

by Stephen Brennan

Taiwan and China: Rivals or Partners in IC Production?

Even before the upturn arrives, decisions that may lead to future overcapacity are being made. Just as Japanese and Korean political and business actions led to chronic DRAM overcapacity, decisions in Taiwan and China could repeat these mistakes in the integrated circuit (IC) market. To understand the danger in the IC segment, it is important to examine the precipitous decline of the DRAM industry.

DRAM DECLINE

Today, many Japanese and Korean companies are scrambling to reduce their DRAM exposure, either by selling factories or exiting the low end of this market altogether. But it was not always so. Not long ago, the DRAM market was a prize of national honor that was fiercely fought for, so much so that the loss of U.S. share was seen as a sign of economic decline. The sizable loss of DRAM production by the U.S. was, of course, not a sign of any collective inability to innovate. Rather it signaled that this market was becoming a commodity.

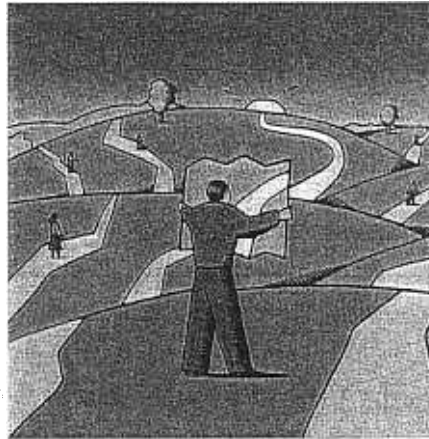
Like most commodities, DRAM market share got to the point where it was dictated by a mixture of economies of scale and government subsidies. First the Japanese and then the Korean governments directed substantial amounts of capital – at below-market rates – into companies building giant economies of scale in DRAMs. Like any product, subsidization brought more of it, so much in fact that we’re witnessing these national champions producing DRAM chips at significant losses. The market that everyone once wanted to own has become the market that many cannot exit fast enough.

FORK IN THE ROAD

Today, the IC market is showing eerie similarities to DRAM. Mirroring Japan’s DRAM experience, the Taiwanese have wrested a large share of the IC market by funneling large amounts of capital into creating economies of scale with their foundry model. Just as the Koreans did before them, the Chinese are now starting to direct capital into the DRAM market. China is currently the only regional market that has grown in regard to semiconductor equipment purchases during the current downturn. Meanwhile, the U.S. is wisely relinquishing much of its IC market share as many American companies focus on innovative

designs and leave to others a manufacturing process that is becoming commoditized.

Politics will play a big role in determining whether the IC market goes down the path of chronic overcapacity as exemplified by the DRAM players. Unfortunately, many of the same hostilities and rivalries that turned DRAM into an irrational battle of national pride for Japan and Korea also are present between Taiwan and China. Since government subsidization is likely, such rivalry would most likely lead to overcapacity and probably a new boom/bust cycle for the industry.



RANDY LYHUS

MARKETS VS. POLITICS

The Taiwanese and Chinese governments must decide if they are rivals or partners in ICs. The logic in support of partnership is compelling. Taiwanese companies can take advantage of lower labor costs and gain access to a growing market on their doorstep by becoming involved in mainland production. For Chinese companies, the payoff is access to Taiwanese know-how. However, the political arguments against partnership are also powerful. In the short term, Taiwan would be creating jobs and wealth in China instead of at home. The Chinese would be conferring a degree of legitimacy and relinquishing some control of its burgeoning IC industry to a “renegade province.”

Whatever the outcome of the debate between politics and market forces, the Taiwanese and Chinese IC relationship will surely play a pivotal role in the semiconductor industry, as well as in world affairs. Although it is a certainty that both countries want a piece of the IC pie, it is too early to tell how their relationship will develop. Possible mainland production by TSMC and UMC, along with new cross-strait economic ties, are being talked about in very general terms at the moment. It remains to be seen whether the lessons learned recently in other countries will influence the Chinese and Taiwanese in their discussions of a stable, mutually profitable future. ■

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