

**THE SOCIAL STRUCTURE OF UNDERUTILIZED LABOR
IN THE PHILIPPINES: AN APPLICATION OF HAUSER'S
LABOR UTILIZATION FRAMEWORK**

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Introduction

A. The Origins of the Labor Utilization Framework

The concept of a "labor force," defined around specific "economic" activities taking place within specific reference periods, arose out of the labor difficulties of the 1930s in the West as a response to the measurement needs which they generated (Webb 1939; Hauser 1949). There can be little question that the labor force concept which emerged at that time was a substantial improvement, conceptually and in terms of measurement, over the earlier notion of "gainful work." Where the gainful worker category included all who could claim an occupation, even those whose activities had ceased due to retirement or disability, the labor force carefully excluded such individuals. And where a new entrant to the work force, as yet without a "usual occupation," was not a gainful worker, he or she clearly *was* a member of the labor force (in the critical sense that the individual's labor was available to the economy.) The labor force concept further distinguished active and inactive components among

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the employed and the unemployed, making it possible both to readily assess the extent of labor supply and to measure productivity.

For good or ill, the labor force approach to workforce measurement appeared just in time to be taken up *in toto*, albeit with some encouragement from Western observers, by those in developing countries who were responsible for economic planning in the post-war period. The labor force is the dominant approach today in a majority of developing countries, and many of these nations boast long time-series of labor force information (cf. Turnham 1971).

Not surprisingly, extended use has given rise to a range of dissatisfactions with the labor force approach both as conceptual device and measurement tool. Useful summaries are provided by Hauser (1964) and Turnham (1971). Myrdal (1968), for example, raises fundamental objections (Chapter 21 ff. and Appendices 6 and 16), and details a rationale for the claim that the social context of work activity is quite different in developing than in developed economies.

On a more specific level, the labor force approach seems to be deficient because it assumes the prevalence of formalized, institutionalized work situation of the kind generally found in the West; where home and work-places are typically separate; and where the notion of a "job," that is, employment for another as the nexus of work, is firmly embedded. These assumptions fail to recognize the very informal social and economic underpinnings of work in developing economies, especially the prevalence of self-employment and of family work-groups rather than formal employment; the informal off-and-on character of much work activity, especially among the young; the extreme variability in the quality of labor and of work opportunities; and the widespread prevalence of underemployment as a social device for spreading work opportunities around.¹

Responses to these criticisms have taken two forms: (1) proposals for new concepts and measurement procedures which would require entirely new sources of data, gathered *ex ante* in light of the new concepts; and (2) proposals for new ways of utilizing in a more effective and useful manner the large amounts of data which already have been collected in many countries on the basis of the labor force concept. One of the approaches in the latter category is the so-called

¹Geertz (1966) and Takahashi (1970) offer interesting examples of these social mechanisms from Java and the Philippines, respectively.

“labor utilization framework,” first proposed in 1971 by Philip M. Hauser.²

The utilization approach can be applied effectively wherever standard labor force data for individuals can be supplemented by data on: (1) hours worked; (2) education and/or training; and (3) income or some proxy thereof. When they are available, the approach also uses data on the desire for additional working hours and on job-seeking activities. It attempts to provide the measurement of both visible and invisible underemployment as well as of outright unemployment.

Tabulation on just a few variables provides a classification of the work force into a series of functional categories, to wit:

The Total Work Force

(A) Utilized adequately

(B) Utilized inadequately

(1) Due to unemployment

(2) Due to inadequate hours of work

(3) Due to inadequate income

(4) Due to mismatched occupation and education/training

The components of underutilization are tabulated in a fixed sequence — (B1) through (B4) — corresponding to the presumed policy priority assigned to the respective types of underutilization by governments. The utilized adequately category (A) is obtained as a residual. A principal virtue of the labor utilization approach is said to be its effectiveness in sorting out sectors of the total of the underutilized for which quite different policies might be relevant. Thus, unemployment (B1) and underutilization due to inadequate hours (B2) point to a need for the creation of additional jobs, while the prevalence of inadequate incomes (B3) raises issues of worker productivity, labor shares vis-a-vis management and so on. The policies recommended might include increased investment in human resources, or perhaps increased capital per worker. Underutilization due to mismatched occupations and education (B4) points to the

² See Hauser (1972). Other approaches to resolving these measurement problems abound. See, for example, Oshima (1973).

issue of educational system outputs vis-a-vis the size and character of the job market.

It is an interesting attribute of these underutilization categories that policies formulated to reduce one type of underutilization may well have the effect of exacerbating the problem reflected by another category. For example, policy-makers can reduce unemployment, *ceteris paribus*, by reducing the average length of a work-week, but only at the cost of increasing underutilization by reason of inadequate hours. Or, human resource development through the educational system can reduce underutilization due to inadequate pay, while at the same time generating problems of education-occupation mismatch for larger proportions of workers. Also, because sectors of the population are characterized by different levels of the various types of underutilization, a given policy is likely to affect these sectors in different ways. A few examples of these kinds of complex interaction between utilization levels by type and socioeconomic attributes are offered below.

B. Unemployment in the Philippines

1. Patterns

The principal source of data on unemployment is the National Census and Statistics Office (NCSO) quarterly survey. The unemployment rates by sex, marital status, headship, and urban/rural residence in Table 1 (taken from the August 1972 round) are illuminating in that they indicate the very uneven distribution of unemployment across social categories. Unemployment among household heads is very low in the rural sector, but rather high among male heads in urban areas. Married non-heads (mostly female spouses) show high rates in the urban sector but not in the rural. Unmarried household members show very high rates of unemployment, especially in the urban sector and particularly among males.

As useful as these unemployment results may be, clearly they are but the tip of a subsurface mass of ineffective participation in the work force on the part of Filipinos willing and actively ready to participate. Recent research on the labor utilization framework has indicated the possible magnitude of this subsurface underutilization of male household heads with respect to overall utilization status and type of underutilization (data from the May 1968 round):

| | Number | Percent |
|------------------------|--------------|------------|
| Total Labor Force | 36,804 | 100.0 |
| Utilized Adequately | 14,408 | 39.1 |
| Utilized Inadequately | 20,156 | 54.8 |
| By Unemployment | 672 | 1.8 |
| By Hours of Work | 2,552 | 6.9 |
| By Income | 7,864 | 21.4 |
| By Mismatched Occ.—Ed. | 9,068 | 24.6 |
| No Information | <u>2,240</u> | <u>6.1</u> |

As Table 1 indicates unemployment rates are very low among male, household heads. This fact is determined largely by the operation of pervasive cultural norms which define the married male as the major breadwinner with responsibility for lifelong full-time work force participation. The social system adjusts itself in a number of ways to make fulfillment of this social role possible. However, the standard labor force data in Table 1 do not indicate a serious problem of inadequate utilization of the labor of male household heads, a problem which is delimited more clearly by utilization approach reabulations. Although negligible percentages of the group are unemployed, the majority are underutilized. One in 14 wishes more time at work than he now can obtain; among those who are working full time or do not wish more hours of work, one in four is earning at below the productivity cutoff (defined below); and among those whose hours and income situations are adequate, nearly 40 per cent are in occupations not commensurate with their background and training.

2. Policies

Finally, before we consider the detailed application of the labor utilization approach to Philippine data, we ought to take some note of recent policy emphases at the highest levels of the government, and the role that labor utilization results can play in the formulation of effective policy along the lines indicated.

The most focused discussion of labor policy in the recent past is found in the report of the ILO World Employment Program mission to the Philippines (ILO 1974), known widely as the Ranis Report. After a thorough review of economic development issues in the Philippines which had the participation of a large number of Filipino senior specialists from the government and the universities, as well as

experts from the ILO and elsewhere, the mission proposed a package of development policies which raises issues of immediate relevance to the present discussion of labor underutilization.

The report describes the colonial legacy — an open dualistic economic structure with a largely stagnant rural sector — and goes on to chronicle the Philippines' post-independence policies of capital intensive investment in the industrial sector combined with relative disinterest in the rural sector. The report asserts that, with rural population growth combining with limited investment to reduce resources per capita in the rural areas, and with capital-intensive investment in the urban areas curtailing the capacity of the industrial sector to absorb rural labor, the inevitable outcome is a rural labor surplus, "premature" rural-to-urban migration, and urban unemployment and underemployment. The mission points to two emerging problems of mounting significance: first, worsening employment and income distribution; and second, low productivity in the rural sector.

The Ranis Report places an unmistakable emphasis upon employment as a key problem and issue for policy. The report says: "Despite some slight reduction of open unemployment and an increase in hours worked, there is distressing evidence of considerable underemployment in urban and rural areas, pointing to the persistence of labor underutilization" (p.5). There is an implicit call in this language, not only for an emphasis upon underutilization issues, but also for more sensitive measures of underutilization beyond open unemployment.

The mission's own "guesstimate" of total unemployment (which it defines to include open unemployment plus an "inadequate income" measure of underemployment) is "in the vicinity of 25 per cent." It is interesting to compare this estimate with the utilization framework estimate of 54 per cent when additional types of underutilization are included (see below).

The mission's overall view that the major problem for policy is one of achieving "balanced" growth is reflected in its two-pronged package of policy recommendations: (1) "seek to mobilize the rural sector in a balanced, persistent and sustained fashion"; and (2) "permit the industrial sector to turn outward and thus begin to make its contribution to the financing of its own future growth through an export diversification drive." Moreover, it is made clear that the employment problem falls into this policy framework as well: It

“...can then be interpreted to a great extent as a growth problem — i.e., how to allocate the relatively scarce factors, not only capital but also entrepreneurial and managerial (public and private) factors, in order to insure the full participation of those who are at present unemployed and underemployed.”

Not unexpectedly, many of the items in the mission's detailed policy package have direct bearing upon employment volume and distribution, for example; the emphasis on investment in (labor absorptive) medium and small scale industries (p. 38); the stress on decentralization of industries (p. 39); the encouragement of research toward the development and application of “adaptive” (again, labor absorptive) technologies (p. 43); the recommended policy of “shared restraint” with respect to wages (p. 45); and finally, the mission's concurrence with the Presidential Commission to Survey Philippine Education (1970) in its recommendations toward reducing the quantity while raising the quality of educational system outputs.

In the context of this kind of recent policy discussion, the specific goals of the present research can be put forth: principally, to explore the possible usefulness of the labor utilization framework in helping anticipate the impacts of specific policies on the overall employment situation; and also, to examine empirically the distribution of types of labor underutilization across social, geographic and economic sectors of the Philippine population. As we will note in the following sections, the labor utilization approach assesses a series of dimensions of economic activity, each of which relates directly to the kinds of policy recommended by the ILO mission. Open unemployment and underutilization due to too few hours of work are distinguished in the mission report (the former is declining while the latter is rising), and the underutilization approach assesses these phenomena separately. Underutilization due to sub-standard income is also distinguished — and even crudely measured in the mission report. Finally, mismatches of education and occupation are assessed, a source of underutilization which, though not mentioned in the mission document, is alluded to implicitly in its comments on the findings of the education survey.

C. Applying the Labor Utilization Concept in the Philippines

1. Sources of Data

Work force information on the Filipino population has been gathered since the first modern census in 1903. That enumeration

and subsequent ones through 1948 sought work force responses on the basis of the "gainful worker" concept, where gainful workers are those above a fixed age who reported a gainful occupation to the enumerator. A gainful occupation was taken to be one by which the respondent makes a living by assisting in the production of goods or services. For example, in the Census of 1939 a space, labeled "Usual Occupation," is provided on the questionnaire (col. 18) for each person aged 10 or older. The explanatory note says "Trade, profession, or particular kind of work done; as teacher, farm laborer, farmer, miner, etc. If person has no occupation, write 'None.' If person is retired, write 'Retired.'" The term "Usual Occupation" is not defined in the enumerator's instructions beyond references such as "the occupation pursued" and "kind of work done." There is no reference either to time period or actual work performed, except for the instruction to exclude those "who work only occasionally or only for a short time each day."

In the 1960 Census and again in 1970 the "labor force" concept was utilized. In addition, the Bureau of Census and Statistics initiated its semi annual series of labor force surveys in 1957. This series has provided a steady stream of current data since then, all based upon the labor force concept. More recently the semi annual Bureau of Census and Statistics Survey of Households (BCSSH) has given way to a quarterly series (beginning in 1971); the sample frame and design underwent significant updating and revision in 1965 and again in 1971 (in light of the results of the 1970 Census).

In 1968 the standard labor force questionnaire for the May round was supplemented by an extensive questionnaire covering social, economic and fertility characteristics, designed by the Population Institute, University of the Philippines. This joint May 1968 round, executed collaboratively by the Bureau of Census and Statistics and the Population Institute, is known as the National Demographic Survey (NDS). The combined data-set provides information on labor force status, kinds of economic activity, social and geographic mobility, amounts and sources of income, fertility, family planning knowledge, attitudes and practices, and labor force activity at earlier points in time (1965 and 1960, and of father when he was age 40). It is this relatively rich data source which serves as the basis for the present analysis (for a further description see Flieger and Smith, 1975, *passim*, especially Appendix C). It is especially suitable because it (1) provides extensive information on possible determinants and correlates of labor force and utilization status; (2) includes detailed

information on individual and family income as well as sources; and (3) allows us to organize individual-level information into household-level characteristics (for example: number of workers in the household).

2. BCSSH Labor Force Information

Since the labor utilization framework builds directly upon standard labor force information it will be useful to review here the nature of the questions on labor force activity included in the BCSSH-NDS round. The BCSSH Bulletin (any number in the series) provides a description of the labor force definition utilized. Our description here draws freely from that source.

The *labor force* refers to "the population 10 years old and above who are either employed or unemployed in accordance with the definitions set forth below." Members of the armed forces are included only when they are living with their families in households.

Employed persons include those *at work* and those *with a job but not at work*. These two categories are defined as follows:

- (a) Those *at work* — Those who were working for pay or profit, or without pay on the farm or business enterprise operated by a member of the same household related by blood, marriage or adoption;
- (b) Those *with a job but not at work* — Those who had a job or business but did not work due to temporary illness, vacation, strike, or other reasons. Also included are persons who were supposed to report for work or start the operation of a farm or business enterprise within 30 days from the date of the interview.

If it is reported that an employed person worked 40 hours or more during the survey week, he is considered *working full-time*; otherwise, he is considered *working part-time*.

Employed persons at work reported as wanting additional work are considered *underemployed* — *visibly underemployed* if they are part-time workers or *invisibly underemployed* if they are full-time workers.

Unemployed persons include "all those who were reported as wanting and looking for work on a full-time basis," where the desire

to work is sincere and job-seeking is carried out seriously. The unemployed also includes those "reported as wanting full-time work but not looking for work because of the belief that no work was available or because of temporary illness, bad weather, or other valid reasons." *Experienced unemployed* and *inexperienced unemployed* are also distinguished, where experience is defined as having worked "for at least two consecutive weeks full-time for pay, or profit or without pay on family farm or enterprise." These categories of individuals are generated by a sequence of questions, with appropriate branching.

3. Defining Labor Underutilization Categories

The functional categories of the labor utilization framework are the product of a sequence of tabulations made to define, successively: the labor force; the unemployed; the employed with insufficient hours of work; the employed (with sufficient hours of work) with inadequate incomes; and the employed (with adequate hours and pay) whose occupations are not matched to their educational levels. The basis for determining those in the labor force, and within it those employed and unemployed, was described above. The hours of work criterion, the income cut-offs, and the procedures we have used to assess mismatches of education and occupation are described briefly. A detailed exposition of measurement procedures is given in Domingo (1974).

a. *Underutilization Due to Insufficient Hours of Work.* The original formulation of the labor utilization framework proposes the use of 40 hours per week as a suitable standard against which to assess utilization status (cf. Hauser 1972). This standard is a reasonable one in most industrial societies and, in general terms, is appropriate in the modern or non-agricultural sector in the Philippines. An "Eight Hour Labor Law" governs working hours in the formal sector, and a five-day work week of 40 hours has been adopted as standard. However, for the large bulk of Filipino workers this cut-off will seem quite arbitrary. Work in agriculture and even in the informal sector of the urban economy is not organized rigidly around time standards.

To introduce a semblance of the "voluntariness" which is said to be lacking in the modern approach, those who were employed but who worked less than 40 hours were further classified in terms of whether or not they wanted more working hours, and whether or not they were actually searching for a job. Thus, on the basis of two behavioral characteristics (hours actually working, and whether

actually looking for more work) and one attitudinal one (whether one wants more work), we have defined utilization status in the following manner:

Utilized: Persons not wanting additional hours of work (93.0 percent)

Underutilized: Persons wanting more hours of work and actually looking for more work (3.7 percent)

Persons wanting more hours of work but not actually looking (3.3 percent)

The distribution of employed married males across these categories in May 1968 is given in parentheses. Why a segment of the ample wanted more hours but were not looking for more work cannot be determined with the information at hand, but we have classified this group as underutilized. The presumption here is that these persons were actually "discouraged workers," individuals who were of the view that the effort expended looking for work would be unproductive.

We should note, as evidence of the arbitrariness of our (or any) ours-cut-off, that in the total NDS sample (both sexes combined) about 13 percent of those who were classified as fully employed working 40 or more hours per week) wanted more hours of work. This phenomenon is especially common in the rural sector. Though clearly underutilized from the individual point of view, this group is not classified as such in the present analysis.

b. *Underutilization Due to Insufficient Income.* The income criterion raises serious conceptual problems as well as difficulties of measurement. Briefly, the dilemma is whether to work from a "poverty" or "subsistence" cut-off (absolute money level necessary to achieve a target acceptable level of living), or a cut-off which identifies a fixed-proportion, lower-end of the income distribution as underutilized regardless of the absolute income levels involved. The former approach is probably closer to that taken in incomes programs in developed countries, but it requires a clear notion of suitable baskets of goods and their component prices. Another major problem centers on the question of whether to define one subsistence level for the entire population or different ones for sectors of the society.

The second approach, focusing on relative incomes within the total distribution, is that recommended by Hauser in his original proposals for the utilization approach (cf. Hauser 1972). The primary argument is the practical one: in few less developed countries can subsistence levels be clearly defined and baskets of goods identified and priced. The relative levels approach also offers greater possibilities for cross-national comparability, though it can be argued that the ease of comparability which is generated is only apparent, not real.

In any case, our application of the labor utilization approach to the Philippines has been guided by practical considerations which led us to pursue the original Hauser recommendation: all incomes falling in the lowest quartile of the overall income distribution have been regarded as evidence of underutilization. This is not a satisfactory procedure in itself and we strongly recommend that a subsistence level approach be explored in addition as soon as possible.

We have had to deal with a number of deficiencies in the 1968 NDS income data. The survey provides incomes of husbands, wives, other relatives of the household head, and all others. The incomes in the last two groups cannot be disaggregated to individuals. Also, the income data for wives is of lower quality than that for husbands. In a number of instances wives' non-responses were coded as '0' rather than '9', making it impossible at the analysis stage to distinguish these wives from those with no incomes to report. For a discussion of these problems see Domingo (1974).

Income distributions and lowest quartile cut-offs have been obtained for husbands and wives separately, and within each sex we have distinguished wage versus non-wage workers and urban versus rural residents. Non-wage workers were distinguished because it was clear that this group was characterized by very low cash incomes and that this constituted a serious measurement problem which could only be handled (or at least isolated) by disaggregating. Urban and rural residents were distinguished in order to encourage treatment of these two sectors as separate economies, especially with respect to policies on income and labor. Note, for example, the separate recommendations in the ILO report for the urban and rural sectors (ILO 1974). We should note that this treatment of urban and rural populations as having differing utilization thresholds implies differing income needs and carries significant implications for society-wide equity which affect not only this analysis but Philippine policy con-

siderations generally (see also our comments below under Recommendations, Section IV-C).

The lowest-quartile income cut-offs for the various categories of worker are shown in Table 2. We note significant differences between urban and rural, husband and wife, and wage versus non-wage categories. In fact, to illustrate the impact of these differentials, if the cut-off for all urban male wage-earners were applied to males in other categories we would have the following percentages falling below the cut-off: urban non-wage (59.0); rural wage (69.7); rural non-wage (86.7). There are obviously equity issues here which are beyond the scope of the present analysis.

c. *Underutilization Due to Mismatched Education and Occupation.* The argument underlying the use of the mismatch criteria is clear enough; education invests in individuals the potential for productive labor; it makes of them human resources suitable for "utilization" by the economy (Blaug 1970). The placement of persons in occupations not commensurate with their skills and training constitutes a failure to use fully the resources they embody, and the approach under consideration proposes that this underutilization be assessed and included as a category of the overall labor situation.

But what is clear as a concept is illusive as a statistical operation. Is degree of training, of potential productivity, to be measured by years of formal schooling? What of informal preparation for the workforce? What of job experience gained after leaving school? How do we distinguish the degree of relevance of an educational experience to the existing job market? Are four years in a liberal arts program superior preparation to three years in a trade school? Data limitations require us to use as our measure of educational preparation the number of years of formal schooling despite obvious limitations to its effectiveness as a metric for productive potential in people.

The matching of education and occupation has proven to be extremely difficult and at times quite arbitrary. The labor market in the Philippines is characterized by a fundamental looseness, in job descriptions and requirements as well as in the process by which workers and jobs are matched in practice. Only a fraction of all jobs are stable and precise in definition. And, the allocation procedure often does not reflect a search for the person best qualified in economic terms. Instead social processes dominate: kinship, *compadrazgo*, the norm of reciprocity, various forms of ascription. The

combined impact of all these factors is seen in Table 3, which displays for male household heads the distribution of detailed occupations against years of schooling. Urban and rural sectors are shown separately.

Note, first of all, the very substantial range of educational levels associated with given occupations, and the wide range of occupations held by men at the same level of education. Part of this dispersion reflects response error, coding problems, and all sorts of measurement difficulties, *but most is due to the basic flexibility of the economy*. Under these circumstances we must expect a considerable degree of arbitrariness in any procedure for distinguishing utilized and underutilized persons within any educational strata.³

The method we have utilized is as follows. First, we examined the distribution of occupations against educational levels to note the patterns there and the kinds of dispersion involved. Then we calculated the mean educational level (years of schooling) within each occupational category, doing this separately for husbands, wives, and other adults, and for urban and rural residents in each group. These results are shown in Table 4.

Finally, the mean educational level so obtained was taken as a standard within each occupation against which to assess unutilized educational attainment.⁴ The procedure is an arbitrary one, but is supported to a degree by the fact that educational distributions within occupations tend to be unimodal (cf. Table 3).

Basic Results

A. Patterns of Underutilization by Role in Household, Urban-Rural Residence and Age

This section reviews the 1968 NDS underutilization results for the total sample and for certain social subsectors. They indicate the very

³ On the other hand, the correlation of education and occupation is 0.53, not far below the U.S. level in 1962 of 0.60 (Blau and Duncan 1967: Table 5.1). The covariation of the two variables is 28 per cent in our data, 36 per cent in the U.S. sample. (Detailed Philippine occupations were scaled using the metric described in Bacol 1971).

⁴ In a few cases we deviated from the standard when an alternate seemed more suitable. These exceptions, involving "government officials," "teachers," "managers" and craftsmen," are described in Domingo (1974).

uneven pattern in which underutilization is distributed across social groupings in the population. Results for the total sample by role in household are shown below:

| | Heads | Wives | Other Adults |
|----------------------------------|-------|-------|--------------|
| Percent Unemployed | 1.2 | 5.1 | 12.8 |
| Percent Underutilized - Time | 7.3 | 17.7 | 14.6 |
| Percent Underutilized - Income | 22.4 | 29.5 | — |
| Percent Underutilized - Mismatch | 19.4 | 12.3 | 29.1 |
| Percent Underutilized - Total | 50.3 | 64.3 | 56.5 |

Outright unemployment is a rare circumstance for household heads, but it reaches 5.1 percent for wives and characterizes one person in eight among other adult members of households. There is a fundamental sociological phenomenon reflected here — the society requires that males be household heads and that they provide the major support for their families. In consonance with this, jobs are allocated to male heads before other categories of persons. At the other extreme is the rather weak, and in any case recent, commitment to the work force which characterizes other members of households, mostly young adults of working age who, when without work, are generally supported by their families.

The outstanding urban-rural differentials are shown in Table 5. Briefly, the urban sector, relative to the rural, is characterized by high levels of unemployment and underutilization due to mismatched occupation and education. The former phenomenon is most prevalent among other adults, the latter among wives. Time and income-based underutilization are most common in the rural sector, especially among other adults in the first case and among wives in the second.

That underutilization experience is graded across age categories in the society is clearly indicated by Table 6. Unemployment is most common among the young, and then, is found almost exclusively among other adults within households. Household heads rarely are unemployed, while wives are unemployed in significant numbers only at ages beyond child-bearing.⁵ Time-based underutilization is

⁵ At younger ages women who cannot find work simply remove themselves from the labor market. This "discouraged worker" kind of underutilization is missed by the present approach, just as it is missed by the labor force approach itself.

more evenly spread across age groups, but tends to be concentrated among young wives and young other adults. Underutilization due to income is focused on the very young (under age 20) and those aged 25 and over. The problem of mismatched education and occupation is clearly a phenomenon of youth, a pattern which directly reflects the fact that the young have relatively high educational attainment, raising the possibilities for mismatch.

B. The "Social Distribution" of Underutilization

Some immediate, tangible implications of these underutilization differentials for social programs and for labor utilization policies are evident from the "social distribution" of numbers underutilized as shown in Table 7. Combining all types of underutilization there were 6.9 million underutilized persons in May 1968, 65.6 per cent of a total work force of 12.2 million. In Tables 7 and 8, we present absolute numbers of underutilized persons by social category and the percentages of the total underutilized which these social categories represent.

The term "social distribution" requires a word of explanation. From the perspective of economists and most analysts concerned with labor utilization, the most enlightening utilization rates are those across *economic* categories: industries, occupational groups, establishments by size, type of technology, and so on. While differences across these categories are of great import, we take the view that one of the strongest arguments in favor of the utilization approach to work force measurement, one of its most helpful attributes, is its effectiveness in separating and describing levels and kinds of underutilization in various sectors of the *social* structure — that is, the "social distribution" of underutilization.

A corollary to this is our view that underutilization is allocated across individuals in the society as much on the basis of traditional, social structural criteria, as on the basis of economic criteria of traditional concern to economists. The issue has been raised before, as for example when sociologists write of ascriptive bases for occupational attainment. In contemporary Philippines the allocation of economic roles between men and women, especially husbands and wives, does not, on the whole, follow economic criteria. This allocation follows instead the social norms which circumscribe wives and husbands as actors in the social system.

We have pursued this question of social distribution with respect to certain major areas of social structure: age, sex, role in the house-

hold, and urban versus rural milieu. The distribution of underutilization across these categories is significant for policy; and, we find that substantial portions of the observed underutilization pattern across economic categories can in fact be attributed to these elements of social composition.

By far, the largest single social sector with respect to numbers underutilized is "other adults," persons aged 10 or over who are not household heads or spouses thereof. The category as defined here⁶ includes some married individuals (essentially, those not living with their spouse, or living with a spouse in the household of another), but the vast majority of the other adults category consists of single young persons who are still living in the households of their parents.

In 1968 3.8 million of the total of 6.9 million, or 56 per cent, were other adults. Only 27 per cent of the underutilized were husbands, and only 13 percent were wives. And focusing further upon other adults under the age of 25, we would be considering within this group about 42 per cent of all underutilized persons. It should be apparent that policies directed at reducing underutilization levels among young other adults will be quite different from those aimed at the utilization problems of household heads or of, say, middle-aged married women.

Table 8 indicates that the preponderance of underutilized labor among the young and the unattached reflects very heavily the prevailing demographic scene as well as differentials in labor force participation and per cents underutilized. In the population as a whole, unattached persons under the age of 25 make up 48.2 per cent, a composition which reflects prevailing high fertility, with its effects on age structure, as well as recent increases in age at marriage. One immediate implication is that the prevalence of underutilized labor among young, other adults, is not subject to appreciable control through labor policies *per se*. Instead, population policies will have the greatest impact, though, significantly, the benefits of these programs cannot be felt for at least a decade. Also, we observe that one of the demographic changes which holds some hope for lowered

⁶The 1968 NDS work force file contains data for all individuals aged 15 and over in households, regardless of marital status. Our Other Adults category is the residual from this file once male heads of households and their spouses were removed. A small number of widowed or divorced persons and some couples in secondary families are therefore included.

fertility in the future — delayed marriage — has the short-run effect of enlarging the other adults category (by causing young men and women to remain single). To continue the chain of dependencies, were the educational system to be expanded to absorb single young adults, this would likely work to expand the number of the young underutilized by reason of mismatched education and occupation. This sequence illustrates the complex manner in which social categories and processes interact with the economy to produce a social distribution of underutilization holding conflicting implications for policy.

Illustrative Further Results

In the following paragraphs we want to illustrate a few of the patterns that emerge from selected further elaborations of the data. First we comment on underutilization among persons in broad occupational classes; then we consider a major geographic disaggregation. Both classifications define recognizable social categories — differing with respect to lifestyles, attitudes, and behavioral characteristics. The classification of persons by broad occupational category is shown in Table 9.

Time-based underutilization is high among women in agriculture, reflecting social patterns of human resource use in this sector, whereas among male heads of households time-based underutilization is high only in the blue-collar sector. Both the agricultural and the formal white-collar sectors provide almost exclusively full-time employment for male household heads. For other adults, both blue-collar and agricultural sectors have high underutilization levels. Both sectors apparently tend to provide recent entrants to the labor force with part-time positions rather than full-time ones.

Income-based underutilization is low in the white-collar sector for both men and women, and we observe that men and women are roughly equally underutilized by income in the blue-collar sector as well. On the other hand, income-based underutilization is very high for agricultural women, at least in part as a consequence of their part-time status in that sector.

The mismatch phenomenon is rare among wives in blue-collar and agricultural occupations, probably because female educational attainment is relatively low in these sectors. Note that underutilization due to mismatches is very high among women in white-collar occupations, evidence of a substantial misuse of high-level womanpower.

Among other adults two phenomena bear special mention: first, mismatch-based underutilization is extremely high in agriculture, suggesting inadequate opportunities for educated young people coming out of agricultural backgrounds; second, underutilization due to mismatches is also exceptionally high in the white-collar sector, indicating that young people are being drawn into white-collar occupations arguably at low levels, well below the levels for which their educations have prepared them.

Another kind of disaggregation of the population into target sectors for labor utilization policy is achieved by distinguishing between the metropolitan area (Manila), other urban areas, and the rural population (see Table 10). In 1968 these sectors constituted 11.5, 22.7, and 65.8 per cent of the total population aged 10 and over, respectively. The characteristics of these populations differed widely, as did their labor force compositions and problems of utilization.

With respect to the total underutilized, the metropolitan zone stood 6 percentage points above the national level for husbands whereas the other urban and rural sectors were 9 percentage points above and 3 points below, respectively. For wives the figures are 9 percentage points above, 4 above, and 2 below. The general patterns of deviation are similar in direction for husbands and wives; interestingly, however, total underutilization for wives is greater than for husbands in the metropolitan area but less than for husbands in other urban areas. The urban areas outside the metropolitan region seem to offer greater opportunities for wives than does the metropolis itself.

When we consider the sources of these differences in total underutilization we note basic similarities between husbands and wives, with time- and mismatch-based underutilization as the key sources of differential for each. The particularly high level of total underutilization for husbands in other urban areas is due largely to low pay, whereas education-occupation mismatches are responsible for the high total of underutilization among metropolitan wives. For both husbands and wives in the rural sector low levels of total underutilization result from the rarity of outright unemployment and a generally low level of education-occupation mismatch. These are both negative indicators, however, the former reflecting the rural sector's capacity for shared poverty (cf. Takahashi, 1970, for example), and the latter reflecting the relatively low educational attainments, especially among wives, in the rural sector.

Summary and Conclusions

In this paper we have attempted to provide an overview of the origins of the "labor utilization framework", the details of its application in a particular developing economy, and some brief examples of analytic results. This final section discusses some of the shortcomings of our study and of the analytic framework under examination, and offers some recommendations pertaining to employment policy and to further research using the labor utilization framework.

A. Shortcomings of the Study

The principal deficiencies in our analysis stem equally from characteristics of the data available to us and inadequacies in our use of the available materials. First, one underlying constraint on our analysis should be noted: from the start we have been limited to exploring *the distribution of a fixed volume of underutilization in the population on a fixed date*. Both the data and the conceptual apparatus do not allow us to consider effectively such macroeconomic questions as the effects of changes in the aggregate demand for labor. We are constrained by our May 1968 cross-section survey data and by a measurement scheme which fixes the volume of underutilization at that time.

The 1968 National Demographic Survey utilized in this report is a rich source of demographic and economic data—rich in both depth and range of coverage. Nevertheless, there are several areas in which data problems have inhibited our analysis. In particular, while the list of independent variables is long and far-ranging, information is not available on the key issue of land holding and tenancy status—critical matters for the majority of Filipino households. Also, income data in the 1968 NDS are deficient by 15 or 20 per cent (see pages 14-16 above). We have been particularly constrained by a coding scheme which does not allow the allocation of personal incomes to persons other than husbands and wives, and which makes it impossible to aggregate personal incomes into family, sub-family or household totals. Our initial intention was to validate a scheme of income proxies using the 1968 NDS data, then use these proxies in an analysis of the 1973 NDS, wherein income data are available only in broad peso categories. Since labor force data for 1973 have not become available, this phase of the research was not pursued.

Finally, the sample size of the 1968 NDS—7,237 households and more than 15,000 persons aged 15 or over—is generally adequate

For the level of elaboration we have presented in our tabulations (see Smith and Domingo 1976; Appendix). However, further tabulation to isolate specific policy-related groups would have pressed hard upon the limits of the sample.

Nevertheless, the 1968 NDS allows a very wide range of analysis, and we have barely begun to tap the data adequately. Some progress might be made toward household-level underutilization tabulations, and we might have isolated young adults (say, single persons still living with parents, by sex) much more precisely than we did with our "other adults" category.

3. *The Utilization Framework: Some Cautionary Notes*

The labor utilization framework is constructed from data already available from the "labor force" surveys of the past. Proponents of the utilization approach are well aware that this dependence on labor force data is the approach's greatest strength and at the same time its greatest weakness. While we have explored the underutilization framework in this study, we strongly support the experimental work which is now underway with approaches which depart from the old labor force concept and survey questions entirely. In this section we will briefly highlight some of the problems involved in applying the underutilization framework to a real situation.

A number of significant points evolve from the fact that the underutilization approach identifies several kinds of underutilization, and that the prevalence of these underutilization types displays both positive and negative association across groups of individuals in a real population. On the one hand this clearly is a strength of the underutilization framework — that it disaggregates total underutilization (JU_{tot}) into significant components, which prove to be interrelated in actual cases in complex ways. On the other hand, the disaggregation raises two kinds of question: how to combine the components effectively into a useful overall index of underutilization; and, how to deal with the fact that the framework taps, in correlational terms, two components of underutilization — one related to time on the job (JU_u and UU_t , unemployment and time-based underutilization) and the other reflecting aspects of socioeconomic level (UU_i and UU_m , underutilization based on income and mismatches).

The question of how to obtain a weighted combination of the components is addressed implicitly by the conventional order in which the utilization components are screened: unemployment,

time, income, then mismatches of education and occupation. This pre-determined order in part fixes the relative magnitudes of the components of UU_{tot} , and constitutes a schema of relative importance. While we have not addressed the question of alternate sequences for this screening, we urge other researchers to explore the implications of alternative approaches.

The productivity or income criterion in the underutilization scheme is ambiguous with respect to both conceptualization and measurement. There seems little question that poorly paid individuals are available for more or better work and that they are underutilized at least in this sense. However, we need to distinguish further, between workers whose time and skills are brought to bear fully in the labor force, but whose remuneration is low because of very low levels of skill, and those whose skills are simply being unfairly remunerated. While the former may be called underutilization of human potential, rather than of specific skills, the latter ought to be called what it is — exploitation. The UU_i category combines these very divergent groups of individuals.

Problems in the measurement of UU_i abound as well. A basic choice centers around the use of absolute income standards versus standards defined in terms of purchasing power and minimum desirable levels of living. Other questions concern whether income cut-offs should be set nationwide or differentially by social or economic sector.

The authors have had serious reservations about setting income cut-offs differentially by social or geographic sector. The dilemma is that not having done so in this study would have placed whole sectors of the society into the underutilized category — perhaps a realistic outcome, but one which would have been totally unpalatable to policy-makers. We can only reemphasize that our results severely understate actual rural-urban and wage-non-wage differentials in underutilization experience.

We have concluded from our experience that UU_i must either be dropped from consideration as a category of UU_{tot} , or must be measured more adequately. Our present feeling is that UU_i should be maintained as a type of underutilization, but should be defined around *national-level, absolute income standards* defining a target level of living rather than on the basis of arbitrary percentile cut-offs. The difficult conceptual and measurement problems inherent in setting poverty standards cannot be avoided. The specific measurement

choices to be faced include (1) electing household versus individual standards; (2) setting fixed national standards versus cut-offs which vary with urban-rural residence, household composition, etc. We are very dissatisfied with the equity implications of our own procedure which sets lower cut-offs in rural than in urban areas.

Finally, the matching of educational attainments and occupations involves major problems of measurement. We have been able to use detailed occupation and education data from the 1968 National Demographic Survey — nearly 70 categories of occupation and single years of schooling — yet, there is an underlying arbitrariness in our matching procedure. Earlier we refer to a “fundamental looseness” in the Filipino social and economic system which leads to a dispersed pattern of occupations within each level of educational attainment, and vice versa. We suggest from our experience with Philippine data that the assessment of occupation-education mismatches will be a significant problem whenever the underutilization approach is applied in the developing world.

We should also note that the use of years of schooling as a measure of skills is inadequate, begging as it does issues regarding the relevance of formal education to the work force and with respect to variations in the quality of training.

One of the implications of the comments we have offered is that international comparisons within the utilization framework necessarily will be arbitrary to a considerable degree, *especially in respect of levels*, and particularly for UU_i and UU_m .

C. Recommendations

1. Policy

Potential policies to reduce underutilization are as myriad as its sources. Recent discussions have distinguished two broad types of source: social and cultural institutions; and (2) differences in macro-economic policies (Bruton 1974). Social and cultural institutions include such matters as rural social structure in relation to land holding and wealth accumulation, attitudes toward work, leisure, competition and sharing, and the range of roles allowed to women. Economic policies include price systems, tariff and export policies, investment incentive policies, infrastructure location policies, and so on. The general view has been that social and cultural sources of underutilization are slow to change; that they offer little opportunity

for policies with short-run impact upon underutilization. Economic policies, on the other hand, can be manipulated and are likely to have tangible effects fairly quickly.

As thinking on employment has evolved, a more satisfactory combination of the two sources has emerged. The new view stresses the significance of social and cultural factors in defining the "employment environment" in which purely economic policies must operate.⁷ The reader of this report will note that the authors have made much of this distinction and its implications for policy. While macro-economic policies may well be successful in influencing the overall *level* of underutilization, social and cultural institutions explain, to a considerable degree, the *distribution* of underutilization in the society, especially the distribution across categories of the social structure. The point is perhaps clearest in our comparisons of underutilization levels for husbands and their wives. The underutilization approach tends to draw out these issues, because each of the components of underutilization is linked to allocative systems embedded in the social system as a whole.

This paper and the report from which it is drawn contain a number of indications of specific policies which are suggested by our quantitative results. We will not attempt to review these here. Instead, this section contains a few summary statements regarding policy themes which seem to recur throughout the analysis.

First, we have identified and described a number of key target groups for policy — major components in the social structure of underutilization. Young unmarried men and women emerge as a distinct and significant target group, as do young household heads (recently married) and wives with above average educational attainment. In fact, wives display a number of important utilization characteristics, both as a group and in specific subgroups (rural versus urban; government versus privately employed, and so on).

It is our view that one of the most significant areas for policy to emerge from this analysis is that regarding the differentials in underutilization between husbands and wives. The evidence repeatedly suggests that wives are poorly utilized and that social and economic processes cater to male over female interests. For example, migration

⁷ As Bruton points out, the distinction has in the past been phrased in terms of "structural" versus "policy" or "radical" versus "conventional" approaches.

appears to be a positive response to opportunity among males, generating lower underutilization levels than otherwise, but not so for wives (Smith and Domingo 1976). This probably reflects a pattern of husband-centered family migration (i.e., to improve *his* work situation, not hers), and may also reflect marriage migration among females, which is not labor force-motivated at all.

Other husband-wife differentials appear in the metropolitan Manila profiles (especially in the prevalence of UU_m among women in that sector), and in the sharp differentials between husbands and wives in the employ of the government (where UU_m for women is extremely high relative to that for men).

Finally, a broad caution emerges from the data: complexities in the economic and social realms converge so that a single policy manipulation must be anticipated to have multiple effects, not all of them desirable. For example, we saw that marriage policies might be pursued which would reduce per cents married and raise per cents single in the younger age groups. This would reduce the number of young married men, for example, a group characterized by high levels of UU_u and UU_t , but would also raise the number of unmarried young men and women — the “other adults” category which our data indicate to be a very poorly utilized segment of the population.

2. Further Research

We have already emphasized some of the difficulties with the application of the labor utilization approach. Further experimentation is required in a number of societies to work out solutions to these problems. Some specific suggestions were made earlier.

In addition, our analysis has introduced, without much elaboration, a large number of areas for in-depth inquiry of the Philippine experience. We will highlight three of these here to illustrate the kinds of work which might be pursued.

One area of inquiry concerns the work force experience of migrants from rural to urban areas — their processes of adjustment, job searches, and so on — and the issue of social mobility in relation to migration more generally.

Another area involves life and family cycles in relation to work force and underutilization patterns. For example, our data indicate

that among recently married husbands UU_j is high in the rural areas but low in the urban sector (Smith and Domingo 1976). Does this difference perhaps reflect urban and rural differences in social custom with respect to the prerequisites for entry into a union? The rural and more traditional social system may involve patterns of mutual support among kin which reduce or remove the need for steady employment at the time of union, while such a job-income requirement may be more prevalent in the urban sector.

Finally, our findings with respect to underutilization patterns among government-employed men and women are significant and worthy of further exploration. They key questions seem to be: how are *de facto* government hiring and wage policies elaborated; and, how can sex differentials in these policies best be eliminated?

Table 1
Unemployment Rates by Role in Household, Sex, Age and Urban-Rural
Residence: August 1972 (Percentages of the labor force)

| Category and Sex | Total Unemployment | Heads of Household | Total | Others | | Age of Unemployed | |
|------------------|--------------------|--------------------|-------|---------|---------------|-------------------|-------------------|
| | | | | Married | Never Married | 15-24 Years | 25 Years and Over |
| Total: | 6.1 | 2.1 | 9.3 | 5.2 | 11.7 | 12.4 | 3.6 |
| Male | 5.7 | 2.1 | 11.4 | 8.2 | 12.0 | 12.0 | 3.4 |
| Female | 7.0 | 1.3 | 7.5 | 4.4 | 11.1 | 13.1 | 4.2 |
| Urban: | 10.8 | 5.0 | 14.7 | 7.8 | 18.6 | 19.8 | 7.0 |
| Male | 12.4 | 5.2 | 24.1 | 15.6 | 26.8 | 26.9 | 7.8 |
| Female | 8.3 | 2.2 | 8.8 | 5.2 | 11.5 | 13.0 | 5.5 |
| Rural: | 4.0 | 0.9 | 6.6 | 4.0 | 8.2 | 8.9 | 2.0 |
| Male | 4.0 | 0.9 | 6.6 | 3.6 | 7.1 | 7.2 | 1.4 |
| Female | 6.2 | 0.8 | 6.7 | 4.1 | 10.8 | 13.2 | 3.4 |

Source: Bureau of the Census and Statistics: BCSSH survey, Aug. 1972.

Table 2
Lowest Quartile Income Cutoffs for Workers by Role in
Household, Class of Worker and Urban-Rural Residence

| Locale and Type of Income | Husbands | Wives |
|---------------------------|----------|-------|
| Urban | 1,160 | 170 |
| Wage | 1,599 | 477 |
| Non-wage | 600 | 0 |
| Rural | 399 | 0 |
| Wage | 599 | 0 |
| Non-wage | 349 | 0 |
| Total | 475 | 0 |
| Wage | 1,124 | 113 |
| Non-wage | 380 | 0 |

Table 3

Male Household Heads Utilized by Labor Input and Income, Classified by Occupation, Educational Attainment and Urban-Rural Residence (con't)

| Occupation | Education | No Sch. | Elementary | | | | | | Acad. High School | | | | Voc. H.S. | College | | | | College Degree | Tot |
|-------------------|-----------|---------|------------|------|------|------|------|------|-------------------|-----|-----|-----|-----------|---------|----|----|-----|----------------|-------|
| | | | 1 | 2 | 3 | 4 | 5 | 6 | 1 | 2 | 3 | 4 | | 1 | 2 | 3 | 4 | | |
| RURAL | | | | | | | | | | | | | | | | | | | |
| ical Workers | | | | | | | | | | | | | | | | | | 36 | 3 |
| essors and | | | | | | | | | | | | | | | | | | | |
| ool Officials | | | | | | | | | | | | | | | | | | | |
| al Scientists | | | | | | | | | | | | | | | | | | | |
| neers | | | | | | | | | | | | | | | | | | | 12 |
| yers, Judges | | | | | | | | | | | | | | | | | | | 12 |
| t. Officials | | | | | | | | | | | | | | | | | | | 24 |
| ral Scientists | | | | | | | | 12 | | | | 36 | | 12 | | | | | 24 |
| uctors, Teachers | | | | | | | | | | | | | | | | | | | 24 |
| keepers | | | | | | | | | | | | | | | | | | | 24 |
| r Natural | | | | | | | | | | | | 12 | | | | | | | 12 |
| ntist | | | | | | | | | | | | | | | | | | | |
| ral Clerks | | | | | | | | | | | | | | | | | | | 24 |
| ographers, Office | | | | | | | | | | | | | | | | | | | 12 |
| h, Operators | | | | | | | | | | | | | | | | | | | |
| ctive Service | | | | | | | | | | | | | | | | | | | 12 |
| r Professionals | | | | | | | | | | | | | | | | | | | 12 |
| ietors, Managers | | | | | | | | | | | | | | | | | | | 12 |
| esale and | | 24 | | 12 | 24 | 36 | | 84 | | 12 | 12 | 48 | | | | | | | 12 |
| er Salesmen | | | | | | | | | | | | | | | | | | | 12 |
| al in | | | | | | | | | | | | | | | | | | | 12 |
| isp. & Comm. | | | | | | | | | | | | | | | | | | | 12 |
| d Craftsmen | | | | | | | | | | | | | | | | | | | 12 |
| men in | | | | | | | | | | | | | | | | | | | 24 |
| st. & Maint. | | | | | | | | | | | | | | | | | | | 12 |
| rs, Sewers | | | | 12 | | 12 | 12 | | 12 | 12 | | | 12 | 12 | | | | | 72 |
| ers, Weavers | | 24 | | | | | | | | | | | | | | | | | 12 |
| l Salesmen | | 48 | 12 | | 24 | 72 | 36 | 24 | | 12 | 24 | 24 | | | | | | | 12 |
| otive, | | | | | | | | | | | | | | | | | | | 276 |
| orkers | | 12 | | | | | | | | | | | | | | | | | 12 |
| ers in Non- | | | | | | | | | | | | | | | | | | | 12 |
| l, Mech. | | | | | | | | | | | | | | | | | | | 24 |
| e Workers- | | | | | | | | | | | | | | | | | | | 12 |
| ers | | | | | | | | | | | | | | | | | | | 24 |
| s | | | | | | | | | | | | | | | | | | | 12 |
| tors, Transp. | | | | | | | | | | | | | | | | | | | 36 |
| uctors | | | | | | | | | | | | | | | | | | | 12 |
| e in Private HH | | 12 | | | | | | | | | | | | | | | | | 12 |
| nters | | 24 | | | | | | | | | | | | | | | | | 12 |
| inics and | | | | | | | | | | | | | | | | | | | 360 |
| l Workers | | 24 | | | | | | | | | | | | | | | | | 12 |
| Craftsmen | | 12 | | | | | | | | | | | | | | | | | 12 |
| & Copra Workers | | | | | | | | | | | | | | | | | | | 168 |
| rs | | 48 | | | | | | | | | | | | | | | | | 108 |
| s, Beauticians | | 12 | | | | | | | | | | | | | | | | | 36 |
| d Workers | | 48 | | | | | | | | | | | | | | | | | 168 |
| l, Quarrymen | | | | | | | | | | | | | | | | | | | 36 |
| Owners | | | | | | | | | | | | | | | | | | | 252 |
| Managers | | 936 | 192 | 552 | 528 | 876 | 384 | 912 | 96 | 108 | 84 | 120 | | | | | | | 96 |
| Part-owners | | 12 | | 12 | | 12 | | 12 | | | | 12 | 12 | | | | | | 4848 |
| men, Hunters | | 156 | 24 | 48 | 48 | 180 | 108 | 156 | 12 | 24 | 12 | 48 | | | | | | | 72 |
| tenants | | 204 | 36 | 96 | 132 | 228 | 108 | 204 | 48 | 24 | 12 | 48 | | | | | | | 828 |
| laborers | | 972 | 252 | 600 | 732 | 1236 | 672 | 1248 | 120 | 108 | 48 | 96 | | 12 | 12 | | | | 1164 |
| | | 156 | 12 | 108 | 60 | 192 | 108 | 336 | 24 | | 24 | 12 | | | | | | | 6132 |
| | | | | | | | | | | | | | | | | | | | 1032 |
| | | 2712 | 540 | 1500 | 1644 | 3228 | 1668 | 3576 | 384 | 432 | 312 | 816 | 72 | 108 | 96 | 24 | 120 | 180 | 17412 |

Table 3

Male Household Heads Utilized by Labor Input and Income, Classified by Occupation, Educational Attainment and Urban-Rural Residence (con't)

| Occupation | Education | No Sch. | Elementary | | | | Acad. High School | | | | Voc. H.S. | College | | | | College Degree | Total | | |
|---------------------------------------|-----------|---------|------------|------|------|------|-------------------|------|-----|-----|-----------|---------|----|-----|----|----------------|-------|------|-------|
| | | | 1 | 2 | 3 | 4 | 5 | 6 | 1 | 2 | | 3 | 4 | 1 | 2 | | | 3 | 4 |
| Medical Workers | | | | | | | | | | | | | | | | | 36 | 36 | |
| Professors and School Officials | | | | | | | | | | | | | | | | | | 0 | |
| Social Scientists | | | | | | | | | | | | | | | | | 12 | 12 | |
| Engineers | | | | | | | | | | | | | | | | | 12 | 12 | |
| Lawyers, Judges | | | | | | | | | | | | | | | | | 24 | 24 | |
| Gov't. Officials | | | | | | | 12 | | | 36 | | 12 | | | | | 24 | 24 | |
| Natural Scientists | | | | | | | | | | | | | | | | | 24 | 24 | |
| Instructors, Teachers | | | | | | | | | | | | | | | | | 24 | 24 | |
| Bookkeepers | | | | | | | | | | 12 | | | | 12 | | | 12 | 12 | |
| Other Natural Scientist | | | | | | | | | | | | | | | | | 24 | 24 | |
| General Clerks | | | | | 12 | | | | | 12 | | 48 | | 36 | | | 12 | 120 | |
| Stenographers, Office Mach. Operators | | | | | | | | | | | | | | | | | 12 | 12 | |
| Protective Service | | | | | 24 | 12 | 24 | 12 | 12 | 12 | 60 | 12 | 12 | | | | 12 | 192 | |
| Other Professionals | | | | | | | | | | | | | | | | | 12 | 12 | |
| Proprietors, Managers | 24 | | 12 | 24 | 36 | | 84 | 12 | 12 | 48 | | | | | | | 12 | 12 | 276 |
| Wholesale and Other Salesmen | | | | | 12 | 12 | | | | 12 | | | | 12 | | | | 48 | |
| Clerical in Transp. & Comm. | | | | | | | | | | 12 | | | | | | | | 12 | |
| Skilled Craftsmen | | | | 12 | | | | 12 | | | | | | | | | | 12 | |
| Craftsmen in Const. & Maint. | | | 12 | | 12 | 12 | | | 12 | | 12 | | 12 | | | | | 72 | |
| Cutters, Sewers | | | | | | 12 | 24 | | 12 | | 12 | 12 | | | | | | 72 | |
| Spinners, Weavers | 24 | | | | | 12 | 24 | | 12 | | 12 | | | | 12 | | | 84 | |
| Retail Salesmen | 48 | 12 | | 24 | 72 | 36 | 24 | | 12 | 24 | 24 | | | | | | | 276 | |
| Locomotive, Shipworkers | 12 | | | | | 12 | 12 | | | | | | | | | | | 36 | |
| Workers in Non-prod. Mech. | | | | | 24 | | 12 | | | | | | | | | | | 36 | |
| Service Workers-writers | | | | | 12 | | 24 | | 24 | | 12 | 12 | | | | | | 84 | |
| Drivers | | | 36 | 12 | 72 | 24 | 132 | 12 | 36 | 12 | 60 | | | | | | | 306 | |
| Collectors, Transp. Conductors | | 12 | | | 24 | | | | | 24 | 12 | | | | | | | 72 | |
| Service in Private HH | | | | 12 | | | | | | | | | | | | | | 12 | |
| Carpenters | 24 | | 12 | 24 | 84 | 60 | 96 | | 24 | | 24 | | 12 | | | | | 360 | |
| Mechanics and Metal Workers | 24 | | | | | 12 | 48 | 12 | 12 | 12 | 24 | 12 | 12 | | | | | 168 | |
| Other Craftsmen | 12 | | | 24 | 12 | 36 | | | | 24 | | | | | | | | 108 | |
| Food & Copra Workers | | | | | 12 | 12 | | 12 | | 12 | | | | | | | | 36 | |
| Loggers | 48 | 12 | | | 36 | 48 | | | | 12 | 12 | | | | | | | 168 | |
| Barbers, Beauticians | 12 | | | 12 | | | | | | | 12 | | | | | | | 36 | |
| Manual Workers | 48 | | | | 72 | 12 | 48 | 24 | 12 | | 36 | | | | | | | 288 | |
| Miners, Quarrymen | | | | | 36 | 12 | 36 | | | | | | | | | | | 96 | |
| Farm Owners | 936 | 192 | 552 | 528 | 876 | 384 | 912 | 96 | 108 | 84 | 120 | | 24 | | 12 | 12 | 12 | 4848 | |
| Farm Managers | 12 | | 12 | | 12 | | 12 | | | | 12 | 12 | | | | | | 72 | |
| Farm Part-owners | 156 | 24 | 48 | 48 | 180 | 108 | 156 | 12 | 24 | 12 | 48 | | | | 12 | | | 828 | |
| Fishermen, Hunters | 204 | 36 | 96 | 132 | 228 | 108 | 204 | 48 | 24 | 12 | 48 | | 12 | 12 | | | | 1164 | |
| Farm Tenants | 972 | 252 | 600 | 732 | 1236 | 672 | 1248 | 120 | 108 | 48 | 96 | | 24 | 24 | | | | 6192 | |
| Farm Laborers | 156 | 12 | 108 | 60 | 192 | 108 | 336 | 24 | | 24 | 12 | | | | | | | 1080 | |
| Total | | 2712 | 540 | 1500 | 1644 | 3228 | 1668 | 3576 | 384 | 432 | 312 | 816 | 72 | 108 | 96 | 24 | 120 | 180 | 17418 |

Table 4

Mean Educational Levels by Detailed Occupation (Male Household Heads Utilized by Time and Income)

Tim

| Occupation | Locale | | | |
|---------------------------------|----------------|-------|----------------|--------|
| | Urban | | Rural | |
| | Mean Education | (N) | Mean Education | (N) |
| Medical Workers | College Degree | (48) | College Degree | (36) |
| Professors, School Officials | College Degree | (100) | College Degree | (24) |
| Social Scientists | College Degree | (68) | College Degree | (12) |
| Engineers | College Degree | (80) | College Degree | (12) |
| Lawyers, Judges | College Degree | (72) | College Degree | (24) |
| Government Officials | 4 College | (32) | 3 High School | (60) |
| Natural Scientists | College Degree | (12) | College Degree | (24) |
| Structors, Teachers | 4 College | (80) | 4 College | (24) |
| Bookkeepers | 4 College | (96) | 2 College | (36) |
| Other Natural Scientists | 2 College | (32) | 4 College | (24) |
| General Clerks | 1 College | (344) | 2 High School | (120) |
| Photographers | 2 College | (72) | College Degree | (12) |
| Detective Service | 4 High School | (380) | 2 High School | (192) |
| Other Professionals | 4 High School | (48) | 4 College | (12) |
| Proprietors, Managers | 3 High School | (480) | 6 Elementary | (276) |
| Retailers | 1 College | (92) | 2 High School | (48) |
| Agricultural, NFO | 3 High School | (100) | 4 High School | (12) |
| Skilled Craftsmen | 4 High School | (56) | 4 Elementary | (24) |
| Craftsmen in Construction | 2 High School | (276) | 6 Elementary | (72) |
| Plumbers, Sewers | 1 High School | (136) | 1 High School | (72) |
| Woolen Weavers | 2 High School | (24) | 1 High School | (84) |
| Rail Salesmen | 1 High School | (276) | 4 Elementary | (276) |
| Automotive, Shipworkers | 4 High School | (56) | 4 Elementary | (36) |
| Workers in non-productive mech. | 1 High School | (68) | 5 Elementary | (36) |
| Service Workers | 6 Elementary | (224) | 1 High School | (84) |
| Drivers | 1 High School | (624) | 6 Elementary | (396) |
| Instructors, Transportation | 4 High School | (64) | 6 Elementary | (72) |
| Attendants in Households | 1 High School | (12) | 3 Elementary | (12) |
| Painters | 6 Elementary | (300) | 5 Elementary | (360) |
| Mechanics | 22 High School | (284) | 1 High School | (168) |
| Other Craftsmen | 2 High School | (196) | 6 Elementary | (108) |
| Food & Copra Workers | 5 Elementary | (56) | 6 Elementary | (36) |
| Barbers | 6 Elementary | (24) | 3 Elementary | (168) |
| Beautyicians | 1 High School | (76) | 5 Elementary | (36) |
| Domestic Workers | 1 High School | (196) | 5 Elementary | (252) |
| Drivers | 1 High School | (24) | 4 Elementary | (96) |
| Home Owners | 6 Elementary | (328) | 4 Elementary | (4848) |
| Managers | 6 Elementary | (8) | 5 Elementary | (72) |
| Part-Owners | 6 Elementary | (40) | 4 Elementary | (828) |
| Traders, Hunters | 5 Elementary | (240) | 4 Elementary | (1332) |
| Tenants | 5 Elementary | (316) | 4 Elementary | (6132) |
| Laborers | 5 Elementary | (28) | 4 Elementary | (1032) |

**Underutilization Patterns Among Persons by Role in Household and
Urban-Rural Residence: May 1968**

| Role in Household and Urban/Rural Residence | Total in Labor Force | Utilization Status (%) | | | | |
|--|-------------------------|------------------------|---------|-----------|-------------|----------------|
| | | Unemployed | UU-Time | UU-Income | UU-Mismatch | Fully Utilized |
| All Persons | 122,124 | 8.2 | 12.8 | — | 23.8 | 55.2 |
| Urban | 37,176 | 13.5 | 7.9 | — | 31.8 | 46.8 |
| Rural | 84,948 | 5.9 | 15.0 | — | 20.3 | 58.9 |
| Heads | 36,892 | 1.2 | 7.3 | 22.4 | 19.4 | 49.7 |
| Urban | 10,612 | 2.4 | 5.4 | 21.9 | 28.4 | 41.8 |
| Rural | 26,280 | .7 | 8.1 | 22.5 | 15.8 | 52.9 |
| Wives | 17,348 | 5.1 | 17.7 | 29.5 | 12.3 | 35.4 |
| Urban | 4,280 | 7.2 | 13.0 | 19.4 | 29.8 | 30.6 |
| Rural | 13,068 | 4.4 | 19.2 | 32.8 | 6.6 | 37.0 |
| Other Adults | 67,884 | 12.8 | 14.6 | — | 29.1 | 43.5 |
| Urban | 22,284 | 19.9 | 8.2 | — | 33.8 | 38.1 |
| Rural | 45,600 | 9.3 | 17.8 | — | 26.8 | 46.2 |

Table 6

Underutilization Patterns Among Persons by Role in
Household and Age: May 1968

| Role in Household and Age | Total in Labor Force | Utilization Status (%) | | | | |
|------------------------------|-------------------------|------------------------|------|--------|----------|----------------|
| | | Unemployed | Time | Income | Mismatch | Fully Utilized |
| Male Heads | | | | | | |
| 15-19 | 16 | 25.0 | 0.0 | 25.0 | 50.0 | 0.0 |
| 20-24 | 1,168 | 1.2 | 7.2 | 33.6 | 21.6 | 36.3 |
| 25-44 | 23,812 | 1.0 | 6.9 | 21.8 | 22.2 | 47.6 |
| 45-64 | 11,896 | 1.4 | 8.1 | 22.4 | 12.6 | 55.4 |
| All ages | 36,892 | 1.2 | 7.3 | 22.4 | 19.4 | 49.7 |
| Wives | | | | | | |
| 15-19 | 136 | 0.0 | 26.5 | 38.2 | 0.0 | 35.3 |
| 20-24 | 1,168 | 2.0 | 18.2 | 46.2 | 6.2 | 27.4 |
| 25-44 | 11,644 | 5.3 | 18.9 | 28.8 | 14.2 | 32.8 |
| 45-64 | 4,400 | 5.6 | 13.9 | 26.6 | 9.4 | 44.6 |
| All ages | 17,348 | 5.1 | 17.7 | 29.5 | 12.3 | 35.4 |
| Other Adults | | | | | | |
| 10-15 | 12,224 | 10.0 | 17.6 | | 15.0 | 57.3 |
| 15-19 | 22,344 | 16.6 | 18.4 | | 30.1 | 35.0 |
| 20-24 | 14,304 | 17.2 | 11.4 | | 35.6 | 35.7 |
| 25-44 | 13,736 | 7.6 | 10.4 | | 39.4 | 42.6 |
| 45-64 | 4,364 | 4.6 | 12.0 | | 13.8 | 69.6 |
| 65-99 | 912 | 4.0 | 9.6 | | 6.1 | 80.3 |
| All ages | 67,884 | 12.8 | 14.6 | | 29.1 | 43.5 |
| All Persons | | | | | | |
| 10-14 | 12,224 | 10.0 | 17.6 | | 15.0 | 57.3 |
| 15-19 | 22,496 | 16.5 | 18.4 | | 29.9 | 35.2 |
| 20-24 | 16,640 | 15.1 | 11.6 | | 32.6 | 40.8 |
| 25-44 | 49,192 | 3.9 | 10.7 | | 25.4 | 60.0 |
| 45-64 | 20,660 | 3.0 | 10.2 | | 12.2 | 74.7 |
| 65-99 | 912 | 4.0 | 9.6 | | 6.1 | 80.3 |
| All ages | 122,124 | 8.2 | 12.8 | | 23.8 | 55.2 |

Source: 1968 National Demographic Survey

Table 7

The Social Distribution of Underutilized Labor in May 1968
(Numbers Underutilized, in Thousands)

| Role in Household and Age | Locale of Residence | | |
|---------------------------------|---------------------|--------------|--------------|
| | Urban | Rural | Total |
| Husbands | 615 | 1,237 | 1,852 |
| 15-24 | 20 | 54 | 74 |
| 25-44 | 406 | 842 | 1,248 |
| 45-64 | 189 | 341 | 530 |
| Wives | 297 | 899 | 1,196 |
| 15-24 | 13 | 156 | 169 |
| 25-44 | 213 | 570 | 783 |
| 45-64 | 71 | 173 | 244 |
| Other Adults^a | 1,380 | 2,454 | 3,834 |
| 10-14 | 78 | 444 | 522 |
| 15-24 | 821 | 1,551 | 2,372 |
| 25-44 | 412 | 377 | 789 |
| 45-64 | 63 | 70 | 133 |
| 65+ | 6 | 12 | 18 |
| All Persons | 2,292 | 4,590 | 6,882 |

^aDoes not include underutilization due to inadequate income.
Source: 1968 National Demographic Survey

The Distributions of Population, Labor Force and Underutilized Labor Across Social Sectors:
May 1968 (Percents Based on Grand Total)

| Role in Household and Age | Locale of Residence | | | | | | | | |
|------------------------------|---------------------|-------------------|--------------------|-------------|-------------------|--------------------|-------------|-------------|--------------|
| | Urban | | | Rural | | | | | |
| | Total | In Labor Force | Under- utilized | Total | In Labor Force | Under- utilized | | | |
| | Total | | | Total | | | | | |
| <u>Husbands</u> | <u>5.4</u> | <u>8.7</u> | <u>9.1</u> | <u>13.3</u> | <u>21.5</u> | <u>18.2</u> | <u>18.7</u> | <u>30.2</u> | <u>27.2</u> |
| 15-24 | 0.1 | 0.2 | 0.3 | 0.4 | 0.7 | 0.8 | 0.5 | 1.0 | 1.1 |
| 25-44 | 3.3 | 5.4 | 6.0 | 8.6 | 14.1 | 12.3 | 11.9 | 19.5 | 18.3 |
| 45-64 | 2.0 | 3.0 | 2.8 | 4.2 | 6.7 | 5.0 | 6.2 | 9.7 | 7.8 |
| <u>Wives</u> | <u>5.4</u> | <u>3.5</u> | <u>4.4</u> | <u>13.3</u> | <u>10.7</u> | <u>12.1</u> | <u>18.7</u> | <u>14.2</u> | <u>13.0</u> |
| 15-24 | 0.4 | 0.2 | 0.2 | 1.4 | 0.9 | 1.2 | 1.8 | 1.1 | 1.1 |
| 25-44 | 3.6 | 2.4 | 3.1 | 8.8 | 7.1 | 8.4 | 12.5 | 9.5 | 11.5 |
| 45-64 | 1.4 | 0.9 | 1.0 | 3.0 | 2.7 | 2.5 | 4.4 | 3.6 | 3.6 |
| <u>Other Adults</u> | <u>23.2</u> | <u>18.2</u> | <u>20.2</u> | <u>38.4</u> | <u>37.3</u> | <u>36.0</u> | <u>61.6</u> | <u>55.6</u> | <u>56.3</u> |
| 10-14 | 6.5 | 1.4 | 1.1 | 14.6 | 8.6 | 6.5 | 21.1 | 10.0 | 7.7 |
| 15-24 | 10.8 | 10.1 | 12.0 | 16.3 | 19.9 | 22.8 | 27.1 | 30.0 | 34.8 |
| 25-44 | 3.9 | 5.1 | 6.0 | 4.4 | 6.1 | 5.5 | 8.3 | 11.2 | 11.6 |
| 45-64 | 1.3 | 1.4 | 0.9 | 1.9 | 2.2 | 1.0 | 3.2 | 3.6 | 0.9 |
| 65+ | 0.7 | 0.2 | 0.1 | 1.2 | 0.6 | 0.2 | 1.9 | 0.7 | 1.2 |
| <u>All Persons</u> | <u>34.0</u> | <u>30.4</u> | <u>33.7</u> | <u>65.0</u> | <u>69.5</u> | <u>66.3</u> | <u>99.9</u> | <u>99.9</u> | <u>100.0</u> |

Source: 1968 National Demographic Survey

Table 9

Levels of Underutilization Among Male Heads, Wives, and Other Adults
Classified by Broad Occupational Category: Philippines, 1968

| Broad Occupational Category and Role in Household | Underutilization Category | | | | Total Underutilized |
|--|---------------------------|------------|--------------|----------------|------------------------|
| | By Unemployment | By Time | By Income | By Mismatch | |
| White Collar | | | | | |
| Male Heads | 1.8 | 2.2 | 6.9 | 31.0 | 41.9 |
| Wives | 1.2 | 1.6 | 5.4 | 88.7 | 96.9 |
| Other Adults | 3.3 | 3.9 | na | 69.7 | 77.0 |
| Blue Collar | | | | | |
| Male Heads | 1.7 | 7.1 | 21.0 | 24.9 | 54.7 |
| Wives | 1.1 | 8.3 | 19.6 | 9.1 | 38.2 |
| Other Adults | 4.4 | 15.2 | na | 22.9 | 42.4 |
| Agricultural | | | | | |
| Male Heads | 0.6 | 8.3 | 25.6 | 15.4 | 49.9 |
| Wives | 3.2 | 18.1 | 41.1 | 5.2 | 67.6 |
| Other Adults | 3.4 | 18.6 | na | 32.5 | 54.6 |

na - not available

Source: Smith and Domingo (1976, Appendix Tables).

Table 10

Deviations from the National Level of Underutilization and Contributing
Sources by Type of Underutilization: Husbands, by Sector of Residence

| Sector | Percentage Point Deviation | Source (type of underutilization) | | | |
|----------------------|-------------------------------|-----------------------------------|------------|--------------|----------------|
| | | By Employment | By Time | By Income | By Mismatch |
| HUSBANDS | | | | | |
| <u>above Average</u> | | | | | |
| Metropolitan | +6 | +1 | +5 | | +20 |
| Other Urban | +9 | +1 | | +5 | +3 |
| <u>below Average</u> | | | | | |
| Rural | -3 | -1 | | | -4 |
| WIVES | | | | | |
| <u>above Average</u> | | | | | |
| Metropolitan | +9 | | | | +30 |
| Other Urban | +4 | +3 | | | +13 |
| <u>below Average</u> | | | | | |
| Rural | -2 | -1 | | | -6 |

Source: Domingo and Smith (1976)

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