

# 4 Economic Development and the Well-Being of Women<sup>1</sup>

## Introduction

This chapter consists of two parts. The first is a review of the progress achieved by Filipino women in education, health and employment since the country's independence in 1946; the second is an analysis and valuation of the time allocated by women in home-making. The study focuses on achievements rather than problems. The choice of focus is largely an organizational matter.

In this century, especially after attaining national independence, Filipino women have achieved a lot in building their capabilities so that they have taken advantage of and enjoyed the opportunities that developments in the economic and political arena have created. Their achievements, however, have not been obtained at zero cost. The very changes that enhanced women's well-being also gave rise to sex-specific problems. The study views the changes in women's capabilities and the emerging new challenges as twin outcomes of the nation's historical development.

The paper then looks into the growing contribution of women in the nation's socio-economic life as they assume a more varied and increasing amount of labor market work. Market work is defined as work that produces marketed output such as farming, fish drying and employment for wage. This is distinguished from home production like childcare, laundry and cooking. These have market value but are not included in the estimate of gross national product (GNP)

which is based on the conventional system of national accounts (SNA).

Alternative approaches to accounting and estimating the market value of their work at home is made using the labor force surveys and the special survey on time use undertaken by the University of the Philippines Population Institute (UPPI). The received approaches are based on the time inputted in home tasks reported in surveys. The reported time is then multiplied by a shadow price. Some researchers assume this to equal the wage of a hired housekeeper, while others, the opportunity wage of the individual doing the housework. (HAWRYLYSHYN 1975). Obviously either assumption oversimplifies the measurement problem. We will discuss some conceptual problems related to the allocation of time for home activities and its valuation. The paper suggests a simple alternative approach based on the notion of effective time or the time that would normally be needed to complete home tasks efficiently. This avoids the problem of overemployment and underemployment in home production. The paper contains, in successive order, a discussion of conceptual issues especially the cultural roots of gender biases in the labor market, a brief history of the opening of opportunities to Filipino women from the turn of the century, empirical analyses of the achievements made by women in education and in the labor market, and estimates of the value of their work at home.

## Culture, Preferences and Discrimination

It is best to start the review with a description of the culture which has molded the habits and values that relate to the role and well-being of women. By and large, the Filipino culture is protective of women. It defines the woman's role to be essentially that of home-maker; it specifies her virtues; and it assigns her guardianship to men. As a future home-maker, a girl is taught housework, to prudently manage money, to be a nurturing parent, to be the family's social host, and to guard her sexual integrity before and after marriage.

The man is to be the head of the family and its main source of livelihood; he is to be its protector. Even in the early stages of economic development, men found work outside the home and acquired the habit of declining from home-working and instead socialized with other male workers. The habit gave them greater mobility and allowed them to have a separate consumption pattern from his family. He developed drinking and gambling habits. Even if the women are held in great respect for their home-making role, they were subordinate to men. The traditions have set boundaries on women's future achievements. These determine the speed at which the women can respond to opportunities in the labor market, politics and other social activities.

Women's traditional role in home-making has extended to the labor market but concentrating on occupations that are not too different from their home tasks. These jobs are, generally, physically lighter and stationary but require patience and meticulous care; or they involve nurturing responsibilities. Consequently, women have tended to work in teaching, nursing, clerical and accounting jobs, retail sales, garments and handicraft, and more recently, semiconductor assembly and other fine assembly work. Their entry into the less traditional occupations such as medicine, law and management would come later and at a much slower rate. While the female-dominated occupations are physically

lighter and safer, they pay less. Their choice appears to have been restricted to occupations that conflict less with their home-making responsibilities and/or to those that preserve their traditional image of supporting rather than leading men. Jobs that offer a flexible working schedule and are closer to home, attract women with young children. On the other hand, evidence shows that gender discrimination is practiced in managerial and administrative positions, perhaps, in order to preserve male dominance in the labor market.

Women's home-making role has not only impinged on job choice but also on their job success. When an employed woman has to be absent from work more frequently than her husband because she, not her husband, has to attend to the health and educational needs of her children, she establishes a poor working record. Child-bearing may interrupt her employment and so lessen her on-the-job training. [MINCER 1974; MINCER and HAIN 1980]. The legal provisions for maternity leave add to the cost of her employment.

Women have struggled with gender-related work hazards. Men are taking time to adjust to the presence of women outside the home. There is a high incidence of violence against women in industrial cities. The rapid pace of urbanization has resulted in growth of slum housing which is extremely overcrowded, lacks sanitary facilities and is, on the whole, demeaning. This atmosphere is definitely not conducive to peaceable and decent behavior, possibly leading to the rise in criminality in large cities. Women are often victims of much urban violence.

The restrictions on the labor market choices of women have led to some segmentation in the labor market and gender-based wage differentials. As women concentrate in selected occupations, their labor supply to these occupations increases at a higher rate than in other occupations thus leading to lower equilibrium wage rates. The converse holds for the essentially male occupations. Men are freer to move across occupations implying greater competition in the male labor market and smaller differentials in their

wage rates and the rate of return to their human capital.

Women's poorer labor market performance relative to men's is rooted in their traditional cultural role. Their long history of home-making activities has developed a comparative advantage in home-like jobs. Their home responsibilities also make them prefer jobs that are less disruptive of home chores. Even if they, in fact, are free to choose to work in the market and choose an occupation, the parameters of their choice are strongly influenced by traditions. Discrimination is just one possible cause of differential in career success.

Traditions, however, are not fixed. They interact with opportunities. When women decide to acquire more education and find employment outside the home, their relative position in the home changes. The opportunity cost of having a child increases. Consequently, the relative importance of her home-making role declines. Women become more mobile and competitive with men. The modern world has moved towards this direction and questions regarding the social cost of these changes have arisen, especially when they occur at a rapid rate.

Their progress in the demand side of the labor market depends on the kind of jobs that become available to women. Contemporary economic growth has been accompanied by job creation in selected occupations, some suited to women like electronics processing, automated manufactures, and health care and leisure services. A general tightening of the labor market, even in an essentially male-dominated labor market creates job openings for women. As male workers move to better jobs, they vacate the old ones; thus, making some or all available to women. Firms likely become less discriminating against women when facing a labor shortage.

The achievements of Filipino women can be assessed from an historical perspective and in the context of inherited traditions. Gender-based biases exist most everywhere but they differ in degree across cultures. Some cultures have a matriarchal inheritance

system, while others practice physical mutilation of girls. It is more meaningful to study the rate of progress being made rather than the existing biases. Moreover, women's achievements are likely to differ across areas of interest and socio-economic classes. In the Philippines, progress has been more rapid in building women's capabilities through education than in generating employment opportunities and political participation. Women's access to jobs vary across occupations and their progress in the labor market tends to be circumscribed by tradition. This is discussed in greater detail below.

### **Progress in Women's Education and Employment**

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American colonization and the post-independence political and economic development experience brought about rapid changes in the woman's social role. The colonial government established the foundation for a popularly-based educational system as a means of counteracting the armed rebellion against it. From the beginning, public schools admitted girls. Demand for schooling was great and in order to expand capacity, normal schools (for teachers) were established almost simultaneously with primary schools. Aside from education, Filipino women were given the right of suffrage once elections of local officials were instituted (ca. 1937). During the Spanish colonial period, a very limited number of Filipinos could study, largely the very affluent who could go to Europe or were allowed to enroll in the Spanish institutions.

While the intention was political, i.e., to pacify the armed resistance to American rule, the measure nevertheless laid the foundation for a mass-based and market-oriented educational system. Totally new jobs in teaching and nursing were opened for women. With independence (1946) and the expansion of the bureaucracy, clerical and administrative jobs

became available to them. Women were encouraged to pursue higher education so that they could qualify for prestigious and higher-paying white-collar jobs. Gradually, the more ambitious, possibly brighter women, ventured into the higher occupations such as medicine and law which, historically, were the preserve of men. A later development is the entry of women into the management of large corporations and entrepreneurship. Their progress in the various occupations differed depending largely on culture-based barriers.

Economic development also resulted in the improvement of family health, sanitary facilities, utilities and transport, all of which reduced the home-making burden of women. Piped water, electricity and gas fuel freed them from the heavy task of fetching water and gathering firewood. The task of child-rearing was lightened by decreasing family size and improvements in children's health resulting from increasing income and access to sanitary water and health facilities. Unfortunately, not all women benefited fully from the fruits of development. There remain serious distributional problems. The poor in rural areas continue to suffer from under-development while the affluent families in the cities enjoy most of the fruits of economic development — schools, hospitals, modern utilities and widely varied commodity markets.

Table 4.1  
Distribution of Highest Grade Completed by Persons  
20 years and older, by Sex, and by Urban-Rural Location  
(1948, 1960, 1970, 1980, 1990)

	1948	1960	1970**	1980	1990
<b>A. Male</b> Highest Grade Completed					
Elem 1-4	26.2	29.5	30.2	22.9	16.6
5-7	12.5	22.4	25.2	27.6	25.8
HS 1-3	8.3	8.1	8.6	11.2	13.3
4	3.1	6.5	8.0	12.1	16.6
Coll 1-3	2.8	3.8	4.3	7.6	13.8
4 or more with degree	0.7	3.7	6.1	9.0	8.6
No Grade*	46.3	25.9	17.6	9.3	5.2
<b>B. Female</b> Highest Grade completed					
Elem 1-4	26.1	29.8	30.8	21.9	15.0
5-6	10.1	21.5	25.9	30.2	28.1
HS 1-3	5.5	6.1	6.7	9.8	10.6
4	1.9	4.3	5.0	9.1	14.2
Coll 1-3	1.9	3.1	2.9	6.5	12.3
4 or more with degree	0.5	3.0	5.9	11.7	
No Grade	53.9	32.2	22.8	11.8	8.0
<b>C. Ratio of Female to Male:</b> Percentage Completing Each Schooling Level					
Elem 1-4	99.6	110.0	102.0	95.6	90.4
5-6	80.8	96.0	102.8	109.4	108.9
HS 1-3	66.3	75.3	77.9	87.5	79.7
4	61.3	66.2	62.5	75.2	85.5
Coll 1-3	67.8	81.6	67.4	85.5	89.1
4 or more with degree	71.4	81.1	96.7	118.9	136.0
No grade	116.4	124.3	129.5	126.9	153.8
<b>Note</b> *Includes those who did not state their schooling **Persons 25 years and over					

## Trends in Women's Education and Employment

Data on education are provided beginning 1948. The educational attainment of the population increased through the years but quite rapidly between 1948 to 1980. Among the men aged 20 and over, the proportion with zero schooling dropped at a fairly rapid rate from 46.3 percent in 1948, 25.9 percent in 1960, 17.6 percent in 1970, 9.3 percent in 1980 and 5.2 percent in 1990; the proportion for the women dropped as fast from 53.9 percent to 8.0 percent for the whole period. An increasing proportion of the children who enrolled in the first four grades continued on to higher levels explaining the decline in adults having only

1-4 years of schooling from 26.2 percent to 16.6 percent for men over the 1948-1990 period and for women from 26.1 percent to 15.0 percent. The proportions attaining high school and college education more than doubled for all. (TABLE 4.1)

In the beginning when access was quite limited, men were favored as compared to women as reflected in the much higher proportion of girls who had no schooling in 1948 — 53.9 percent vs. 46.3 percent. But once access increased with the expansion of the public school system and the establishment of more private schools, the women competed quite successfully with the boys. Women's school attendance rate and the female-male ratio of the percentage completing each successively higher level of schooling improved tremendously from 1948 to 1990. Between these years, the ratio for elementary grades 5-6 rose from 80.8 percent to 108.9 percent, for high school years 4, from 61.3 percent to 85.5 percent and for college years 4 or more from 71.4 percent to 136.0 percent.

By 1970, more girls than boys aged 6-10 were attending school — 69.2 percent vs. 66.3 percent. In the age group, 11-13, the rates were 47.7 percent for girls vs. 41.4 percent for boys; the corresponding rates for the age group 14-16 are 33.6 percent vs. 31.0 percent; for ages 17-18, 19.9 percent vs. 16.6 percent. Of the college age group 19-22, the figures are 16.1 percent vs. 15.0 percent. All in favor of women. (TABLE 4.2)

In 1990, the difference in attendance rate is generally wider, especially among the high school and college age groups. At every schooling stage, men lagged behind women, i.e., there were relatively more women at higher grades in each stage. The difference in the rate of progression slightly intensified through 1990 which explains why a much higher proportion of women than men completed college. This fact also explains why women have increasingly dominated the professional and clerical occupations which generally require a college background.

**Table 4.2**  
Percentage Enrolled of School Aged Population by Level and Age Group (1970-1990)

	1970		1990	
	Male	Female	Male	Female
<b>Elementary</b>				
E1-4: E6-10/P6-10	65.1	67.7	71.6	73.5
E5-7: E6-10/P6-10	1.2	1.5	2.4	3.0
E1-4: E/P6-10	95.1	94.0	100.5	96.8
E5-7: E11-13/P11-13	36.1	41.3	44.0	48.7
E1-4: E11-13/P11-13	5.3	6.4	11.6	14.7
E5-7 E/P11-13	55.3	60.2	69.9	72.9
<b>High School</b>				
H1-3: E6-10/P14-16	27.9	29.2	42.8	48.3
H4C1-3: E14-16/P14-16	3.1	4.4	4.6	11.6
H1-3: E/P14-16	47.5	45.7	76.5	81.1
H4: E17-18/P17-18	9.0	9.2	14.2	15.4
H1-3: E17-18/P17-18	7.1	10.7	15.7	20.4
H4: E/P17-18	20.7	20.5	43.6	45.0
<b>College</b>				
C1-3: E19-21/P19-21	10.0	8.9	17.2	18.9
C4-5: E19-21/P19-21	2.1	3.4	1.0	2.2
C1-3: E/P19-21	23.0	25.5	43.5	46.8
C4: E22/P22	2.9	3.8	1.9	1.9
C4 E/P22	19.8	25.9	22.0	30.9

## Labor Market Performance

The labor force participation rate (LFPR) of women has an upward trend, albeit gradual, moving up from 40.8 percent in 1956 (the first labor force survey) to 46.8 in 1990, then to 47.5 percent in 1994. The corresponding figures for men are 72.4 percent, 81.4 percent and 82.1 percent. Women have had a higher unemployment rate than men, in 1994, 10.7 percent versus 9.2 percent. The employed women have concentrated on selected occupations — Professional/technical 9.9 percent; Clerical 65 percent; Sales, 25.4 percent; and Services 15.0 percent. These occupations consist largely of ostensibly lighter work in offices, retail trade, domestic help and recreation. Agricultural remains an important occupation for both men and women. In 1996, it absorbed 43.9 percent of all workers, 29.8 percent female and 52.0 percent

**Table 4.3**  
**Manpower, Labor Force, Employment and Unemployment**  
**Level and Annual Growth Rate (1971-1994)**

	1965	1971	1976	1981	1986	1990	1991	1992	1994
	Oct.	Nov.	3r Qt	3rd Qt	3rd Qt	Oct.	Oct.	July	July
<b>A. 1 Manpower, All (15 yrs. &amp; over)</b>									
	<b>16124</b>	<b>21068</b>	<b>24837</b>	<b>29847</b>	<b>34612</b>	<b>37999</b>	<b>39114</b>	<b>39974</b>	<b>42367</b>
2 Male		7955	10268	12241	14839	17101	18897		19780 21021
3 Female		8170	10800	12595	15008	17511	19102		20197 21346
4 Labor Force	10764	13241	15018	18422	22067	24525	25246	26122	27398
5 Male		7156	8872	9964	11660	13576	15446	16401	17249
6 Female		3608	4369	5054	6763	8490	9079	9721	10149
7 Employed		10101	12543	14238	17452	20595	22532	22979	23898 24725
8 Male		6805	8436	9630	11249	12905	14347	15155	15664
9 Female		3296	4107	4608	6203	7690	8185	8743	9061
10 Unemployed	663	698	780	970	1472	1993	2267	2224	2673
11 Male	351	409	334	411	671	1099	1246	1585	
12 Female	312	289	446	560	800	893	978	1088	
Experienced	228	363							
Unexperienced	435	335							
<b>B. 1 LFPR, All (4/1)</b>									
2 Male (5/2) 0.90	0.86	0.81	0.79	0.79	0.82		0.83	0.82	
3 Female (6/3)	0.44	0.40	0.40	0.45	0.48	0.48	0.48	0.48	
4 Unemployment									
Rate, All	0.06	0.05	0.05	0.05	0.07	0.08	0.09	0.09	0.10
5 Male (11/5)	0.05	0.05	0.03	0.04	0.05	0.07		0.08	0.09
6 Female (12/6)	0.09	0.07	0.09	0.08	0.09	0.10	0.10	0.11	
<b>C. Annual Growth Rate 1971-76 1976-81 1981-86 1986-90 1990-91 1991-92 1992-94</b>									
Manpower	3.3	3.7	3.0	2.4	2.9	2.2	2.8		
Labor force	2.6	4.2	3.7	2.7	2.9	3.5	2.4		
Employed	2.6	4.2	3.4	2.3	2.0	3.0	1.7		

Source Labor Force Survey, corresponding years, National Statistics Office.

male. Men have dominated Administrative, Production and Agriculture occupations. In the Production sector, men prevail in the heavier jobs found in transport, energy, utilities, construction and machinery industries. While women also work in factories, they are found largely in garment, electronics assembly and food processing. In agriculture, the UPPI survey shows women assigned to weeding and planting, seldom plowing. The Administrative/executive occupation absorbed a rather small proportion of women, only 1.2 percent. (TABLES 4.3 AND 4.4)

Economic development appears to have intensified the concentration of women in the "traditionally" female occupations. The ratio of female to total workers rose from 49.5 percent in 1956 to 63.1 percent in 1990 for the Professional/technical occupation, from 19.4 percent to 54.8 percent for Clerical, from 62.0 percent to 65.0 percent for Sales. The ratio for Services remained relatively high though falling from 63.5 percent to 57.9 percent. Production had as much as 43.7 percent women in 1956 but only 20.0 percent in 1990. Agriculture has had a fairly constant ratio of about 25 percent. As much as 80 percent of the

Table 4.4  
Employed Persons by Occupation Group (in percent)

YEAR	1956	1960	1965	1971	1974	1980	1985	1990
<b>MALE</b>								
Total	4,946	5,721	6,805	8,463	9,386	10,827	12,519	14,347
Prof/Tech	2.2	2.0	2.4	3.4	3.2	3.8	3.0	3.6
Adm/Exec	3.2	2.6	2.8	1.6	1.3	1.1	1.2	1.3
Clerical	2.5	2.9	3.7	3.3	3.0	3.7	3.1	3.1
Sales	3.5	3.0	3.9	6.7	6.1	5.4	6.7	7.3
Agri	68.2	70.1	65.3	59.0	64.0	59.0	57.0	52.3
Prod'n	16.1	16.0	14.9	20.7	18.1	22.2	23.5	25.8
Services	4.0	3.4	2.2	5.1	4.1	4.8	5.4	6.1
Not Defined	0.3	0.4	0.3	0.1	0.2	0.01	0.03	0.3
<b>FEMALE</b>								
Total	2,756	2,818	3,296	4,080	4,242	5,606	7,282	8,185
Prof/Tech	3.9	4.5	6.4	10	12.1	11.4	10.9	10.8
Adm/Exec	7.1	6.3	7.3	0.9	2.8	0.71	0.56	0.89
Clerical	1.1	1.5	2.9	4.2	9.6	6.2	6.0	6.6
Sales	10.3	9.8	12.5	20.8	18.9	19.5	23.6	24.2
Agri	41.8	42.5	37.4	31.6	10.5	35.9	33.6	31.0
Prod'n	22.4	21.8	16.6	14.7	26.9	13.5	12.0	11.3
Services	12.5	13.0	16.2	17.4	18.9	12.9	13.2	14.7
Not Defined	0.9	0.7	0.7	0.3	0.4		0.01	0.5
<b>RATIO OF FEMALE TO TOTAL</b>								
Total	7,702	8,539	10,101	12,543	13,628	16,433	19,801	22,532
Prof/Tech	1	1	2	3	4	4	4	4
Adm/Exec	3	2	2	-	1	-	-	-
Clerical	-	-	1	1	3	2	2	2
Sales	4	3	4	7	6	4		9
Agri	15	14	12	10	3	12	12	11
Prod'n	8	7	5	5	8	5		4
Services	4	4	5	6	6	4	5	5
Not Defined	-	-	-	-	-	-	-	-

women in Professional/technical jobs were in teaching, nursing and accounting work while 50 percent of the women in Production jobs were in textile/garment and electronics. Filipino women increasingly encroached into overseas employment but again mainly in traditional occupations such as domestic service, nursing and entertainment. Women now comprise 60 percent of departing overseas workers as compared to 47 percent in 1980.

Discrimination appears to exist in the higher level management/administrative jobs. Top management positions in large busi-

nesses and the higher political offices are still predominantly male. There is no female president of any large financial institution or industrial conglomerate. But a small number of women have risen to the next highest positions such as vice-president, comptrollers/treasurers and corporate secretaries. The following gives the gender breakdown of principal officials among the largest (in revenue terms) corporations in the country in 1994-1995 [PHILIPPINE BUSINESS PROFILES AND PERSPECTIVES, INC. & CENTER FOR RESEARCH AND

**Table 4.5**  
**Distribution of Government Employees by Position and Sex**  
**(1991, 1994, 1995)**

	1991	1994	1995
<b>A. Percentage Female (%)</b>			
National Gov't.	57.4	64.8	59.0
GOCCs*	36.1	36.4	37.4
Local Gov't	40.1	46.8	49.0
Total	51.5	61.4	54.2
<b>B. Male</b>			
First Level	242,732	194,957	287,206
Second Level	204,484	180,796	207,943
Teachers	—	59,834	65,884
Other	—	120,962	142,059
Third Level	3,921	10,846	10,715
<b>C. Female</b>			
First Level	166,279	140,413	170,351
Second Level	443,601	436,948	487,031
Teachers	—	287,851	322,012
Other	—	149,097	165,019
Third Level	1,706	5,086	3,887
<b>D. Ratio, Male (%)</b>			
Second other/First		66.9	49.5
Third/Second other		9.0	7.5
Third/First		5.6	3.7
<b>E. Ratio, Female (%)</b>			
Second other/First		106.2	96.9
Third/Second other		3.4	2.4
Third/First		3.6	2.3
<b>Note</b> First level is for clerical, second level for supervisory/professional/technical, and third level for division chiefs, directors and higher up to assistant secretary.			
*Government Owned/Controlled Corporations			

COMMUNICATIONS, *Philippine Business Profiles Top 7000 Corporations, 1994-1995*.]:

Total #. of officials listed <sup>2</sup>	1194
Male	992 or 83.1%
Female	202 or 16.9%
Female presidents	37/435 corp. or 8.5%
Female vice presidents	67/435 corp. or 15.4%

While women rule the professional and technical jobs in private business, the figures show that a rather small proportion get to the very top positions or only 16.9 percent. Only 8.5 percent of corporate presidents and only 15.4 percent of vice presidents are

women. Women preside over the smaller corporations engaged in finance, communications and advertising industries.

The Asian Institute of Management (AIM) undertook case studies of women executives and entrepreneurs in Asia (1985, 1992). For the Philippines, AIM included three female top executives, one who rose to the rank of Senior Vice President for the largest food conglomerate; another, Vice President for the fifth largest commercial bank; and the third, Senior Vice President of the ninth largest commercial bank.

The pattern of discrimination also holds in government agencies. CHAPTER 8 shows the female/total ratio for Department Secretaries at 3/30, Senators at 4/24, Congressmen/women at 21/203, Governors at 9/75 and Vice-Governors at 12/75.

Government positions are categorized into three levels: Level one for the clerical occupations, level two for professional/technical/supervisory, and level three for top administrative positions like division chiefs, bureau directors and assistant secretary of a department. Career success is indicated here by the ratio of level 2 to level 1, level 3 to level 2, and level 3 to level 1 (TABLE 4.5). Public school teachers are classified as level 2 but they are excluded from the computation since they have their own hierarchy and are quite separate from the rest of government service.

In 1994, the level 2/level 1 ratio for male was 66.9 percent as against 106.2 percent for female. But level 3/level 2 ratio for male was 9.0 percent and 3.4 percent for female; and level 3/level 1 ratio was 5.6 percent for male and 3.6 percent for female. The figures indicate that women in non-teaching service progress more rapidly than men up to the middle or level 2 positions. Promotion to the top positions or level 3 is definitely more difficult for women. All the ratios fell from 1994 to 1995 implying a slowdown in promotion for both men and women. Women seem to have suffered more than men from the slack as shown by the faster drop in their level 3/level 2 ratio from 3.4 percent to 2.4 percent. For the men, the ratio fell from 9.0 percent to

7.5 percent. In absolute terms, there were only 3,887 women compared to 10,715 men in level 3 positions in 1995.

### Earnings of Women as Compared to Men

Data on the relative hourly earnings and estimates of the rate of return to the education of men and women are obtained from the Third Quarter 1992 Labor Force Survey (LFS). Hourly earnings are computed as mean earnings divided by mean hours worked for the employed in the various occupations. To obtain the rate of return to education, a Mincer-type earnings function was fitted to the individual observations after correcting for self-selection bias that, arguably, is likely to be especially strong for female workers. Earnings are observed not for the whole population but only for about half of the working age women who decided to work. As explained in a previous section of this report, some factors such as demographic characteristics and market environment tend to exert a stronger influence on the labor force participation rate of women rather than men. Proxies are used to capture demographic characteristics and the environment as are available in the LFS. The following model is applied separately to individual observations of married women and male heads of households. (cf. APPENDIX 4.1)

First, there is the data on the relative wage rate (earnings/hours worked) for male heads and wives in the various occupations and in urban and rural location. The wage rate is higher in urban than rural areas, in white collar (administrative, professional and clerical) more than blue collar jobs in either locations; and for male more than female workers. But the wage differential varies across occupations (TABLE 4.6). The female-male ratio is lower in blue collar jobs than in white collar jobs.

In the professional/technical occupation where the female workers concentrate on the relatively low-wage teaching and nursing jobs, the ratio goes from .68 for the youngest age group to .82 in the middle age group,

Table 4.6  
Ratio of the Mean of Earnings Per Hour of Females to Males by Location, Occupation and Age Range (1992)

	20-24	25-30	31-40	41-50	51-65
<b>Urban</b>					
Prof/Tech	0.68	0.69	0.82	0.77	0.70
Adm/Exec	-	0.85	0.74	0.95	0.93
Clerical	1.05	0.82	0.98	0.90	0.99
Sales	0.80	0.72	0.67	0.51	1.02
Service	0.53	0.61	0.61	0.59	0.74
Agri	0.59	0.84	0.70	0.64	0.67
Prod'n	0.87	0.96	0.78	0.79	0.54
<b>Rural</b>					
Prof/Tech	-	1.14	0.83	1.20	0.80
Clerical	0.78	1.22	1.26	1.06	0.79
Sales	0.50	0.57	0.47	0.58	0.24
Service	0.86	0.75	0.68	0.56	0.78
Agri	0.69	0.59	0.64	0.65	0.59
Prod'n	0.89	0.74	0.55	0.55	0.42

Source: Labor Force Survey, 3rd Quarter 1992.

then down to .70 in the 51-65 age group. Apparently, there is also some bumping off to lower wage sub-categories in sales and services where the ratio is generally low. The clerical occupation which is a predominantly female occupation, reveals a higher ratio. In the predominantly male administrative/executive occupation, women earn more. However, the result may not be very reliable as there are very few female observations in this occupation. Moreover, there must be a strong self-selection bias in women who rise to top positions. They are probably brighter and more motivated. The AIM study found that these successful women come from better off families. The younger employees in the production sector have a higher female-male earnings ratio, possibly reflecting the relatively higher wage rates received by female employees in the developed export-oriented electronics and garment industries.

A comparison of this sort is insightful but not precise hence, the need to estimate a wage function which focuses on the rate of return to schooling (See regression results in TABLE 4.7). The regression shows an opposing impact of the parameter estimates on the rela-

Table 4.7  
Determinants of Wages

Variable	Estimated Coefficient	Standard Error	T-statistics
<b>HUSBAND'S WAGES</b>			
Dependent variable: In Wage			
R-squared = .158479			
Adjusted R-squared = .157977			
F-statistic (zero slopes) = 315.877			
C	1.77831	.038648	46.0124
YEDUC	.051296	.196315E-02	26.1296
E	.017525	.215514E-02	8.13190
E2	-.258670E-03	.352320E-04	-7.34192
OCC1	.261493	.029767	8.78478
OCC2	.408414	.039538	10.3297
OCC3	.033239	.030792	1.07948
OCC4	-.025995	.021270	-1.22215
OCC5	-.106495	.023449	-4.54155
OCC6	-.177946	.013521	-13.1609
RMILL	.523028	.079260	6.59888
<b>WIFE'S WAGES</b>			
Dependent variable: In Wage			
R-squared = .271551			
Adjusted R-squared = .270449			
F-statistic (zero slopes) = 246.444			
C	.976672	.221800	4.40338
YEDUC	.070154	.359417E-02	16.5187
E	.014394	.372216E-02	3.86722
E2	-.130630E-03	.598830E-04	-2.18142
OCC1	.452664	.040647	11.1366
OCC2	.672902	.085695	7.85232
OCC3	.350967	.047937	7.32146
OCC4	-.042907	.029365	-1.46115
OCC5	.069044	.036538	1.88965
OCC6	-.157964	.034920	-4.52358
RMILL	.193917	.175725	1.10353
cf. Appendix 4.1			

tive earnings of men and women. The constant is positive for men but negative for women, meaning a higher wage level for men, everything else being equal. This can be due in part to discrimination. Another reason is the greater recognition of work hazards in essentially male jobs such as construction, transport and mining. The coefficient for experience is larger for men than women which would be consistent with a larger on-the-job training acquired by men. Employers prefer to invest more on the job training of male workers for

the reasons argued above, i.e., women, because of their home-making role, tend to be more frequently absent and have interrupted tenure.

A surprising result is that the coefficient of education is higher for women than men, 0.1075 vs. 0.0664 which implies a higher rate of return to women's investment in education. This fairly large difference in rate of return may explain women's higher educational attainment. Another shift variable, location, favors women more than men as shown by the location coefficient of .404 for women and .162 for men. The selection bias as reflected in the Mills ratio is positive and significant for women but not for men since the majority of men work.

Women in foreign employment or OCWs (overseas contract workers) also go into lower paying occupations and destinations. Maids most everywhere are paid relatively low in comparison with low-ranked male occupations. TABLE 4.8 shows that maids in Singapore and Saudi Arabia receive the lowest wage of all OCWs or only about \$200 to \$250 per month. The maids in Hong Kong and Europe get more but they comprise a smaller proportion of the total. Entertainers and nurses have comparable average earnings with male workers. TAN [1993] observed that among OCWs, maids gain the least from foreign employment since they generally receive the lowest wage but pay the highest placement fees and face the greatest risk of violence and violation of employment contracts. Unfortunately, the market for migrant labor is monopsonistic and labor exporting countries like the Philippines are mainly wage takers. The importing countries decide on the number and wage rate of migrant labor and take into account the rather low wage rate and high unemployment rate in exporting countries.

**Table 4.8**  
**Monthly Dollar Wages, and Placement and Personal Expenses of Newly Hired Overseas Workers by Occupation, Destination and Agency Type**

	<b>Wage U.S. \$ Per Month</b>	<b>Placement Expenses</b>	<b>Personal Expenses Per worker</b>	<b>Total Cost</b>
<b>A. By Agency Type</b>				
Private employment agencies	477	9,838	896	10,734
Construction contractor	344	3,429	592	4,021
Government	648	4,413	1,763	6,176
Manning agencies	521	2,788	1,088	3,873
Service contractors	342	10,533	1,024	11,557
Direct hire	419	5,159	741	5,900
<b>B. By Occupation</b>				
Entertainer	450	9,604	214	9,818
Skilled worker	431	7,603	891	8,494
Professional	893	9,788	1,587	11,375
Office staff	417	6,075	100	6,175
Domestic helper	205	9,990	775	10,865
Seaman	503	2,717	1,006	2,723
Laborer	261	10,550	653	11,203
<b>C. By Destination</b>				
Japan	485	8,047	433	8,480
Saudi Arabia/Middle East	392	8,299	905	9,204
Europe/America	954	5,877	1,453	7,330
Hong kong/Singapore	242	11,911	1,092	13,003
Worldwide	383	2,066	800	2,866
Trust territories	550	4,005	0	4,005
Far East	327	5,039	0	5,039
Average	460	7,844	919	8,763
Average for Land-Based Workers	453	8,615	906	9,521

**Source** Alcestis Abrera-Mangahas, 1988 "What Workers Pay for Overseas Jobs," Social Weather Station Bulletin, Series 1988, No. 7, Metro Manila.

## Time Allocation

Twenty-four hours of a day can be allocated into three types of activities — personal care and leisure, labor market work and home production. These activities are seen to be substitutes of each other though there are at least two constraints on their rate of substitution — one is the minimum number of hours for personal care required to maintain health; and the other, the fixed working schedules in market jobs. Assuming that personal care and leisure take up 10 hours of a day, 14 hours becomes the effective time constraint for all three types of activities.

Most wage jobs found largely in the formal sector, an 8-hour per day schedule is conventional, with a five-day week schedule for

white-collar occupations and a six-day week schedule for blue collar occupations. If we add travel time of 1-2 hours to market work time, only about 4 hours would be left to full-time workers for home chores and extra personal uses. In the informal sector where the work schedule is more flexible, the worker can make a smoother substitution between market work and the other two activities, thus, allowing more time to home chores. Obviously, those not in the labor force and the unemployed have 14 hours available for home chores and additional personal care. This is not to say that the women not in the labor force are full-time housewives because there are leisure and personal care activities that compete with home production.

Borrowing largely from BECKER [1965], it can be argued that the time devoted by a married woman to each activity depends on the following: The number and age of children, family resources, the woman's own productivity in each of the activities and her own wage, her husband's wage and home productivity, and the market prices of market goods. The higher the woman's wage, which is seen as the opportunity cost of her time for home chores, the less she is likely to devote to the latter activities, or the more she will decide to work in the market. Family resources consisting of her husband's income, initial wealth and her own earnings would tend to increase the time allocated for personal care and leisure, assuming these to be a normal good. On the other hand, more family resources mean a higher standard of living, i.e., a larger and better furnished home, more varied food consumption, more clothes, all of which would require larger time inputs for home chores.

The wife's time can, however, be substituted by other family members' time or by hired help and, for some chores, by appliances. The rate of substitution between wife's time and other people's time, and between her time and appliances differs across home chores. A mother's time for child care is less substitutable for other people's time as compared to her time for laundry or cleaning house. Besides, child care has a more inflexible schedule. For this reason, the presence of children tends to increase the home time for mothers.

The underdevelopment of the home environment is an important explanatory variable. At the most extreme stage of underdevelopment and poverty, home-making is a heavy and time-consuming task. Fuel and water have to be produced by the household. There would be a higher incidence of illness in the family requiring greater caring time by the mother. Accessing any social service like schooling and health care consumes more time considering the poor state of transportation and communication. An equally poor housewife in a developed environment would be spared much of

these heavy tasks. For the affluent housewife who possesses modern home appliances some house chores may even be pleasurable and ought to be regarded as a leisure activity rather than work.

The extended family system, the prevalence of unemployment and the presence of a large informal sector help married women increase their market employment. Here, it is customary for grandmothers, aunts and other relatives to share resources as well as home chores. The informal organization of enterprise, defined as small and family managed/operated, still exists. Many informal enterprises are located in the home or close to it. Additionally, unemployment has lowered the cost of hired help and has increased the substitutability of market work for house chores.

In brief, the time allocated to home chores and to market work by a woman depends on: (1) demographic variables, particularly children's ages, (2) flexibility of work schedule, (3) her own market wage, (4) family resources including her husband's labor income, (5) degree of development of her environment, and (6) presence of relatives who can share in home chores. The variables — presence of children, flexibility of work schedule, family resources and degree of underdevelopment — are expected to exert a positive impact on home time. The presence of relatives and older children will tend to have the opposite effect. The effects on market time would be the opposite of that on home time.

### UPPI Time Use Survey

The UPPI survey sample consists mainly of middle and lower income households in two Metro-Manila suburbs, Marikina and Pasig, and two provincial villages, one a fishing village in Mindoro and the other an agricultural one in La Union. The sample covers five occupations — Professional/technical, Sales, Services, Production and Agriculture. The sample can be further categorized into workers in the formal and informal sectors.

Table 4.9  
Mean Number of Hours Allocated Daily by  
Type of Activity and by Method of Data Collection

Type of Activity	Urban (in hours)				Rural (in hours)			
	Recall method		Diary method		Recall method		Diary method	
	H	W	H	W	H	W	H	W
Market work	6.45	3.22	5.82	2.77	6.45	2.52	6.39	2.29
Travel time	1.04	0.39	0.50	0.26	0.82	0.18	0.40	0.12
Home production	2.15	6.13	2.73	7.72	1.97	7.25	2.45	7.88
Housekeeping	1.12	3.79	1.70	5.06	1.10	4.45	1.43	5.13
Child care	1.03	2.34	1.03	2.66	0.87	2.80	1.02	2.75
Leisure	14.35	14.26	14.95	13.25	14.76	14.05	14.76	13.71
Total	24.00	24.00	24.00	24.00	24.00	24.00	24.00	24.00
N of cases	200	200	51	51	200	200	49	49

Source: University of the Philippines, Population Institute (UPPI), Time Use Survey

The recall method is applied to the whole sample and the diary method on a sub-sample.<sup>3</sup> TABLE 4.9 shows the time inputs to market work by husband (*H*) and wife (*W*) in urban and rural areas by recall and diary methods.

Based on the recall method, the total time allocated by husbands to production (market work and home-making) including travel time differs only slightly from that of wives. In urban areas, husbands' total productive time is 9.64 hours per day as compared to wives' 9.74 hours, while in rural areas, the comparable figures are 9.24 and 9.95 hours, respectively. Both husbands and wives had ample time for personal care, slightly more than 14 hours. Husbands allot more time to labor market work than wives. Rural wives allocate more time for home chores than urban wives perhaps because of the extra time needed for obtaining water and other utilities.

To be noted is the much smaller travel time of wives who have chosen to work close to their homes and children — in urban areas .39 hour and in rural areas .18 hour. The comparable figures for husbands are 1.04 and .82 hour. Very likely, the jobs that are close to the wives' homes are informal in nature, e.g., handicrafts, vending, embroidery, small scale farming and livestock raising.

Husbands devote some time to their homes but the amount of home time varies only within a fairly narrow range. The more educated the husband, the more time he gives to both child care and housework. Those with elementary education devoted .9 hour to homechores as compared to 2.2 and 2.5 hours by those with high school and college education, respectively. Professional husbands spent the longest home time, 3.56 hours as compared to 2.3 for production workers and 2.0 for agricultural workers. The husbands are quite selective in what house chores to undertake like baby-sitting, repairs and fetching water. Apparently, Filipino men do not wash dishes or scrub the floor. Children exert an opposing impact on the amount of time allocated to labor market work. Both husband and wife increase their home time as the number of children increase. Wives still allot more time to the care of young children, especially those below age 5. The extra time is taken from labor market work as this declines with the presence of young children.

It appears that those who are on flexible schedule made the substitution between labor market work and home chores within the constraint of about 10 active hours. Generally, home time decreases as labor market time increases but the total of the two exceeds 10 hours. Those on fixed full-time schedules give up some of their personal/leisure time

so that they can still perform some critical home chores. Their total productive time is longer than those on flexible labor market work schedules.

### Labor Force Survey Hours Worked

The LFS gives hours worked by the employed from which can be inferred the time left for home chores and personal care and leisure. Those not in the labor force and the openly unemployed who comprise almost 60 percent of the working age population have all of 24 hours available for these two activities.

The average hours worked in the labor market (HRS) varies across occupation and by class of worker, i.e., whether employed as wage workers or self-employed, paid or unpaid family worker. Full-time work is highest among those employed by private and government sectors, especially in the Professional, Administrative and Clerical occupations since these are largely on fixed time (full-time) schedules. It is lowest for agriculture where there is a greater underemployment rate and lower marginal productivity. (TABLE 4.10)

Married women generally work shorter hours than male heads and single women except for those in the Professional and Clerical occupations which are mostly on fixed time schedules. In the Professional/technical occupation, more women than men work full-time. In urban areas, 91.8 percent of married women, 92.7 percent single women and 87.7 percent of male heads work full time, while in the rural areas, the corresponding figures are 90.5 percent, 87.5 percent and 90.5 percent. An even higher percentage, 96.6 percent, of married women in Clerical occupations work full time in urban areas. But, as for occupations which include employment with more flexible schedules or more informal organizations, married women supply less HRS. In fact, in all occupations other than the above, mar-

Table 4.10  
Percent Distribution by Number of Hours Worked Per Week, by Occupation (1992)

MALE	> 40	30-39	20-29	10-20	< 10
<i>Urban</i>					
Prof/Tech	87.7	5.8	4.6	1.3	0.5
Adm/Exec	91.1	4.2	2.9	1.8	-
Clerical	95.5	3.6	0.4	0.4	-
Sales	74.9	15.0	8.7	1.4	-
Service	88.4	6.5	4.2	0.7	0.2
Agri	52.0	28.1	16.4	3.1	0.4
Prod'n	90.1	6.3	2.9	0.6	0.1
<i>Rural</i>					
Agri	45.7	32.8	17.3	3.8	0.4
Prod'n	87.6	7.8	3.2	0.8	0.5
Sales	66.4	17.4	11.4	3.5	1.3
Service	89.2	3.0	4.6	1.4	1.8
<b>WIVES</b>					
<i>Urban</i>					
Prof/Tech	91.8	3.8	3.1	1.0	0.3
Adm/Exec	77.8	8.5	9.8	3.9	-
Clerical	96.6	1.6	1.8	-	-
Sales	71.2	14.0	12.4	2.2	0.2
Service	64.4	15.5	16.5	3.0	0.6
Prod'n	67.3	15.8	14.0	1.9	1.0
Agri	30.6	20.5	25.3	20.0	3.6
<i>Rural</i>					
Sales	66.5	16.7	14.2	2.4	0.1
Service	56.1	19.5	19.7	3.8	0.9
Agri	28.0	21.1	30.0	17.7	3.1
Prod'n	36.0	32.6	23.5	7.4	0.5
<b>SINGLE WOMEN</b>					
<i>Urban</i>					
Prof/Tech	92.7	3.3	2.3	1.2	0.5
Adm/Exec	95.8	4.2	-	-	-
Clerical	95.5	3.1	0.7	0.7	-
Sales	76.0	9.7	9.2	4.5	0.5
Service	92.1	4.0	3.4	0.5	0.1
Prod'n	88.5	5.0	4.6	2.0	-
Agri	38.0	14.4	23.8	19.2	4.1
<i>Rural</i>					
Sales	72.7	8.9	12.5	5.7	0.3
Service	37.8	4.0	6.6	0.9	0.7
Agri	27.9	21.6	28.5	20.2	1.8
Prod'n	67.3	14.0	14.0	4.7	-

Source: Labor Force Survey, 1992

**Table 4.11**  
Determinants of Hours Worked (HRS)

Variable	Estimated Coefficient	Standard Error	T-statistics
<b>HUSBAND</b>			
Dependent variable: HRS			
R-squared = .200725			
Adjusted R-squared = .200249			
F-statistic (zero slopes) = 421.228			
C	606.346	7.72252	78.5166
AGE	-27.9265	.215172	-1.29787
OCC1	-34.1945	7.26056	-4.70962
OCC2	23.7526	10.0830	2.35571
OCC3	-.856450E-02	7.71992	-.110940E-02
OCC4	70.6918	5.44453	12.9840
OCC5	59.0245	5.98702	9.85875
OCC6	-130.418	3.27969	-39.7654
WR11	-1.58200	.057693	-27.4209
FMINC	.232494E-02	.115481E-03	20.1326
RMILL	-231.771	25.5479	-9.07198
<b>WIFE</b>			
Dependent variable: HRS			
R-squared = .258553			
Adjusted R-squared = .257431			
F-statistic (zero slopes) = 230.535			
C	1556.26	111.897	13.9079
AGE	-6.41965	.746021	-8.60518
OCC1	65.2007	10.0752	6.47137
OCC2	78.7429	24.9348	3.15795
OCC3	78.6724	13.0989	6.00603
OCC4	195.7087	8.59813	22.7617
OCC5	-3.15134	10.6989	-.294549
OCC6	-145.471	10.2938	-14.1318
WR11	-1.92393	.147189	-13.0712
FOINC	.289249E-02	.258438E-03	11.1922
RMILL	-874.226	89.2552	-9.79468

cf. Appendix 3.1

ried women supply less HRS. The pattern is very clear in agriculture where only 28 percent of married women work full-time as compared to 45.7 percent for male heads.

### Allocation of Time Functions

From the LFS data, a supply of time for labor market work is tested, and from the UPPI, both supply of time for the market and home activities are tested.

As in the wage function, a supply of HRS for labor market work is estimated by OLS regression separately for married women and male heads using individual observations and correcting for self selection bias. [cf. APPENDIX 4.2].

For the married women all the coefficients are significant but some of the signs are not as expected (TABLE 4.11). Age has a negative but rather weak effect on HRS; own wage has a negative small effect; and family income other than own has a small positive effect. Being in occupations 1-4 increases HRS but being in occupation 6 (Agriculture) decreases HRS. Being in Production has no significant effect. The Mills ratio is significant but has a negative effect on HRS. The regression for male heads gives no significant effect for age and occupation 3 (Clerical). For both married women and male heads, the occupation variable proves to be the most important determinant of HRS. The occupation variable is a proxy that conceals the influence of other variables like flexibility of work schedule and productivity. For instance, Agriculture exerts a fairly large negative effect on HRS partly because of flexibility and partly because of relatively low productivity.

The study includes all the important variables that directly (not by proxy) influence the time spent for home chores. CABEGIN's work shows that few of the explanatory variables are significant. Note the negative effect of wife's education but a positive effect of her own wage. It means that she responds positively to her labor market opportunity but her education raises her productivity at home and so leads her to devote more time to it. This is consistent with the home time function given above where the wife's education exerts a significantly positive influence on her home time. The presence of Help exerts a large push to her working in the labor market. The presence of children exerts no significant effect on home time. [cf. APPENDIX 4.3].

## Economic Valuation of Women's Time

*First*, the development context in the valuation of time is presented considering that the nature of home production in a modern and affluent environment differs from an underdeveloped milieu. *Second* is the notion of effective time input to home production. Work intensity or efficiency is likely to differ depending on the supply of time in the home. There can be invisible unemployment for some wives and overemployment for others. A third point is the meaningfulness of delineating leisure activities from home production activities. In an underdeveloped situation, many house chores are burdensome. In modern affluent settings, they can be pleasurable. But, while the burden of home chores is heavier in the former, they are lesser in number.

Introducing Parkinson's law of work filling up available time, an unemployed housewife with limited housework — her house is small and sparsely furnished; the meals are meager and unvaried; and the laundry light — may take her time doing her tasks. She could report, 8 or even 10 hours of home time. A more affluent but unemployed housewife with more housework may report as much home time. Yet, another woman who is working full time and unassisted by relatives or maids can complete the same task for a fraction of the time devoted by the previous two women. Appliances facilitate her housework and raise her home productivity. On one hand, there is the equivalent of underemployment in the home, while on the other, the emergence of the career woman. Complicating the situation is the extended family system where home tasks are shared by older children and relatives. That brings up the notion of the value of home time of a housewife in her specific circumstance.

Consider, then, the notion of effective time for completing the housework of particular household categories. The categories can be measured according to the quality and size of shelter, family size, number of young children and consumption level. It would not matter who does the housework, whether the

housewife or her relatives. The effective time will be valued at an assumed market price, like the minimum wage or a fraction of it. The work of maids in larger and more affluent households can be ignored since their wage bill is presumably included in the estimation of GDP.

## The Estimation of the Value of Time for Home Production

Three approaches are used to estimate the value of time allocated to home production: Market Price of Effective Time, Market Opportunity Approach, and the Gronau Model.

(1) **Market Price of Effective Time.** Take the average number of hours devoted by wives and husbands to home production and multiply this by the minimum wage and the number of households in the country. For home time (*HT*), apply the UPPI time use daily survey averages of 5.5 hours for wives and 2.6 hours for husbands. The National Statistics Office (NSO) reports 11.9754 million households in 1990, the last census year; and the minimum wage was P97/hour.

(2a) **The Market Opportunity Approach.** The average wage = earnings per hour from the labor force survey [LFS 1992, Appendix-Table A.1] for six broad occupations — professional, clerical, sales, service, agriculture and production — as their respective values of home time. The LFS gives only market time (*MT*) or hours worked. Based on the UPPI survey of total productive time of 10 hours, assume the residual from *MT* to be the home time, i.e.,  $HT = 10 - MT$  for each occupation.

The value of  $HT = HT \times W \times N \times 365$  days aggregated for all workers, *N* is the number of workers in each occupation.

(2b) CABEGIN used the UPPI time use survey to estimate an earnings function and the expected wage as the value of home time. The arguments used in the function are age,

education, number of children 2 years or younger, number of children 3-6 years old and number of children 7-24 years old, urban/rural, and sex. The estimating function was corrected for self-selection bias and applied to both working and not working samples.

(3) The third approach is an application of the Gronau model also using the UPPI data. The model begins with the utility maximization function with normal goods (or Z-goods) and leisure, as arguments, and assumes the function to be twice differentiable and subject to the 24 hours time constraint. In equilibrium, the marginal productivity of labor in home production is equal to the marginal utility of normal goods divided by the marginal utility of labor. The production of Z-goods depends on market goods and *HT*. From the optimizing model is obtained the equilibrium condition where the marginal productivity of *HT* is equal to the expected wage rate.

Given in TABLE 4.12 are the results of the three approaches. (cf. APPENDIX 4.1,4.2,4.3)

The simple method, (1) gives the value of *HT* as a proportion of GNP at 31.3 percent when *HT* is valued at the minimum daily wage of P97 prevailing in 1990. If the reader does not agree at this valuation and chooses, a 50 percent of the minimum wage, then the ratio drops accordingly, i.e. by 50 percent. This estimate is, expectedly, below the other three estimates which use disaggregated wage rates since there are home workers with actual or expected earnings higher than the minimum wage. In (2a) using the average wage rate in each occupation, the value of *HT* as a proportion of earned income is 83.3 percent. Note that the denominator is earned income of the sample. This is a higher estimate than CABEGIN's work which uses individual rather than grouped data. Her denominator is total family income which is likely to be relatively higher than earned income. The GRONAU model takes account of change in the marginal productivity of *HT* as its level changes results in a slightly higher

Table 4.12  
Value of Home Time of Wives and Husbands as a Proportion of GNP and Earnings (1990, 1992)

	Wives	Husbands	Total
1 Value of HT/GNP 1990 [HH x $\bar{w}$ x HT]/GNP			
(a) 100% min wage	21.3	10.0	31.3
(b) 50% min wage	10.6	5.0	15.6
2a Value of HT of Employed/Earnings (LFS)	152.7	68.0	83.3
2b Cabegin (UPPI survey)		39.0	
3 Cabegin, Gronau model estimate			42.8

value of *HT*, 42.8 percent. Individuals with higher wage rates tend to allocate less time to home production which implies shorter *HT* and higher productivity.

The choice of methodology will depend on data availability. Detailed information on time allocation that is required for the more accurate estimation such as what is done in the GRONAU model is usually obtained from special and fairly small surveys from which generalizations cannot be made. Labor force surveys are national in scope but lack detailed information. Lack of detailed information should, however, not prevent us from arriving at some benchmark figure as given in (1). Its simplicity allows it to be adjusted in any way deemed reasonable. It is not unlike the poverty standard, people can see clearly how the line is defined and make whatever adjustments as are justifiable.

The valuations are based on market wage either of a hired home worker or of the foregone wage of husbands and wives. They do not attempt to capture the social value of parenting and nurturing of families. ELSON has started to argue about the reproductive value of women's home activities but she still has to specify the social value of these activities that are at the very heart of human survival and happiness. Mothers and fathers bring children to life, they feed them, play with and educate them in the rudiments of communi-

cation, social relations and the world or work. Taken in an idealistic situation, these activities are pleasurable to the parents and are investments in the children. How is good parenting to be valued. Definitely, valuing home time by any of the above methods is almost petty except that it is a start for recognizing its importance. So, it is highly recommended that ELSON's idea of women's reproductive work be studied and developed.

### Concluding Remarks

Culture has bounded women's choice-space in the labor market, and crowds them in fewer occupations. The protective stance over women, while welcome in a way, has barred them from jobs that entail heavy physical exertions and risk. Their supportive role in the home has carried over to the labor market so that they are not readily ac-

cepted in top leadership positions in public office and private management. Their traditional role in the family has also oriented them to home-like jobs for these are the tasks in which they have acquired informal training and for which information about their skills have spread. All these have tended to segment the market by gender and to squeeze women into selected occupations. One consequence is relatively lower average earnings. This problem is exacerbated by discrimination in top positions and their being shunted to the less desirable occupations such as domestic service and low level entertainment. However, women have compensated for this disadvantage by achieving a higher level of schooling. They progress faster in the education ladder and exhibit a higher completion rate especially at the college level. As women fight for greater equality, their progress in education will likely be matched with their progress in the labor market.

### References

- BECKER, Gary S. [1965]. "A Theory of Time Allocation." *Economic Journal*. Vol. 75.
- CABEGIN, Emily Cristie [1996]. "The Value of Non-Market Household Production and Filipino Households (How Much is a Filipino Housewife Worth)." Unpublished.
- DOMINGO, L.C. Raymundo and E. CABEGIN, "Conjugal Division of Labor in Employment, Child Care and Household." University of the Philippines, Population Institute. Forthcoming.
- ELSON, Diane [1996]. "Economic Paradigms and their Implications for Models of Development: The Case of Human Development," forthcoming In *Global Governance and Development Fifty Years After Bretton Woods: Essays in Honour of Gerald K. Hehler*, edited by R. Culper, A. Berry and F. Stewart.
- FLORO, Maria S. [1995]. "Economic Restructuring, Gender and the Allocation of Time." World Development Report.
- GRONAU, Reuben [1980]. "Home Production a Forgotten Industry." *Review of Economics and Statistics*. Vol. 62: 408-416.
- HAWRYLYSHYN, Oli [1976]. "The Value of Household Service: A Survey of Empirical Estimates." *The Review of Income and Wealth*. Vol. 22, No. 2: 101-131.
- HECKMAN, J.J. [1979]. "Sample Selection Bias as a Specification Error." *Econometrica*, Vol. 47, No. 1.
- HERRIN, A.N. and R. RACELIS [1994]. *Monitoring the Coverage of Public Public Programs on Low Income Families: Philippines 1992*. National Economic and Development Authority and Integrated Population and Development Planning Project.

JACOB, Mincer [1974]. *Schooling, Experience and Earnings*. New York: National Bureau of Economic Research.

JACOB, Mincer and Hain OFEK [1982]. "Integrated Work Careers: Depreciation and Restoration of Human Capital." *Journal of Human Resources*, Vol. 17, Winter.

LICUANAN, Victoria S. (ed) [1992]. *Women Entrepreneurs in Southeast Asia*. Makati, Metro Manila: Asian Institute of Management.

————— (ed) [1992]. *Beyond Profit ASEAN Women Managers in Government and Not-For-Profit Organizations*. Makati, Metro Manila: Asian Institute of Management.

## Notes

- 1 Research associates contributed substantially to the paper. FE LISONDRA did most of the data processing and estimation, EMILY CHRISTI CABEGIN applied the GRONAU model to the time use data, ROSELLE DIME gave very able research assistance and Professor MICHAEL ALBA advised on adjustments of the GRONAU model. As usual, Mrs. GLORIA LAMBINO helped produce a clean draft.
- 2 Of the 7,000 corporations reporting their revenue, only 435 gave a report on their officials. The reporting appears selective so we cannot generalize.
- 3 The recall method is likely to be less accurate than the diary method. Possibly recall would focus on activities that are perceived to be relatively important, e.g. market work more than home production, in the latter case, cooking and laundry more than playing with a child. In fact the recall method gives a shorter home time and a longer market time than the diary method. The diary method generates longer productive time for wives than the recall method in urban areas the figures are 9.0 vs. 10.75, in rural areas, 9.24 and 10.29. In the recall method both husbands and wives somewhat overestimate their market time and underestimate their home time. The larger home time recorded by wives may, however, be discounted for possible underemployment. But we use the recall method to obtain comparable results with the LFS data.

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### Technical Note 4.1

Gronau posits the following function for  $f_H$ :

$$f_H = a_0 - a_1 HT + a_2 Y$$

(where  $Y$  are demographic and human capital variables, among others)

$$\ln W = a_0 - a_1 HT + a_2 Y$$

$$H = (a_0 - \ln W + a_2 Y) / a_1$$

An estimate of the  $H$  function provides an estimate of the value of  $HT$

$$H = a_0 - a_1 \ln W + a_2 Y$$

$$(1/a_1 = \text{est } (a_1))$$

$$a_0/a_1 = \text{est } (a_0)$$

$$a_2/a_1 = \text{est } (a_2)$$

The model derives the value of home time as

$$\text{Value of HT} = \exp(a_0 + a_2 Y) / a_1 [-\exp(-a_1 H)]$$

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### Technical Note 4.2

Estimates of value of hometime using the Gronau model are obtained from CABEGIN [1996]. Method of estimation is Ordinary Least Squares. The model as detailed in GRONAU [1980] assumes a specific formulation of the marginal production function from which you derive a household production function. The value of home production is given by

$$Z = \exp(a_0 + a_2 Y) [1 - \exp(-a_1 H)] / a_1$$

$Y$  represents a vector of explanatory variables determining marginal productivity at home  
 $H$  is home time

To arrive at estimates of the parameters, OLS estimation that adjusts for self selection bias was used. Self selection bias was corrected by including as regressor of the home production function, the inverse of the Mills's ratio. The Mill's ratio is derived from a profit estimation of Labor Force Participation using demographic and socio-economic information. After doing OLS the resulting parameters are used to estimate  $Z$ . This process is applied by Cabegin and complete results are shown in her paper. The data used is the data generated by UPPI in their time-use survey of 400 households. Her results for the value of home production are reported in Appendix 4.1 and also cited in the text.

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#### **Appendix 4.1 Earnings of Women as Compared to Men — A Mincer-type Earnings Function**

LFPR = f1 ( FOINC, AGE, LOC)  
LNW = f2 (YEDUC, YEDUC2, LOC, RMILL)  
HRS = f3 (Age, OCC, FMINC, RMILL)

where

LFPR = labor force participation rate with value 0,1  
FOINC = family income less own earned income  
Age = age in years  
LOC = urban, rural location with value 0,1  
YEDUC = years of schooling attained, YEDUC2 (years of schooling squared)  
OCC = broad occupation such as administrative/executive, professional/technical, clerical, sales, production, agriculture and services.  
LNW = log wage rate or earnings per hour  
WR11 = wage rate or earnings per hour  
HRS = number of hours worked per quarter  
RMILL = Mills ratio

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#### **Appendix 4.2 Allocation of Time Functions**

HRS = a + b1 AGE + b2 Occ + b3 WR11 + b4 FMINC + b5 RMIL + e  
HRS = hours worked for the market  
OCC = 7 occupational groupings  
FOIN = family income other than own earning  
WR11 = own wage rate equal to total earnings/total HRS  
RMILL = Mills ratio

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#### **Appendix 4.3 Results of Cabegin's Work**

MT = -2086.81 + 31.374Aw - 50.561edw + 32.753edh + 21.56CH (-3.66) (2.119) (-1.996) (1.693) (0.479)  
+3.299CH2 + 566.941HELP - .00164INC + 743.118W (.0243) (4.570) (0.897) (4.074)

