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# GLOBAL ELECTRONICS

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## WOMEN WORKING AT M.N.E.'S

The International Labour Office, in conjunction with the UN Center of Transnational Corporations, has published (in 1985) a monograph, by Singaporean Linda Lim, on **Women Workers in Multinational Enterprises in Developing Countries**. The study looks at the employment of women in the service sector, agribusiness, and of particular interest, manufacturing.

Although activists in the developed countries have paid a great deal of attention to the women employees of multinationals in the Third World, Lim points out that multinationals employ a small fraction of women industrial workers in developing countries as a whole, and that women also represent a small portion of the MNE workforce, which itself is generally dwarfed by domestic employment. In addition, most multinationals are engaged in import substitution production, not manufacturing for export. In fact, she writes, "most employment in export-oriented manufacturing in developing countries occurs not in multinationals, but in national enterprises, with a few notable country exceptions (pre-eminently, Malaysia and Singapore)."

Drawing on a large number of studies by other scholars, as well as her own work in Southeast Asia, Lim finds that multinational corporations generally provide higher pay, better working conditions, and job security equal to that of national enterprises. She finds that industrial employment enhances a woman's status within her family, and she concludes, "the strengthening of women's position within the family strengthens and democratizes the family, attenuating cultural stereotypes with regard to age and sex, and even cements links with the wide extended family beyond the individual nuclear unit despite a continuing formal patriarchal structure and authority system."

Lim's relatively positive view of the impact of MNE's on working women has been influenced by her studies of Singapore, where the government, though authoritarian, has consciously pushed foreign enterprises to provide better jobs and has decreed increased pay, at least for Singaporean citizens. In fact, Lim considers other factors more important than foreign ownership in improving the lot of women workers. Where multinationals provide better conditions of employment, it is usually due to their size and prosperity, not their "multinationality" *per se*.

She observes, "However, besides the local labour market, host government policies, the national socio-economic environment, and indigenous cultural traditions have on the whole a greater impact on women's employment conditions in industry and their effects on women's quality of working life than the pure fact that the employer is a multinational. These historically- and situationally-specific factors explain the wide diversity

that can be found among developing host countries in the women's employment situation in multinationals."

Lim still argues that the position of women workers, whether employed by MNE's or nationally owned enterprises, needs improvement. She favors a strengthening of unionism, and she calls for the abandonment of legislation restricting the organizing rights of workers, noting that such rules do not necessarily attract foreign investment.

Lim's comparison of foreign and locally owned firms may be correct as far as it goes, though as she points out, conditions vary from country to country. In this report, however, she ignores key issues surrounding the activities of multinational factory employment in the Third World. Still, her failure to criticize specific governments and labor organizations must be understood in the context of the sponsorship of the publication.

Multinational firms may in fact provide marginally better conditions of employment than national enterprises, but the desire of national ruling groups - at times responding to pressure from foreign agencies - to attract foreign companies directly leads to national policies that undermine the position of workers in all enterprises. In particular, the strategy of export-oriented industrialization demands low wages. In most countries, it means denying workers the bargaining power to earn wages that would allow them to buy the fruits of their labor.

In some countries, such as the Philippines, this has meant the selective suppression of labor organizing activity at foreign-owned firms, but in most cases - South Korea, for example - it means the denial of workers' rights and human rights in general throughout the country.

Furthermore, even when multinationals are not footloose, they constantly hold the threat of moving over workers. Many overtly compare wages, productivity, etc., when seeking greater output and cooperation from their workforces. This threat undermines the bargaining power of workers in both the developing and developed countries.

In addition, in export-oriented economies, it may be a mistake to lump all domestically owned firms together. Many, though owned and managed by nationals, are essentially the arms of foreign partners, contractors, and buyers. Their dependence upon markets and decisions made in the developed world may be more important than the absence of direct control. As players in the world trading theater, they too must reduce labor costs to survive.

The key question, for economic planners and labor movements, is not whether existing multinational factories offer a better deal than their locally owned neighbors. Rather, would women workers and their societies as a whole be better off under economic policies that did not cater to the needs of foreign investors and buyers?

## JOINT AND OFFSHORE VENTURES

GE's proposed takeover of RCA has put RCA's planned joint venture with Japan's Sharp into limbo. RCA-Sharp has established a chip design center in Vancouver, Washington (near Portland, Oregon), but it has not begun construction on the \$250 million automated chip factory announced for nearby Camas, Washington. RCA-Sharp has, however, signed a joint venture agreement with Silicon Valley's WaferScale Integration. (San Jose Mercury News March 8, 1986; Electronics, April 28, 1986)

South Korea's Hyundai Electronics Industries (HEI), apparently unable to compete effectively on its own in the international semiconductor sweepstakes, has established a five-year alliance with General Instruments (GI). HEI will produce in Korea GI-designed non-volatile memory chips (EPROMS and EEPROMS). The chips, forecasted to exceed several hundred million dollars in value over the five years, will all be marketed by GI. (Hyundai News, April, 1986)

Vitellic, a Silicon Valley start-up that made money even during the worst of the current slump, designs and sells memory chips. But it has no factories of its own. It currently contracts with Taiwan's Electronics Research and Service Organization, Sony and NMB Semiconductor in Japan, and Hyundai. (Electronics, April 21, 1986)

Meanwhile Daewoo, one of Hyundai's leading competitors in South Korea, has purchased a controlling interest in Silicon Valley's Zymos Corp. (San Jose Mercury News, April 22, 1986)

Another Silicon Valley start-up, American Information Technology, has raised \$10 million "through a combination of equity investment and advances against future royalties, primarily from firms and individuals in Pacific Rim countries . . ." This unusual financial arrangement has permitted AIT's founders, Le Nguyen and Chong Nam, to retain majority ownership. AIT is working on a 64-bit microprocessor. The San Jose Business Journal (February 24, 1986) cites Dataquest's Sheridan Tatsuno, who says "that increasing numbers of foreign-born engineers are turning to companies based in their native lands for financing - rather than relying on American venture funds - to form firms here." However, since AIT's founders' names sound Vietnamese, it is likely that they raised the money outside their native land.

Apple Computer, which touted its Macintosh plant in Fremont, California (adjacent to Silicon Valley) as a model for domestic, automated production, now makes all its Apple IIe computers in Singapore. The plant, which employs 283 people, produced boards and peripherals when it opened in 1981. But last year, Apple shifted computer production there from its plants in Carrollton, Texas and Mill Street, Ireland, both of which were shut down as cost-cutting measures. Apple is spending \$12 million to build a new, highly automated plant in Singapore. The new facility is scheduled to replace the current shop in July, 1987. (Peninsula Times Tribune, March 15, 1986)

DH Technology, a Silicon Valley producer of computer printers, plans to open a plant in Tijuana

Mexico, move its headquarters to San Diego, just across the border, and close a facility in Salt Lake City. The San Jose Mercury News (March 1, 1986) reports, "Only seven people will lose their jobs in Salt Lake City, while the 30-person Sunnyvale staff will be asked to relocate."

Classic Technology, a Silicon Valley-based producer of multifunction add-on boards of IBM-type personal computers, plans to shift production to the Far East. Classic blames the imposition of anti-dumping duties on Japanese-made memory chips, which if upheld will raise its parts costs considerably. However, a semiconductor executive told Infoworld (February 24, 1986) that low labor costs, not lower component prices, were the reason companies like Classic move overseas. Classic President Gerald Sugar disagrees, saying that overseas labor cost savings total only \$2 per board.

## PERFORMANCE

Performance Semiconductor, a Silicon Valley start-up with links to supercomputer-maker Cray Research, has broken the submicron barrier, announcing a group of chips designed with .8 micron channel lengths. Significantly, reports Electronics (April 7, 1986), "although it is building a military-standard microprocessor, the company has bootstrapped itself without the financial benefit of being a part of the Defense Department's Very High Speed Integrated Circuits [VHSIC] program." This reinforces the widespread belief within the semiconductor industry that VHSIC will not propel the military back into technological hegemony.

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## SCIENTISTS AND ENGINEERS

Women and ethnic minorities remain underrepresented among physical scientists and engineers in the U.S., but they are (very) slowly gaining ground. Of minority groups, members of the catch-all Asian category are overrepresented in science and engineering. They make up less than two percent of the U.S. population, but they account for about five percent of all engineers and scientists. (Women and Minorities in Science and Engineering, National Science Foundation, January, 1986.)

Women engineers and scientists earn appreciably less than their male counterparts, even under similar circumstances. "About one-half of the differential in

female-male salaries remains unexplained after standardizing for field, race, sector of employment, and years of professional experience." Women's average salaries are actually falling in relation to men's, reflecting in part the entry of growing numbers of women into the professional workforce. Depending upon the field, women earn on the average from 73% to 84% of men.

In addition to the data summarized here, the NSF report contains information about environmental, social and life scientists, as well as psychologists; Hispanic and Native American scientists and engineers; and schooling patterns by gender and ethnicity.

### U.S. Employed Women Scientists and Engineers (thousands)

	1976			1982			1984		
	Total	# Women	%	Total	# Women	%	Total	# Women	%
PHYSICAL SCIENTISTS	188.9	16.2	8.6	227.4	22.3	9.8	254.1	28.3	11.1
Chemists	132.8	13.7	10.3	154.1	17.7	11.4	168.6	22.3	13.2
Physicists/Astronomers	44.3	1.7	3.8	47.6	2.5	5.3	61.2	3.0	4.9
MATH. SCIENTISTS	48.6	11.5	23.7	79.4	25.3	31.9	100.4	21.9	21.8
COMPUTER SPECIALISTS	119.0	20.6	17.3	299.0	78.7	26.3	436.8	114.1	26.1
ENGINEERS	1,371.7	21.4	1.6	1,847.2	58.3	3.2	2,214.1	74.5	3.4
Aeronautical/Astronautical	56.8	.4	.7	80.8	2.1	2.6	97.2	2.2	2.3
Chemical	77.5	2.5	3.2	107.7	6.1	5.7	140.1	8.8	6.3
Civil	188.2	5.4	2.9	258.2	6.1	2.1	312.7	9.3	3.0
Electrical/Electronics	283.0	1.6	.6	437.7	9.1	2.1	500.7	12.2	2.4
Industrial	n.a.	n.a.	n.a.	113.1	4.5	4.0	131.7	5.3	4.0
Mechanical	276.2	2.3	.8	357.9	7.1	2.0	445.6	10.9	2.4

### U.S. Employed Black Scientists and Engineers (thousands)

	1976			1982			1984		
	Total	# Black	%	Total	# Black	%	Total	# Black	%
PHYSICAL SCIENTISTS	188.9	3.2	1.7	227.4	3.5	1.5	254.1	6.1	2.4
Chemists	132.8	2.8	2.1	154.1	2.9	1.9	168.6	5.3	3.1
Physicists/Astronomers	44.3	.3	.7	47.6	.4	.8	61.2	.6	1.0
MATH. SCIENTISTS	48.6	2.6	5.3	79.4	3.6	4.5	100.4	4.7	4.7
COMPUTER SPECIALISTS	119.0	1.6	1.3	299.0	8.9	3.0	436.8	12.1	2.8
ENGINEERS	1,371.7	16.7	1.2	1,847.2	31.5	1.7	2,214.1	37.1	1.6
Aeronautical/Astronautical	56.8	.3	.5	80.8	1.2	1.5	97.2	1.2	1.2
Chemical	77.5	1.5	1.9	107.7	1.0	.9	140.1	1.5	1.1
Civil	188.2	1.6	.9	258.2	3.7	1.4	312.7	4.8	1.5
Electrical/Electronics	283.0	2.9	1.0	437.7	9.7	2.2	500.7	11.4	2.3
Industrial	n.a.	n.a.	n.a.	113.1	2.2	1.9	131.7	3.0	2.2
Mechanical	276.2	2.4	.9	357.9	3.8	1.1	445.6	4.8	1.0

(continued on page 4)

## U.S. Employed Asian Scientists and Engineers (thousands)

	1976			1982			1984		
	Total	# Asian	%	Total	# Asian	%	Total	# Asian	%
PHYSICAL SCIENTISTS	188.9	4.7	2.5	227.4	8.2	3.6	254.1	12.5	4.9
Chemists	132.8	6.8	5.1	154.1	6.4	4.2	168.6	8.5	5.0
Physicists/Astronomers	44.3	.6	1.4	47.6	1.2	2.5	61.2	2.8	4.5
MATH. SCIENTISTS	48.6	1.6	3.3	79.4	2.7	3.4	100.4	4.7	4.7
COMPUTER SPECIALISTS	119.0	4.0	3.3	299.0	13.1	4.4	436.8	24.6	5.6
ENGINEERS	1,371.7	58.1	4.2	1,847.2	86.6	4.7	2,214.1	117.5	5.3
Aeronautical/Astronautical	56.8	1.6	2.8	80.8	2.6	3.2	97.2	4.9	5.0
Chemical	77.5	2.4	3.1	107.7	7.3	6.8	140.1	10.3	7.4
Civil	188.2	14.8	7.9	258.2	17.7	6.9	312.7	23.8	7.4
Electrical/Electronics	283.0	13.8	4.9	437.7	23.8	5.4	500.7	31.1	6.2
Industrial	n.a.	n.a.	n.a.	113.1	2.7	2.4	131.7	2.8	2.1
Mechanical	276.2	9.7	3.5	357.9	15.6	4.4	445.6	21.3	4.8

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