



2010 Economic Forecast: How High the Jump?

As the industry rebounds from one of the worst economic downturns in its history, the question is not whether 2010 will be a good year, but rather just how high that growth is likely to be. The biggest unknown is chip prices, which will be driven up by tight capacities.

Aaron Hand, Editor-in-Chief -- Semiconductor International, 1/1/2010

With a macro economic situation that dealt a devastating blow to the already cyclical semiconductor and semiconductor equipment industries, 2009 was a tough year for just about everyone. It was one of the worst years in the semiconductor industry's history, and it was the first time ever that the industry recorded declines two years in a row.

Both the semiconductor and equipment industries are in for a major rebound in 2010, and really the only question is how high the numbers will jump. Recovery already began in the second half of 2009, but it is expected to really take off this year.

Several analysts are in fairly close agreement on the expected growth for the IC market, capital spending, and the semiconductor equipment market. Although the Semiconductor Industry Association (SIA, San Jose) quotes a very conservative 10% IC market growth in 2010, most others are looking at the 15–20% range at the very least. IC Insights (Scottsdale, Ariz.) currently has its number at 15%, Semico Research (Phoenix) 20%, and Future Horizons (Kent, UK) ~22%.



"Memory capital spending we have more than doubling...it's still not going to be enough."
Bill McClean,
President,
IC Insights Inc.

But what they're all saying is that, depending on how various factors play out this year, those numbers could be considerably higher. Bill McClean, president of IC Insights, sees average selling prices (ASPs) as the key unknown. "Our forecast is for 15% growth next year for the IC market, but it could easily be 20," he said. "Given what could happen with pricing — I think that's going to be the wildcard for 2010, is what the pricing situation is."

IC Insights' 15% market growth is based on a more solid prediction of 15% growth in unit volume, and a less solid prediction of flat pricing for ICs overall. But that could change if capacity gets too overloaded in the coming year. "Maybe we'll only be able to ship 15% more units as an industry next year, but the price will go up 5–7%, and you're looking at a 20–22% market increase," McClean said. "So there's quite a bit of upside I think to our 15% as we're looking at it now."

Based on the current industry momentum (Q4 2009 growth of ~6–7%), Future Horizons is predicting at minimum a 20% growth for 2010, and more likely 22%. "Indeed we are now starting to see the first industry guidance revisions that tend to indicate even this range might be low," reported Malcolm Penn, chairman and CEO at Future Horizons.

"The chip market depends on the size of world GDP -- not its growth rate."
Malcolm Penn,
Chairman and CEO,
Future Horizons Ltd.



Capacity expectations

By all predictions, the semiconductor equipment industry is playing with considerably bigger percentage swings than the chip market, having taken a much harder fall in 2009. Gartner expects

capital expenditures to jump 45.3% in 2010 after a drop of 42.6% in 2009. IC Insights is calling for a 45% rise in capital spending as well.

Since there will not be a lot of new fab shells built in 2010, McClean noted, the forecasted capital spending is mostly skewed toward equipment sales, which should be up at least 50% this year. Gartner is looking at a 56.3% rise in equipment sales this year, and SEMI expects ~53% growth in 2010 to \$24.5B, and a further 28% in 2011 to \$31.2B. According to SEMI's forecasts, following a 31% decline in 2008, the equipment sector was expected to drop ~46% in 2009.

Although capital spending overall is expected to grow around the 45% level, memory spending is expected to more than double, according to IC Insights' projections.



"If the memory companies turn on the capex faucet in hopes of trying to jump ahead of their competitors, the equipment industry could see an extremely strong year." Dean Freeman, Research Vice President, Gartner Inc.

The behavior of the memory companies in the coming year will play a key factor in the health of the industry, according to Dean Freeman, research vice president at Gartner. "If the memory companies turn on the capex faucet in hopes of trying to jump ahead of their competitors, the equipment industry could see an extremely strong year. The downside is that when the overcapacity hits it will be painful," he said. "If the memory companies keep the capital spending in check, they will see stronger profits and the

equipment growth will be more sustainable over the cycle."

Some key factors expected to affect the semiconductor market positively include the fact that semiconductor, OEM and retail inventories currently sit at a low level, which will result in inventory rebuilding in the beginning of the year, according to Jim Feldhan, president of Semico. With capacity utilization high, ASPs are expected to remain strong.

"The banking industry is still shaky and loans are hard to come by, which will dampen economic recovery." Jim Feldhan, President, Semico Research Corp.



At the SIA's Annual Forecast and Awards event in November, outgoing president George Scalise commended the semiconductor industry for its handling of the latest downturn, noting that it was much less severe than the 2001 decline of ~32% because chipmakers managed the downcycle. "As a result, excess inventory will not be an issue that will hinder our recovery," he said.

In fact, industry has been struggling to keep pace with demand in the second half of 2009, according to Malcolm Penn, chairman and CEO at Future Horizons, so the inventories that were purged in the last quarter of 2008 and the first quarter of 2009 have yet to be replenished. "We are now condemned to enter 2010 with tight fab capacity and no excess stock," Penn said in his December market report, noting that device lead times are already "starting to feel the pinch."

McClean echoed this fear, saying that tight capacities could have a major effect on the market in 2010. He earlier predicted some 45 fabs to be closing in 2009 and 2010, which will contribute to the capacity shortage.² "Some of the 200 mm fabs will probably still be closed, although some of those closures have been delayed because of the upturn," he said. "But for the memory manufacturers, it's not really an issue of capacity; it's an issue of cost and technology. And so an older 200 mm fab doesn't do you much good for 45 nm processing. So those are going to continue to be closed in 2010 or retrofitted or something. So capacity's going to be very tight."

The fact that memory capacity is expected to more than double this year does not alleviate McClean's fears of a memory shortage (particularly later in the year when seasonal effects pick up again), since the predicted memory spending is a relative drop in the bucket compared with just two years ago.

"One of the things I was looking at that's pretty amazing, if you look back to 2007, there was \$32.3B in capital spending spent for memory," he said. "So you spend over \$32B in 2007, and two years later, at the end of 2009, after the worst global recession in 63 years, the memory guys are sold out. So that \$30B gone. It didn't have much of an effect — two years, and after the worst global recession in 63 years." For 2009, IC Insights has memory capital spending at \$6.8B. "It's just shocking," McClean said. "We've got it almost doubling to \$14.4B for 2010, but that's less than half of what was spent in 2007, and look at the tight capacity we're in two years later."

It could lead to a major shortage in the memory market, which would of course put a cap on unit volumes, but how high ASPs will go is anyone's guess. "What can happen is that firms get selective about what parts they run in the fabs, reserving the scarce capacity for either the high-value/high-profit items or ones of strategic long-term importance," Penn said. "Small lots and low-profit items will suffer worst."

DRAM pricing already began its recovery in 2009, increasing 60% in the fourth quarter from the first quarter of the year, McClean said. "So the pricing trends are already showing how tight the market is. And I think we're going to see more of that type of price increase through 2010. So this is going to be interesting."

IC Insights predicts DRAM ASPs to be up an additional 17% in 2010. The analysts are predicting a 12% increase in DRAM units, and a 31% increase in the market. "I think that's a very conservative number," McClean added. "The DRAM market could be up 40% or more next year. It wouldn't surprise me at all."

The NAND flash market is expected to be up 22% this year, according to IC Insights. Actually, the NAND flash market was up 20% this year as well. "That product completely bucked the downturn; there was no downturn in NAND flash."

PCs, cell phones drive market

Another surprise in the market was that, despite the economic recession, consumers have continued to spend, with retail sales this past Christmas season 3.6% higher than the 2008 season, Feldhan noted. "More importantly for the semiconductor industry, consumers continue to be enamored by electronics," he said. "As an example, smart phones have gone from being a luxury/business item to being a standard consumer requirement."

Key IC market drivers will likely be PCs and cell phones, Freeman noted, although he questioned whether this would be sustainable if the economic outlook softens.

PC unit sales in 2009 were about flat, which is "an amazing statistic in itself," McClean said. "Flat PC sales in the worst global recession in 63 years just kind of blows my mind. All of the forecasts for next year are double-digit growth for PC units. You got an economy recovering, there's pent-up demand, there's Windows 7, there's a lot of excitement about businesses have a lot of cash, and so they may see this as the time to upgrade systems, and now you're going to get a 10% unit volume increase instead of a flat."

Cell phone unit volume growth, which was down 5% in 2009, is expected to grow at least 10% this year, McClean added. "So demand is going to do nothing but increase rapidly here."

Equipment suppliers, get ready

Of course, all this IC demand will translate also into increased demand for equipment and materials suppliers. McClean, who thinks that most of the analysis in the market is on the conservative side, wonders if the equipment companies will be able to ramp up quickly enough and get tools out to their customers in time. "You don't want to be caught short and not be able to meet the snap-back in spending," he said. "This thing could really take off. Actually, 40–50% growth is already taking off."

Applied Materials, the industry's biggest equipment supplier, made news recently when it announced it would be making further cutbacks in its workforce — another 1300–1500 employees over the next 18 months — despite improving demand.³ McClean questioned the logic behind that move. "If you pared down and somewhat adjusted to abysmal spending in '09, you're going to have to get some people back in there."

Penn gave a similar warning with respect to IC suppliers. Barring another major economic crisis, he said, the baseline numbers have never looked so strong. And although the semiconductor industry should plan for a modest growth year, "you better have a more aggressive Plan B in your back pocket," he said.

"If their budget and operations plan is structured around, say, a 10% growth year, they need to know exactly what they have to do to grow 20+% instead, like starting the re-hiring process now," Penn advised. "It takes months to fill new slots, so get out there now and line up the new hires (the offer letters are still at least a quarter away); tie down longer-term supply contracts; just be ahead of your competitors."

The flip side

But of course, there's always a chance that not everything will come up as rosy as expected for 2010, however, the analysts caution. The semiconductor industry could be derailed by a major economic bust, caused, for example, by significant banks failing, Freeman noted. Or consumers could completely retrench. A successful major terrorist attack could also create a conservative economic environment, he added.

Feldhan commented that the economy is not out of the water yet. "The banking industry is still shaky and loans are hard to come by, which will dampen economic recovery," he said, adding, "Instability in the geopolitical arena continues to threaten consumer and business confidence, which could also slow economic recovery."

Scalise noted that SIA's growth predictions were closely tied to projections for continuing improvement of global economics. "Clearly, that is a must," he said. But Future Horizons' Penn argues that the relationship between the chip market and global economic growth rates is "statistically very weak." Instead, other factors such as ASPs, undercapacity or overcapacity, and inventory adjustments play a critical role in the final analysis.

"This was one of the main points of our analysis: Growth rate correlation is very weak; the chip market depends on the size of world GDP — not its growth rate," Penn said. "The only caveat to this is if the economy tanks again, it will take the chip market with it." However, Future Horizons is not predicting any such occurrence, he added.

References

1. A.E. Braun, "SIA Industry Forecast Optimistic, but With Reservations," Semiconductor.net, Nov. 6, 2009.

- 2. D. Lammers, "Capacity Tightens as Shortage Fears Rise," Semiconductor.net, Nov. 20, 2009.
- 3. D. Lammers, "Applied Cutting Staff as Demand Improves," Semiconductor.net, Nov. 12, 2009.

[+ Share](#) [RSS](#) [+ Subscriptions](#) [Reprints/License](#) [Print](#) [Email](#)

TALKBACK

We would love your feedback!

[Post a comment](#)


» [VIEW ALL TALKBACK THREADS](#)

RELATED CONTENT

[TOPICS](#) [AUTHOR](#)

- [Industry Downturn No. 11 Won't Be as Bad as No. 10](#) 01/29/2010
- [IC Insights: Semiconductor Capital Spending Expected to Drop 9% in 2008](#) 01/29/2010
- [Capex Likely to Remain Conservative, IC Insights Predicts](#) 01/29/2010
- [IC Insights: Only Three Companies in Billion Dollar Capex Club](#) 01/29/2010
- [Consumers Should Bring Another Good Year](#) 01/29/2010


SPONSORED LINKS



Resource Center [Browse Categories](#) [Browse Companies](#)

Featured Company

Technical Manufacturing Corporation
TMC designs and manufactures precision vibration isolation systems for sensitive research and manufacturing processes worldwide. The ISO 9001:2008-certified company's products are industry standards in semiconductor manufacturing, life sciences and... [more](#)



Most Recent Resources

[STACIS® SEM-Base™ Active Vibration Cancellation Floor Platform for...](#)