



## **Executive Summary**

# **Semiconductor Quarterly Report Third Quarter, 2005**

©2005 US-Taiwan Business Council

## **INTRODUCTION**

The US-Taiwan Business Council is committed to providing our members with tactical and strategic advice on how to succeed in the Taiwan market. As part of a suite of information products distributed to our members, the Council publishes several analysis reports each year. These reports are published each quarter, with an expanded report in the fourth quarter that covers the entire previous year.

The Semiconductor report focuses on the semiconductor industry as it relates to Taiwan, China, and the U.S., and provides up-to-date analysis of developments during each quarter. Each report also contains contact information valuable in initiating and maintaining a relationship with Taiwan private and government entities, as well as other useful information including organization charts and a glossary.

The US-Taiwan Business Council's Semiconductor Report has been published since the first quarter of 2002. Although these reports are distributed exclusively to members and to U.S. government employees, this executive summary provides some insight into the focus and contents of the report.

For more information, please contact us directly at the below address, or visit us online at [www.us-taiwan.org](http://www.us-taiwan.org).

**US-Taiwan Business Council  
1700 North Moore Street, Suite 1703  
Arlington, Virginia 22209**

**Phone: (703) 465-2930**

**Fax: (703) 465-2937**

**Email: [Council@us-taiwan.org](mailto:Council@us-taiwan.org)**

**[www.us-taiwan.org](http://www.us-taiwan.org)**

## **QUARTERLY SEMICONDUCTOR ANALYSIS**

**PUBLISHED OCTOBER 1, 2005**

Over the past three months, Taiwan has made little progress in further opening semiconductor industry investment to political rival China. However, the coming three months should be an entirely different story, thanks to significant progress in Taiwan's policing of its existing investment regulations, as well as improving economic conditions.

The recovery of the global chip industry has slowed growth in the budding Chinese chip industry, with chip foundry growth looking anemic this year compared to the recent past. It appears that better economic conditions have caused some multinationals to reassess their outsourcing strategies, with some sobering to the fact that China is an intellectual property risk. Bold moves by Taiwan law enforcement officials aimed at cracking down on illegal chip investment to China by Taiwan nationals has also helped reduce the breakneck speed of China's rise to superstardom in the semiconductor industry.

The good chip industry news is all on the side of Taiwan and the U.S. right now, and they should both see increased chip sector investment because of the slowdown in China. For Taiwan, the coming three months should also herald breakthroughs in further opening of legal investments in the Chinese chip industry. Proving it can effectively manage cross-Strait investment is critical for Taiwan, and three high profile fines levied on key chip executives should provide Taipei the political capital it needs to ease certain regulations that would be beneficial to its companies. Long-standing issues, such as allowing chip packaging and testing companies to invest in China, and loosening technology requirements to allow Taiwan Semiconductor Manufacturing Co. (TSMC) to use 0.18-micron manufacturing process technology in its Shanghai semiconductor wafer fabrication plant (fab), are two major issues the government could make announcements on during the next three months.

The Chinese slowdown may also be one reason why the U.S. appears to have regained some momentum in its chip factory investments. A high profile decision by Intel Corporation to build its next 12-inch, US\$3 billion (NT\$99.56 billion) wafer fab in Arizona, and a preliminary finding by a Samsung Electronics committee to erect a similar plant near Austin, Texas indicate that investment in state-of-the-art chip factories in the U.S. is back in vogue. It is likely the U.S. Department of Defense (DoD) has had something to do with the decision, as it has been working towards making it more difficult to export sensitive chip production technology to China. Regardless of DoD's position, however, these companies had many other choices around the globe for their plants, including the two places that have in the past offered the best incentives - Israel and Singapore, but they chose the U.S. instead. No doubt, officials in both U.S. states worked hard to come up with attractive incentive packages for these companies.

Despite indications that an easing of investment regulations may be forthcoming for Taiwan chipmakers, the Taipei government's view of China as an enemy continues to impede business development. While it is difficult to expect governments that have been enemies for more than five decades to suddenly throw open their arms to each other, the tit-for-tat diplomacy between Taipei and Beijing leads to both economies losing out on potentially lucrative trade, investments, and ventures. In the past three months alone, China has likely lost US\$3 billion (NT\$99.56 billion) in Taiwan chip plant investments due to political bickering. It would be too easy to blame Taipei for the hold up, since the Taiwan government could make short work of giving the go-ahead. Nevertheless, Beijing has also done little to merit Taiwan's trust, and it continues to threaten the island with an estimated 750 ballistic missiles, as well as keeping up political pressure on the island through all available diplomatic channels.

This quarterly report will provide a detailed account of how more effective policing of current investment regulations by Taiwan should lead to an easing of other investment regulations with regard to China, and the possible implications that has for Taiwan and for the U.S. It will also discuss in detail the likelihood that two more chipmakers will be given the green light to set up new fabs in China by the end of this year.

In addition, the report will examine efforts in China to develop central processing units, the calculating engines inside computers, and debunk the idea that these efforts pose a threat to the U.S.

**REPORT TABLE OF CONTENTS**

Letter from the President .....	1
About the Council.....	3
Semiconductor Analysis .....	5
Introduction .....	5
China Targets U.S. as Latest Tactic in Cross-Strait Row.....	6
Taiwan Tightens Its Grip on China Investment .....	6
TSMC Seeks Permission to Use 0.18-micron Production Technology in China .....	9
A Little Help from South Korea .....	10
Chinese Foundries Run into Growing Pains .....	10
Taiwan’s Competitiveness in Jeopardy .....	11
Electronics Factory Migration Still Points to China .....	12
China’s Late Creep Forward .....	12
Looking Ahead .....	14
Conclusion.....	15
Addendum: Recommendations for Changes to China Investment Rules.....	17
Glossary of Terms .....	19
Taiwan Government Contact Information .....	27
United States Government Contact Information .....	37
Suggestions of Sources for Semiconductor Industry Information .....	47
Semiconductor Headlines: Third Quarter, 2005 .....	49
Appendix.....	55
Trend: The Philadelphia Semiconductor Index.....	55
Trend: The Taiwan Stock Index.....	56
Trend: US\$:NT\$ Exchange Rate .....	56