

Women's Contributions to the Workforce: Are New Measures Needed?

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INTRODUCTION

Traditionally, the penetration of women into the workforce has been measured by comparing the percentage by work category of women versus men or by comparing their mean or median incomes. Do these traditional measurements provide appropriate indicators to describe women's contributions to the workforce? For instance, to measure women's contributions to the workforce, should there be more gender indicators in the national accounts? To ensure the best government policy decisions on economic matters, accurate measures are essential. Perhaps the best policy decisions may only be possible if supporting gender statistics are available. Participation rates do not adequately measure women's contribution to workplace efficiencies, so how should we measure women's contributions to demonstrate what women add to a job situation? This paper reviews current indicators that quantify gender-related differences and suggests the need for additional measures to determine why these differences exist.

EXAMPLES OF CURRENT METHODS

Only 9.2 percent of the members of the International Statistical Institute (ISI) are women (Carlson 1999). Before reaching any conclusions about this, one should try to measure the percentage of women that are "eligible or qualified" to become ISI members. Over 15 percent of the ISI section membership is female. If the percent of women in ISI sections is taken as a rough estimate of the percent qualified for consideration as an ISI member, then women are indeed not properly represented. For the United States, membership of the American Statistical Association (ASA) might also represent a pool of people eligible for membership in the ISI. If the number of ASA members reporting their gender is representative of the total membership, then 24 percent are women. Carlson indicates that only 9.9 percent of ISI members from the U.S. are women, again perhaps indicating a lack of representation of women in ISI. Other measurements to investigate may include the percent of articles in statistical journals that are submitted or written by women.

The monthly *Labor Review* (1999) reported that women only earned 76 percent of men's earnings in 1998, but that the gap between them was closing. The report also indicated that education levels for men and women were about the same. The earnings difference was attributed to the choice of occupation. Women were more often found to be teachers, nurses, and so forth, while men were more often engineers or computer scientists. What is not known is whether women are discouraged to seek college degrees that would lead to higher paying jobs or if there are other reasons why they are less likely to enter such professions. For example, the authors wonder, do women choose professions that are more tolerant of part-time work or those that require only moderate training for

re-entry into the workforce after a period of being absent? Why do female-dominated professions command lower salaries than male-dominated professions? Are there barriers at either level? How is this determined and measured?

Issues with women's contributions to the workforce may differ in developing countries. Much of the rural sector in developing economies lives in poverty. Agricultural statistics often fail to include variables required to understand rural economies, thus policy makers lack appropriate information. The extent of women's contribution to agricultural production is often not measured because much of it is unpaid labor, which tends to be excluded from national accounts. In subsistence economies, for example, women do much of the work to produce food and goods for home consumption. The Statistical Commission of the United Nations has added "Home Production of Goods for Home Consumption" as an economic activity similar to activities required to produce goods for market. Such information is needed to formulate policies to improve living conditions and economic opportunities in rural areas. Women and girls are also the major providers of unpaid services including the care of children, the sick and the elderly. The Food and Agriculture Organization of the United Nations (FAO) suggests the use of "time-use" studies, where individuals record all time worked, as the best tool for measuring such activities.

Developing economies often exhibit a disparity in levels of education between men and women. It is interesting to note that the First National Agricultural Census in China (1999) was designed to obtain gender related information about farm and rural households. For example, the census obtained a count of the number of persons aged 7 years and over engaged in economic activities by sex, educational level, and region. The results showed that the split between the number of males and females engaged in economic activities was 52.5 and 47.5 percent, respectively. However, 20.5 percent of the females were illiterate or semi-illiterate compared to 9.5 percent of the males. This information should be invaluable for policy makers as they pursue ways to develop the rural economies. What is not measured are the factors contributing to the gap. In subsistence economies, are schools available to both sexes? If so, are some family members excluded from educational opportunities because their labor is needed to produce food for home consumption? Are the excluded family members more likely to be women? How would a family's ability to feed itself be affected if public policy required a minimum level of education for everyone?

A major concern of all countries, including developing countries is whether its people have adequate food and nutrition. The U.S. Department of Agriculture and the U.S. Census Bureau joined in an effort to measure food security in the U.S. by adding a supplement to the monthly current population survey. The results showed 12 percent of the U.S. population and 12 million households falling below nutrition standards. What this study did not show, but was learned from another study, was that single female heads of households are five times more likely to suffer from inadequate nutrition. Thus, an important factor in combating malnutrition is to understand the characteristics of the households where it exists.

MEASUREMENTS REQUIRED

In this paper, we discuss the need for tools associated with three principal measurement needs: education, employment, and economic contribution. Education is critical as those without it are increasingly at a disadvantage. Measures of employment opportunities or lack thereof are needed as well as measures of underemployment. The full economic contribution of people to the national accounts needs to be quantified. Suggested methods of obtaining gender information include the use of surveys, census, opinion polls, and focus groups among working women. The agricultural census should be considered as a vehicle to obtain the necessary measures for rural areas, especially in developing economies with subsistence agriculture. Data items that could be included would measure these quantities:

- Education levels of all household members by age and sex. Information should also be collected to measure reasons why individual family members have an education below a certain level.
- Employment activity for every household member and income received. For those not working, categorical data should also be obtained to describe reasons for not having paid employment.
- Economic contribution. The number of unpaid hours each family member works to produce food and goods for home consumption should be obtained. The value of these items produced should also be determined. For example, if the family had to purchase these items, how much would the family have to spend, or how much would it have to pay someone else to do the labor?

The three measures - education, employment, and economic contribution - are also important in developed economies, but may require different measures. The interaction between education and employment needs to be considered although income levels between men and women differ even when education levels are similar. Traditional employment and education statistics only quantify the situation; they do not explain the underlying reasons. Data collection activities to measure employment should also attempt to measure under employment and associated reasons.

Education statistics by level of attainment and chosen field should be accompanied by reasons for the choices that were made. Even more important would be to know what the attainment and choices would have been by kind of barrier that prevented one from that accomplishment.

Employment statistics by type of work and income level need to be combined with the above education statistics. In addition, the employment statistics should be complemented with reasons for these choices to quantify reasons for under employment. Wilson and Billard (1999), pointed out that in academia, women spend more time in rank before promotion than do men. An important additional measure would be a comparison of those with continuous service to those with a break in service. Organizations need to analyze their own situation or conduct attitudinal surveys. The analysis cited by Fellegi (1999) examined why women in Statistics Canada at some grade levels were “waiting longer” for promotions to the next level. Their study showed fewer women were subjecting themselves to the formal competition process. This led Statistics Canada to make some significant changes to its competition process. In an corollary study, the USDA conducted a survey of all employees to learn why those with disabilities worked at lower grade levels. A major finding of this study was the simple fact that employees with disabilities were not aware of the resources and services available to them that would enhance their work performance and careers.

Data underlying the national income and production accounts need to be disaggregated to measure the contributions of men versus women. In summary, it is not enough to quantify gender-related differences. We need to determine why these differences exist. Only then can policy makers take appropriate action to address gender related inequities and ensure that women’s contribution to the workforce is recognized.

References

Carlson, Beverly (1999). *Women in Statistics: The Profession Speaks*. Economic Commission for Latin America and the Caribbean.

Fellegi, Ivan (1999). *Women's Participation in Statistics Discussion*. Bulletin of the International Statistical Institute.

Food and Agricultural Organization of the United Nations (1999). *Agricultural Census and Gender Considerations – Concepts and Methodology*. FAO Bulletin.

National Bureau of Statistics, People's Republic of China (1999). Abstract of the First National Agricultural Census in China. China Statistics Press.

U.S. Department of Agriculture (1999). Employee Survey on Disability Issues – Employment and Service Delivery Results at USDA. USDA Bulletin MP-1559.

USDA, Economic Research Service (2000). *Second Food Security Measurement and Research Conference Volume I: Proceedings*. Edited by Margaret S. Andrews and Mark A. Prell. Food Assistance and Nutrition Research Report Number 11-1.

U.S. Department of Labor, Bureau of Labor Statistics (1999). *Women in the Workforce*. Monthly Labor Review.

Wilson, Susan R. and Billard, Lynne (1999). *Women in Statistical Science: An Historical Perspective*. Bulletin of the International Statistical Institute.