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### **Title**

The Asian Crisis and California's Computer Industry

### **Permalink**

<https://escholarship.org/uc/item/2h21f16p>

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### **Publication Date**

1997-12-17

## Postscript: The Asian Crisis and California's Computer Industry

The financial crisis that has been spreading through a number of South-east Asian and East Asian countries since last summer raises questions about its potential impact on California's computer industry. In terms of exports of manufactured goods as a whole, the exposure of California to Asia is about twice as much as that of the US. About a quarter of US exports go to Asia, while in the case of California, over \$50 billion of the state's \$104 billion of exports of manufactured goods in 1996 was shipped to Asian economies.

### The Bad News

Two sectors heavily tied to the California computer industry, industrial equipment (SIC 35) and electronic equipment (SIC 36), account for \$57 billion of the state's total exports of \$104 billion. Of these, well over \$30 billion are shipped out to the eight largest Asian trading partners of California (see Table 1). The exposure to tremors in Asian economies is at first sight considerable, both for manufactured goods as a whole, and for high-tech products in particular. We can expect the sudden slowing of these economies to have a negative impact on their imports and consequently on their demand for California goods. Some of the exports, however, do not really have Asia as their final destination, but are transit goods, on which value is added and which are then exported to other destinations.

Exchange rate impacts may bring further negative consequences. The rapid depreciation of a number of Asian currencies, like the Korean Won and the Malaysian ringgit, would have the effect of making their products cheaper. About one-third of all US imports originate in Asia, and although we do not have import data for California, it would seem that California's exposure to Asian imports is not less than that of the US, and could be more. As the

Asian countries try to boost their exports, helped by weaker currencies and spurred on by the need to improve their economies, California, along with the rest of the US, can expect more imports and perhaps a fresh challenge to some domestic industries.

### The Good News

Both these negative effects may be mitigated by a number of factors. A large part of the exports of California high-tech firms is to their own affiliates and subsidiaries, as part of the international production chain. In 1995 for example, intra-firm trade (trade involving U.S. parent firms and their foreign affiliates on the one hand, or foreign parent firms and their US affiliates on the other) accounted for 35% of all U.S. exports of goods and for 40% of all U.S. imports of goods respectively. The percentages would be higher for the computer industry where various parts and subassemblies cross a number of borders before the final product reaches the market. The computer and components exports of California are, therefore, not wholly dependent on the demand of the country where they are shipped, but rather on global demand, which is projected to grow, albeit more

slowly than before.

A substantial part of the state's imports are inputs crucial in high-tech production, and a decrease in their prices would make California firms more competitive. Also, cheaper imported consumer goods, if not directly competing with domestic goods, are welfare enhancing.

Financial markets have been volatile, responding to both deteriorating Asian conditions and these mitigating factors. Both the Dow Jones and the technology index developed by the Pacific Stock Exchange, the PSE Tech 100 covering 100 high-tech firms, dropped significantly in October in response to early signs of trouble. Since then the markets have fluctuated wildly.

In the short term, there will be some uncertainty regarding the economic health of California's computer industry. In the longer term, the negative consequences are somewhat counterbalanced by a number of factors, including the resilience of global demand, the relative stability, hitherto, of China and Japan, the intra-firm nature of trade, the imports of components from Asian countries, and the transit nature of exports to Asia.

Ashok Deo Bardhan

**Table 1**  
Computer Related California Exports to Major Asian Markets, 1996

Country	Electronic Components	Industrial Equipment	Total Computer Related
Japan	3.8	4.5	8.3
Korea	2.5	2.9	5.4
Hong Kong	1.2	0.8	2.0
Taiwan	2.0	1.3	3.3
Thailand	1.2	0.4	1.6
Singapore	3.2	1.7	4.9
Philippines	1.4	0.3	1.7
Malaysia	2.5	0.6	3.1
<b>Total Asia*</b>	<b>17.8</b>	<b>12.5</b>	<b>30.3</b>
<b>Total World</b>	<b>31.0</b>	<b>26.0</b>	<b>57.0</b>

Source: US Department of Commerce Series 1 data (MISER).  
\* Eight largest markets