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WOMEN IN THE LABOR MARKET AND ECONOMIC DEVELOPMENT
A CASE STUDY OF TAIWAN

By

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ABSTRACT

WOMEN IN THE LABOR MARKET AND ECONOMIC DEVELOPMENT
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This case study of Taiwanese women's employment status based on census data is to illuminate the divergent conclusion about the exclusion of women from labor market and/or from industrial sector in the course of development and to shed light on female status as a gender in the formal labor market in Taiwan during the period of 1952-1987.

On the one hand, the inclusion of Taiwanese women in the labor market and particularly in manufacturing in the course of development refutes the simple notion of female marginalization thesis. Therefore, a differentiation of economic structure with which the peripheral countries are incorporated into the world economy is needed in the study of female employment status and economic development.

On the other hand, the study substantiates women's subordination in the labor market reinforced by the interacting forces of patriarchy and capitalism. Although the economic development of Taiwan imposed upon by a dependent economy indeed accrued job opportunities for women, women's subordinated status in the labor market is intensified, evidenced in the deteriorated sexual income inequality, proletarianization of women, and occupational segregation.

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KEY TO ABBREVIATION

CDN	Central Daily News, International Edition (in Chinese)
DGBAS	Direct-General of Budget, Accounting and Statistics, Executive Yuan, Republic of China.
EAP	Economically active population
EPZs	Export processing zones
ES	**Essential Statistics**, Export Processing Zone Administration Ministry of Economic Affairs, Kaohsiung, Taiwan, R.O.C.
GDCF	Gross domestic capital formation
GDP	Gross domestic product
IOFC	**Industry of Free China**, DGBAS, Executive Yuan, Taiwan, Republic of China.
LDCs	Less developing countries
LFP	Labor force participation
Mfg.	Manufacturing
MNCs	Multinational corporations
TSDB	**Taiwan Statistical Data Book**, DGBAS, Council for Economic Planning and Development, Executive Yuan, R.O.C.
YOEAPS	**Yearbook of Earnings and Productivity Statistics, Taiwan Area, R.O.C., 1987**, DGBAS, Executive Yuan, Taiwan, Republic of China.
YOMS	**Yearbook of Manpower Statistics, Taiwan Area 1987**, DGBAS, Executive Yuan, Taiwan, Republic of China.

I. INTRODUCTION

Proponents of modernization perspectives in School of Women in Development often hold that economic development is beneficial to women's status in the Third World in terms of the growth of female employment and emancipation of women from patriarchy in home. However, the emphasis on female's production role for improving their inferior status as a gender is doubtful as far as women's disadvantaged position in the market and double work are concerned. Most importantly, the capacity for economic development imposed upon a dependent economy to accrue job opportunities for women in the periphery is uncertain.

Divergent conclusions about the exclusion of women from labor market and/or from industrial sector in the course of economic development in the Third World arise primarily due to the emergence of different operations in the dependent world capitalist economy. On the one hand, a rich body of studies based on developing countries whose development relies on investment mechanism of secondary import substitution documents women's marginalization in the process of economic development in terms of the fall of female force participation rate, the decline of women in capitalist employment (i.e. wage labor), tertiarization,

relegation into informal sector, and as industrial reserve army, thereby arguing an essentially steady decline of female participation in the course of dependent development. Further, the limited capacity of labor absorption constrained by the core in the periphery is indispensable in its integration into the world economy.

On the other hand, export processing industries emergent in the 1960s as a departure of dependent economy from capital-intensive industries adopted in most LDCs increase the level of female participation in the developing countries. However, it also perpetuates women as gender in the labor market in terms of low pay, high turnover rate and poor working condition. Moreover, it is criticized for its short-term effect due to the distorted economic structure and the exploitative nature of dependent economy.

The economic development of Taiwan can be roughly classified into three stages of industrialization during the past three decades: primary import substitution in 1952-64, export-oriented industrial processing in 1965-76, and capital-intensive production after 1977. In the course of economic development, an increase of global female participation rate, the substantial inclusion of women into manufacturing and a current shift of women into white-collar service work challenge the arguments of an essential decline of female participation in a dependent economy and a short-term effect of female participation in a context of export-

processing industrialization. However, the confinement of women to a handful of industrial and occupational sector documents women's inferior status in a patriarchal society.

This case study is therefore to shed light on female status as a gender in the formal sector of labor market in Taiwan during the period of 1952-1987 and to determine in what way women are marginalized in the process of export-led production and capital-intensive industrialization. Aside from identifying a different path of Taiwanese women entering labor market from some other LDCs in the course of economic development, this study bears several objectives: 1) to refute the simple notion of essential declining trend of female participation engendered in the process of development in developing countries, 2) to call for a differentiation of the economic structure with which the periphery is integrated into the world economy in studies on female labor force participation and economic development, 3) to verify if the export-processing industrialization in Taiwan simply has a short-term effect on female employment as claimed in some writings from perspective of dependency theory, and, most importantly, 4) to identify women's status as a gender in the labor market in both the labor-intensive industrialization and the expanding capital-intensive economy.

II. LITERATURE REVIEW

Studies on women and development have often come to divergent conclusions about the impact of development on the levels and patterns of female employment in the labor market. Early research from modernization perspective frequently holds that development leads automatically to higher status of women because of the increased level of female labor force participation (Bairoch and Limbor 1968; Johnstone 1968; Wilensky 1968); the argument of which has been questioned not only because it mistakenly assumes a parallel impact of industrial development on men and women (Boserup 1970), but, most importantly, it neglects that the capitalist dependent economy in the Third World lacking absorptive capacity in the secondary sector merely imposes constraints on women's labor participation and employment status (Schmink 1977; Nash 1977; Ward 1984). Although multinational corporations emergent as a new type of dependent capitalist economy lead to the increase of female labor participation, scholars have criticized its perpetuation of women's status as a gender (Elson and Pearson 1981a, 1981b; Green 1983) and its momentary effect of the demand for female labor due to the exploitative attribute of dependent economy (Ward 1984; Postrado 1986).

The review of women's status in the formal labor market in the process of dependent economy is organized into three parts. First part considers empirical studies on female marginalization in the labor market. Second part regards women's labor force participation and status associated with the internationalization of factory production. Third part is a brief theoretical review of women's subordinate status as a gender in light of the differential effect of development on men and women.

II.1. Female Employment and Development

The classic model of economic development based on the path of industrial nations suggests that all societies homogeneously undergo, step by step, a shift of labor force from primary sector to secondary sector and then to tertiary sector of white-collar work (Clark 1969). The automatic increase in participation rate and the transition of employment from manual work to white-collar occupations in service sectors are established for male as well as for female in industrial countries. Study of Scott and Tilly (1975) on working women in the 19th century Europe and study of Oppenheimer (1970) on the U.S. female labor force participation show that young and single women were concentrated into manual jobs, particularly in garment and textiles industries, as industrialization launched with absorptive capacity in the secondary sector. Later, the continuing expansion of urbanization, capital-intensive

industrialization, and state bureaucracy, led to an increase in white-collar female employment in service as female manual worker suffered job-loss from the competition with capital-intensive heavy industry.

Based on the evolution of women's labor force participation in industrialized countries, some research from modernization perspective argues a positive relationship between economic development and female status in the developing countries, by holding that economic development positively increases in the level of female labor force participation (Bairoch and Limbor 1968; Johnstone 1968). The argument relating economic and industrial development to female labor force participation is supported by early quantitative cross-national studies (Wilensky 1968), but becomes precarious after controls of family structure and fertility (Collver and Langlois 1962; Youssef 1974), divorce, income inequality (Semyonov 1980), economic dependency (Ward 1983), and structure of the state (Ramiez and Weiss 1979). Later, a curvilinear postulate between industrialization and the level of female participation was otherwise addressed (Pampel and Tanaka 1986; Huber and Spitze 1983; Blumberg 1978). From the findings of U-shape of female participation with the level of economic development in cross-nation data, Pampel and Tanaka (1986) suggest that female participation rate may initially decline with the emergence of market economy, but

will increase at advanced level as continued economic growth and expansion of tertiary sector will increase the demand for women.

Either the linear trend substantiated in studies based on women in industrial nations or curvilinear increase of female employment based on cross-section studies, however, neglects the type of work women hold in the labor market (Chaney and Schmink 1980), and hardly provides any empirical base of the progressively downward trend of women's employment found in developing countries. Boserup in her pioneering work "Women's Role in Economic Development" (1970) first substantiates the different effects of modernization on women and men and concludes that the development from peasant to industrial economy, or from household economy to factory production, hinders rather than accelerates women's participation in the labor market, since the productive role of women in economic sphere is replaced by the arising market commodity. The new industrial jobs generated by modern technologies, she argues, prefer men to women who lack education and training for the new type of work. A collection of micro studies on Latin American countries further substantiates her arguments about the essentially steady decline of female participation, expulsion of women from manufacturing, and therefore concentration into a form of unproductive service sector and domestic spheres in the course of development (Saffioti

1983; Sautu 1980; Nash 1977; Chinchilla 1977; Madeira and Singer 1975).

Take Brazil as an example. The female labor force participation rate first decreased as structural changes in mechanization of agricultural economy took place in the early 1900s, and exacerbated throughout 1970 when modern techniques were introduced to manufacturing (Humphrey 1984:224; Nash 1977:169; Madeira and Singer 1975:494-95). The decline of female labor force participation was closely associated with the expulsion of women from manufacturing, specially from traditionally female-concentrated industries. Women in industry had dropped from 91.3% in 1900 to 27.9% in 1920, then to 20.6% in the 1960s; about one fourth of women in textiles were expelled between 1950 and 1970 while the total number of men employed in textiles drastically increased by over 60% (Saffioti 1983:3).

It indicates that women who were initially preferred in textiles and cottage industries for their dexterity and docility are displaced as soon as specialized economic enterprises take over the production of goods once manufactured in the home (Chaney and Schmink 1980). Further, women displaced from manufacturing are pushed into service sector essentially as domestic servants and into informal income-generating sector. The domestic service thus becomes an 'virtually exclusive female domain' (Youssef 1974:28). Women's share of service in most Latin American countries

ranged from 46% in Guatemala to 79% in Nicaragua (Anker and Hein 1986:80); the proportion of women in service as maids and domestic servants was as high as 64% in Guatemala in 1973 (Chinchilla 1977) and 49% in Peru in 1972 (Anker and Hein 1986). The extremely rapid growth of the tertiary sector in Latin America, Schmink (1977:156) points out, was the result of two interrelated processes: demographic changes and shifts in the structure of production; that is, the increasing use of technology and demand for highly skilled labor failed to absorb labor from the rapid growth of population and internal migration from rural areas to cities. The internal inequality leading to the intense tertiarization of female employment in urban areas is found in a series of studies (Bardouille 1981; Apriz 1977). The growth of industrial employment in cities not keeping pace with the rapid growth of population has led to severe unemployment of urban women and consequently their relegation into domestic service and informal sector.

The female class composition in the course of capitalist development therefore could be characterized by the polarization of employment at two ends of service occupations: domestic service and middle-class occupations such as clerical and professional work (Schmink 1977; Safa 1977; Marinda 1976). On the one hand, the limited employment in industrial sectors restricts the opportunities of the class mobility of women in lower social classes to work as

wage laborers in manual or semi-skill work. On the other hand, the small expansion of white-collar jobs in modern service sector only allow women of middle- and upper-class to have the access to white-collar work. Safa (1977:133) therefore concludes that 'women from the proletarian class will be locked into their present occupational status, or with the decline in industrial employment may even be unemployed or continue to swell the ranks of the marginally employed'.

Tinker (1976) and Chaney and Schmink (1980:160) therefore conclude that "women's status in the labor market only worsens as the modernization process goes forward". Studies beginning with Boserup pose that women in the Third World are only marginalized in the course of development, which, labeled as female marginalization thesis by Scott (1986a) for theorizing female labor force participation in the developing countries, can be summarized by two propositions (cf. Scott 1986a, 1986b). First, women are tertiarized with the mechanization of agricultural activities and the modern industrialization, that is, an exodus of women from manufacturing to commerce and service. Second, with the direct shift of female employment from agriculture to service, women are marginalized in terms of being relegated to domestic service as unpaid family labor.

Proponents of female marginalization thesis further take the stance of dependency theory in understanding the

increasing use of technology and highly skilled labor which causes the deteriorated status of Third World women (Ward 1984; Nash 1977; Schmink 1977). The import substitution, initially promoted to produce manufacturing goods for the local market, was taken by social elites to produce consumer goods oriented largely toward upper-class consumption through the contact with foreign investment. The inflow of multinational corporations, either consolidated with or weakening the local bourgeoisie, employed large-scale capitals and skilled labor to produce luxury goods for the local elites when there was a need to absorb excess labor and a necessity of producing goods for daily existence (Evans 1979). Because industrialization is financed by foreign capital and dependent on foreign technology, the gradual growth of urban and industrial development found in industrial countries becomes shortened in Third World countries.

In a word, female marginalization school beginning with Boserup has argued that women are more marginalized and exploitative than men in the course of development. The failure of incorporating women into development process is greatly attributed to economic dependency of the developing countries on the central capitalist power. The artisan-like character of 'female' industries can not compete with the new factory production with huge investment and technology penetration. Women production labor who were previously

preferred in traditionally female industries for their patience and dexterity are now replaced with importation of machinery. While few white-collar and professional jobs in banking and trading enterprises are induced for educated women by the dependent capitalist development, most women are forced into marginal employment in the labor market.

II.2. Female Employment and International Division of Labor

While the penetration of capital-intensive technology by foreign investment expels women from production process, women in some LDCs have been targeted as a source of cheap labor as processing for export emerged in the 1960s so as to resolve the unionized organizations and increasing wage scale in the core countries.

In countries including Puerto Rico, Mexico, Dominican Republic, Singapore, and South Korea, where the export-processing zones have been set up to attract MNCs, the level of female participation has substantially risen up and women's share of production work is also increasing (Wong 1981; Anker and Hein 1986). For example, in Singapore, after the labor-intensive industries had launched in the 1970s, women entering into the labor market increased by 12% between 1970 and 1979 (Wong 1981). The growth of women in labor market, however, was greatly attributed to the expansion of export processing industries, such as textiles, footwear, wearing apparel, and electronics, which are based on marginal profits from cheap labor. Women's share of labor

force in export processing industries could range from 71% in South Korea to 83% in Malaysia in the middle 1970s (Frobel et al. 1980). The asymmetry of female employment in labor-intensive industries is empirically substantiated in a series of studies (International Labour Organization 1985; Fuentes and Ehrenreich 1983; Deyo and Chen 1976).

The new type of female employment brought by the relocation of labor-intensive industries to the peripheral nations contradicts Boserup's hypothesis that women are excluded from the production process as wage workers in the course of economic development. The growth of female employment in industries, used as an index of the level of female marginalization by studies beginning with Boserup, is now an evidence of the perpetuation of women's status in the Third World. Although few studies optimistically see the employment of women in capitalist production, especially in multinational factory, as emancipation of women from patriarchy at home and increase in women's economic bargaining power (Lim 1987, 1983), Green (1983:321) argues that 'the expansion of Western capital has meant the creation and expansion of new and greater reserve armies of labor'. That is, along with the internalization of capital production, Third World women have formed an entirely new work force sector of young, largely unmarried women for the capital accumulation of the core countries.

In the export industries, the recruitment patterns of

young and unmarried women, deterioration of wage scale, high turnover rate, long working hour, low mobility, and poor working condition, only evidence women's superexploitative and readily disposable status (Elson and Pearson 1981b; Green 1981). For example, female wages in global factories registered 20-50% lower than male wages (Frobel et al. 1980); turnover rate was as high as 5-10% per month in export-oriented industries; and the working hours were estimated to be 50% more per year than in factories located in the center (Safa 1981). The dispensibility of women as labor reserve is even more acute in the new paradigm of dependent economy. The exporting industries based on marginal benefits lead women in the global factories to be more vulnerable to the job instabilities caused by cost competition with other peripheral countries and fluctuation of demand and supply in the world market.

Moreover, the labor-intensive investment in the developing countries has only marginal effects on overall female employment level as the demand for labor exists merely for female workers previously uninvolved in the labor force rather than for unemployed female workers (Ward 1984). The preference for young women as wage productive labor continues to push married and older women into the corner of service sector and domestic sphere (Safa 1983). Besides, the tertiarization of urban women continues, because, although export-manufacturing industries may provide industrial jobs

to some women, the number of women drawn to the city by these industries exceeds the numbers of jobs that are generated (Postrado 1986).

Most importantly, studies on women and development with a focus on the exploitative nature of the new type of dependent economy contend that MNC employment has only a short-term effect on the level of female employment (Ward 1984), as in the long run the economic development will be hampered by the labor-intensive exporting industrialization (Bornschier and Chase-Dunn 1985; Timberlake and Kentor 1983). While calling for capital through foreign investment and commercial loans to operate export processing zones, the periphery only becomes more dependent on the core, and the profits generated by foreign investment generally have flowed out of the countries instead of being used for inward development (Muller 1979).

From this review, the level of female participation is, therefore, neither an essentially steady decline in the development, as argued by school beginning with Boserup, nor an automatic increase as found in the industrial nations. With the divergent findings of the increasing levels and the share of female employment in manufacturing across all subsectors in Brazil after the 1970s, Humphrey (1984:224) jumps to the conclusion that 'women have not been marginalized from the industrial labor force as a result of

dependent development'. Scott (1986a), while finding a variety pattern of female marginalization in employment, rejects the mono-causal model of decline of female participation in the development and calls for micro-level analyses to take into historical and cultural factors. Safa (1977:127), while identifying women perpetually play three markedly different role in the development of industrial capitalism, that is, from agrarian production and consumption unit to domestic sphere and unskilled factory work, then to low grade white-collar jobs, argues that 'the level of female participation appears to be related to the stage of industrial capitalism in which the country finds itself and how this affects the growth or decline of the primary, secondary and tertiary sector'. Ward (1984) perceives the recent changes in patterns of female employment in industrial sector as the consequence of changing economic structure with which the peripheral countries are integrated into the world economy, that is, changing from a technological modernization imposed by the foreign investment to the labor-intensive export-processing industries with the recruitment preference for young women.

Why are women excluded from traditionally female industries as technology and machinery are introduced but targeted as a source of cheap labor when the export-processing industries emerge? Why are women perpetually relegated to the secondary labor market in the production

process? And, why are women only incorporated into a handful of paid work in 'female' industries like textiles and electronics where they have to render repetitive and tedious service with lowest pay and least advanced opportunities, whereas men are widespread in a variety of industrial sectors? Different approaches have tried to answer the differential impact of development on female labor force participation and women's deteriorated status in the labor market.

II.3. Theoretical Perspectives on Female Employment

Classical economists frequently apply price theory to the analysis of the determinants of labor force participation (Mincer 1962). Based on the price theory, it is argued that an individual's participation into the labor market is in part determined by his/her rational choice between work time and leisure time, or income and leisure. Wage rate thus becomes one of the decisive factor of the level of female labor participation because whether women go to the job market depends on the amount of earnings which can compensate the leisure time she lost (Bowen and Finegan 1969). Departing from this, sex inequality in earning and national income inequality are therefore perceived as one of the determinants which discourages female labor force participation (Semyonov 1980).

Supply-demand approach otherwise focuses on women's labor force behavior from the interplay of supply and demand factors (Oppenheimer 1970; Sautu 1980). An economic

framework of supply and demand 'appears to be the best guide to the investigation of changes in female labor force participation' (Oppenheimer 1970:19). Factors determining the supply of women available for work include educational level, age-specific composition of women, availabilities of service facilitating women's entrance into labor market, and economic necessity. The demand components include structural factors like the level of technologies of industry, number and types of jobs offered and which women might fill. Under the interaction of demand and supply factors, for example, a shortage of young and single women might lead the demand shifted toward older, married women, and increased job opportunities may pull older women who were not previously in economic sphere into labor market (Oppenheimer 1970:19-24). Consequently, in studies, especially quantitative research, on female participation in the development, factors such as women/child ratio, divorce, and education attainment, are frequently reviewed and taken into examination.

Particularly, the Status Attainment approach with an emphasis on the 'supply' characteristics of human capital has been favored by School of Women in Development. Status Attainment approach contends that what women bring with them into labor market is the major determinant of their subordination in the occupational structure. Therefore, changing individual women's cultural or nominative

attributes, such as education, training, and values toward childbearing and rearing, continuity of work experience, is essential in equalizing women's opportunities for the modern sector. Boserup (1970) as well holds that the differential effects of development on male and female employment status is derived from sexual differences in educational attainment and training skill to take new types of jobs generated by the modern technology; hence, the declining level of female participation and their relegation to domestic service and informal sectors can be corrected through legislation reforms and intervention projects.

However, bearing Marx's thesis in mind about the sex stratification preconditioned by capitalism, proponents of dependency theory claim that, the female marginalization in the development process is not rooted in women's lack of human capital; instead, it is rooted in the development of capitalism which entails the exploitative character between the center and the periphery that lays a foundation of sexual inequality and the differential effects of development on men and women (Leacock 1981; Elliott 1977). Explicitly, the exclusion of women from capitalist work is grounded in the disarticulation of technology and labor supply generated by the dependent economy. And, multinational corporations as a new form of dependent economy in search of labor surplus value for capital accumulation provide a mechanism of the exploitation of the

Third World women.

The persistence of women's relegation to the corner of secondary labor market in the course of development, socialist feminists otherwise argue, lies not simply in the structure of capitalist labor market imposed by the power relation between the core and periphery, but in the hierarchical sexual division of labor, which provides both ideological and material base in understanding women's oppressed position in capitalist society. That is, the reproductive role of women in the sexual division of labor in the household which confines women to domestic and reproduction task extends to the labor market in determining their value of labor power and their disadvantaged occupational position in the labor market.

As a result, the assumption of women's dependence upon her husband's wage within the family preconditions the disposability of women and their low wage in the labor market (Beechey 1978). The criteria, such as docility, patience, and obedience, used by employers to select women in early industrialization and in global factories are simply an extension of patriarchal ideology historically rooted in culture and persistently imposed by male authority. And, the demand for skilled labor to manage complicated machines is explicitly a "male-favored" technological change which presume women do not know how to manage machines (Chaney and Schmink 1980). The confinement

of female workers to a handful of labor-intensive industries, mainly textiles, food processing, leather goods, and electronics industries, but exclusion of them from modern manufacturing is simply a process of subordination of women as a gender (Elson and Pearson 1981).

Further, it is argued that women's disadvantaged status in the labor market should be understood from the interacting forces of patriarchy and capitalism. That is, while sex roles reinforced through socialization acts as a mechanism upholding the perpetuation of patriarchy and capitalism in both home and market, the structure of labor market and women's disadvantaged market position in turn constructs women's gender-assigned role in the home. The patriarchal relation in capitalist society transformed from individual exploitation of women by men in the household division of labor now extends to a collective exploitation of women in the work place to benefit both working class men and capitalist men. Therefore, the level of demand for female labor in the Third World and their perpetuated employment status in the labor market is an interplay of the structurally imbalance between supply and demand of labor imposed by the dependent economy and the hierarchically patriarchal relations.

Due to women's inferior status in the labor market reinforced by patriarchal ideology, the entrance of women into labor market induced by the development of capitalism,

if it occurs, argued by Pearson and Elson (1978), is simply 'a transformation of women's subordination rather than its dissolution'. The significance of women's entrance into public sphere as wage earners and emancipation from patriarchy in the home is more often offset by women's double work and by their marginal earnings due to their inferior occupational positions and downplay of women's labor power in the capitalist labor market (Dwyer and Bruce 1988).

III. METHODOLOGY

III.1. The Method

This micro study concerns Taiwanese women's status in the formal labor market in the postwar economic development. The dynamic changes in women's employment status are examined through aggregated data about sex differentials in wage, unemployment, and economic sphere across industries, occupations, and employment status. Analyses are mainly based on data collected from census at national level during the period of 1952-87, although shortcomings of under-report of female labour force participation in census data have been criticized (Anker 1983).

To determine in what way the different economic structures underline women's inferior status as a gender, the economic development of Taiwan is broken down into three periods: 1952-64, 1965-76, and 1977-87, namely, import substitution, export-oriented production, and capital-intensive industrialization. Analyses are therefore based on data in four time points, 1952, 1964, 1976 and 1987, or averaged data in three subphases, so as to grasp the change of women's employment status in a transition from agricultural economy to capitalist production in a context of world economy.

The rationale of this study with 1965 and 1977 taken as demarcation years of three subphases of economic development is as follows[1]. Although export-oriented industrialization had been initiated since the late 1950s, not until 1965 the Statute of the Incentive for Foreign Investment was revised and expanded in scope so as to lead to the first export processing zone (EPZ) established in the same year. The implementation of the EPZ signified that the state's 'development strategy at this time was entirely export-oriented' (Kuo, et al. 1981:75). And, although the oil crisis in 1973 highlighted the need for technology-upgrading of Taiwan's labor-intensive economic structure, not until 1976 was a six-year economic plan initiated for the development of capital-intensive industrialization aimed at large-scale integrated heavy and petrochemical industrial production and not until late 1977 was the Council for Economic Planning and Development established for directing Taiwan's industrial restructuring toward technology-intensive industrialization (Gold 1986:101-3).

As to the validity of the measurement, the overall stability of economic growth in Taiwan, 8.7% in 1952-64, 9.8% in 1965-76, and 8.8% in 1977-87 avoids one methodological problem addressed by Scott (1986a). That is,

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[1]The years of 1960 and 1973 have often been marked as Taiwan's economic development toward export-led and capital-intensive industrialization period (Gold 1986; Li 1985; Kuo, et al. 1981). It is because policies in favor of export-oriented expansion, such as monetary reforms, were implemented since 1960 and foreign investment primarily started to flow in after 1961 (Kuo 1981:6), and the severe economic recession in 1973 caused by the global oil crisis had the state realize the fragile labor-intensive industrial structure (Gold 1986; Gregor, et al. 1981).

the economic instability and a series of cycles within business cycles in developing countries cause difficulties in determining if it is the cycle or women's inferior status comes into play in the deployment of women as labor reserve in times of recession.

Additionally, since female "marginalization is essentially a relative phenomenon as well as a processual one" (Scott 1986a:654), historical analysis based on women alone might overlook that men are marginalized as women are in the process of development. Here analysis is therefore based on comparisons between the relative positions of men and women at any one point.

Concepts of the following in a historical context are examined. First, tertiarization, i.e. a direct shift of women from agricultural activities to service sector or a shift of women from manufacturing to commerce and service. Second, marginalization, i.e. a decrease in the proportion of women in capitalist relation of productions but an increase in unpaid family labor and self-employment. Third, industrial reserve army, i.e. an increase of female unemployment in times of economic recession. Fourth, sex segregation expressed in earning inequality and an unequal access of women to each sector of labor market in contrast to that of men. Fifth, sex-typing of jobs or disproportionally female, i.e. women forming a higher proportion of workers in certain occupations than they do in

the labor market as a whole.

Furthermore, to capture female employment status in the process of urbanization, that is, to assess if urban women are more marginalized, tertiarized and occupationally segregated in labor market than women as a whole, Taipei, the prime city of Taiwan, is selected for comparisons. But the availability of data restricts the comparisons to be based on another four time points - 1971, 1975, 1979 and 1984.

III.2. Measurement

The analysis of women's employment status in the course of development in Taiwan is based on labor force participation rate, cross-sectional examination of 9 economic activities, 7 occupational strata and 5 employment-status categories over four time points. Detailed data about women-concentrated sectors, i.e. manufacturing, commerce, and service, in the period of 1977-87 is scrutinized to see how women's employment status is affected by technological upgrading in recent years.

Here female labor force participation is defined as women aged 15 and over, employed or unemployed, seeking work during the enumeration period. It is measured by female participation rate, i.e. the female labor force divided by

the economically active female population times 100[2].

The degree of sex segregation in the labor market is measured by the dissimilarity index in economic activities, occupations, and employment status. The dissimilarity index of segregation, outlined by Boulding, et al. (1976) and Duncan and Duncan (1965), is the sum of the absolute values of the differences between the proportions of male and female in each category of economic activities, occupations, or employment status. Another measure of occupational segregation is the index of over- or under-representation in specific employment category, obtained from the ratio of the shares of women in a given occupational stratum to total employment[3].

Meanwhile, for clarification, the term **Dependent Development** is used in an institutional sense, referring to the aid, trade, investment, or technological dependence. The term **Dependency Theory** is referred, in a consequence sense, to the disarticulation between technology and social structure, the MNC and local firms, capital equipment and debt burden caused by the economic and political power of the center imposing the unequal exchange on the periphery.

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[2] The other way to measure the level of female participation is the female share of the labor force, i.e., the number of female labor force divided by the total labor force times 100. The share one as a male/female competition measure controls for the number of existing jobs in which women can be employed relative to men. The female proportion measure without control of the size of the total labor force is usually criticized for the hiding sexual inequality in terms of women's access to labor market, for female labor force participation may grow, but not necessarily keep pace with male' (Ward and Pampel 1985).

[3] About other measures of occupational segregation, see UNECE (1980), House (1986), and Scott (1986b).

IV. THE ECONOMIC DEVELOPMENT OF TAIWAN

The postwar Taiwan's development can be divided into three subphases, namely, primary import-substitution in 1952-64, export-oriented industrialization in 1965-76, and capital-intensive industrialization after 1977. To explore the dynamic economic structures which determine Taiwan's labor allocation and women's employment status, the analysis begins with an introduction of historical background of the implementation of economic policy, followed by an examination of the pattern of industrialization and the structure of exports which underline Taiwan's economic development with great capacity of labor utilization. At the end, a linkage of industrialization with labor utilization in industrial sector is briefly discussed before an exploration of the impact of development on Taiwanese women's employment status.

IV.1. Historical Background

At the beginning of the 1950s, the state, in face of postwar severe inflation and sizable import deficits, decided to direct its development policy from previously outward-oriented to inward-oriented in search of replacing nondurable consumer imports by domestic production[4]. A

[4] A debate about if Taiwan should adopt import-substitution to meet postwar domestic needs or

system of import controls to protect infant light industries was thus initiated in the early 1950s[5]. Due to the state's total control of foreign financial aid and commodities (Gold 1986), together with the private entrepreneurs not existing on a large scale to gain monopolistic control of industries after World War Two (Gold 1981; Kuo, et al. 1981:43)[6], and only few foreign private investment flowing into Taiwan in the 1950s (Kuo, et al. 1981:29-30; Gold 1986:73), Taiwan's industrialization was overwhelmingly based on small-scale and labor-intensive industries run by family enterprises. Unlike the substantial inflow of foreign investment and presence of monopolistic capitalists in Latin American countries, the small size of local enterprises in Taiwan had difficulties in generating capital goods and was thus virtually characterized by labor-intensive nondurable consumer industries.

Between 1952 and 1958, the output of protected domestic manufacturing doubled; real gross domestic product grew 7.1%

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ensure export-led policy which had been historically established during Japanese colonial period arose at this time. On the one hand, it was argued that Taiwan could not depend on domestic market as far as the then small population (8 million) and a per-capita income approximately US$100 in 1950 were concerned (Lin 1973:40). However, following a path of export-led economy as it was in the prewar years also had difficulties as the major export products, such as sugar, banana, and tea, had lost its preferential markets of Japan and China. Also, the prewar export surplus was unlikely to maintain, for the increased domestic demand from the population growth had led to a shrinkage of exports and a trade deficit in the early 1950s.

[5] It included customary mix of exchange controls, import licensing, protective tariffs, multiple exchange rates and an imposition of overvalued foreign currency (Kuo, et al. 1981; Gold 1986:71-72).

[6] Japanese total control of the ownership of manufacturing enterprises during colonial days explained the private sectors existing in small size and less chances of concentration of industrial assets in private Taiwanese hands after World War II when the Chinese central government took over (Gold 1981; Kuo 1981). See also Hsiao (1986) about the implication of class structure in a context of world system and state-class relationship during import-substitution and export-production phases.

per annum. The production growth was greatly attributed to nondurable consumer goods, especially textiles, apparel, wood, and leather products. However, due to the restricted small market, further growth of domestic output relying on the net increase in domestic demand had difficulties to continue. The saturation of domestic market thus appeared in the middle 1950s, evident in the decline of overall manufacturing growth, reduction of investment, substantial price decline in imported nondurable consumer goods, and increasing competition among producers (Ranis 1979:213). Meanwhile, the trade balance of payments remained in deficit despite the growth of industrial output, for the rapid expansion of textiles, plastics, cement, fertilizers, plywood, and chemicals all required the import of raw materials (Gregor 1981:51).

In account of Taiwan's restricted small market, scarce natural resource, the population pressure on farmland[7], and intense unemployment problem since the late 1950s, the state took outward alternative with a shift from domestic market to export market so as to maintain the growth of labor-intensive industries, instead of inward alternative of capital-intensive deepening production which was overwhelmingly adopted in Latin American countries after

[7]The agricultural population rising from 4.3 million in 1952 to 5.8 million in 1964, with an increase of 33%, discloses the extent of population pressure on farmland. A part-time reallocation of labor to non-agricultural activities was desperately needed (Kuo 1981:46).

saturation of primary import substitution. A series of economic reforms for promoting industrial exports was hence implemented since the late 1950s, including the setup of first EPZ without duty imposed on imports in 1965[8].

The labor-intensive export-led development strategies settled in a favorable postwar international environment, especially in the milieu of industrial relocation from the advanced countries in search of cheap and docile labor in the periphery, speeded up the pace of industrialization in Taiwan. Before the first global oil crisis in 1973, industrial production expanded 3 times since 1965, with an annual growth rate of 19.4%; the share of industrial goods in exports jumped by 37%; the exports in general domestic products (GDP) increased by 23%; furthermore, the trade deficit for the first time was balanced in 1971 since 1966 (TSDB, various years).

However, the industrial structure pivoting on labor-absorptive manufacturing, vertically integrated with the core rather than horizontally with the national economy, is extremely vulnerable to the external economic fluctuation. The infirm industrial structure in reliance on export market was severely jolted by the first oil crisis. In 1974, the industrial production decreased by 4.5%; real per capita

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[8] Economic reforms for promoting industrial exports included 19-point economic financial reform, investment incentives, change of nominal rate of protection, tax reduction and refunds, special export loans, and a real effective foreign exchange policy. See Kuo, et al. (1981:73-83) for details.

income fell by 3%; a trade deficit of $1.3 billion appeared for the first time since the favorable balance of trade payment in 1971; and both exports and imports declined in 1975 for the first time since 1969 (Gregor 1981:65). On the one hand, the oil crisis highlighted the asymmetrical dependence of export-led economy on foreign sources for fuel and intermediate capital goods required for the expansion of textiles and plastics. On the other hand, industrial nations' deterioration in their balance of international payments caused by the global economic recession has led to their imposition on import of nonessential goods.

In face of the increasing protectionism from industrial nations and dependence on foreign sources for intermediate and capital goods, the state embarked on technological upgrading planning so as to sustain long-term growth of export market in the world economy. A new six-year economic development plan was initiated in 1976 aimed at the deepening production of heavy and petrochemical industry so that the petrochemical raw materials can be produced to meet the needs of domestic textiles and chemical industries and therefore to 'reduce the vulnerability to price fluctuations in imported supplies' (Gold 1986:101). On the other hand, the Council for Economic Planning and Development established in 1977 emphasized on export-oriented technology-intensive electronic industries, upgraded from previous electrical machinery industry, such as assembling

televisions and electrical consumer appliances (Gold 1986:103).

Meanwhile, the labor scarcity after 1971 (Kuo 1985), the soaring wage scale imposed by both the shortage of labor and the new labor law enacted in 1984[9], the appreciation of Taiwanese currency by more than 30% between 1985 and 1988[10] and cost competition with other peripheral countries have pushed industries dependent on cheap labor for marginal profit to shift to sophisticated machine production. A structural transformation to higher value-added and more skill- and capital-intensive industries through importation of machinery or technology transfer from the developed countries has hence been extensively undertaken[11]. Low value-added and labor-intensive industries such as textiles and footwear have been planned to die out most likely through relocation to the neighboring countries[12].

II.2. Labor-intensive Industrialization and Dependency

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[9] For example, manufacturing employees in Taiwan in 1987 earned 59.5% more than in 1981, while for other categories of employment the corresponding figures, in order, were: utilities 60.6%; financial service 54.6%; transport 48.7%; commerce 48.4%; construction 47.6%; social service 41.0% and the mining 21.6% (YOEAPS, Table 13).

[10] The foreign exchange rate was US$1.00=NT$28.17 in 1988 while it was US$1.00=NT$39.9 in 1985 (IOFC 1986, 1989, Table 56).

[11] For example, the Statue of Incentive for Foreign Investment enacted in the 1950s is going to be replaced by the Statue of Incentive for Industrial Upgrading. A draft for encouraging investment of local company to industrial countries so as to obtain high technology is underway. Also, a work plan of inducing Japanese technology is implemented by the Ministry of Economy.

[12] For example, a draft of incentives and subsidies for encouraging labor-intensive industries to relocate to Latin American countries has been carried out (CDN 5/23/89). Also, in 1988, the Taiwanese business invested more than one billion US dollars in Philippines, amounting to 22.8% of total foreign investment of Philippines (CDN 3/11/89). The amount of Taiwanese investment in Malaysia in January/February, 1989 was 23 times the investment over the same period in 1988 (CDN 4/7/89); its investment in electrical machinery and electronics, textiles, plastics & rubbers, food processing, etc. accounted for 24.7% of total foreign investment in Malaysia in 1989, only next to the investment of Japan (CDN 1/20/90).

Taiwan's economic development has been characterized by a sharp increase in industry's share of total output and employment, growing diversification of industrial production, fast expansion of exports with emphasis on manufacturing (Amsden 1979), aside from its egalitarian income distribution (Kuo, et al. 1981) and decentralization of industrialization across urban and rural areas (Ho 1976:17; Ranis 1979:222-225)[13]. Its development as a deviant case of dependency theory throughout the 1980s was acknowledged in its absence of disarticulation of technology and social structure associated with the sectoral transformation of labor force, the lack of consumption patterns of production for local use, and the capital equipment imports taking place at later stage (Gold 1981).

The expansion of manufacturing production and the sharp increase of export with emphasis on manufacturing, as shown in Table 4.1, could be largely traced to the labor-intensive light industries using readily available technology, rather than the use of capital and imported technologies, during import substitution and export-intensive industrialization.

The capital labor ratio, that is, the amount of direct fixed assets divided by total employees, given in Table 4.2, shows the early industrialization of Taiwan was virtually

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[13] The proportion of industrial establishments in five largest cities was only 34% of the total in 1951 and remained virtually unchanged by 1971 (Ranis 1979:222). According to Ho (1976), by 1971, 50% of the industrial and commercial establishments and 55% of the manufacturing establishments in Taiwan were located in rural areas. Further, the proportion of persons employed in manufacturing in the cities actually declined from 43% to 37% between 1956 and 1966.

Table 4.1. Industrial Growth and Change in the Structure of Trade, 1952-87.

Year	Economic growth rate	Industry production Index	Industry production Growth rate	Mfg. production Index	Mfg. production Growth rate	Share of Agri-culture in GDP	Share of Mfg. in GDP	Share of Tertiary in GDP	Share of Exports in GDP	Share of Industrial production in exports
1952	13.02	100.0	--	100.0	--	32.4	15.6	45.9	8.1	8.1
1953	9.76	125.1	25.1	133.0	33.0	34.6	14.6	44.9	8.6	8.4
1954	8.06	132.4	5.8	142.2	6.9	28.2	19.1	45.4	6.5	10.6
1955	8.59	149.8	13.1	157.3	10.6	29.2	18.8	45.6	8.3	10.4
1956	4.49	155.1	3.5	166.5	5.9	27.6	19.9	46.1	9.1	17.0
1957	7.37	174.9	12.8	190.8	14.6	27.6	20.8	45.5	9.6	12.6
1958	6.88	189.9	8.6	205.8	7.9	26.9	20.4	46.2	10.3	14.0
1959	7.40	212.2	11.7	233.0	13.2	26.5	22.4	44.9	12.5	23.6
1960	6.13	242.1	14.1	266.5	14.4	28.7	21.7	43.3	11.3	32.3
1961	6.75	280.2	15.7	299.5	12.4	27.6	21.8	44.4	13.8	40.9
1962	8.99	302.4	7.9	323.8	8.1	17.6	25.0	49.8	13.4	50.5
1963	11.95	330.0	9.1	353.9	9.3	23.4	24.9	45.1	17.8	41.1
1964	13.81	400.0	21.2	435.9	23.2	24.6	25.9	43.2	19.5	42.5
1965	7.63	468.8	16.2	508.3	16.6	23.7	26.0	43.9	18.7	46.0
1966	9.46	537.3	15.6	590.3	16.1	22.6	25.9	45.0	21.2	55.1
1967	11.05	627.1	16.7	693.2	17.4	20.7	28.7	44.0	21.7	61.6
1968	9.74	767.2	22.3	865.5	24.9	19.1	31.0	43.4	23.9	68.4
1969	10.76	919.4	19.8	1062.1	22.7	16.0	33.5	44.5	26.3	74.0
1970	12.19	1104.5	20.1	1298.1	22.2	15.5	33.5	44.9	29.7	78.6
1971	12.96	1365.2	23.6	1610.7	24.1	13.1	35.9	45.3	35.0	80.9
1972	13.84	1654.7	21.2	1976.7	22.7	12.3	39.1	42.9	41.8	83.3
1973	11.98	1922.7	16.2	2335.0	18.1	12.2	42.4	40.2	46.8	84.6
1974	-2.38	1836.0	-4.5	2186.9	-6.3	12.5	39.3	42.0	43.7	84.5
1975	4.18	2009.7	9.5	2361.7	8.0	12.8	36.7	43.5	39.3	83.6
1976	16.58	2478.1	23.3	2966.5	25.6	11.5	39.5	42.1	47.3	87.6
1977	9.71	2808.5	13.3	3361.7	13.3	10.7	40.0	41.8	48.9	87.5
1978	11.96	3441.3	27.5	4171.4	24.1	9.5	41.9	41.2	52.4	89.2
1979	8.14	3659.9	6.4	4408.3	5.7	8.7	42.4	41.9	53.5	90.5
1980	4.18	3910.1	6.8	4681.6	6.2	7.8	41.5	43.5	52.9	90.8
1981	5.43	4048.6	3.5	4854.4	3.7	7.4	40.2	45.7	52.2	92.2
1982	4.04	4023.1	-0.6	4918.0	1.3	7.9	39.1	46.4	50.6	92.4
1983	8.63	4589.5	14.1	4677.2	-4.9	7.5	40.1	45.7	54.0	93.1
1984	10.89	5150.2	12.2	6405.8	37.0	6.4	41.6	45.4	57.6	93.9
1985	5.15	5220.7	1.4	6481.6	1.2	5.9	40.9	46.5	56.1	93.8
1986	15.79	6000.0	14.9	7524.3	16.1	5.6	42.9	45.0	60.6	93.5
1987	13.24	6746.2	12.4	8509.2	13.1	n.a.	n.a.	n.a.	60.7	93.9
Average										
1952-64	--	400.0	--	435.9	13.3	--	--	--	--	--
1952-76	--	2478.1	--	2966.5	15.5	--	--	--	--	--
1952-87	--	6746.2	--	8509.2	14.0	--	--	--	--	--
1952-64	8.7	400.0	12.4	435.9	13.3	27.3	20.8	45.4	11.4	24.0
1964-76	9.8	619.5	16.7	680.5	17.7	16.0	34.3	43.5	33.0	74.0
1976-87	8.8	272.2	10.2	286.8	10.6	7.7	41.1	44.3	54.5	91.9

Source: Column 6-8, from DGBAS, Executive Yuan, National Income in Taiwan Area, R.O.C., 1986, Table 2; else from STDB, 1988. Table 1-1b. 3-8b, 5-2a, 11-8.

based on labor-intensive industries. Although there has been a trend toward using capital and technology in manufacturing, by and large, all manufacturing groups were fairly low in the ranking of capital labor ratio between 1952 and 1971[14]. Food processing and textiles, the two leading sectors of industry in import-substitution and export-oriented phases, though with the highest capital-labor ratio among all manufacturing groups, were essentially based on abundance of unskilled labor. Multinational corporations flowing into Taiwan were more likely to establish labor-absorbing factories using simple knowhow for exported goods, at least during the late 1960s. Firms with foreign investment had low and progressively deteriorated capital-labor ratio between 1964 and 1967-69 periods. The capital labor ratio for firms in EPZs was even far lower than that for overall firms with foreign investment.

The non-durable consumer goods therefore had been the major components of manufacturing for long since the 1950s. Light industries accounted for three-fourths of manufacturing production in 1952-64, 63% and 56% in the subsequent phases. Out of 20 manufacturing groups, three labor-intensive industries: food processing, textiles & apparel, and electrical machinery, alone made up 45% of

[14] According to Lin (1973:130), capital labor ratio can be categorized into 5 levels, which are, 1) below 50, 2) 50-100, 3) 101-150, 4) 151-200, and 5) 200 and over. The lower the ratio value, the more labor-intensive the production is.

Table 4.2. Capital Labor Ratio by Industries and Firms with Foreign Investment (NT$ 1,000)

	1961	1964	1966	1967	1971	1954-71	1973	1985
Manufacturing*	20.3	-	72.2	-	160.4	-	-	-
electrical industry	26.1	-	29-60	-	72-112	94.2	-	-
textiles	44.5	-	44.1	-	120.3	105.3	-	-
food processing	74.8	-	-	-	-	119.7	-	-
sugar	-	-	244.6	-	180.5	-	-	-
can food	18.2	-	16.0	-	32.1	-	-	-
other products.	-	-	44.1	-	140.4	-	-	-
machinery	21.5	-	-	-	-	-	-	-
general industrial mfg.	20.3	-	-	-	-	-	-	-
Commodity export to**	-	-	-	-	-	-	-	-
developed countries	-	-	41.5	-	104.3	-	-	-
developing countries	-	-	68.9	-	154.4	-	-	-
Firms***								
with foreign capital	-	130-200	-	37-73	-	-	-	-
in EPZ	-	-	-	16-32	-	-	72.4	225.3
in Science-based Industrial Park	-	-	-	-	-	-	-	1065.3

Source: *Collum 1 from Ranis (1979), Table 3.13 p.232 and Little (1979), Table 7.4 p.495
Collum 3 & 5 from Little Table 7.3 p.493; collumn 6 from Ranis Table 3.16 p.235
**from Ranis, Table 3.17 p.236.
***Column 2 & 4 from Lin (1973) Table 6-9 p.140; column 7 & 8 from Liu (1988), TAble 3.2, p.14

Table 4.3 Share of Selected Industries in Manufacturing Production

	1952-64	1965-76	1977-86
Total manufacturing	100.0	100.0	100.0
Heavy industry	24.4	37.5	44.5
Light industry	75.6	62.5	55.5
Four leading light mfg	44.9	38.4	33.5
Food processing	26.9	14.1	6.4
Textiles	14.0	11.3	9.3
Apparels	2.3	3.7	5.7
Electrical machinery & equipment	1.7	9.3	12.1
Other light mfg.	30.7	24.1	22.0

Source:DGBAS, Executive Yuan, National Income in Taiwan Area, 1986, Table 2
Note: see Appendix 4.4 for data for each year.

total manufacturing production in 1952-64, 38% in 1965-76, and 34% in 1977-86 (see Table 4.3). Moreover, industries were overwhelmingly based on small-scale family enterprises using simple technologies. According to Gates (1979:390), of 44,092 manufacturing industries in 1971, 57% had fewer than 6 workers, 82% had fewer than 20. In 1987, 23% of manufacturing labor force were in factories with fewer than 9 workers and 41% in factories less than 29 workers (YOMS, Table 57). An official statistics in 1989 shows that small- and medium-sized industries made up 98% of total enterprises; their production as a whole amounted to 47.6% of GDP and more than 60% of exports; and, 70% of their sales were for export market (CDN 5/1/89).

While the predominance of small-scale family enterprises and labor intensiveness characterized Taiwan's economic development and industrialization throughout the 1980s, the share of textiles, the leading industry in the 1960s, in manufacturing production was levelled off after 1971 and has steadily declined since 1978. Its production growth also slowed down, indexed 149 between 1976 and 1981 but 137 between 1981 and 1987, far behind that of the light industry taken as a whole and that of heavy industry (IOFC, various years). Capital- and technology-based production has played an important role in economic structure so as to reduce the vulnerability of dependency in the world economy, The shrinkage of light industry and the leading sector of

industry changing from processed food to textiles then to electronics, machinery and petrochemical intermediates in the course of time have marked the diversification and deepening of the economy in Taiwan.

The labor-intensiveness in the early industrialization is no doubt attributed to the dependent status of Taiwan in the world economy, which can be reviewed from the aspects of foreign investment and trade dependency.

Unlike most of the developing countries, foreign investment historically played only a minor role in Taiwan's industrial development, amounting to 2.2% of gross domestic capital formation (GDCP) in 1952-64, 6.4% in 1965-76, and 4.1% in 1977-87 (Appendix 4.1; also Ranis 1979:250). And, less than 5% of foreign investment flowed into the leading sectors of industry, i.e. textiles and food processing, after 1968. Of the total investment in either textiles or food processing, foreign investment was still mild: less than 5% in 1962-79 period (see Table 4.4). According to Gold (1981, Table 3.3), in 1976 top ten cotton textiles firms were all local enterprises, with sales ranging from NT$601 million to NT$3,584 millions.

On the contrary, electrical equipment and electronics sector was characterized by 'a few large foreign assemblers and a welter of small locally-owned suppliers' (Gold 1981:125). It relied heavily on the external actor for both capital and technology. In 1977, foreign investment

Table 4.4. Private Foreign & Overseas Chinese Investment in Approvals, by industry

	Distribution of* foreign investment among industries						Share of** foreign investment in industry	
	1952-67	1952-76	1952-87	1952-67	1968-76	1977-87	1962-69	1973-79
Agriculture & fishery	2.4	0.7	0.4	2.4	0.4	0.3	-	-
Manufacturing	93.0	86.6	78.9	93.0	85.4	76.9	-	7.9
Food & Beverages	7.8	2.1	3.0	7.8	1.0	3.3	1.5	2.9
Electronic & Electric Products	0.9	33.4	29.0	0.9	39.4	27.8	18.9	33.6
Textiles	14.3	6.5	2.6	14.3	5.1	1.6	4.3	2.2
Paper & paper products	2.0	0.9	0.6	2.0	0.7	0.5	2.7	2.8
Chemicals	24.2	14.8	18.1	24.2	13.1	19.0	4.5	6.1
Non-Metallic mineral products	2.2	5.9	5.7	2.2	6.6	5.7	1.1	20.2
Metal products	30.8	7.4	7.0	30.8	3.1	6.9	5.5	3.4
Machineary, equipment	-	8.0	9.4	-	-	9.8	11.6	22.8
Transportation	1.8	2.1	2.0	1.8	2.2	2.0	-	-
Construction of Bldg.	9.0	5.5	1.5	9.0	4.9	0.4	-	-
Banking & investment	1.4	4.2	4.5	1.4	4.7	4.5	-	-
Foreign trade	0.2	0.4	0.9	0.2	0.5	1.1	-	-
Service	-	5.1	13.0	-	-	15.0	-	-
Others	3.0	3.1	2.3	3.0	3.1	2.1	-	-
Total	100.0	100.0	100.0	100.0	100.0	100.0	-	-

Source: * from TSDB, 1968 1977, 1987.
** from Kuo, et al. (1981) Table 2.13 pp.32-33.

constituted 33.6% of total investment in this sector. And, investment from the U.S. and Japan held 70% of the total capital of electronics, and 60% of their investments were worth more than NT$20 millions (ibid.). The majority of locally-owned firms were otherwise small workshops with less than 100 workers manufacturing parts and components for assembly.

Even with the substantial inflow of foreign investment in sectors like electronic and machinery equipment, foreign investment in Taiwan virtually has been in favor of labor-intensive industries. In his examination of multinational corporations in Taiwan, Gold (1981) states, overseas Chinese had favored light industries; a large number of Japanese small and medium-sized enterprises was replicating the obsolete sectors of its industrial structure in Taiwan; and American multinationals were otherwise virtually offshore assembly operations producing for their domestic market rather than the local market. Large capital and technology-intensive MNC investments, if any, were rather made with the state. Overall, technologically advanced and capital-intensive operations by MNCs did not come in until the 1970s when the development strategies were directed toward capital and technological exporting goods, in particular, machinery equipment, non-metallic mineral product and electronics and electrical products.

Although Taiwan's dependency on foreign capital was

relatively mild, its dependence on export market and trade partner was nevertheless ponderous, marking exports as the key factor of labor-intensive industrialization. While export as a percentage of GDP skyrocketed from 8% to 61% between 1952 and 1987, the expansion of exports was greatly attributed to the production of labor-intensive industries, especially food, textiles, and electrical and electronic equipment, the total of which made up 80% of total export value in import-substitution phase, 66% and 55% in the subsequent phases (see Appendix 4.2). And, about half of the exports went to two trade partners, the U.S. and Japan since the 1950s (TSDB, various years). According to Kuo, et al. (1981), exports have been the primary source of manufacturing growth; the manufacturing output due to export demand was 80.6% in 1971-76, increasing by 29% since 1961-71 and by 44% since 1956-61. The progressive dependence of manufacturing on export market holds for every manufacturing group except food processing. The reliance of textiles on the fluctuating demand of export market was particularly acute, the output growth of which accounted for by export expansion was more than 100% in 1971-76 period.

IV.3. Employment and the Labor-intensive Industrialization

The export-oriented industrialization vertically integrated with the core, especially with the U.S., in the milieu of postwar international industrial relocation, on the one hand, highlighted its vulnerability to the

fluctuating supply and demand in world market, on the other hand, marked the absence of the disarticulation of technology and social structure in the early industrialization. The early industrialization was thus built to be suitable for the labor condition in Taiwan before the arrival of capital-intensive industrialization.

Overall, the employment in Taiwan over 1952-1987 was characterized by low unemployment rate, a shift of labor force from agriculture to manufacturing then to service. Labor force entering manufacturing increased faster than any other sectors, and the growth of which was especially marked during the export-led period. The employment in primary sector dropped from 56% in 1952 to 17% in 1987 while that in manufacturing rose from 3% to 34% (see Table 4.5).

The capacity of labor absorption in manufacturing was greatly attributed to the expansion of few selected labor-intensive industries: food processing, textiles & apparels, and electrical machinery. Of 20 manufacturing groups, these industries accounted for 40-44% of manufacturing labor force in the period of 1952-87. And, significant number of workers have been associated with or vulnerable to the world market. More than one third of labor force was engaged in the production for exports in 1976, compared to 20% in 1966 and 12% in 1961. Manufacturing employees used for exports alone amounted to near 20% of total employment in 1976, with an increase of 12% since 1966 (Kuo et al. 1981, Table 6.9; Liu

Table 4.5. Employment by Industry and by Manufacturing Groups, 1952-87

	% of total labor force*1				% of manufacturing labor force*2					
Year	Agri-culture	Industry	mfg.	Tertiary	Food Proces.	Textile prod.	Apparels	Plastic prod.	Electrical & electronic equipment	Others Mfg.
Distribution										
1952	56.1	16.9	3.0	27.0	16.2	20.5	3.6	2.1	1.7	55.9
1964	49.5	21.3	15.4	29.2	18.6	17.3	3.1	1.7	3.6	55.7
1976	29.0	36.4	28.7	34.6	6.1	19.4	5.9	2.1	13.5	53.0
1987	17.0	41.5	33.8	41.5	4.9	12.5	6.2	11.4	16.8	48.1
1953-64	52.0	19.4	14.0	28.6	17.8	19.2	3.6	1.8	2.6	55.0
1965-76	36.6	29.2	22.2	34.2	12.0	19.0	4.7	2.1	9.5	52.7
1977-87	19.7	41.2	32.5	39.1	5.3	15.2	6.1	9.5	14.9	49.0
Growth Index										
1953-64*	110.2	157.4	155.5	135.1	176.9	202.5	149.5	150.6	146.3	371.3
1964-76**	90.7	265.1	289.2	183.6	375.4	124.1	419.8	723.4	459.8	1412.1
1976-87***	74.7	166.1	172.6	177.4	146.9	116.9	94.8	154.8	811.8	183.1
Annual Growth Rate										
1953-64	-	-	-	-	4.9	6.3	3.4	3.5	3.3	11.7
1965-76	-	-	-	-	11.9	2.0	12.9	19.4	14.3	26.2
1977-87	-	-	-	-	3.6	1.5	-0.4	4.2	40.8	6.1

Source: *1 from TSDB Table 2-9a; *2 from YOEPS, 1987, Table 18 & Table 4.
Note: * Base: 1952=100; ** base:1964=100; *** base:1976=100.

1988).

Due to the expansion of labor-intensive industries, the acute unemployment in the 1950s was noticeably relieved, decreasing from 4.5% in 1952 to 3.3% in 1965, and to 1.7% in 1968. Since 1968, the unemployment rate in non-depression years remained low, ranging from 1.3% in 1973 to 2.66% in 1986. The relatively high unemployment rate before 1964 underlined the fact that the small scope of import substitution in the 1950s featured by labor-absorptive industrialization was insufficient to absorb excess labor from rapid population growth; the employment structure at this time is still highly agriculture-based.

In sum, the import substitution in the 1950s existing in primary form and the subsequent implementation of labor-intensive export-oriented industrialization, together with the still high proportion of labor-intensive industries such as textiles and electrical machinery in the initial stage of capital-intensive industrialization[15], brought on the high level of labor participation but asymmetry of labor force in few labor-intensive industries whose output growth was dependent on the abundance of cheap labor supply.

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[15] For example, the electronics industries, both labor-absorptive and tech-intensive in production process, heavily depends on labor-intensive semi-skilled assembly workers in Taiwan. More than 75% of electronics labor force were production workers for assembly during 1977-87 (YOEAPS, Table 4).

V. WOMEN IN THE LABOR MARKET

How does Taiwan's economic development characterized by labor-intensive industrialization in the past four decades underline women's subordinate employment status? How does the integration of Taiwan into the world capitalist economy affect women's position in the public sphere? In what way is women's status perpetuated in the course of development in Taiwan, compared to women in other developing countries? How does the recent industrial restructuring toward capital- and technology-intensive industrialization underscore women's inferior status as a gender? The analysis of Taiwanese women's employment status in the course of development is discussed in the following from various aspects.

V.1. The Entry of Women into Industry

The divergence of female employment status in Taiwan and in most of the LDCs can be summarized by the fact of the inflow of Taiwanese women into manufacturing since the 1950s, evidenced in the growth rate of female employment in manufacturing, the ratio of females in manufacturing to tertiary, and the disproportional distribution of female labor force in manufacturing.

Data in Table 5.1 shows that although the number of women entering into labor market grew at a slower pace

Table 5.1 Increase Index and Growth Rate of Employees by Economic Activities and Sex, 1952-87

		Avg. growth rate			Index of employee		
		52-64	64-76	76-87	52-64	64-76	76-87
TOTAL	M	2.0	3.1	2.4	126	145	129
	F	1.6	5.2	4.8	121	181	167
AGRICULTURE	M	0.8	-1.2	-2.3	110	86	77
	F	0.9	0.3	-2.9	111	102	70
INDUSTRY	M	3.3	7.2	4.1	148	229	154
	F	6.0	12.3	6.1	200	389	191
Mining	M	4.1	-1.8	-6.8	159	78	46
	F	-0.6	4.4	-5.3	90	89	50
Mfg.	M	2.7	7.7	4.4	137	241	160
	F	7.7	12.8	6.1	242	413	191
Utility	M	9.3	4.5	3.2	260	169	141
	F	6.9	5.6	9.1	100	100	200
Construc-tion	M	5.4	9.5	4.3	188	291	155
	F	-2.4	15.0	7.6	73	311	216
TERTIARY	M	3.2	4.9	3.6	146	177	147
	F	1.1	6.1	7.7	114	199	224
Commerce	M	0.1	6.5	4.3	102	210	159
	F	3.5	8.4	8.1	151	249	235
Transport	M	4.4	5.6	2.2	168	190	127
	F	5.7	7.4	5.0	190	200	168
Financing	M	18.4	6.7	6.5	725	214	198
	F	21.6	12.9	11.6	800	400	331
Service	M	5.1	3.2	3.2	180	144	141
	F	-0.7	4.2	7.3	92	161	210

Source: YOMS, Table 11 and 91.

Table 5.2 Ratio of Employees in Manufacturing to Tertiary and to Service by Sex, 1952-87

	Ratio of mfg/tertiary		Ratio of mfg/service	
Year	Male	Female	Male	Female
1952	0.57	0.24	1.58	0.34
1953	0.57	0.29	1.57	0.43
1954	0.55	0.31	1.41	0.46
1955	0.53	0.33	1.28	0.51
1956	0.51	0.36	1.21	0.56
1957	0.51	0.38	1.18	0.60
1958	0.52	0.40	1.19	0.65
1959	0.53	0.43	1.20	0.71
1960	0.53	0.45	1.20	0.76
1961	0.53	0.47	1.21	0.80
1962	0.53	0.48	1.20	0.83
1963	0.53	0.50	1.21	0.86
1964	0.53	0.51	1.20	0.90
1965	0.52	0.51	1.17	0.90
1966	0.51	0.50	1.11	0.89
1967	0.56	0.53	1.33	0.94
1968	0.54	0.57	1.30	1.17
1969	0.52	0.64	1.29	1.28
1970	0.58	0.63	1.49	1.26
1971	0.58	0.76	1.51	1.47
1972	0.65	0.80	1.73	1.65
1973	0.68	0.86	1.85	1.86
1974	0.71	0.91	1.97	1.99
1975	0.71	0.97	2.05	2.08
1976	0.72	1.06	2.01	2.32
1977	0.73	1.02	2.03	2.31
1978	0.76	1.02	2.15	2.32
1979	0.80	1.05	2.33	2.46
1980	0.78	1.00	2.28	2.36
1981	0.75	0.95	2.23	2.19
1982	0.73	0.92	2.14	2.18
1983	0.75	0.90	2.20	2.14
1984	0.79	0.94	2.30	2.27
1985	0.76	0.89	2.20	2.14
1986	0.76	0.89	2.18	2.14
1987	0.79	0.90	2.27	2.12

Source: YOMS, Table 11 and 91.

relative to that of men in 1952-64 (i.e. 1.6% and 2%, respectively), the growth rate of female employment increased much higher than that of male's ever since. The entrance of female employment was much noticeable in manufacturing than in other sectors and grew faster than that of males since the 1950s, though the growth has been less significant in recent years. As a result, the ratio of females in manufacturing to tertiary, most likely a decline in developing countries, had steadily increased throughout the 1970s. Not until the technological upgrading was intensively implemented in the 1980s did the ratio start declining (see Table 5.2). Further, the proportion of female labor force in manufacturing jumped from 8% in 1952 to 41% in 1987 with an increase of 33% whereas the increase for male was merely 17% over the same period (See Table 5.4).

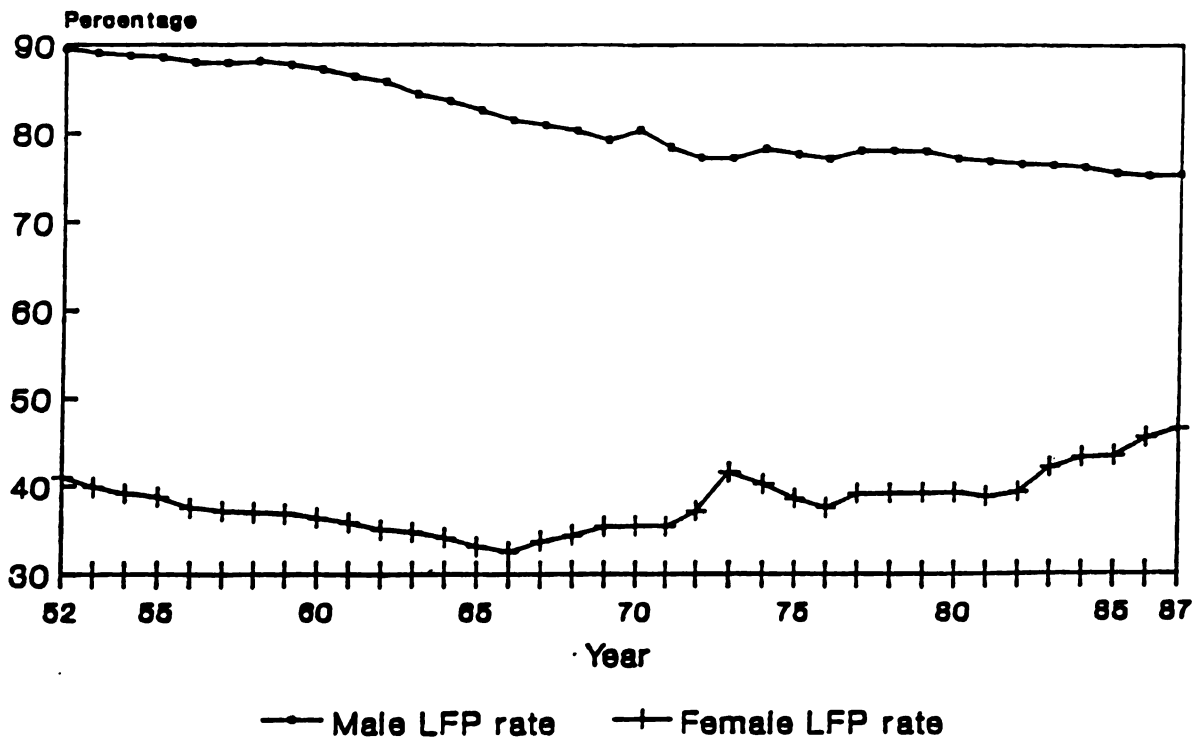
Due to the great demand for labor in labor-intensive manufacturing, female labor force participation rate in general rose in the course of development. Sex difference in labor participation level over time, however, is also noticed. Table 5.3 and Figure 5.1 show that male labor force participation has been steadily on the decline, from 89.5% in 1952 to 75% in 1987, regardless of the economically structural change at any point in time, whereas female labor participation rate displays a curvilinear trend over the past four decades with a turning point in 1966, a year after the first EPZ was implemented. The female participation

Table 5.3. Labor Force Participation and Unemployment Rate, 1952-87

Year	LFP rate		Share LFP rate		Unemployment as % of LFP		Unemployment as % of EAP	
	Male	Female	Male	Female	Male	Female	Male	Female
1952	89.5	41.0	47.0	19.5	2.9	2.9	3.3	7.0
1964	83.6	34.1	42.4	16.8	2.8	2.4	3.3	6.9
1976	77.1	37.6	38.8	18.6	1.2	0.8	1.6	2.2
1987	75.2	46.5	37.7	23.2	1.5	0.9	2.0	2.0

Source: YOMS, Table 1 and 87.
Note: LFP rate is the female (or male) labor force divided by the female (or male) population times 100; share LFP rate is the number of female (or male) labor force divided by the total labor force times 100.
LFP is the total civilian labor force aged over 15; EAP is the economic active population, employed or unemployed, seeking jobs.

Fig 5.1 Labor Force Participation Rate by Sex, 1952-87



plummeted from 41% in 1952 to 32.5% in 1966 when the entry of women into manufacturing was noticeable. Then at the time when the export-oriented and labor-intensive industrialization was explicitly implemented and when the tight labor market became apparent in the 1970s, female participation rate increased by 9% between 1966 and 1973. Later, two global economic recessions brought on the decline and then level-off of female participation. Not until 1982 when Taiwan were relieved from the second economic recession did female participation rate again climb up, increasing from 39.3% in 1982 to 46.5% in 1987.

While the decline of female participation and the exclusion of women from manufacturing have frequently been used as evidence of female marginalization engendered in the course of development, the overall increase of female participation rate and substantial inclusion of female labor force in manufacturing in Taiwan otherwise reveal women's disadvantaged status in the labor market if patterns of female employment in labor market are examined.

V.2. Changes in Employment structure

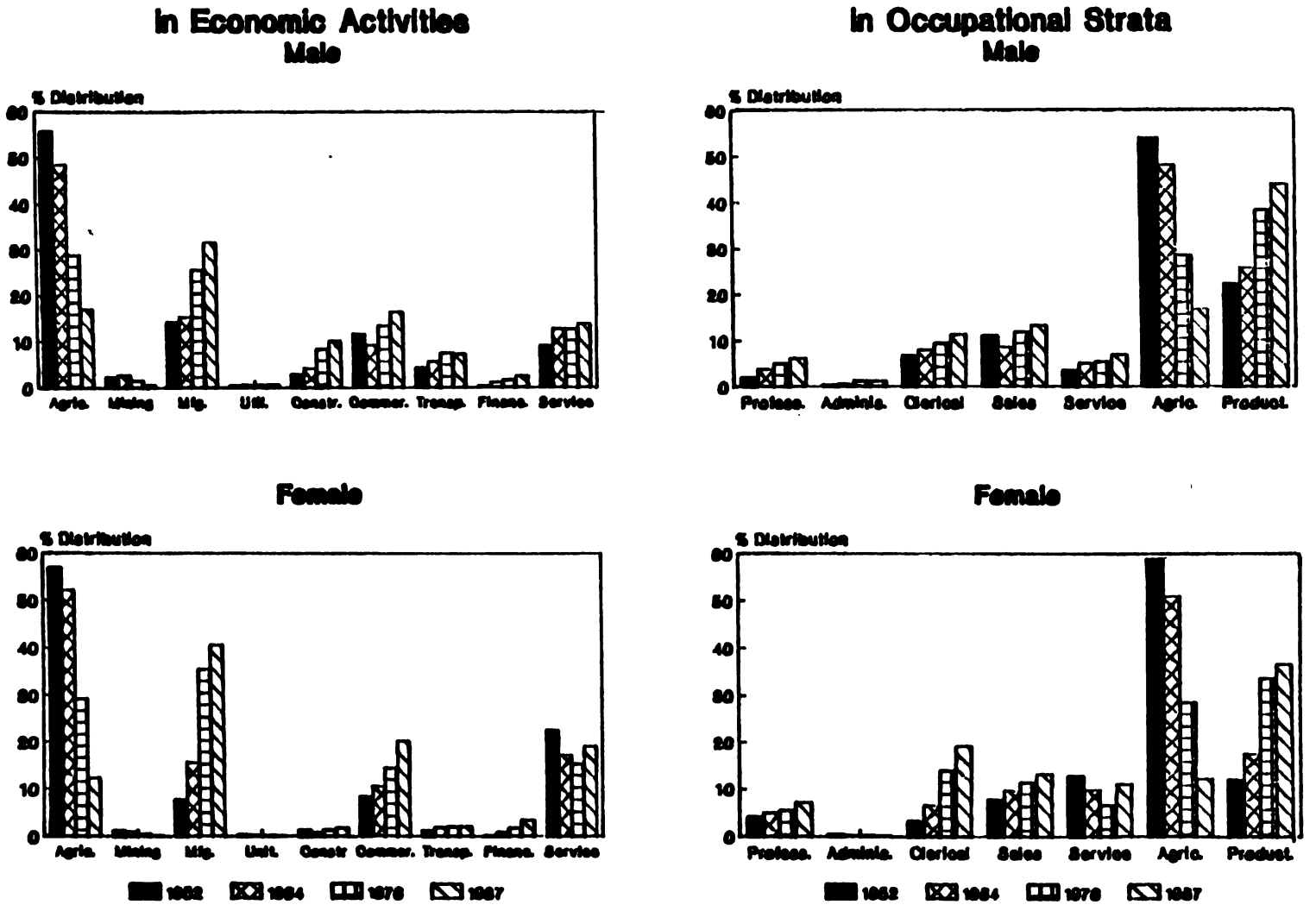
A comparison of the distribution of male and female workers by economic activities and occupations over time, given in Table 5.4 and Figure 5.2, reveals the extent of sex differential in the changes of employment structure. Virtually, a shift of employment from agricultural sector to manufacturing and commerce is visible for both sexes as

Table 5.4. % Distribution of Employment by Economic Activities, Occupations, Employment Status and Sex, 1952-87

	Male				Female			
	1952	1964	1976	1987	1952	1964	1976	1987
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Economic Activities								
AGRICULTURE	55.7	48.5	28.8	17.1	57.0	52.1	29.2	12.3
INDUSTRY	19.4	22.8	36.0	42.8	10.6	17.4	37.4	42.7
Mining	2.2	2.8	1.5	0.5	1.2	0.9	0.4	0.1
Manufacturing	14.2	15.3	25.5	31.6	7.8	15.6	35.4	40.7
Utility	0.2	0.5	0.6	0.6	0.2	0.2	0.1	0.1
Construction	2.8	4.2	8.4	10.1	1.3	0.8	1.4	1.8
TERTIARY	24.9	28.8	35.2	40.2	32.4	30.4	33.5	44.9
Commerce	11.5	9.2	13.4	16.5	8.4	10.5	14.4	20.2
Transport	4.3	5.7	7.5	7.3	1.2	1.9	2.1	2.1
Financing	0.2	1.1	1.6	2.5	0.1	0.8	1.7	3.5
Service	9.0	12.8	12.7	13.9	22.7	17.2	15.3	19.2
Occupations								
Professional	2.0	3.9	5.0	6.2	4.2	5.1	5.5	7.2
Administrative	0.2	0.5	1.2	1.2	0.4	0.2	0.2	0.2
Clerical	6.8	8.0	9.4	11.3	3.4	6.6	14.0	19.3
Sales	11.1	8.6	11.9	13.4	7.8	9.7	11.4	13.3
Service	3.5	5.1	5.4	7.0	12.8	9.9	6.7	11.1
Agriculture	54.0	48.2	28.6	16.9	58.9	50.9	28.5	12.3
Production	22.4	25.8	38.5	44.0	12.1	17.6	33.6	36.7
Employment Status								
Employer	2.6	2.5	3.3	6.1	1.3	1.2	0.9	1.2
Self-employment	42.1	36.7	29.8	25.3	15.0	12.0	11.5	9.2
Unpaid family member	18.8	17.2	7.8	4.5	53.1	12.0	11.5	9.2
Wage workers	36.6	43.6	59.1	64.1	30.6	36.8	59.1	70.9
Private	25.5	28.4	45.6	51.6	14.0	27.2	49.4	60.6
Government	11.1	15.3	13.5	12.5	16.5	9.6	9.7	10.2

Source: YOMS, Table 11 and 91, Table 12 and 92, Table 13 and 93.

Fig 5.2 Distribution of Employment by Sex



labor-intensive industrialization launched in the 1950s. Nevertheless, the departure of employment from agriculture into manufacturing and commerce was more pronounced for females than for males. Between 1952 and 1987, the proportion of female labor force in agriculture fell by 45% and increased by 33% in manufacturing and 12% in commerce, while for men it was a fall by 39% in agriculture and an increase by 17% in manufacturing and 5% in commerce. As a result, the concentration of labor force into manufacturing, commerce and service became more apparent for females than males. These three leading sectors in labor absorption, for both women and men, comprised more than 80% of female labor force in 1987, but merely 62% of male labor force; the comparative figures for female and male were 65% and 52% in 1976, and 43% and 37% in 1964. The gradual increase of dissimilarity was because women have been completely blocked from male-dominated industries of construction and transportation but concentrated into manufacturing as they were left out of substance activities when mechanization and industrialization dispersed in the rural area.

The relatively well-distributed male employment in contrast to female's may be further revealed by a comparison between the distribution of female and male employment in 20 manufacturing groups. In 1977 whereas 64% of females in manufacturing was accounted for by four manufacturing industries, (i.e. textiles 25%, electric & electronic

equipment 18%, plastic products 11%, and apparels 10%), the same magnitude for their male counterparts could be accounted for by eight manufacturing groups (YOEAPS, Table 6)[16]. Although the confinement of females in manufacturing into these four sectors lessened to some degree, i.e. 57% in 1987, for male manufacturing labor force the same magnitude could still be accounted for by 7 manufacturing industries.

As the labor-intensive industrialization shifted the employment from primary sector to secondary sector, a departure of occupational structure from agricultural work to production and clerical work was as well found among both sexes, but more apparent for females than males. While the distribution of female labor in agricultural work decreased by 47% in 1952-87 and increased by 25% in production work and 16% in clerical work, the corresponding figures for males were less significant: declining by 37% in agriculture work and increasing by 22% in production jobs and 5% in clerical work. The absence of exodus of females from production work in the course of development, however, was not so much encouraging. For example, in 1987, 57% of female production workers fell into four leading occupations: electrical and electronic fitters (18.7%), tailors, dressmakers and sewers (17.7%), spinners, weavers and knitters (10.4%), and rubber & plastics product makers

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[16] That is, textiles 11%; electrical and electronic equipment 10.2%; fabricated metal products 9.1%; plastics 8.6%; wood 7.2%; machinery 6.9%; transportation equipment 6.7%; and food 6.5%.

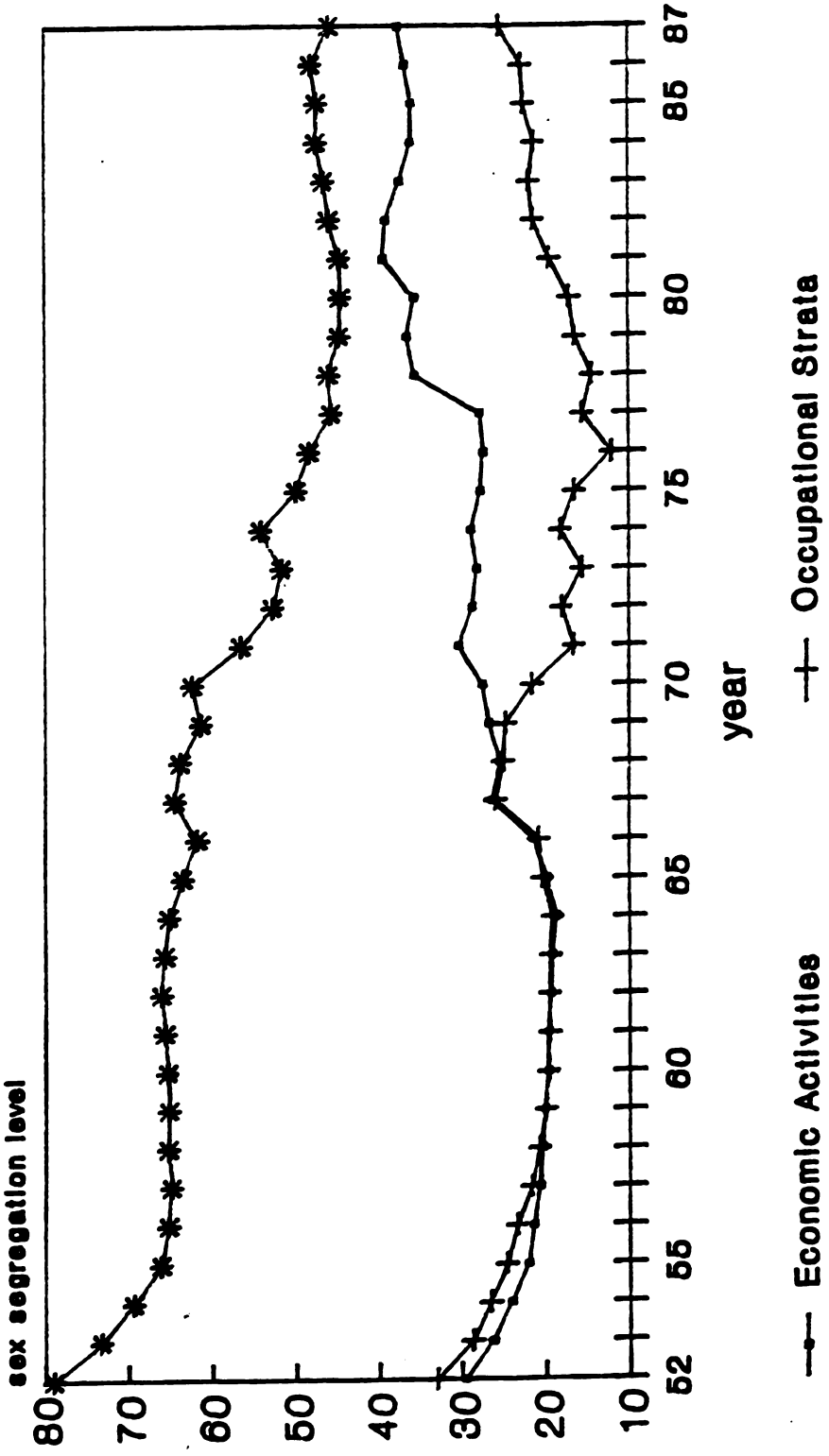
(10.6%); but only 44% of male production workers fell into four leading occupations: construction workers, transport operators, machinery assemblers, and electrical & electronic fitters (YOMS, Table 54).

In addition, the trend of both male and female employment moving from manufacturing into service sector in the late 1970s should be noted. The proportion of female labors in service, once substantially declined since the 1950s, rose up after 1978 and reached a peak of 19.1% in 1987 for the first time since 1959. Different from the slow upward linear trend of male proportion in service sector, the U-shape trend of female employment in service reflects the fact that, while manufacturing and commerce acted as a pull factor in 1952-76 dragging females from service sector (mainly personal service), in the recent economic restructuring, white-collar service work in finance and construction has rapidly absorbed women in general and women displaced from manufacturing - due to either technological deepening or relocation of 'female' industries to other periphery countries.

V.3. Sex Segregation and Industrial Restructuring

The dissimilarity of employment patterns between men and women measured by the dissimilarity Index (DI) of sex segregation, given in Figure 5.3, shows the changes in sex segregation in public sphere. Clearly, the dissimilarity indices regarding economic activities and occupations both

Fig 5.3 Trends of Dissimilarity Index in Industry, Occupation and Status



steadily declined between 1952 and 1964 as labor-intensive industrialization incorporated women into manufacturing as production and/or clerical workers. However, later the continued expansion of female labor force in manufacturing relative to that of male labor enlarged the DI scores of economic activities, which was further intensified due to the growth of female labor force in service sector in the late 1970s; and, the DI score in economic activities reached the highest in the 1980s. Similarly, the sex segregation level in occupation strata, once reaching an unprecedentedly low level in 1976, substantially rose up due to the concentration of women into clerical and service work relative to their male counterparts as capital-intensive industrialization was carried out in the late 1970s.

A breakdown of employment in manufacturing, commerce and service by sex and types of work in Table 5.5 discloses in what way female employment has been affected by the industrial restructuring since the late 1970s. The patterns of female employment in commerce and service, in fact, became more alike to that of male's. A shift of employment structure from retails and variety store to international trade in commerce sector and from personal service to social service in service sector was as apparent for female as for male. However, sex segregation was disclosed when the employment pattern was broken down by types of work. The proportion of females as supervisors in any commerce group

Table 5.5. Paid Employees in Manufacturing, Commerce, and Service by Occupations and Sex

	% Distribution of employment						Supervisors (workers in mfg.) as % of total employment in particular sector						Female's share of employment in particular sector		
	Female			Male			Female			Male					
	1977	1982	1987	1977	1982	1987	1977	1982	1987	1977	1982	1987	1977	1982	1987
COMMERCE	100.0	100.0	100.0	100.0	100.0	100.0	11.1	10.5	13.8	22.4	23.9	27.4	38.5	45.9	46.9
Wholesale	28.7	20.0	26.0	27.7	27.7	27.3	2.2	3.6	5.6	13.2	14.9	18.3	39.3	38.0	45.8
Retail	35.6	32.4	27.9	25.9	28.3	26.5	1.3	5.9	9.9	14.2	15.1	18.7	46.3	49.3	48.1
Variety stores	-	27.8	23.5	-	26.1	24.8	-	6.3	8.9	-	14.2	17.3	-	47.4	45.5
Department stores	-	4.6	4.4	-	2.1	1.7	-	3.6	15.7	-	26.3	39.4	-	64.7	69.8
International trade	18.9	31.1	31.3	31.2	31.7	35.8	47.4	22.6	23.9	39.5	42.3	43.2	27.5	45.4	43.6
Restraunt	10.5	9.8	12.6	10.2	8.0	7.4	4.7	4.5	13.2	14.5	15.2	19.0	39.2	51.0	60.0
Hotel	6.3	6.7	5.1	5.0	4.4	3.1	8.2	5.9	8.5	24.4	20.3	21.5	44.5	56.2	59.5
SERVICE	100.0	100.0	100.0	100.0	100.0	100.0	21.0	34.4	38.4	30.5	41.0	40.0	47.6	51.9	55.5
Sanitary serv.	0.9	1.1	1.4	4.9	7.0	11.4	2.0	5.4	9.7	4.5	9.6	14.0	13.9	14.3	13.4
Social serv.	31.5	41.2	46.9	33.0	38.2	42.0	57.4	75.3	74.1	61.1	70.1	64.5	46.4	53.8	58.2
Cultural serv.	20.1	11.5	9.9	9.1	12.3	10.1	6.0	6.6	8.8	37.9	37.9	44.8	66.7	50.2	55.0
Personal serv.	47.5	45.7	41.8	52.9	44.3	36.5	3.6	5.8	6.3	12.6	19.9	18.7	44.9	52.7	58.8
MANUFACTURING	100.0	100.0	100.0	100.0	100.0	100.0	49.3	49.6	49.2	69.0	76.1	74.7	49.3	49.6	49.2
Textiles	25.4	18.8	15.8	11.0	9.2	9.4	69.3	66.9	62.1	62.7	68.5	60.9	69.3	66.9	62.1
Wearing apparel	9.6	10.4	9.5	2.2	2.5	3.1	81.4	80.2	74.9	55.1	77.7	77.2	87.4	80.2	74.9
Plastic production	10.7	13.2	11.8	8.6	7.8	11.1	54.8	62.5	50.7	60.4	73.2	74.9	54.8	62.5	50.7
Electric & electronic equipment	18.0	15.6	20.3	10.2	10.7	13.4	63.3	59.0	59.5	62.5	68.7	66.0	63.3	59.0	59.5
Other manufacturing	36.4	42.0	42.6	68.0	69.8	63.0	-	-	-	-	-	-	-	-	-

Source: YOEAPS, Table 4, 7. and 10.
Note: Data only included employees on payrolls.

was substantially lower than that of males over three time points, although women on supervisory work have been increasing over time. The proportion of females in international trade as supervisors was even on a decline by 24% between 1977 and 1987 whereas their male counterparts had an increase by 4%.

On the contrary, overall no clear-cut sexual occupational hierarchy was found in service groups. However, except for women in social service who were more inclined to be on supervisory work in contrast to their male counterparts, the percentage of female employees as supervisors in cultural, personal, and sanitary service sectors was substantially lower than that of male employees.

In manufacturing, as the textiles production started declining since the late 1970s, female manufacturing employees were shifted from textiles into electric & electronics industry as men were, but apparently the decline of female proportion in textiles was more than the decline of male proportion. More apparently the percentage of females as production workers substantially fell across four leading labor-intensive industries while the percentage of males as production workers, in general, increased. Not too surprisingly, therefore, the averaged annual growth rate of production workers in the declining textiles between 1976 and 1987 was -1.49% for female, but 1.58% for male (YOEAPS, Table 4). The exclusion of women from manufacturing in

textiles replicates in Taiwan as technology and capital penetrate into industries previously based on simple technology. Even the growth of female production workers in electronics industry fell behind that of male's although women were still over-represented in electronics industry[17]; during 1977-87, the averaged annual growth rate of female employment was 5.4%, compared to the growth rate of 7.4% for men.

V.4. Occupational Segregation

An examination of under- and over-representation of women in occupations, i.e. women's share in each occupation divided by their overall share of all occupations, given in Table 5.6, depicts the overall occupational segregation of sex in the job market. In general, occupational segregation has alleviated over time in all occupational groups except for clerical and administrative occupations. The over-representation of women in professional and service occupations and under-representation of women in production work, though still obvious, have been less significant. However, what was striking was women's under-representation in administrative work but over-representation in clerical occupations over time, especially when the substantial improvement of female education in Taiwan is taken into account. For example, in 1987, 35.3% of employed persons

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[17] Women constituted 75%-79% of production workers in electronics but only 52%-53% of overall production worker in the period of 1977-1987.

Table 5.6 Occupational Segregation, 1952-87.

	Women's share of labor force in occupations								Over- and under-representation of female employment in occupations						
Year	TOTAL	Professional	Administrative	Clerical	Sales	Service	Agriculture	Production	Professional	Administrative	Clerical	Sales	Service	Agriculture	Production
1952	28.5	45.5	37.5	16.5	21.9	59.1	30.3	17.7	1.60	1.32	0.58	0.77	2.08	1.06	0.62
1953	28.6	44.3	37.5	19.9	23.7	58.3	29.9	18.6	1.55	1.31	0.70	0.83	2.04	1.05	0.65
1954	28.5	43.2	44.4	21.1	24.5	57.3	29.3	19.0	1.51	1.56	0.74	0.86	2.01	1.03	0.66
1955	28.5	41.8	40.0	22.4	25.6	56.1	29.1	19.4	1.47	1.40	0.78	0.90	1.97	1.02	0.68
1956	28.6	40.8	27.3	22.7	26.2	55.1	29.2	20.0	1.43	0.95	0.79	0.91	1.92	1.02	0.70
1957	28.5	39.3	27.3	23.4	27.2	51.9	29.2	20.3	1.38	0.96	0.82	0.96	1.82	1.03	0.71
1958	27.9	37.2	25.0	23.3	27.4	49.5	28.7	20.0	1.33	0.89	0.83	0.98	1.77	1.03	0.72
1959	27.8	36.5	21.4	23.4	27.9	47.8	28.6	20.2	1.31	0.77	0.84	1.00	1.72	1.03	0.73
1960	27.7	35.6	21.4	23.8	28.7	46.1	28.6	20.3	1.28	0.77	0.86	1.04	1.66	1.03	0.73
1961	27.6	35.0	23.1	23.7	28.9	45.0	28.6	20.4	1.27	0.84	0.86	1.05	1.63	1.04	0.74
1962	27.4	33.8	23.1	23.5	29.3	43.9	28.4	20.2	1.23	0.84	0.86	1.07	1.60	1.04	0.74
1963	27.6	33.6	23.1	23.9	29.9	43.5	28.7	20.5	1.22	0.84	0.87	1.08	1.58	1.04	0.74
1964	27.6	33.1	14.3	23.9	30.2	42.7	28.7	20.6	1.20	0.52	0.87	1.09	1.55	1.04	0.75
1965	27.3	32.4	13.3	23.6	30.3	41.8	28.6	20.3	1.18	0.49	0.86	1.11	1.53	1.05	0.74
1966	27.6	32.1	12.5	23.7	30.8	41.5	29.1	20.6	1.16	0.45	0.86	1.12	1.50	1.05	0.75
1967	28.8	29.6	5.6	23.5	30.8	44.7	32.0	20.5	1.03	0.19	0.82	1.07	1.55	1.11	0.71
1968	29.7	30.0	5.3	27.8	34.8	39.7	33.0	20.8	1.01	0.18	0.94	1.17	1.34	1.11	0.70
1969	30.4	30.0	11.1	23.0	34.6	44.4	33.4	23.5	0.99	0.37	0.76	1.14	1.46	1.10	0.77
1970	30.5	31.9	5.6	30.4	33.9	43.1	33.2	23.0	1.05	0.18	1.00	1.11	1.41	1.09	0.75
1971	30.5	32.9	4.8	31.6	32.0	44.0	31.9	25.1	1.08	0.16	1.04	1.05	1.44	1.04	0.82
1972	31.9	34.6	3.8	33.9	32.5	46.5	33.7	26.2	1.09	0.12	1.06	1.02	1.46	1.06	0.82
1973	34.5	32.0	3.0	39.6	36.0	48.8	35.0	30.2	0.93	0.09	1.15	1.04	1.41	1.01	0.88
1974	33.4	31.6	5.4	39.5	34.2	45.3	35.5	28.3	0.94	0.16	1.18	1.02	1.35	1.06	0.84
1975	32.6	34.7	7.1	39.9	32.4	39.9	34.6	28.0	1.06	0.22	1.22	0.99	1.22	1.06	0.86
1976	32.3	34.4	6.3	41.4	31.4	37.0	32.2	29.4	1.06	0.19	1.28	0.97	1.14	1.00	0.91
1977	33.1	34.7	9.4	44.7	33.0	39.4	32.4	29.6	1.05	0.28	1.35	0.99	1.19	0.98	0.89
1978	32.9	37.2	9.1	41.4	33.4	39.2	30.2	30.9	1.13	0.28	1.26	1.01	1.19	0.92	0.94
1979	33.1	35.3	7.0	43.1	33.9	40.3	30.2	30.6	1.07	0.21	1.30	1.02	1.22	0.91	0.92
1980	33.5	36.6	5.2	43.4	33.4	40.7	31.3	30.3	1.10	0.15	1.30	1.00	1.22	0.94	0.91
1981	33.3	37.5	6.8	43.9	33.2	41.5	29.4	30.3	1.13	0.20	1.32	1.00	1.24	0.88	0.91
1982	33.8	38.7	5.7	44.6	34.0	43.0	28.8	30.5	1.14	0.17	1.32	1.01	1.27	0.85	0.90
1983	35.5	39.6	6.5	46.7	35.8	45.6	30.7	31.9	1.11	0.18	1.32	1.01	1.28	0.87	0.90
1984	36.2	39.8	6.3	47.5	36.4	45.9	31.0	32.8	1.10	0.18	1.31	1.00	1.27	0.86	0.91
1985	36.5	40.1	8.2	47.6	37.0	46.9	31.0	32.7	1.10	0.22	1.30	1.02	1.29	0.85	0.90
1986	37.7	40.5	9.1	49.2	38.3	48.3	31.7	33.9	1.08	0.24	1.31	1.02	1.28	0.84	0.90
1987	38.1	41.7	7.6	51.3	37.9	49.4	30.9	33.9	1.09	0.20	1.35	1.00	1.30	0.81	0.89

Source: YOMS, Table 12 and 92.

with college education (including junior college) were women, compared to 29% in 1978 (YOMS, Table 4).

The over-representation of Taiwanese women in professional occupations in the 1950s, as found in most of the developing countries due to the mass of women as teachers and nurses, has lessened its significance in the course of development. It is probably because 'beyond a certain level of development, the main professional occupations for women such as teacher and nurse become a smaller proportion of the professional category while other professions such as engineer, systems analyst, accountant, increase in importance' (Anker and Hein 1986:81). However, the confinement of female professionals in teaching and nursing is yet striking. In 1987, 79% of female professionals were in teaching and medical-related occupations while there were only 42% of male professionals in the corresponding jobs (YOMS, Table 54). The over-representation of female professionals in teaching and medical-related work is also evident; female's share in these professions was 57% in 1987 while their share in overall professions was merely 42%.

Meanwhile, the relegation of women into clerical work manifests the feminization of clerical occupations over time, i.e. changing from being sex-typed as men's jobs to being as women's jobs, as well as the confinement of female clerical workers into low-level white-collar work (YOMS,

Table 54)[18]. In 1987, about 50% of male clerical employees, in contrast to only 11% of female clerical workers, were high-level supervisors; almost half of women (46%) in clerical occupations were book-keepers and cashiers. Besides, while women constituted 51% of clerical employees in 1987, women's share of supervisory clerical work was merely 17%. In a word, women have become over-represented in clerical work but severely under-represented in administrative work and clerical supervisory occupations.

V.5. Class Structure of the Female Labor Force

Perceivably, the expansion of labor-intensive capitalist production in Taiwan has enlarged the size of wage workers and decreased the significance of petty bourgeoisie and unpaid family labor in class formation. The percentage of employees as wage workers increased from 35% in 1952 to 67% in 1987, while that as petty bourgeoisie and unpaid family labor decreased from 34% to 19% and from 28.5% to 9%, respectively (YOMS 1987, Table 13 and 93). However, the remarkable shift of female employment from self-employment and unenumerated work to capitalist work, as it was for men, brings attention to women's subordinate status in class structure in the course of capitalist development.

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[18] The high-level white collar occupations include clerical supervisors, government executive officials, and transport & communications supervisors. The low-level white collar work includes typist, book-keepers, cashier, transport conductors, mail clerks, telephone operators and unspecified clerical workers.

Table 5.4 indicates that, of the total female labor force, women as wage workers have augmented from 30.6% in 1952 to 70.9% in 1987 while male labor force as wage workers expanded in a relatively slower pace from 36.6% to 64.1%. The female marginalization, i.e. an increase in the proportion of female employment in family labour, self-employment and domestic service engendered in the development, is dismissed in the case of Taiwan. The plummeting of female unpaid family labor since 1952 was especially noticeable during export-led period, registering a decline by 20%, compared to a decline of 3% in 1952-64 and 7% in 1976-87.

As a result, sexual segregation in class structure has been substantially at ease (see Figure 5.3), mainly attributed to a narrowness of dissimilarity between male and female distribution in unpaid family workers and petty bourgeoisie. However, the steady decline in sex segregation index of employment status since 1952 has come to a halt after 1977, which discloses the extent of tendency of women to be wage workers in a continuing expansion of capitalist development. Whereas female workers are more inclined to be wage workers in private sectors than male workers, men have been more likely to be employers and petty bourgeoisie. The proportion of women as private wage workers soared by 22.2% between 1964 and 1976 and by 11.2% between 1976 and 1987, the comparative figures for male labor force were 17.2% and

6.0%, respectively.

V.6. Sex Differential in Earning

Along with the increase of female wage workers but acute relegation of women into secondary market, either to low grade white-collar work or to semi-skill production work, the sexual inequality in earning has been also intensified, if not aggravated, marking Taiwanese women's subordinate status as wage workers in the course of development.

An examination of sexual difference in wage broken down by industry records the extent of sexual differential perpetuated in the course of capitalist development. A systematic sex difference in earning, shown in Table 5.7 and Figure 5.4, has come across all industrial sectors over 1952-87. The U-shape of sex difference in earning in manufacturing, service, and utility sectors between 1952 and 1987 underlined the deterioration of women's wage relative to men's during 1966-75, a time when the productive process was on the base of cheap labor for export market.

Due to the acute labor scarcity since the 1970s, sex differences in earning have been gradually narrowed across all sectors since 1976 except for commerce, where sex inequality in earning was more severe in 1981-87 than any other sectors aside from mining. Although the increase of female wage in general has kept pace with that of male's in the period of 1981-87, two findings mark the subordinate

Table 5.7. Sex Differential in Earnings, 1952-1987.

Economic activities	Female earnings as percentage of Male's								Increase index of wage in 1987 (base:1981=100)	
	1952-55	1956-60	1961-65	1966-70	1971-75	1976-80	1981-87	1987	Male	Female
Agriculture*	35.0	48.6	66.2	66.6	70.9	76.1	60.1	60.1	-	-
Mining	23.0	27.4	37.4	44.7	42.4	43.1	48.7	51.8	119.1	139.1
Manufacturing	64.7	67.7	71.7	41.6	47.3	61.7	64.3	63.9	161.8	156.8
Early mfg.	91.2	83.1	76.1	39.6	47.3	63.0	-	-	-	-
Middle mfg.	58.7	64.2	70.8	45.9	50.4	63.3	-	-	-	-
Late mfg.	44.2	55.7	68.1	39.2	44.1	58.8	-	-	-	-
Construction	32.1	37.0	42.1	66.6	67.3	70.1	70.8	67.6	160.6	156.6
Utility	44.3	56.4	63.6	60.7	52.4	59.4	80.1	79.5	148.1	130.7
Transport	77.6	84.2	79.0	86.4	79.5	83.2	83.1	88.2	142.8	166.8
Commerce	-	-	-	69.0	66.1	69.8	61.3	65.4	146.4	160.2
Other service	-	-	-	71.5	59.8	63.1	70.9	69.0	-	-
Financing**	-	-	-	-	-	58.8	67.1	71.9	150.1	172.1
Service**	-	-	-	-	-	75.5	74.7	66.1	163.8	122.5

Source: Data for years 1952-80 from Liu (1983), Table 7; for 1981-87 from YOEAPS, Table 30.
Note: *for 1981-87 based on 1987 data only; **Data for 1976-80 from YOEAPS, Table 30.

Table 5.8. Sex Difference in Earning for Paid Employees in Manufacturing, Commerce, and Service, by Occupations.

	% of female earning over males'					
COMMERCE	Supervisor			Non-supervisor		
	1977	1983	1987	1977	1983	1987
Total	57.1	59.9	61.9	68.3	68.9	78.3
Wholesale	63.7	54.6	59.8	65.6	61.4	67.7
Retail	67.7	67.6	68.1	60.0	66.7	69.7
International Trade	61.9	59.5	61.9	70.9	82.9	110.3
SERVICE	Supervisor			Non-supervisor		
	1979	1983	1987	1979	1983	1987
Total	93.9	71.8	60.7	88.7	82.9	74.5
Social service	89.6	67.4	54.1	116.9	100.5	76.5
Cultural service	151.6	123.3	94.8	115.2	93.0	99.6
Personal service	75.8	71.8	61.2	77.0	79.4	69.6
MANUFACTURING	Staff			Worker		
	1981	1983	1987	1981	1983	1987
Total	63.1	61.3	59.1	70.1	70.2	68.5
Textiles	62.8	74.3	75.5	85.2	74.3	75.5
Wearing apparel	67.9	74.9	67.5	91.0	80.8	87.6
Plastic production	99.9	105.3	101.4	78.0	79.9	83.2
Electric & electronic equipment	72.1	68.3	64.8	75.4	75.7	70.3

Source: YOEAPS, Table 23, 26 and 29.

Fig 5.4 Sex difference in earning
by Economic Activities, 1952-87

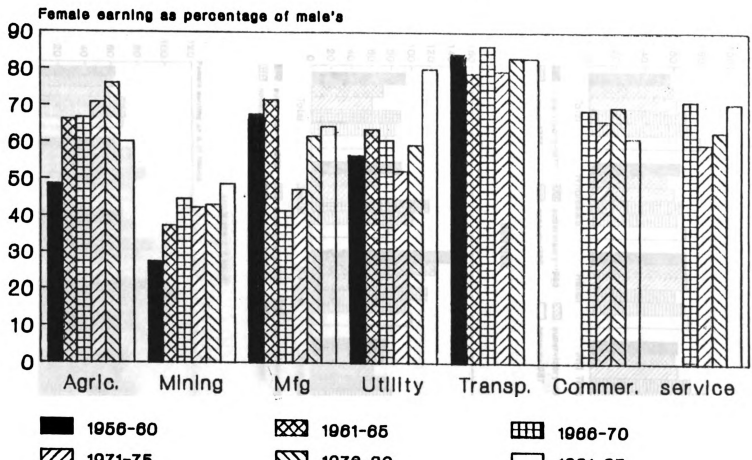
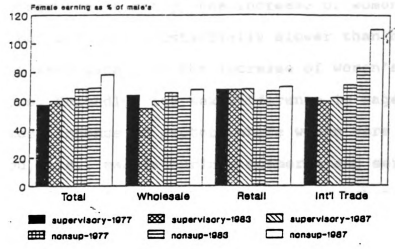
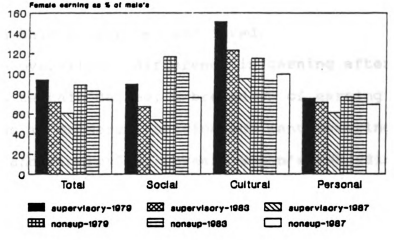


Fig 5.5 Sex Difference in Earning

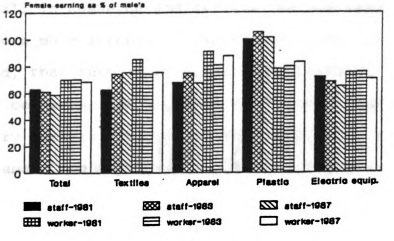
COMMERCE



SERVICE



MANUFACTURING



status of women in manufacturing, commerce, and in particular, service. Firstly, the increase of women's wage in service not only was substantially slower than men's, but also did not keep pace with the increase of women's wage in other sectors. Secondly, the sex difference in wage in the 1980s was most intense in sectors where women were concentrated, i.e., manufacturing, commerce and service, aside from mining. Although there has been a substantial increase in earning for women in commerce relative to that of their male counterparts, the increase in women's wage can not be overemphasized if the significant sex differences in earning in this sector is considered.

While overall sex difference in earning after 1976 has allayed to certain degree, a breakdown of earning by occupations in commerce, service and manufacturing, given in Table 5.8 and Figure 5.5, reveals women's subordinate status in the labor market, particularly in high level white-collar occupations, as the economic development moves toward capital-intensive industrialization.

Overall in commerce and service the sex inequality in earnings was more intense in supervisory jobs, if not aggravated, than that in non-supervisory jobs at any time point. In commerce, the increase of earnings among female supervisory workers relative to male's was much slower than that of female non-supervisory workers. In service, the sex differences in earning were even deteriorated along with a

shift of female employment into service in the 1980s; a decline of the ratio of female/male earnings is noticeably seen in both supervisory and non-supervisory service work in three time points. Female's earnings in cultural service, either supervisory or non-supervisory work, once higher than male's in 1979, sharply fell below the level of male's earning in 1987[19]. In manufacturing, the sexual inequality in earning for female staffs was more acute than for female production workers over time.

V.7. Women's Deployment as Reserve Army

The theory of labor reserve about the readily available and dispensable group of women in times of recession is more complicated than what the theory has suggested. Table 5.9 shows that during the first economic recession, women evidently were deployed as labor reserve being readily dispensed. The number of women entering into labor market grew at a negative rate of -0.1% in 1974 and -1.8% in 1975, compared with the growth rate of 4.6% and 1.9% for males. The disposability of female employment was most apparent in manufacturing and tertiary sector. Nevertheless, during the subsequent economic recession in 1979-82 and 1985, female employment, especially in tertiary sector, apparently grew at a much faster rate than male employment.

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[19] The deterioration of numeration work for high-level white-collar female employees is further supported by the data that, in 1987, women on administrative work only had 49% of male earning, the lowest among 7 occupation groups. And, particularly in service sector, women in administrative and managerial occupations only had 39.4% of male's earnings in 1987 (see Appendix 5.3).

Table 5.9. Growth Rate of Employees by Industry and Sex in Economic-Recession Period

		1973	1974	1975	1976	1979	1978	1981	1982
TOTAL	Male	3.5	4.6	1.9	3.2	2.9	1.3	2.1	1.4
	Female	16.5	-0.1	-1.8	1.6	3.7	3.1	1.6	3.5
AGRICULTURE	Male	-2.5	4.0	0.3	0.9	-11.1	-8.8	1.0	3.1
	Female	3.4	5.4	-3.1	-8.5	-11.1	-4.3	-7.3	-0.3
INDUSTRY	Male	7.7	7.4	2.3	5.0	9.7	3.6	1.5	-1.2
	Female	28.8	-0.3	2.7	11.6	9.6	2.9	1.3	1.8
Mining	Male	-8.8	11.5	-3.4	1.8	-7.7	-2.1	-2.1	-6.5
	Female	75.0	-42.9	50.0	33.3	-11.1	12.5	-11.1	0.0
Mfg.	Male	9.7	7.0	3.2	4.9	10.9	2.7	-0.3	0.4
	Female	28.1	0.2	1.7	10.9	9.3	2.5	1.4	2.0
Utility	Male	5.6	5.3	0.0	10.0	4.3	0.0	8.3	3.8
	Female	0.0	0.0	50.0	-33.3	50.0	0.0	0.0	33.3
Construc-tion	Male	5.3	8.2	1.0	5.6	9.2	6.7	6.1	-4.8
	Female	45.5	0.0	18.8	31.6	20.6	9.8	2.2	-4.3
TERTIARY	Male	5.2	2.4	2.8	3.3	5.7	5.1	3.3	3.3
	Female	19.0	-4.7	-4.7	1.5	6.6	7.2	7.4	5.0
Commerce	Male	4.9	4.9	4.4	-0.6	6.0	6.2	5.5	3.9
	Female	22.4	-3.1	-9.8	1.9	9.7	5.9	5.6	6.5
Transport	Male	13.9	0.0	5.7	4.0	10.4	1.8	-0.6	0.0
	Female	25.9	-8.8	19.4	2.7	6.7	6.3	3.9	3.8
Financing	Male	-7.1	7.7	7.1	3.3	8.5	10.4	10.6	4.3
	Female	42.1	3.7	0.0	14.3	10.0	22.7	9.3	13.6
Service	Male	2.5	0.7	-1.1	7.3	2.1	5.1	2.0	4.2
	Female	13.6	-6.5	-2.8	-0.4	3.0	6.7	9.5	2.5

Source: YOMS, Table 11 and 91.

The model of women as reserve army of labor being challenged should be examined from several aspects. Firstly, as Bruegel (1979) suggested, the concentration of women in tertiary sector has cushioned women's employment, taken as a whole, affected by economic crisis. The increase in female employment in Taiwan in times of recession in the late 1970s was greatly attributed to the substantial expansion of service in Taiwan; the particular pattern of women's employment in service sector, such as teaching and nursing, has cushioned the impact of recession on women labor force as a whole.

Secondly, although the impact of the recent recession on overall women in manufacturing was relatively minor, female production workers in women-concentrated industries were substantially left out the labor market in comparison with male workers in the corresponding sectors. In 1978-82, female production workers declined at annual rate of -4.41% in textiles and -5.42% in electrical and electronic equipment while the growth rates of male production workers were -3.83% in textiles and 9.14% in electrical equipment.

Therefore, the classic assumption of labor reserve about the readily available and dispensable female labor in times of recession needs to be placed in macro-level changes in the expansion of service (Bruegel 1979) and in the approach of sex segregation associated with the industries and occupations (Liff 1986). But, the notion of women,

especially married and elderly women, in secondary jobs as reserve army of labour is undoubted.

V.8. Urbanization and Female Marginalization

A few comparisons of female employment status between women in Taipei city and Taiwanese women as a whole are made here to depict urban women's status in the urbanization process along with the rapid industrialization. Data in Table 5.10 shows that between 1971 and 1984 women in Taipei virtually had a higher level of labor force participation than women as a whole in Taiwan. While female participation rate in Taipei increased from 36.1% to 51.0%, that in Taiwan as whole increased from 35.4% to 43.3%. Female unemployment rate in Taipei, once substantially higher than that as a whole in Taiwan in the 1970s, substantially declined from 10.2% in 1971 to 2.2% in 1984, and this decline was much more apparent than that of their male counterparts.

Meanwhile, the percentage distribution of female labor force in tertiary sectors in Taipei was almost twice that of Taiwanese female labor force as a whole. And, the DI score virtually recorded less sex segregation when Taipei women entered into labor market. In the class structure, the marginal proportion of women in Taipei as unpaid family labors (6.4% in 1971 and 1.7% in 1984) is even notable.

The enlargement of women proportion as private wage workers, mainly in commerce and service, and the decline in female unemployment rate, are opposite to the argument about

Table 5.10-1. Comparisons of Labor Force Participation between Taipei and Taiwan Area

	Labor Force Participation Rate		Unemployment Rate	
	Male	Female	Male	Female
1971 TAIPEI	83.2	36.1	5.5	10.2
TAIWAN	78.3	35.4	1.5	2.1
1975 TAIPEI	83.5	42.1	5.3	6.2
TAIWAN	77.6	38.6	2.1	3.1
1979 TAIPEI	84.7	47.7	6.4	5.2
TAIWAN	77.9	39.2	1.1	1.5
1984 TAIPEI	83.7	51.0	5.0	2.2
TAIWAN	76.1	43.3	2.4	2.5

Table 5.10-2. % Distribution of Female Employment by Economic Activities in Taipei and Taiwan Area

	Taipei				Taiwan area			
	1971	1975	1979	1984	1971	1975	1979	1984
AGRICULTURE	4.6	3.2	2.8	1.8	37.1	32.5	19.5	15.5
INDUSTRY	25.1	28.5	28.5	26.6	27.6	34.0	42.4	42.3
minery	0.7	0.6	0.4	0.3	0.3	0.3	0.4	0.2
mfg	22.4	25.6	25.8	23.8	26.7	32.5	40.0	40.2
utility	1.1	1.1	0.7	0.6	0.1	0.2	0.1	0.2
construction	0.9	1.2	1.6	1.9	0.6	1.1	1.9	1.7
TERTIARY	70.1	68.2	67.8	71.6	35.1	33.5	38.1	42.7
commerce	16.0	20.7	29.8	33.5	14.3	14.3	17.5	19.9
transport	5.4	4.7	4.2	4.1	1.5	2.1	2.3	2.0
financing	8.7	8.9	7.8	7.8	1.2	1.6	2.1	2.9
service	40.0	33.9	26.8	26.2	18.1	15.6	16.2	17.7
Dissimilarity Index	22.0	26.9	33.9	25.5	30.9	28.3	37.3	36.8

Table 5.10-3. % Distribution of Female Employment by Occupations in Taipei and Taiwan Area

	Taipei				Taiwan area			
	1971	1975	1979	1984	1971	1975	1979	1984
Professional	16.1	10.9	9.7	8.8	5.2	5.3	5.6	6.5
Administrative	4.6	4.6	5.5	4.5	0.1	0.2	0.2	0.2
Clerical	23.8	25.7	32.5	33.8	10.3	13.0	15.3	17.9
Sales	15.3	16.4	17.2	19.3	11.7	11.9	12.4	13.4
Service	12.2	14.0	12.2	13.3	10.4	7.4	8.4	10.0
Agricultural	4.5	3.4	3.0	1.7	36.5	31.9	19.3	14.9
Production	22.6	24.0	19.4	18.3	25.8	30.5	38.7	37.2
Dissimilarity Index	29.6	25.5	27.9	26.3	17.1	17.1	17.1	22.0

Table 5.10-4. % Distribution of Female Employment by Employment Status in Taipei and Taiwan Area

	Taipei				Taiwan area			
	1971	1975	1979	1984	1971	1975	1979	1984
Employer	2.7	3.1	3.2	3.1	0.9	0.7	1.2	1.1
Self-employed	9.8	9.3	8.5	6.5	11.9	12.0	10.9	10.0
Unpaid family	6.4	4.6	3.8	1.7	38.8	32.0	21.6	20.9
Wage Worker	81.1	83.9	84.6	88.6	48.9	55.2	66.2	68.1
Private	48.2	59.7	66.5	71.8	40.2	46.2	56.5	58.0
Government	32.9	24.2	18.1	16.8	8.7	9.0	9.7	10.1
Dissimilarity Index	20.0	25.3	29.4	26.9	57.0	50.4	45.3	48.1

Source: Data for Taipei from Statistic Year Book of Republic of China, Executive Yuan, DGBAS, various years; data for Taiwan from YOMS, various years

the decline of women in capitalist relations of production associated with urbanization in developing countries. The expansion of numerated work and the shift of employment from manual work to white-collar work in Taipei city, however, do not bring a promising future of female employment status. That one-third of women in Taipei were allocated to clerical work casts doubts on women's status in Taipei as far as the relegation of women into low-grade white-collar work and intense inequality in earning are concerned.

VI CHALLENGE AND SYNTHESIS

Since 1950, Taiwan has rapidly shifted from a predominantly agricultural society run by family enterprises to a modern industrial society. On the one hand, the female economic activities underlined by the economic development refute the classic argument on female marginalization inevitable in the developing countries. On the other hand, with the development of wage employment, the shift of female labor force from agricultural to secondary sectors and from agricultural work to productive and then to white-collar work only underlines women's subordinate status in job market as a bearer of gender. The gender segregation in job market, worse after Taiwan embarked on export-intensive industrialization, has been intensified along with the expansion of wage employment, especially the expansion of white-collar employment in capital- and technology-intensive industrialization.

School beginning with Boserup often uses the decline of overall female participation, exclusion of women from manufacturing, and relegation of women into service sector as domestic servants as evidences of female marginalization in a development from peasant economy to market economy. In

Taiwan, the influx of women into manufacturing and the absence of relegation of women into personal service as maids and cleaners in the course of economic development are entirely opposite to the argument beginning with Boserup that the development from peasant to industrial economy, especially to capitalist dependent economy, only hinders women's employment status in the job market because of the replacement of women's productive role by the market commodity and modern technology[20].

However, the curvilinear trend of female participation in Taiwan is not identified with modernization perspectives of a U-shape pattern of female participation in the course of development, i.e. a decline in the early stage of industrialization due to the exclusion of women from modern manufacturing and then an increase at advanced level due to the expansion in the size of service sector. In Taiwan, the decline of female participation in early stage of industrialization was not due to the exudes of women from manufacturing as production workers; conceivably, the growth rate of female employment entering manufacturing was even more than twice that of male employment in 1952-64. And, the increase after 1966 was less attributed to the expansion of white-collar work than to the expanding job opportunities in manufacturing. Virtually, the increase of females entering

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[20] Although in 1987 50% of women in service occupations fell into categories of cook, waitress, housekeeper, cleaner, and building caretaker, they amounted to only 5.6% of total female employment; the corresponding figures for male were 42% and 3%, respectively (YOMS, Table 54).

the labor market took place at two stages, at the time when the development strategy turned explicitly toward export-led labor-intensive industrialization, especially as the labor scarcity emerged in the early 1970s, and when capital-intensive production brought about the expanding size in service sector.

The level and patterns of female participation in Taiwan, neither in an automatic or curvilinear increase as proponents of modernization have suggested nor in a steady decline as studies bearing the dependency perspective have observed, appear to be associated with the stage of industrial capitalism in which Taiwan finds itself, and how this affects the structure of female employment in the primary, secondary, and tertiary sector. A mono-phenomenon thesis cannot summarize all LDC women's employment status in the process of development. Evidently, the employment status of Taiwanese women being the exception of female marginalization thesis, as the economic development of Taiwan throughout the 1980s was the deviant case of dependency theory, was an implication of its labor-intensive economic structure in the world economy. Taiwan's early industrialization since the 1950s had been based on numerous small-scale labor-intensive industries, modest amounts of capital and readily available technology. Although there were some technologically advanced, capital-intensive enterprises run by the state and MNCs, predominantly both

the local capitalists and foreign investments were engaged in the labor-intensive enterprises on the base of readily available technology. A large-scale integrated steel mill and petrochemical complex came at much later stage after a solid foundation of industrialization was established.

Since Taiwan did not move to the step of capital-intensive import-substitution directly after simple import substitution, as most Latin American countries did for backward and forward linkage of industries imposed by foreign investment, Taiwanese women's job opportunities in industry sector was enhanced by the articulation of technology with social structure. The growth of Taiwanese women in general and particularly in manufacturing is apparently associated with the early industrialization existing in primary form, the subsequent implementation of labor-intensive export-oriented industrialization, and the still high proportion of labor-absorptive industries in the initial stage of capital-intensive industrialization.

The integration of women into development, however, perpetuates Taiwanese women's disadvantaged status in the job market. Female workers were greatly relegated to labor-intensive industries, primarily textiles and electrical and electronic industries, the growth of which relies on cheap labor and fluctuating demand and supply of the world market. The aggregation of women into light industries merely marks their vulnerability in the labor market. The sex

differential in earning in manufacturing was the greatest in export-oriented period and among all economic activities. Besides, women were more likely to be dispensed with than men during the economic downturn in the early 1970s.

Nevertheless, the short-term effect of the industries for export processing on the level of female employment, argued by some writers, such as Ward (1984) and Postrado (1986), did not entirely hold in the case of Taiwan. The economy of Taiwan was indeed severely jolted during the first global recession and further by the soaring labor cost and appreciation of currency in the late 1980s, highlighting the distorted industrial structure in reliance on the demand of export market. However, the subsequent economic restructuring has gradually absorbed women in general and women displaced from manufacturing into service sector, though less distinct due to the still existing significance of labor-intensive industries in economic structure. The expansion of capital and technology-intensive production provides women with alternatives in white-collar occupations.

Meanwhile, the shortage of manual workers due to demographic change, rapid production, and alternatives in white-collar work consequently decreases the preference of employment for young and single women. The percentage of females aged 15-24 in EPZs decreased from 58% in 1985 to 52% in 1987 (ES, 1985, 1987). Female employees aged 15-24 taken

as a whole comprised 30% of total female employees in 1987, decreasing from 45% in 1978 (but still much higher than male's 14.6% in 1987). The percentage of married women who participated in the labor market increased from 31.9% in 1978 to 43.9% in 1987 (YOMS, Table 7).

The incorporation of married and elderly women yet demonstrates women as a reserve army of labor in times of economic boom and labor shortage. And, the alternative of white-collar occupation for women after future replacement of manual workers with machine casts doubts on any improvement of women's production role in the labor market. As noted above, occupational segregation aggravated when the developmental strategy turned to capital- and technology-intensive industrialization. Women flooded to service and commerce sectors where sex difference in earning was most severe. The concentration of women into the corner of secondary job market, mainly in low-level white-collar clerical occupations, was only intensified. Most striking is the fact that women in supervisory, administrative, and managerial work encountered more sex inequality in earning than before.

Why are women pushed into secondary job market in lower grade white-collar jobs, with fairly low pay and limited advancement, just as they are in semi- and unskilled manual sector as assembly workers? Even if women get into

administrative and supervisory work, they suffer more sexual inequality than before. The persistent relegation of women into secondary labor market and devaluation of their labor power, however, is not due to educational attainment or job training. Although work experience, education and age are often used as justifications in the substantial sexual differential in earnings, Liu (1983), after controlling all the variations, found there are still 10% of wage differential on identical jobs which can only be explained by women's inferior status as a gender.

While the provision of jobs for women has often seen as a way of integrating women into the development process, this study shows that women's subordination position was not stemmed from a lack of job opportunities or their being left out of the development process. On the contrary, the development process may be a part of the problem rather than a part of solution of women's inferior status. The continuation of women's relegation to secondary jobs within the hierarchy of labor market and the inferior valuation of women's labor power should be understood in a context of the patriarchally defined division of labor within the family.

In patriarchal division of labor in the family, women have been characterized by docility, patience, and obedience. 'Those attributes that women bring to the labour market by virtue of family obligation and socialization', as a result, 'are used by employers to select them for the

secondary sector' (West 1978; quoted from Green 1983:318). Such patriarchal practice in wage economy is especially apparent in Taiwan. Employers employ young female workers as they can be more easily controlled and disciplined at the workplace than male workers (Deyo 1989:189). While young factory women in Taiwan may gain limited autonomy from being incorporated into wage economy (Kung 1984b), they undergo most likely secondary status in the labour market evident in poor working condition, insecure employment, rigid management, low pay, tedious tasks (Kung 1984a), and most importantly, in their remittance to their family (Greenhalgh 1985; Kung 1984b; Gallin 1982; Diamond 1979). Filial working daughter's remittance to the family for improvement of family living and brother's education manifests the practice of patriarchy reinforced by the male-dominant capitalist economy.

Further, the patriarchal assumption that "women is partly dependent upon her husband's wage within the family" (Beechey 1978:186) is carried over in the capitalist economy and therefore predetermines the devaluation of women's labor power. Not too surprisingly, therefore, the participation of Taiwanese women in labor market did not better women's economic bargaining power in the family (Lu 1983). It is because not only of the patriarchy exercised in the family but also of the remuneration of women's work undervalued in the wage economy.

In sum, the demand of the expansion of labor-intensive industrialization reinforced by the practice of patriarchy has predetermined women entering the capitalist labor market as inferior bearers of labor and formed women as reserve army of labor. Female labor, though not dispensed with during the recent economic downturns, has continued to form a new sector of work force at wages that undervalue their labor power. Moreover, married and elderly women 'who previously did not work and can be dispensed with or drawn from according to the dictates of the process of capital accumulation' (Green 1983:322) now are incorporated into wage economy due to the shortage of manual labor and the expansion of white-collar occupations.

Meanwhile, the study shows, on the one hand, that the persistent occupational segregation which prevents women from entering 'male' jobs disputes the simple notion of the substitution of women for men in the labor market, on the other hand, that the existence of women forming a docile secondary labor force with low wage does provide the possibility of substitution. It is reflected in the new sector of the female work force in clerical work which changed from being sex-typed as men's jobs to being sex-typed as women's jobs. The process of feminization, as argued by Liff (1986), constantly holds down women's labor power and often involves redesign of tasks and machinery so as to accommodate the use of women.

At the end, why did the dependent development of Taiwan which fosters the 'integration' of women into labor market contradict the argument of dependency theory? Is its economic development and social consequence a deviant case of dependency theory, a regional development associated with Japan (Cumings 1984), or a phenomenon of world system where Taiwan stood as a semi-periphery country both being exploited and exploiting in the zero-sum game between the core and the periphery (Wallerstein 1974)?

This study tends to place Taiwan's development in a context of regional political economy although the unit analysis and concept of structural positions in the world system which Wallerstein presents are helpful in understanding the dynamic position of Taiwan in the world economy. The stance taken here is based on the fact that the economic growth of Taiwan, as argued by Cumings, was strongly associated with Japan's colonized policy and her emergence as the Pacific hegemony after World War Two and that Taiwanese investments overseas have aggressively move to Southeast Asia and, especially, to China, playing a significant role in the economic development of the East Asia region. In fact, Taiwan's way out of the current constraints on economic development caused by the rising labor cost, import liberalization, growing environmental costs, and protectionism of the U.S., to a great extent, is dependent on the market and labor in China and the Southeast Asia.

VII CONCLUSION

This study presents Taiwanese women's labor force participation and occupational segregation in a historical context of economic development from world market factory production to capital- and technology-intensive industrialization.

Owing to the labor-intensive production of Taiwan in a new form of international division of labor, Taiwanese women's employment status challenges female marginalization thesis based empirically on women in developing countries where initial industrialization involved foreign investment in modern technology. The emphasis on the exclusion of women from labor market and particularly from manufacturing as evidence of women's disadvantaged position in the capitalist economy overlooks that the integration of women into wage economy or manufacturing might not be the solution of women's inferior status. Most importantly, this study suggests a differentiation of the economic structure with which the periphery is integrated into the world economy and which in turn underlines women's subordination in understanding the divergent conclusions about the exclusion of women from labor market in the course of development.

Nevertheless, the different path of Taiwanese women

entering labor market records women's perpetuated subordination as well. The persistence of Taiwanese women's being pushed into the secondary labor market and facing with undervaluation of their labor power substantiates the contention of socialist feminism. The hierarchical sex division of labor in the family reinforced by capitalism intensifies women's subordination in family as well as in the labor market. The gender subordination is now recomposed in the labor market where women are relegated to semi-skill work or low-level white-collar work and are thus subjected to the authority of men with whom they do not have family relation.

APPENDIX

Appendix 4.1. Capital Formation and Foreign Investment

	Gross domestic capital formation (GDCF) (NT$ million)	Private foreign investment		Foreign Exchange Rate
		Amount (US$ 1000)	as a percentage of GDCF	
1952	2,643	1,067	0.5	12.60
1953	3,224	3,695	1.8	15.55
1954	4,041	2,220	0.9	15.55
1955	3,998	4,599	2.9	24.78
1956	5,524	3,493	1.6	24.78
1957	6,355	1,622	0.6	24.78
1958	7,458	2,158	1.1	36.38
1959	9,732	965	0.4	36.38
1960	12,618	15,473	4.5	36.38
1961	13,983	14,304	4.1	40.03
1962	13,733	5,203	1.5	40.03
1963	15,950	18,050	4.5	40.10
1964	19,089	19,897	4.2	40.10
1965	25,546	41,610	6.5	40.10
1966	26,736	29,281	4.4	40.10
1967	35,882	57,006	6.4	40.10
1968	42,624	89,894	8.5	40.10
1969	48,219	109,437	9.1	40.10
1970	57,886	138,896	9.6	40.10
1971	69,179	162,956	9.4	40.10
1972	81,082	126,656	6.3	40.10
1973	119,373	248,854	7.9	38.10
1974	215,325	189,376	3.3	38.05
1975	179,047	118,175	2.5	38.05
1976	216,231	141,519	2.5	38.05
1977	232,950	163,909	2.7	38.05
1978	279,671	212,929	2.7	36.05
1979	393,379	328,835	3.0	36.08
1980	503,911	465,964	3.3	36.06
1981	529,833	395,757	2.8	37.84
1982	468,004	380,006	3.2	39.96
1983	469,395	404,468	3.5	40.32
1984	484,361	558,741	4.6	39.53
1985	421,137	702,460	6.7	39.90
1986	438,234	770,380	6.2	35.55
1987	611,680	1,418,796	6.6	28.60
Average				
1952-64	118,348	92,746	2.2	-
1965-76	1,117,130	1,453,660	6.4	-
1977-87	4,832,555	5,802,245	4.1	-
1952-87	6,068,033	7,348,651	4.2	-

Source: Column 1 & 2 from TSDB, 1988, Table 13-2 and Table 3-9a;
Column 4 from DGBAS, Executive Yuan, Industry of Free China, various years

Appendix 4.2. Composition of Exports, 1952-87

Year	Agri-culture	Mine-rals	Food proces.	Textile, leather, etc.	Non-metallic mineral	Chemical	Basic metals	Metal prod.	Machi-nery	Electrical machinery & apparat	Trans-port	Others
1952	8.6	2.6	83.6	0.9	0.0	3.4	0.9	0.0	0.0	0.0	0.0	0.0
1953	3.9	3.1	87.5	1.6	0.8	2.3	0.8	0.0	0.0	0.0	0.0	0.0
1954	6.5	3.2	82.8	1.1	1.1	4.3	1.1	0.0	0.0	0.0	0.0	0.0
1955	5.7	2.4	84.6	2.4	0.0	3.3	1.6	0.0	0.0	0.0	0.0	0.0
1956	5.1	3.4	78.0	4.2	0.0	5.9	2.5	0.8	0.0	0.0	0.0	0.0
1957	4.7	1.4	83.1	4.1	2.0	3.4	1.4	0.0	0.0	0.0	0.0	0.0
1958	7.7	1.9	78.2	4.5	2.6	3.2	1.3	0.6	0.0	0.0	0.0	0.0
1959	9.6	1.9	66.9	12.7	1.9	3.2	3.2	0.0	0.0	0.0	0.0	0.6
1960	9.8	2.4	58.5	17.1	1.8	4.9	3.7	0.6	0.0	0.6	0.0	0.6
1961	10.8	0.0	49.2	22.1	5.1	5.1	4.6	0.5	0.5	1.0	0.0	1.0
1962	9.6	0.5	40.8	29.8	6.0	6.0	4.1	0.5	0.5	0.9	0.0	1.4
1963	8.7	0.3	50.6	22.6	5.1	4.8	3.9	0.9	0.6	0.9	0.3	1.2
1964	10.9	0.9	46.7	24.7	4.4	4.2	3.2	0.9	1.2	1.2	0.2	1.6
1965	14.9	0.9	39.1	26.2	3.1	4.4	3.6	1.1	1.3	2.7	0.4	2.2
1966	14.7	0.7	30.2	29.7	4.9	4.1	3.9	1.7	2.2	4.9	0.4	2.6
1967	12.5	0.6	25.9	34.2	5.0	4.4	3.4	1.6	2.3	6.1	0.6	3.4
1968	9.8	0.5	21.9	38.7	3.7	3.0	2.3	1.5	2.8	9.8	0.8	5.3
1969	8.4	0.4	17.7	40.7	2.7	2.9	3.0	1.6	3.1	11.2	1.0	7.2
1970	8.4	0.1	13.0	42.2	3.4	2.4	4.4	1.9	3.2	12.3	0.9	7.7
1971	7.7	.0	11.4	45.1	3.1	1.8	2.9	1.9	3.2	12.9	1.1	8.7
1972	4.6	0.1	10.5	36.7	1.2	1.9	3.3	1.9	1.8	17.8	2.1	18.1
1973	4.3	0.1	9.7	39.6	1.1	1.7	1.8	2.0	2.9	17.6	2.3	16.7
1974	3.0	0.1	11.3	35.6	1.2	2.7	2.4	2.6	4.1	17.7	2.3	17.0
1975	5.1	0.1	11.2	37.6	1.0	3.1	2.3	2.5	3.6	14.7	2.1	16.7
1976	4.1	.0	8.3	38.1	1.2	3.4	1.6	3.0	3.6	15.6	2.4	18.6
1977	4.4	.0	8.1	32.6	1.7	3.9	1.4	3.5	3.6	15.9	3.5	21.5
1978	3.2	.0	7.7	32.9	1.7	4.4	2.5	4.0	3.5	16.6	3.4	20.1
1979	2.6	.0	6.9	32.5	1.7	4.1	3.6	4.3	3.8	17.2	2.8	20.5
1980	2.5	.0	6.7	31.1	1.9	4.1	2.0	4.4	3.8	18.2	3.2	22.1
1981	2.6	.0	5.2	30.1	2.0	4.3	2.2	4.7	4.2	18.4	3.8	22.3
1982	2.2	.0	5.5	29.6	2.2	4.6	3.0	4.6	3.8	17.6	4.9	22.1
1983	2.1	.0	4.9	28.7	2.4	4.2	2.8	5.4	3.8	19.3	4.1	22.3
1984	1.9	.0	4.3	27.8	2.3	4.1	2.4	5.7	3.8	21.6	4.0	22.2
1985	1.7	.0	4.5	27.6	2.1	4.4	2.5	5.8	4.0	21.0	4.1	22.3
1986	1.7	.0	4.9	26.6	2.0	3.7	1.8	5.9	4.0	22.4	4.2	22.7
1987	1.4	0.1	4.7	24.6	2.2	3.3	1.4	6.0	4.4	25.2	4.3	22.5
Average												
1952-64	7.8	1.9	68.5	11.4	2.4	4.2	2.5	0.4	0.2	0.4	.0	0.5
1965-76	8.1	0.3	17.5	37.0	2.6	3.0	2.9	1.9	2.9	11.9	1.4	10.4
1977-87	2.4	.0	5.8	29.5	2.0	4.1	2.3	4.9	3.9	19.4	3.8	21.9

Source: TSDB, Table 11-7a.

Appendix 4.3. Share of Industry in Gross Domestic Products, 1952-86

			Industry					Non-industry						
Year	Total	Agri-culture	Sub-total	Mining	Mfg.	Cons-truction	Uti-lity	Sub-total	Trans-port	Conner.	Banking & insur.	Housing	Govern-ment	Other service
1952	100.0	32.4	22.5	2.1	15.6	3.9	0.9	45.9	4.2	18.7	1.0	7.6	9.2	5.3
1953	100.0	34.6	21.3	1.8	14.6	4.1	0.9	44.9	3.9	19.2	1.0	7.5	8.5	4.8
1954	100.0	28.2	27.3	2.0	19.1	5.3	0.9	45.4	3.9	18.1	1.1	7.6	9.9	4.9
1955	100.0	29.2	26.4	1.8	18.8	4.9	1.0	45.6	4.3	17.4	1.4	7.1	10.6	4.8
1956	100.0	27.6	27.7	2.2	19.9	4.5	1.1	46.1	4.2	18.0	1.5	7.2	10.2	4.9
1957	100.0	27.6	28.5	2.3	20.8	4.1	1.3	45.5	4.9	16.9	1.8	7.6	9.4	4.9
1958	100.0	26.9	28.5	2.8	20.4	3.9	1.4	46.2	4.6	17.4	2.0	7.3	10.0	4.9
1959	100.0	26.5	30.2	2.5	22.4	3.8	1.5	44.9	4.5	16.5	1.9	6.9	10.2	4.9
1960	100.0	28.7	29.5	2.3	21.7	3.9	1.7	43.3	4.7	15.8	1.7	6.3	10.2	4.5
1961	100.0	27.6	29.5	2.0	21.8	3.9	1.8	44.4	5.3	16.5	1.7	6.5	10.8	3.5
1962	100.0	17.6	34.1	2.6	25.0	4.3	2.2	49.8	5.9	18.5	1.9	7.6	11.8	4.1
1963	100.0	23.4	32.9	2.1	24.9	4.0	1.9	45.1	5.0	16.9	1.7	6.9	10.5	4.0
1964	100.0	24.6	33.4	1.8	25.9	3.7	2.0	43.2	5.1	16.1	1.7	6.5	10.0	3.8
1965	100.0	23.7	33.9	1.9	26.0	4.0	2.1	43.9	5.4	16.4	2.0	6.2	9.7	4.1
1966	100.0	22.6	34.1	1.9	25.9	4.0	2.2	45.0	5.8	15.9	2.1	6.1	10.6	4.5
1967	100.0	20.7	36.8	1.9	28.7	4.2	2.1	44.0	5.4	15.0	2.2	5.9	10.8	4.5
1968	100.0	19.1	39.1	1.6	31.0	4.3	2.2	43.4	5.8	14.6	2.4	6.0	10.6	4.1
1969	100.0	16.0	41.4	1.3	33.5	4.2	2.4	44.5	6.0	15.1	2.7	6.1	10.6	4.1
1970	100.0	15.5	41.3	1.4	33.5	3.9	2.5	44.9	6.0	14.8	2.6	6.1	11.0	4.3
1971	100.0	13.1	43.5	1.3	35.9	3.9	2.4	45.3	6.2	14.8	2.5	6.1	11.0	4.6
1972	100.0	12.3	46.6	1.2	39.1	4.0	2.2	42.9	6.1	14.1	2.3	5.9	9.8	4.7
1973	100.0	12.2	49.5	1.1	42.4	4.1	2.0	40.2	5.9	12.6	2.5	5.5	9.0	4.7
1974	100.0	12.5	47.3	1.2	39.3	4.5	2.3	42.0	5.9	14.1	2.5	5.8	8.7	5.0
1975	100.0	12.8	45.9	1.2	36.7	5.3	2.6	43.5	6.1	13.5	2.8	5.9	9.9	5.4
1976	100.0	11.5	49.0	1.3	39.5	5.7	2.5	42.1	6.0	12.7	3.2	5.6	9.2	5.5
1977	100.0	10.7	49.9	1.2	40.0	6.2	2.6	41.8	6.0	12.6	3.2	5.5	9.0	5.5
1978	100.0	9.5	51.6	1.0	41.9	6.1	2.6	41.2	6.0	12.3	3.2	5.2	9.0	5.4
1979	100.0	8.7	52.0	0.9	42.4	6.3	2.4	41.9	5.9	12.6	3.7	5.2	9.1	5.5
1980	100.0	7.8	51.4	1.0	41.5	6.3	2.6	43.5	6.0	13.4	3.9	5.4	9.1	5.6
1981	100.0	7.4	50.2	0.9	40.2	5.8	3.4	45.7	6.0	13.8	4.5	5.6	9.9	5.9
1982	100.0	7.9	48.5	0.8	39.1	5.1	3.4	46.4	6.0	13.9	3.8	5.8	10.5	6.4
1983	100.0	7.5	49.4	0.7	40.1	4.8	3.8	45.7	6.0	13.6	3.5	5.9	10.2	6.5
1984	100.0	6.4	50.6	0.6	41.6	4.4	3.9	45.4	6.0	13.7	3.5	5.8	9.9	6.5
1985	100.0	5.9	50.1	0.6	40.9	4.3	4.2	46.5	6.1	13.9	3.6	6.0	10.0	6.9
1986	100.0	5.6	51.4	0.5	42.9	4.1	3.9	45.0	6.0	14.1	3.1	5.7	9.3	6.8
1987														
Average														
1952-64		27.3	28.6	2.2	20.8	4.2	1.4	45.4	4.7	17.4	1.6	7.1	10.1	4.6
1965-76		16.0	42.4	1.4	34.3	4.3	2.3	43.5	5.9	14.5	2.5	5.9	10.1	4.6
1977-86		7.7	50.5	0.8	41.1	5.3	3.3	44.3	6.0	13.4	3.6	5.6	9.6	6.1

Source:DGBAS, Executive Yuan, National Income in Taiwan Area, ROC, 1986, Table 2.

Appendix 4.4. Shares of Selected Industries in Manufacturing Production Expansion, 1952-86

Year	Mfg. Total	Food proces.	Beve-rage	Textile	Apparel	Leather	Furni-ture	Paper prod.	Che-mical	Petro-leum prod.	Ruber prod.	Non-metallic mineral prod.	Basic Metals	Metal prod.	Machi-nery	Elec-trical equip.	Trans-port	Misc.
1952	100.0	24.3	23.2	14.0	2.2	0.7	5.4	5.6	10.1	2.2	1.2	3.4	0.4	1.0	1.5	0.8	0.8	3.1
1953	100.0	25.5	21.2	17.2	2.2	0.3	4.5	5.6	7.4	3.2	1.1	3.8	0.7	1.6	1.3	0.8	1.1	2.6
1954	100.0	26.8	20.0	19.6	2.0	0.3	3.5	4.2	8.0	2.7	0.7	4.8	1.4	1.0	1.0	1.0	1.2	1.9
1955	100.0	28.5	19.1	19.2	2.1	0.3	3.3	5.3	5.8	3.4	0.8	4.8	1.0	0.9	0.7	1.4	1.3	1.8
1956	100.0	27.7	19.9	16.0	1.9	0.4	4.4	6.1	5.6	3.1	0.9	5.0	1.9	1.5	0.7	1.7	1.6	1.7
1957	100.0	29.9	20.3	13.8	1.8	0.3	3.9	5.9	5.2	3.3	0.8	5.0	2.4	1.5	1.2	1.5	1.7	1.5
1958	100.0	28.3	19.9	12.1	1.8	0.4	4.1	5.9	5.8	3.5	0.7	7.0	2.4	2.1	1.3	1.5	1.5	1.6
1959	100.0	29.4	17.5	13.2	2.3	0.3	3.7	5.9	5.2	3.8	0.8	6.0	3.1	1.8	1.4	1.7	2.7	1.3
1960	100.0	26.2	18.3	12.2	2.4	0.3	3.9	6.7	5.1	4.0	0.9	7.2	3.1	2.3	1.6	1.8	2.8	1.1
1961	100.0	25.1	17.0	11.7	2.5	0.3	4.9	6.3	7.1	4.6	0.9	7.2	3.1	2.3	2.0	1.8	2.1	1.1
1962	100.0	23.5	18.6	10.7	2.3	0.2	4.1	6.3	8.7	5.3	1.3	7.0	2.2	2.2	2.2	2.2	2.3	1.0
1963	100.0	28.1	16.3	10.9	2.7	0.2	4.1	5.0	9.1	5.5	1.0	6.2	2.0	2.0	1.9	2.2	1.9	1.0
1964	100.0	26.7	13.8	11.7	4.0	0.1	4.1	5.0	10.1	5.3	1.0	5.9	1.7	2.1	2.2	3.2	2.0	1.0
1965	100.0	20.7	14.0	12.3	2.5	0.2	4.1	5.1	10.0	6.2	1.1	6.5	2.2	2.6	3.1	4.0	4.0	1.3
1966	100.0	17.3	14.2	11.8	2.2	0.1	4.1	5.0	9.9	8.6	1.1	6.7	2.2	2.7	3.5	5.3	3.8	1.6
1967	100.0	20.6	12.8	10.6	2.1	0.2	3.7	4.2	10.0	8.5	1.1	5.9	1.6	2.6	3.5	6.1	4.8	1.6
1968	100.0	17.4	11.9	9.5	2.0	0.2	4.1	4.2	11.2	9.2	1.1	5.7	1.5	2.4	3.1	8.7	5.9	1.8
1969	100.0	16.5	11.1	11.1	2.8	0.3	4.6	4.1	11.5	9.6	0.9	5.3	1.7	2.8	3.2	9.4	5.6	2.6
1970	100.0	14.8	10.2	11.6	3.9	0.4	4.4	4.2	10.6	9.4	1.0	4.8	2.4	2.5	3.1	9.3	4.4	3.1
1971	100.0	12.0	8.9	11.9	5.4	0.6	4.0	4.1	10.2	9.4	1.2	4.5	2.9	2.5	3.7	10.2	5.0	3.7
1972	100.0	9.6	7.8	12.0	5.2	0.6	4.9	4.0	11.1	9.1	1.3	3.8	3.6	2.8	3.7	11.1	5.5	3.7
1973	100.0	7.6	6.9	12.8	4.8	0.8	5.5	4.1	12.4	7.0	1.5	3.0	5.4	2.9	3.1	13.3	4.8	4.0
1974	100.0	11.3	6.9	9.4	4.7	1.1	3.9	4.2	13.3	6.0	1.5	4.2	4.8	1.9	3.5	12.4	5.1	5.8
1975	100.0	10.3	7.8	10.8	3.9	1.1	3.8	3.9	13.2	6.7	1.3	4.7	3.5	2.7	3.9	10.9	6.3	5.2
1976	100.0	11.0	7.3	11.3	4.4	1.1	3.2	3.6	11.9	6.1	1.5	4.8	3.9	3.4	4.0	10.9	5.0	6.6
1977	100.0	9.2	7.4	10.6	4.7	1.2	2.9	3.6	11.4	5.8	1.5	4.8	4.1	3.0	3.9	11.0	5.8	9.2
1978	100.0	7.3	6.9	10.4	4.5	1.5	3.3	3.9	11.8	4.9	1.4	4.7	6.0	3.1	3.5	12.5	6.3	7.9
1979	100.0	6.6	6.2	9.2	4.4	2.0	3.9	4.3	12.9	5.8	1.4	4.4	6.8	3.3	3.5	11.7	6.6	7.1
1980	100.0	6.4	6.2	9.2	4.8	1.7	2.8	4.3	13.4	6.2	1.5	4.8	6.5	3.9	3.2	12.2	6.3	6.4
1981	100.0	6.1	5.8	9.7	5.6	1.5	2.7	4.3	13.2	7.4	1.6	4.6	5.6	4.2	3.4	11.5	6.5	6.4
1982	100.0	6.0	6.5	9.1	7.1	1.7	2.3	4.0	13.1	7.1	1.7	4.0	6.0	3.7	3.3	10.8	6.7	6.8
1983	100.0	5.9	6.5	8.3	6.6	1.8	2.2	3.7	12.7	7.4	1.8	4.0	6.2	3.8	3.6	11.9	6.6	7.0
1984	100.0	5.7	6.0	8.6	6.6	2.0	2.1	4.0	13.3	6.6	1.5	3.5	6.4	3.8	3.4	13.1	6.2	7.1
1985	100.0	6.0	6.0	9.0	6.4	2.2	2.1	4.1	14.1	6.2	1.6	3.4	6.0	4.0	3.7	12.6	5.9	7.1
1986	100.0	5.3	5.1	8.5	5.9	2.1	2.0	4.1	14.2	7.5	1.6	3.0	6.0	3.8	3.9	13.9	5.9	7.3
1987																		
Average																		
1952-64		26.9	18.9	14.0	2.3	0.3	4.1	5.7	7.2	3.8	0.9	5.6	2.0	1.7	1.5	1.7	1.8	1.6
1965-76		14.1	10.0	11.3	3.7	0.6	4.2	4.2	11.3	8.0	1.2	5.0	3.0	2.6	3.4	9.3	5.0	3.4
1977-86		6.4	6.3	9.3	5.7	1.8	2.6	4.0	13.0	6.5	1.5	4.1	6.0	3.7	3.5	12.1	6.3	7.2

Source: DGBAS, Executive Yuan, National Income in Taiwan Area, R.O.C., 1986, Table 2.

Appendix 5.1 Labor Force Participation and Unemployment Rate, 1952-87

Year	LFP rate		Share LFP rate		Unemployment as % of LFP		Unemployment as % of EAP	
	Male	Female	Male	Female	Male	Female	Male	Female
1952	89.5	41.0	47.0	19.5	2.9	2.9	3.3	7.0
1953	89.0	39.9	46.1	19.2	2.8	2.7	3.2	6.7
1954	88.7	39.1	45.8	18.9	2.7	2.5	3.0	6.4
1955	88.6	38.7	45.5	18.8	2.5	2.4	2.8	6.1
1956	88.0	37.5	44.6	18.5	2.4	2.2	2.7	5.9
1957	87.9	37.1	44.5	18.3	2.4	2.2	2.8	6.0
1958	88.1	37.0	45.0	18.1	2.5	2.3	2.8	6.2
1959	87.7	36.8	45.0	17.9	2.6	2.3	2.9	6.2
1960	87.2	36.4	44.7	17.7	2.7	2.3	3.1	6.2
1961	86.4	35.8	44.3	17.4	2.8	2.3	3.2	6.3
1962	85.8	35.0	43.8	17.1	2.8	2.3	3.3	6.4
1963	84.4	34.7	43.1	17.0	2.9	2.3	3.4	6.5
1964	83.6	34.1	42.4	16.8	2.8	2.4	3.3	6.9
1965	82.6	33.1	41.8	16.3	1.9	1.9	2.3	5.9
1966	81.5	32.5	41.1	16.1	1.9	1.6	2.3	4.9
1967	80.9	33.7	40.7	16.7	1.5	1.2	1.8	3.5
1968	80.2	34.4	40.4	17.1	1.3	0.7	1.6	2.0
1969	79.2	35.4	39.9	17.6	1.2	0.9	1.6	2.6
1970	80.3	35.5	40.5	17.6	1.2	0.8	1.5	2.2
1971	78.3	35.4	39.6	17.5	1.1	0.7	1.5	2.1
1972	77.2	37.1	38.9	18.4	0.9	0.8	1.2	2.0
1973	77.1	41.5	38.9	20.6	0.8	0.7	1.0	1.7
1974	78.2	40.2	39.4	20.0	1.0	0.8	1.3	2.0
1975	77.6	38.6	39.1	19.1	1.6	1.2	2.1	3.1
1976	77.1	37.6	38.8	18.6	1.2	0.8	1.6	2.2
1977	78.0	39.1	39.2	19.5	1.3	0.7	1.7	1.8
1978	78.0	39.2	39.4	19.4	1.2	0.7	1.6	1.9
1979	77.9	39.2	39.2	19.5	0.9	0.6	1.1	1.5
1980	77.1	39.2	38.7	19.5	0.9	0.6	1.1	1.5
1981	76.8	38.8	38.5	19.3	0.9	0.6	1.2	1.6
1982	76.5	39.3	38.3	19.6	1.6	0.9	2.1	2.3
1983	76.4	42.1	38.2	21.0	2.1	1.2	2.7	2.8
1984	76.1	43.3	38.1	21.6	1.8	1.1	2.4	2.5
1985	75.5	43.5	37.8	21.7	2.2	1.3	2.9	2.9
1986	75.2	45.5	37.7	22.7	2.1	1.1	2.7	2.5
1987	75.2	46.5	37.7	23.2	1.5	0.9	2.0	2.0

Source: YOHS, Table 2, 39.

Appendex 5.2-1. % Distribution of Labor Force by Econonic Activities and Sex, 1952-87

	AGRI-CULTURE		INDUSTRY Subtotal		Mining		Manu-facturing		Unitility		Cons-truction		TERTIARY Subtotal		Commerce		Transport		Finan-cing		Service	
Year	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
1952	55.7	57.0	19.4	10.6	2.2	1.2	14.2	7.8	0.2	0.2	2.8	1.3	24.9	32.4	11.5	8.4	4.3	1.2	0.2	0.1	9.0	22.7
1953	55.1	56.7	19.8	12.0	2.3	1.3	14.4	9.1	0.2	0.4	3.0	1.3	25.0	31.4	11.1	8.8	4.5	1.4	0.3	0.1	9.2	21.0
1954	54.4	55.7	19.7	12.6	2.2	1.2	14.2	9.7	0.2	0.3	3.1	1.4	25.8	31.7	10.7	9.0	4.7	1.5	0.3	0.1	10.1	21.1
1955	53.2	54.7	19.9	13.4	2.1	1.1	14.3	10.6	0.2	0.3	3.2	1.4	26.9	32.0	10.4	9.2	5.0	1.6	0.4	0.2	11.1	21.0
1956	52.4	55.2	20.2	13.5	2.4	1.1	14.0	11.2	0.4	0.1	3.5	1.1	27.3	31.5	10.2	9.5	5.1	1.7	0.4	0.3	11.6	20.0
1957	51.5	54.4	20.9	14.1	2.8	1.2	14.1	11.8	0.3	0.1	3.7	1.1	27.7	31.2	10.1	9.8	5.2	1.6	0.5	0.3	11.9	19.5
1958	50.2	53.4	21.6	14.9	2.8	1.1	14.6	12.8	0.4	0.1	3.8	1.0	28.2	31.6	10.0	10.1	5.3	1.6	0.6	0.4	12.3	19.5
1959	49.4	52.7	22.1	15.7	2.8	1.1	15.0	13.6	0.4	0.1	3.9	0.9	28.5	31.7	9.9	10.3	5.4	1.7	0.7	0.5	12.5	19.1
1960	49.2	52.6	22.2	16.2	2.8	1.0	15.1	14.1	0.4	0.1	3.9	0.9	28.6	31.2	9.8	10.4	5.5	1.7	0.8	0.5	12.5	18.6
1961	48.9	52.4	22.5	16.5	2.9	0.9	15.1	14.6	0.5	0.1	4.0	0.9	28.6	31.0	9.7	10.4	5.5	1.7	0.9	0.6	12.5	18.3
1962	48.7	52.4	22.6	16.9	2.9	0.9	15.1	14.9	0.5	0.1	4.1	0.9	28.6	30.9	9.5	10.5	5.6	1.6	0.9	0.7	12.6	18.0
1963	48.4	52.1	22.8	17.2	2.8	0.8	15.3	15.3	0.5	0.2	4.2	0.9	28.8	30.6	9.4	10.5	5.7	1.7	1.0	0.7	12.7	17.7
1964	48.5	52.1	22.8	17.4	2.8	0.9	15.3	15.6	0.5	0.2	4.2	0.8	28.8	30.4	9.2	10.5	5.7	1.9	1.1	0.8	12.8	17.2
1965	45.5	49.0	23.8	18.3	2.7	0.8	16.1	16.6	0.5	0.1	4.5	0.8	30.7	32.6	9.9	11.4	5.9	1.8	1.1	1.0	13.8	18.5
1966	43.9	47.9	24.2	18.4	2.7	0.7	16.2	17.0	0.5	0.1	4.7	0.7	31.9	33.7	10.4	12.0	5.8	1.6	1.2	0.9	14.5	19.2
1967	40.4	47.8	27.0	18.6	2.8	0.4	18.3	17.8	0.6	0.1	5.3	0.3	32.7	33.6	11.4	12.4	6.2	1.5	1.3	0.9	13.8	18.9
1968	38.8	45.6	27.5	20.4	2.6	0.5	18.3	19.3	0.5	0.1	6.0	0.6	33.7	34.1	12.1	15.0	6.1	1.5	1.3	1.0	14.1	16.5
1969	37.4	43.6	27.9	22.7	2.4	0.5	18.2	21.4	0.5	0.1	6.8	0.7	34.7	33.6	12.8	14.5	6.3	1.3	1.4	1.1	14.1	16.6
1970	35.0	40.6	29.9	23.5	2.1	0.4	20.3	22.5	0.5	0.1	7.0	0.5	35.2	35.8	13.0	15.0	7.0	1.8	1.5	1.2	13.6	17.8
1971	34.3	37.1	30.9	27.6	1.9	0.3	20.3	26.7	0.5	0.1	8.3	0.6	34.9	35.1	12.9	14.3	7.0	1.5	1.6	1.2	13.4	18.1
1972	32.0	35.1	33.0	29.5	1.7	0.3	22.8	28.4	0.5	0.1	7.9	0.7	35.1	35.4	13.3	15.3	6.8	1.7	1.7	1.2	13.2	17.2
1973	30.1	31.2	34.3	32.6	1.5	0.4	24.2	31.2	0.5	0.1	8.0	0.9	35.6	36.2	13.5	16.1	7.5	1.9	1.5	1.5	13.1	16.8
1974	29.9	32.9	35.2	32.5	1.6	0.2	24.8	31.3	0.5	0.1	8.3	0.9	34.9	34.6	13.6	15.6	7.2	1.7	1.5	1.5	12.6	15.7
1975	29.5	32.5	35.4	34.0	1.5	0.3	25.1	32.5	0.5	0.2	8.2	1.1	35.2	33.5	13.9	14.3	7.4	2.1	1.6	1.6	12.2	15.6
1976	28.8	29.2	36.0	37.4	1.5	0.4	25.5	35.4	0.6	0.1	8.4	1.4	35.2	33.5	13.4	14.4	7.5	2.1	1.6	1.7	12.7	15.3
1977	26.8	26.5	37.4	38.2	1.3	0.5	26.3	36.1	0.6	0.2	9.2	1.5	35.8	35.3	14.0	15.6	7.3	2.3	1.6	1.9	12.9	15.6
1978	26.0	22.8	38.9	40.1	1.2	0.4	26.7	37.9	0.6	0.1	10.4	1.7	35.1	37.0	13.9	16.5	7.2	2.2	1.7	2.0	12.4	16.3
1979	22.4	19.5	41.5	42.4	1.1	0.4	28.7	40.0	0.6	0.1	11.1	1.9	36.1	38.1	14.3	17.5	7.7	2.3	1.8	2.1	12.3	16.2
1980	20.2	18.1	42.4	42.3	1.1	0.4	29.1	39.7	0.6	0.1	11.7	2.1	37.4	39.6	15.0	18.0	7.7	2.3	2.0	2.5	12.8	16.8
1981	20.0	16.5	42.2	42.2	1.0	0.4	28.4	39.7	0.6	0.1	12.1	2.1	37.9	41.9	15.5	18.7	7.5	2.4	2.1	2.7	12.8	18.1
1982	20.3	15.9	41.1	41.5	1.0	0.3	28.1	39.1	0.6	0.2	11.4	1.9	38.6	42.5	15.9	19.2	7.4	2.4	2.2	2.9	13.1	17.9
1983	20.1	16.0	41.2	40.9	0.9	0.3	29.2	38.8	0.6	0.2	10.5	1.7	38.7	43.0	16.0	19.8	7.2	2.1	2.2	2.9	13.2	18.1
1984	19.0	15.0	42.3	42.3	0.8	0.2	30.7	40.2	0.6	0.2	10.2	1.7	38.7	42.7	16.2	19.9	7.0	2.0	2.2	2.9	13.4	17.7
1985	19.0	14.8	41.6	41.3	0.7	0.2	30.2	39.2	0.6	0.1	10.0	1.7	39.6	44.0	16.6	20.5	7.0	2.1	2.3	3.1	13.7	18.3
1986	18.7	14.3	41.4	41.5	0.6	0.2	30.3	39.6	0.6	0.1	9.9	1.6	39.9	44.3	16.4	20.4	7.2	2.1	2.4	3.3	13.9	18.5
1987	17.1	12.3	42.8	42.7	0.5	0.1	31.6	40.7	0.6	0.1	10.1	1.8	40.2	44.9	16.5	20.2	7.3	2.1	2.5	3.5	13.9	19.2

Source: YOMS, Table 11, 91.

Appendix 5.2-2 % Distribution of Labor Force by Occupations and Sex, 1952-87.

	Total		Profes-sional		Admini-strative		Cleri-cal		Sales		Service		Agri-culture		Produc-tion	
Year	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
1952	100.0	100.0	2.0	4.2	0.2	0.4	6.8	3.4	11.1	7.8	3.5	12.8	54.0	58.9	22.4	12.1
1953	100.0	100.0	2.1	4.1	0.2	0.4	6.7	4.1	10.6	8.3	3.5	12.4	53.9	57.4	22.9	13.1
1954	100.0	100.0	2.3	4.4	0.2	0.5	6.7	4.5	10.3	8.3	3.8	12.7	53.5	55.7	23.1	13.6
1955	100.0	100.0	2.6	4.6	0.3	0.5	7.0	5.1	10.0	8.6	4.1	13.0	52.6	54.1	23.5	14.2
1956	100.0	100.0	2.7	4.7	0.4	0.3	7.1	5.2	9.8	8.7	4.1	12.7	52.2	53.7	23.7	14.8
1957	100.0	100.0	2.9	4.8	0.3	0.3	7.2	5.5	9.6	9.0	4.4	12.0	51.2	53.1	24.2	15.6
1958	100.0	100.0	3.2	4.8	0.4	0.3	7.4	5.8	9.5	9.2	4.7	11.8	50.1	51.9	24.9	16.1
1959	100.0	100.0	3.2	4.8	0.4	0.3	7.6	6.0	9.4	9.5	4.8	11.4	49.3	51.2	25.3	16.6
1960	100.0	100.0	3.4	4.9	0.4	0.3	7.6	6.2	9.2	9.7	4.9	10.9	49.0	51.2	25.4	16.9
1961	100.0	100.0	3.5	5.0	0.4	0.3	7.7	6.3	9.1	9.7	5.0	10.7	48.7	51.1	25.7	17.3
1962	100.0	100.0	3.7	4.9	0.4	0.3	7.9	6.4	8.9	9.8	5.0	10.4	48.5	50.9	25.7	17.2
1963	100.0	100.0	3.8	5.0	0.4	0.3	8.0	6.6	8.7	9.8	5.0	10.2	48.1	50.8	25.9	17.5
1964	100.0	100.0	3.9	5.1	0.5	0.2	8.0	6.6	8.6	9.7	5.1	9.9	48.2	50.9	25.8	17.6
1965	100.0	100.0	4.3	5.4	0.5	0.2	8.5	7.0	9.2	10.6	5.4	10.4	45.2	48.2	27.0	18.3
1966	100.0	100.0	4.6	5.7	0.5	0.2	8.8	7.1	9.5	11.1	5.7	10.6	43.6	46.9	27.3	18.6
1967	100.0	100.0	4.8	5.0	0.6	0.1	9.3	7.0	10.3	11.3	5.4	10.8	40.2	46.9	29.5	18.9
1968	100.0	100.0	4.7	4.8	0.6	0.1	9.1	8.3	10.6	13.4	6.0	9.4	38.5	45.1	30.6	19.0
1969	100.0	100.0	4.7	4.6	0.5	0.1	10.2	7.0	10.8	13.0	5.7	10.5	37.4	43.0	30.7	21.7
1970	100.0	100.0	4.6	4.9	0.5	0.1	9.7	9.7	11.0	12.8	6.0	10.3	35.2	39.8	33.0	22.4
1971	100.0	100.0	4.6	5.2	0.6	0.1	9.8	10.3	11.0	11.7	5.8	10.4	34.3	36.5	33.9	25.8
1972	100.0	100.0	4.7	5.3	0.7	0.1	9.9	10.8	11.7	12.0	5.5	10.1	31.9	34.6	35.7	27.0
1973	100.0	100.0	5.2	4.6	0.9	0.1	9.7	12.1	11.9	12.7	5.3	9.6	30.0	30.7	37.0	30.4
1974	100.0	100.0	5.0	4.6	1.0	0.1	9.5	12.3	11.9	12.3	5.2	8.6	29.7	32.5	37.6	29.5
1975	100.0	100.0	4.8	5.3	1.0	0.2	9.5	13.0	12.0	11.9	5.4	7.4	29.3	31.9	38.0	30.5
1976	100.0	100.0	5.0	5.5	1.2	0.2	9.4	14.0	11.9	11.4	5.4	6.7	28.6	28.5	38.5	33.6
1977	100.0	100.0	4.8	5.1	1.2	0.3	9.4	15.3	11.9	11.8	5.8	7.6	26.7	25.8	40.3	34.2
1978	100.0	100.0	4.8	5.8	1.2	0.2	9.9	14.3	11.6	11.8	6.1	8.1	25.6	22.6	40.7	37.1
1979	100.0	100.0	5.1	5.6	1.2	0.2	10.0	15.3	11.9	12.4	6.2	8.4	22.1	19.3	43.5	38.7
1980	100.0	100.0	5.3	6.1	1.3	0.1	11.0	16.8	12.4	12.4	6.3	8.6	19.9	18.0	43.8	37.9
1981	100.0	100.0	5.2	6.3	1.2	0.2	11.2	17.5	12.9	12.8	6.6	9.3	19.7	16.4	43.1	37.5
1982	100.0	100.0	5.3	6.5	1.1	0.1	11.4	17.9	13.0	13.1	6.6	9.8	20.0	15.8	42.6	36.7
1983	100.0	100.0	5.5	6.5	1.3	0.2	11.1	17.7	13.1	13.3	6.6	10.1	19.7	15.9	42.7	36.3
1984	100.0	100.0	5.6	6.5	1.3	0.2	11.2	17.9	13.3	13.4	6.7	10.0	18.8	14.9	43.2	37.2
1985	100.0	100.0	5.7	6.7	1.2	0.2	11.3	17.8	13.5	13.9	7.0	10.8	18.8	14.7	42.6	36.0
1986	100.0	100.0	6.0	6.7	1.2	0.2	11.2	18.0	13.3	13.7	7.1	11.0	18.5	14.2	42.6	36.2
1987	100.0	100.0	6.2	7.2	1.2	0.2	11.3	19.3	13.4	13.3	7.0	11.1	16.9	12.3	44.0	36.7

Source: YOMS, Table 12, 92.

Appendix 5.2-3 % Distribution of Labor Force by Class of Workers and Sex, 1952-87.

	Total		Employer		Self-employed		Unpaid family member		Wage workers Subtotal		Private		Government	
Year	M	F	M	F	M	F	M	F	M	F	M	F	M	F
1952	100.0	100.0	2.6	1.3	42.1	15.0	18.8	53.1	36.6	30.6	25.5	14.0	11.1	16.5
1953	100.0	100.0	2.6	1.3	41.8	14.7	18.7	52.6	36.9	31.5	25.0	16.5	11.9	15.0
1954	100.0	100.0	2.5	1.3	41.3	14.3	18.6	52.0	37.6	32.3	24.9	18.2	12.7	14.1
1955	100.0	100.0	2.6	1.2	40.7	14.0	18.3	51.3	38.5	33.5	25.0	19.7	13.5	13.8
1956	100.0	100.0	2.6	1.1	40.2	14.0	18.2	51.1	39.0	33.9	25.2	20.9	13.8	13.0
1957	100.0	100.0	2.6	1.1	39.7	13.7	18.0	50.7	39.7	34.6	25.5	22.1	14.2	12.5
1958	100.0	100.0	2.6	1.1	39.0	13.1	17.7	50.6	40.7	35.4	26.0	23.2	14.7	12.2
1959	100.0	100.0	2.6	1.2	38.5	12.7	17.5	50.4	41.4	35.9	26.4	24.1	15.0	11.8
1960	100.0	100.0	2.5	1.1	38.2	12.6	17.5	50.5	41.7	36.0	26.7	24.7	15.1	11.3
1961	100.0	100.0	2.6	1.0	37.9	12.3	17.4	50.5	42.2	36.2	27.0	25.3	15.2	10.9
1962	100.0	100.0	2.5	1.0	37.6	12.0	17.4	50.6	42.5	36.2	27.3	25.8	15.2	10.4
1963	100.0	100.0	2.5	1.1	37.2	12.1	17.3	50.4	43.0	36.4	27.7	26.3	15.3	10.1
1964	100.0	100.0	2.5	1.2	36.7	12.0	17.2	50.0	43.6	36.8	28.4	27.2	15.3	9.6
1965	100.0	100.0	2.6	1.2	35.3	11.8	16.4	48.4	45.7	38.7	29.5	28.6	16.2	10.1
1966	100.0	100.0	2.7	1.1	34.1	11.7	15.9	47.1	47.3	40.1	30.6	30.0	16.7	10.1
1967	100.0	100.0	2.9	0.7	33.9	11.8	14.4	46.8	48.8	40.5	32.7	32.1	16.2	8.4
1968	100.0	100.0	3.1	0.9	32.9	12.6	13.0	45.1	51.0	41.3	35.7	32.6	15.4	8.8
1969	100.0	100.0	3.0	1.0	32.2	13.6	12.2	43.1	52.6	42.2	37.4	34.2	15.2	8.0
1970	100.0	100.0	3.7	1.0	32.4	12.2	10.5	41.9	53.5	44.9	39.0	36.5	14.5	8.4
1971	100.0	100.0	3.8	0.9	32.0	11.9	9.8	38.3	54.4	48.9	40.2	40.2	14.2	8.7
1972	100.0	100.0	3.7	1.0	31.3	12.7	8.4	34.7	56.6	51.6	42.7	42.9	14.0	8.7
1973	100.0	100.0	3.6	0.9	31.5	13.1	7.8	32.0	57.1	54.0	43.7	45.6	13.4	8.4
1974	100.0	100.0	3.6	0.7	31.5	12.1	7.7	34.5	57.2	52.7	43.6	44.1	13.6	8.6
1975	100.0	100.0	3.3	0.7	30.3	12.0	8.1	32.0	58.3	55.3	44.9	46.2	13.4	9.0
1976	100.0	100.0	3.3	0.9	29.8	11.5	7.8	28.5	59.1	59.1	45.6	49.4	13.5	9.7
1977	100.0	100.0	3.2	1.0	28.6	11.6	7.2	25.6	61.1	62.0	47.3	52.0	13.8	9.9
1978	100.0	100.0	4.2	1.0	27.7	10.6	7.0	23.8	61.1	64.7	48.3	54.8	12.8	9.9
1979	100.0	100.0	5.6	1.2	26.0	10.9	6.0	21.6	62.4	66.3	49.5	56.5	12.9	9.7
1980	100.0	100.0	6.0	1.3	25.5	10.4	5.3	21.4	63.1	67.0	49.7	56.3	13.4	10.7
1981	100.0	100.0	6.0	1.4	26.1	10.3	5.3	20.7	62.7	67.5	49.5	56.7	13.1	10.8
1982	100.0	100.0	5.8	1.3	26.7	10.3	5.3	20.7	62.3	67.7	48.9	56.8	13.3	10.9
1983	100.0	100.0	5.6	1.1	27.0	10.4	5.3	21.6	62.1	66.9	49.0	56.3	13.1	10.6
1984	100.0	100.0	5.8	1.1	26.8	10.0	5.0	20.9	62.4	68.1	49.7	58.0	12.6	10.1
1985	100.0	100.0	6.0	1.3	27.0	9.9	5.0	21.0	62.0	67.8	49.5	57.5	12.4	10.3
1986	100.0	100.0	6.1	1.3	26.6	9.7	5.0	20.5	62.3	68.5	49.4	58.3	12.9	10.2
1987	100.0	100.0	6.1	1.2	25.3	9.2	4.5	18.7	64.1	70.9	51.6	60.6	12.5	10.2

Source: YOMS, Table 13, 93.

Appendix 5.3 Sex differences in earnings by industry and occupation, 1987

(female earning as % of male's)

	Total	Prof-essional	Adminis-trative	Clerical	Sales	Service	Agri-cultural	Pro-duction
Total	64.2	70.1	48.6	63.2	64.1	69.6	59.3	57.9
Agriculture	60.6	85.6	--	64.5	--	125.1	59.0	72.8
Mining	47.7	--	--	70.0	--	40.5	--	40.8
Manufacturing	58.4	64.6	54.0	54.8	82.2	67.7	55.8	61.1
Utility	63.4	--	--	76.6	--	67.9	--	46.0
Construction	68.9	46.4	--	63.6	80.3	71.0	--	59.7
Commerce	67.0	96.8	--	70.2	59.6	64.4	--	60.6
Transport	78.6	--	58.6	77.3	133.6	85.6	--	58.5
Financing	66.6	58.7	46.7	65.4	73.7	67.2	--	
Service	72.2	69.5	39.4	66.3	75.0	70.3	62.2	52.7

Source:DGBAS, Council for Economic Planning and Development, Executive Yuan, Report on the Manpower Utiization Survey Taiwan Area, R.O.C. 1987, Table 35

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