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RUNNING HOME?

For years, some observers of the integrated circuit industry have been predicting a massive shift of assembly (bonding) from offshore locations to the United States. Fairchild already assembles microprocessors in Wappingers Falls, New York. Motorola bonds chips in Austin, Texas.

Articles on the subject point out that wage scales in some Asian countries are rising faster than in the U.S., that shipping charges are rising, and that start-up costs such as training are significant as well. (See, for instance, **Electronics News**, June 7, 1982) At this point, however, offshore assembly still provides savings for most product lines, and at most one can expect the offshore chip assembly workforce to stabilize, not decline.

The biggest push to return assembly home will come from the gradual automation of the assembly process. As more sophisticated machinery is introduced and linked, each unit of investment requires more skilled labor while dramatically reducing the need for semi-skilled workers. **Electronics** (August 11, 1982) analyzed the manufacturing cost per integrated circuit in Hong Kong and the United States. The figures show that the installation of automatic bonding machines with pattern recognition, six of which could be operated by

one person, would virtually eliminate the off-shore cost advantage.

Manufacturing Cost Per Device (US\$)

	Hong Kong	U.S.
Manual	.0248	.0753
Semiautomatic	.0183	.0293
Automatic	.0163	.0178

DOLCH BUYS DOLCH

The workings of modern capitalism are as bizarre as an Escher etching. Earlier this year, for instance, two major industrial companies, Martin Marietta and Bendix, aided by huge credit lines, were in the process of buying controlling shares of each other. Now, a much smaller German firm, Dolch Logic Instruments, has been purchased by its Silicon Valley marketing subsidiary. In this case, however, the takeover was friendly. Founder Volker Dolch worked out the deal to raise venture capital unavailable in Germany. Ironically, the source of the new investment, Churchill International, is a Silicon Valley investment firm representing \$60 million in European and Japanese funds. (**Business Week**, November 1, 1982)

RE-IMPORT DATA

The U.S. International Trade Commission periodically releases data on the use of items 806.30 and 807.00 of the U.S. tariff schedules. Both items permit companies which fabricate products or components in the U.S. and ship them abroad for processing or assembly to pay duties only on the value added outside the U.S. when the goods are re-imported. Historically, both items have been used extensively by the semiconductor industry. Figures published in July, 1981 ("Imports Under Items 806.30 and 807.00 of the Tariff Schedules of the United States, 1977-80," USITC Publication 1170) show that re-imports under these items still account for the lion's share of U.S. semiconductor imports, but that the share is declining. Presumably, Japanese exports are taking a slightly larger share of the U.S. market.

The portion of the value of re-imported products brought into the U.S. duty-free - that is, originating in the U.S. - has increased. The USITC (p. 41) attributes this trend to the increased circuit densities of chips assembled abroad.

The ITC reports semiconductor re-imports for seven major offshore production sites. This particular document does not provide industry breakdowns for South Korea or Indonesia, for they are not among the top ten sources of all re-imported goods. However, they certainly belong in Table 1 below. It also does not list

figures for the use of 806.30 in Taiwan or Hong Kong, but amounts for both are very small. Third-country transfers may distort Table 1, as well. Since some companies test in Singapore circuits assembled in the Philippines or Indonesia, the value added in those two lands could be assigned to Singapore in the statistics. Surprisingly, Canada is a major processor of U.S.-origin semiconductors.

The last entry in Table 2, "dutiable re-imports as share of foreign source imports," was calculated to demonstrate that value added at the foreign subsidiaries of U.S. companies still exceed U.S. imports of foreign-origin chips from Japan and other countries.

Table 1. Semiconductor Re-Imports by Country, 1980

	Re-Imports (US\$ thousands)	Duty-Free
Malaysia	744,964	60%
Singapore	544,344	67%
Philippines	343,857	68%
Mexico	116,177	66%
Canada	100,499	81%
Taiwan	99,501	50%
Hong Kong	92,487	50%

Table 2. Semiconductor Re-Imports

	(US\$ millions)			
	1977	1978	1979	1980
Total semiconductor imports	1,373.8	1,790.3	2,447.7	3,348.1
807.00 semi. re-imports	863.7	1,329.1	1,852.0	2,450.9
806.30 semi. re-imports	256.5	149.4	64.0	55.3
total re-imports	1,120.2	1,478.5	1,916.0	2,506.2
re-imports as share of imports	82%	83%	78%	75%
duty-free value share of re-imports	55%	60%	62%	63%
dutiable re-imports as share of foreign source imports	66%	65%	58%	52%

INDIAN ZONES

India's two free trade zones are doing so well, while the country's overall exports are waning, that the government has reportedly decided to create six new free trade zones. In addition, a high-level committee has recommended to the Ministry of Commerce that tax holidays for companies in the zones be extended from five years to ten years. The proposed locations are in Bangalore, Calcutta, Cochin, Goa, Jammu and Kashmir, and Madras.

The government of the Union Territory of Goa, the former Portuguese colony on India's west coast, has already begun providing infrastructure to the Verna plateau area it has selected for its free trade zone. The local government proposes to permit manufacturers to market 25 percent of their output locally. Production is scheduled to begin in December, 1984.

In the southwestern state of Kerala, the state government has set aside more than 2,400 acres of land for an export zone. The site is Cochin, the center of India's export fishing industry.

India's two functioning free trade zones are in Santa Cruz, Bombay (Maharashtra), and Kandla, in the far western state of Gujarat. In the first five months of this fiscal year (April through August), Kandla's exports spurted more than 300 percent above the same period last year, while Santa Cruz doubled its shipments. From its creation, the Santa Cruz zone has been exclusively for electronics manufacturers. (See issue no. 22)

According to Ashok Bhatia, Development Commissioner of the Kandla Free Trade Zone, 12 new units began production there in the first five months of 1982-1983. There are now 76 factories in the zone, and 80 more have been approved. The zone authorities are adding 300 acres.

A task force appointed in September, 1981 to examine the possibility of adding zones has

called the present five-year tax holiday "inadequate." It has advised that even after ten years that some manufacturers should be granted an additional five years, based on export performance.

The task force has also proposed that the tax-holiday concept be enlarged to cover other elements, such as dividends, royalties, and interest on foreign loans. It has suggested regulations restricting the share of foreign ownership be relaxed, depending on a company's export earnings and technology.

Furthermore, the committee recommended that commerce, as well as manufacturing, be permitted in the zones, as long as traders meet established criteria for adding value to products. And it urged that the rules restricting sales from zone industries to India's domestic tariff area be eased.

ERNST REPORT

Dieter Ernst's landmark study for UNIDO, mentioned in the June Newsletter, is now available as a book, **The Global Race in Microelectronics: Innovation and Corporate Strategies in a Period of Crisis**. David Noble of MIT prepared the foreword. Though there may soon be a U.S. publisher, the original publisher of this English-language study is Campus, Myliusstr. 15, 6 Frankfurt am Main 1, F.R.GERMANY.

BIBLIOGRAPHY

The Center for the Progress of Peoples will make available, at cost, a 31-page bibliography on "Women Workers in Export-Oriented Industries in Southeast Asia." Prepared by Diane Elson, the bibliography can be ordered from the Center for the Progress of Peoples, 48 Princess Margaret Road, 1/F, Kowloon, Hong Kong.

FRANCE

Anxious to develop a French, world-class computer company, the Socialist government of France has concluded what *Fortune* (June 28, 1982) calls a "sweet deal" with Honeywell, which was engaged in negotiations over the future of CII-Honeywell Bull (see Issues No. 15, 18). The French will pay US\$150 million for the bulk of Honeywell's equity in CII-HB, which will fall from 47% to 19.9%. In addition, the government has promised to pay \$80 million for the remaining equity after ten years - essentially a guarantee against unilateral nationalization. Honeywell will lose all managerial control in the venture, but CII-HB will continue to work closely with the U.S. firm in both marketing and development. Honeywell probably agreed to the 19.9% figure because 20% is the threshold below which it need not consolidate a subsidiary's earnings (in this case, losses) in its financial reports.

Meanwhile, National Semiconductor is reportedly having difficulty maintaining its French partnership. *Electronics* (September 8, 1982) reported that the government was urging its newly nationalized Thomson-Brandt to take over St.-Gobain-Pont-a-Mousson's 51% of Eurotechnique, leaving National with 49% and a stronger position in France than Motorola, which has been sharing technology with Thomson. However, in its "November 17" issue, *Electronics* reported a breakdown in talks, suggesting that Thomson would acquire National's share as well.

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