8	98.2	99.5	99.7	99.5	99.2	99.1	99.2	99.6	99.4	99.0
Japan	95.5	95.5	96.2	96.6	96.7	97.0	97.3	97.2	97.7	97.7	97.3	97.0	96.5
United Kingdom	98.3	98.9	99.3	99.8	99.9	100.4	100.7	101.2	101.7	102.1	101.8	101.9	101.6
United States	94.7	95.6	96.7	97.5	98.4	99.6	101.0	102.2	102.7	103.3	103.3	103.5	103.3

The economics of semiconductor sales are also becoming bleaker, and sales obviously track the economies of the world, for two reasons: (1) flat outlook by several semiconductor manufacturers and (2) excess inventory in the channel.

- TI posted a nearly four-fold increase in its net profit, driven by record revenues in elements of its semiconductor business. But orders in the semiconductor unit fell 2 percent in the quarter, while inventory grew, as the company said distributors slowed their pace of orders in the second half of the quarter due to their own inventory increases.

- Chartered Semiconductor reported a lackluster business outlook for the third quarter citing "weaknesses" from communications and consumer customers.

- In the upcoming September quarter, Agere expects to report revenues in the range of $420 million to $445 million. The majority of the sequential decline is related to 3G chipsets, with some additional decreases in wireless infrastructure and intellectual property licensing revenues.

Stockpiles of unsold chips have ballooned to their highest level in a year, suggesting that chip makers may have to slash prices quickly to avoid costly write-offs.

Failure to cut back production despite surprisingly weak sales in June led surplus inventories to swell to $827 million by the end of the second quarter from just $12 million three months earlier.

Intel said its inventories were at an all-time high, pushing its stock down 10 percent the following day. The one-day sell-off knocked nearly $18 billion off of Intel's market value, according to Reuters data.

However, chip suppliers increased their production in an over-aggressive fashion in the first part of the second quarter, allowing their manufacturing levels to outstrip demand. The problem of rising inventories was compounded in June when demand began to show signs of slackening. Chip customers began canceling orders in June, but suppliers responded inadequately, decreasing capacity utilization rates only slightly.

The Root of All Evil

Here's our take on the industry, as we track the equipment front-end market:

2004: + 29.0%
2005: + 11.5%

Here's why. The industry is motivated by greed. The internet bubble forced many brick and mortar companies (including semis) to offer stock options to attract employees that would have otherwise gone to a start-up that was using options as an incentive to pay minimum wage but with the hype that all would become instant millionaires once the stock became public.

Now, executives of these companies, with stock options in the millions of dollar range (their salaries merely pay their espresso bills) emphasize their stock valuations when setting Capex because a $ billion here and a $ billion there to build and equip a fab will eat into their profits, make their stock go lower, and impact their net worth.

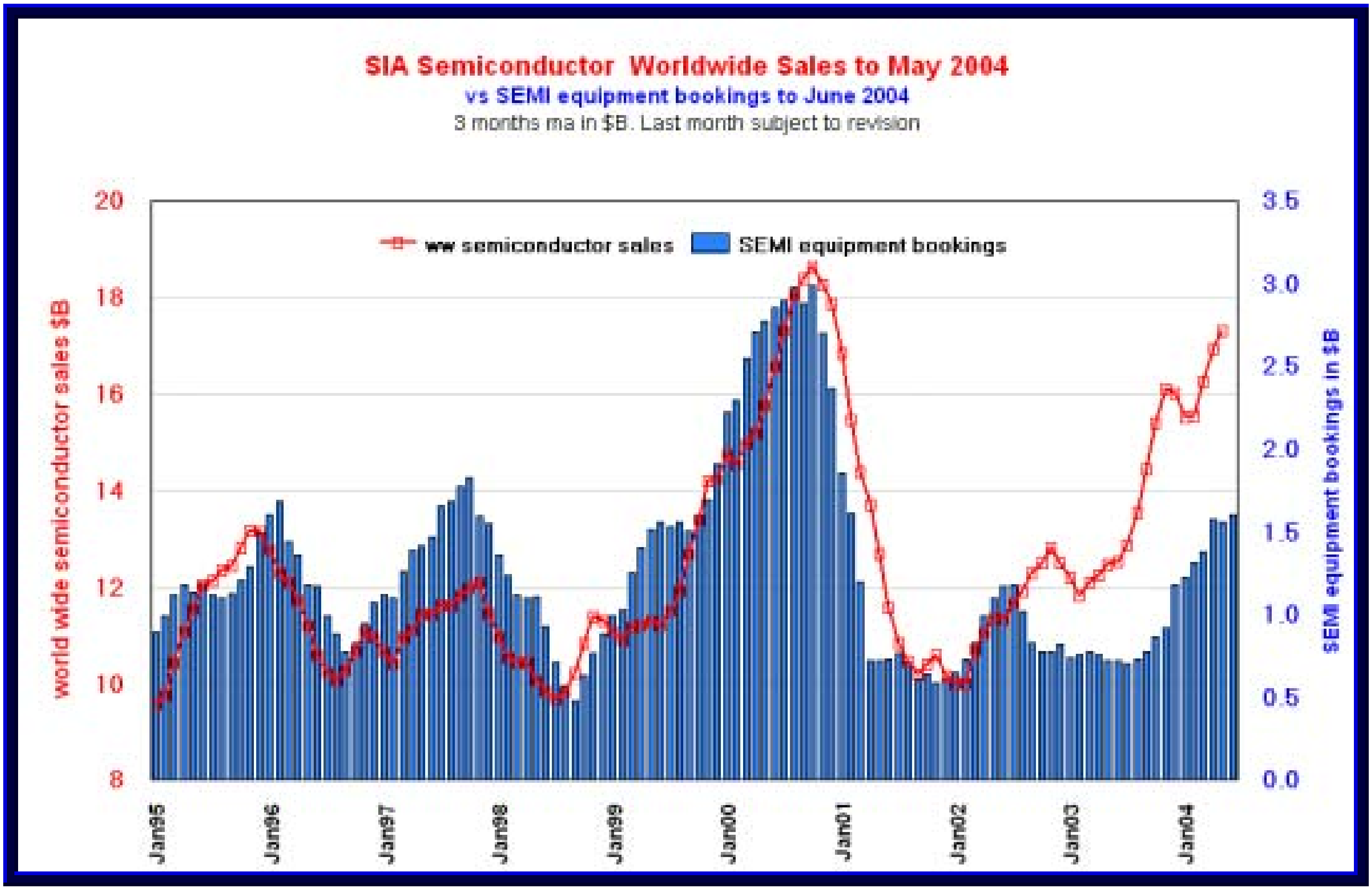
Ironically, SEMI, of all things, has been focusing on just that, rather than establishing standards and putting on a good show. Why should they be involved in SEMInvest? Why should they be lobbying Congress for stock options? Why should the last issue of Channel Magazine devote two of the three articles on the stock market?

So, the big downturn in the stock market will close the door to further capacity expansion (as we said months ago, why haven't the SICAS capacity numbers increased for the past three quarters?) to keep up their bottom line. The semi equip executives, themselves flush in stock options, too are bound by greed. You can see that the trade journals are half the size as they were three years ago because spending is down. Yet the huge revenues the semi equip companies are making could be spent on discretionary items, but they are trying to keep profits up to make their stock go up and hence are not spending.

With the doors shut on expansion, look for pushouts and cancellations by the semis over the next few months (it will impact their bottom line). Look for semi equip companies to start laying off because that too will make their stock go up and they don't need all those employees because they won't be shipping product.

And if you don't think stock valuations are impacting the industry, look at the growth of the semi market in 2003. The Americas was up 3.4% while the next in line (Europe) was up 16.3% and Japan up 27.7%. No where else in the world to executive receive such a disproportionate amount of income and stock options are virtually unheard of in the rest of the world.

So there's our take. Gordon Gekko was a visionary.



LCD EQUIPMENT MARKET GROWING 51% IN 2004 TO $4.8 BILLION

The worldwide market for processing equipment for TFT-LCDs will reach $4.8 billion in 2004, growing to nearly $6 billion in 2005, according to the report

LCD Processing: Challenges, Directions, Markets

The equipment is being purchased this year for a rash of new 5th, 6th, and 7th-generation facilities to become operational in early 2005. Equipment suppliers will be rewarded with healthy demands for new equipment to fill those plants. Revenues grew 19% in 2003 and will follow with a 51% gain in 2004 and 22% in 2005.

New TFT-LCD plants for 2005 include one 5th generation plant (BOE-Hydis Technology), one 5.5th generation plant (Chi Mei Optoelectronics), four 6th generation plants (AU Optronics, Chunghwa Picture Tubes, HannStar Display, and Quanta Display), and one 7th generation plant (Samsung Electronics).

The market for large-panel TFT-LCDs for TVs and notebook and desktop monitors will grow from $24 billion in 2003 to more than $35 billion in 2004. Glass substrates will grow from 7.2 million units in 2003 to 10.7 million in 2004.

Lithography tools from Nikon and Canon will lead the equipment market with sales of $1.31 billion in 2004, followed by PECVD, led by Applied Materials, with sales of $1.03 billion.

This technology-marketing report examines and projects the technologies involved in the fabrication of Liquid Crystal Displays (LCD). This report discusses the technology trends, products, applications, and suppliers of materials and equipment. A market forecast for AMLCD equipment and materials. For the freshest information possible, this report is published at the time of purchase.

Tokyo Electron Could Overtake Applied Materials in Japan as Semiconductor Equipment Market Leader in 2004

While Applied Materials will remain the semiconductor equipment market leader in 2004, Tokyo Electron (TEL) could move into first position in Japan, according to the report

Asia's Microelectronics Market: China, Hong Kong, India, Indonesia, Japan, Korea, Malaysia, Singapore, and Taiwan

TEL gained market share in 2003 in the Asia-Pacific semiconductor equipment region, growing to 13.5% in 2003 of the $10.8 billion market, up from 11.0% in 2002. In contrast, Applied Materials' market share decreased from 22.5% in 2002 to 20.0% in 2003, noted Dr, Robert Castellano, President of The Information Network. "In Japan, TEL grew from a 10.5% share in 2002 to a 14.0% share of the $4.5 billion market in 2004, while Applied Materials dropped from 18.3% in 2002 to 14.2% in 2003. With Japan representing 22 percent of world semiconductor consumption, the country has prime silicon real estate."

Korea represents another trouble spot for Applied Materials in 2004, as ASML could propel itself into the market lead. ASML's market share grew from 12.5% in 2002 to 17.5% of the $2.3 billion market in 2003. At the same time, Applied Materials' share dropped from 21.0% in 2002 to 19.5% in 2003. TEL was third in 2003 with a 14.0% share, and strong spending by TEL's customers could vault it ahead of Applied Materials.

Applied Materials has a comfortable lead in the remainder of the Asia-Pacific countries. It is at least 10 percentage points ahead of its nearest competitor in Taiwan, Mainland China, and the rest of the Asian countries.

Surprisingly, Applied Materials could lose its market lead on its home turf in 2004. Both ASML and Nikon are nipping at its heels – ASML with a 13.0% share in N. America in 2003 and Nikon with a 10.0% share, compared to Applied's 14.5% share. Both lithography companies have projected huge shipment growth for 2004.

This report describes the technology infrastructure of nine Asian countries, detailing each countries' developments in microelectronics, telecommunications, and computing. Market forecasts are also presented in these sectors for associated countries Please note: This report is updated daily. As such, any order processed will be for that day's update.

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