ASIA'S MELTDOWN: WILL IT SINGE OR SCORCH THE U.S. COMPUTER INDUSTRY?

CENTER FOR RESEARCH ON INFORMATION TECHNOLOGY AND ORGANIZATIONS
University of California, Irvine
3200 Berkeley Place
Irvine, California 92697-4650

and

Graduate School of Management

AUTHORS:
Jason Dedrick
and
Kenneth L. Kraemer
Email: Jdedrick@uci.edu, Kkraemer@uci.edu

Acknowledgement:
This research has been supported by grants from the CISE/IIS/CSS Division of the U.S. National Science Foundation and the NSF Industry/University Cooperative Research Center (CISE/EEC) to the Center for Research on Information Technology and Organizations (CRITO) at the University of California, Irvine. Industry sponsors include: ATL Products, the Boeing Company, Bristol-Myers Squibb, Canon Information Systems, IBM, Nortel Networks, Rockwell International, Microsoft, Seagate Technology, Sun Microsystems, and Systems Management Specialists (SMS).

Asia's Meltdown: Will It Singe or Scorch the U.S. Computer Industry?

Jason Dedrick and Kenneth L. Kraemer
University of California, Irvine

What does the Asian financial crisis entail for the U.S. computer industry? That's the question that must be on the minds of executives who have spent the past several years touting Asia as the emerging market that would help sustain the industry's double digit growth rates well into the future. It is also no small matter for companies who compete directly with Asian companies in everything from PCs to printers to DRAMs. The fear is that the Asian crisis will shrink export markets and create a new wave of imports from desperate competitors taking advantage of devalued currencies to lower their prices in US dollars.

Impact depends on industry sector and company

It appears that both of those scenarios are already taking place in some segments of the industry, and have caused real harm to a number of U.S. companies. But that is not the whole story. The Asian production network for computers is a complex, interdependent structure spread across a number of countries, making a wide variety of final products, components, subcomponents, materials and production equipment. For U.S. companies, the fallout from the financial crisis will depend on their position in the industry relative to the Asian production network and in Asian markets. Companies that rely on Asia as a major market will be hurt most, while those that produce and source in Asia will benefit from lower production costs.

Good times for Dell, bad news for Microsoft

Take two companies to illustrate. For Dell, the Asian crisis could be more good news than bad. Less than 5% of Dell's sales go to Asia, where it is a weak competitor, but nearly 30% of its parts and materials come from Asia. This means that while Dell will lose some sales revenue, its cost of goods sold will drop substantially as it buys chips, boards and other parts from Korea, Taiwan, Japan and elsewhere much more cheaply, thanks to the decline of those countries' currencies. On the other hand, the Asian crisis is bad news for Microsoft, which will lose sales as economic growth disappears in formerly high-flying Asian markets. And since Microsoft does little production in Asia, it will not benefit much from lower costs in Asia.

Tough times for commodity hardware makers

Another group of companies that will face tough times are those that compete directly with Asian companies in commodity hardware products such as DRAMs. Companies such as Samsung, Toshiba and NEC that produce the bulk of their memory products in Korea and Japan will have a price advantage over Micron Technology, which produces in the U.S. The big question is whether capital shortages in Korea force Samsung, LG Electronics and Hyundai to cut back their investments in new capacity and R&D. If so, DRAM prices could finally stabilize, working to the advantage of Micron.

Impact depends on how long crisis lasts

The bigger questions about the whole Asian crisis are how long it will last and how far it will spread. If Asian governments react effectively to shore up their financial systems and restore confidence in their economies, the whole episode could turn out to be a temporary, if painful, interruption in economic growth. After all, the Mexican peso crisis erupted in late-1994, but by 1997, the Mexican economy was growing rapidly and the rest of Latin America was following suit. If, on the other hand, the Asian governments try to avoid any painful restructuring, they may find themselves once again following Japan's lead, this time into prolonged economic stagnation.

Impact depends on how far crisis spreads

Just as important as the length of the crisis is how far it spreads. While most U.S. computer companies have seen Southeast Asia as an emerging market, few have really expected to make hay in the closed Korean and Japanese markets. On the other hand, major companies such as IBM, Intel, Motorola and Compaq have bet heavily on the China market as a major source of future growth. If the Asian flu spreads to China, it will have serious consequences for companies that have made heavy investments based on optimistic projections of the Chinese market.

Even more scary is the possibility that Asia's troubles will ultimately drive the U.S. economy into recession. If the U.S. market begins to stagnate, then the whole computer industry will suffer, as it did in the early 1990s when annual industry growth dropped to single digits for several years. For an industry that bases its strategic decisions on the assumption of steady double-digit growth, this scenario should really cause some sleepless nights.

New opportunities for information services companies

There is a bright side to the Asian crisis for information services companies, who are finding new opportunities is formerly closed markets. In the past, Asian companies were loathe to spend money on services in general, and were unwilling to allow outside consultants to get a close look at their internal operations. But as U.S. companies start to buy up Asian financial institutions and other companies, they are bringing in their own information systems, often developed by companies such as IBM Global Services, Andersen Consulting, EDS, Oracle and Hewlett-Packard.

In the case of Mexico, for example, the peso crisis was followed by rapid growth in sales of information services such as systems integration, outsourcing and network development. Asian companies faced with outside competition for the first time are likewise turning to U.S. service providers to upgrade their own information systems. As a result, some of those U.S. companies will be well positioned when Asia's economies start to rebound.

Asia Crisis Scorecard

How specific companies will do is hard to determine, but the foregoing discussion provides a basis for making a summary prognosis for some leading U.S. companies. The table below is such a scorecard for some major companies in the U.S. computer industry but a similar scorecard could be developed for the computer industry in Japan, Hong Kong, Singapore, Taiwan and other Asian countries as well as for Europe and Latin America. The scorecard includes companies in the hardware, software and information services sectors, illustrating the breadth of the likely impact of Asia's financial crisis.. For each company shown, the scorecard includes a summary prognosis and some of the major reasons for that prognosis.

Companies	**Prognosis**	**Reasons**
Microsoft	Negative	Japan is a big market, but stagnating; rest of Asia buys little unpirated software anyway.
Intel	Negative	23% of revenue from Asia, counting heavily on region for growth.
IBM	Mixed	19% of revenues from Asia. Sources from Asia for PCs, but less for large systems. Good opportunities in longer run due to strong position in services.
Compaq	Mixed	Less than 10% of revenues from Asia, produces and sources heavily from the region. New subsidiary, DEC, had 14% of revenues in Asia.
Hewlett-Packard	Mixed	Asia accounts for around 15% of revenues, Produces PCs and printers in the region, so some cost savings are being seen. Possible opportunities in services.
Dell	Positive unless U.S. market is affected	3% of revenues from Asia, 30% of costs incurred there. Actually gaining market share in Asia as Asian competitors struggle.
Seagate, Western Digital, Quantum	Negative	Loss of PC market in Asia has hurt, but disk drive makers do most of their assembly in the region, so costs are falling. Big problem is global overcapacity.
Micron Technology	Mostly negative	Asian DRAM makers have gained a cost advantage as currencies fall, but they've had to cut back on investment as well.
EDS, Computer Sciences Corp., Andersen Consulting	Mixed	Less than 5% of business is in Asia. New opportunities could emerge as markets open.