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Women and Work: Trends in Time Spent in Housework

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ABSTRACT

This investigation of trends in the amount of time women spend in housework builds upon the research of several scholars who have conducted and analyzed time-use surveys of (mainly) wives and husbands in the United States. The research in this paper is motivated by a recognition that trends for women in market work, leisure consumption, and economic well-being all depend crucially on the trends in housework. A particular challenge is a well-known time-series of women's hours in housework from the 1920s to the 1960s, which showed no decrease on the part of nonemployed women. This finding, in conjunction with the large increase in market work by women during this period, implied that women's total work time increased, which is in sharp contrast with the substantial decrease in the work time of men during the same period. This puzzle is examined, and a resolution is proposed.

New calculations are presented that include adjustments to the existing data, an extrapolation estimate for 1890, and the use of a survey for 1975-76. Over the period 1890 to 1975-76, married women's housework is estimated to have decreased by 41 percent and their total work time by 22 percent. The decrease in their total work time is probably less than that for men over the same period.

Women and Work: Trends in Time Spent in Housework

A Challenging Topic and a Puzzle

This paper has two purposes. One is to examine an aspect of work, housework, that is not measured by official statistics and yet engages every member of society, and, in fact, dominates the work-life of women. How is housework defined and measured, and how has it changed in response to changes in income, family composition, technological change, and market employment by wives? These issues will arise in the examination given to a particular puzzle that defines the second purpose and the motivating question of this chapter: Have women, in contrast with men, experienced no increase in leisure consumption--that is, no decline in total time spent at work--during this century? We know that women are working more in the market, so this question depends on the time trends in housework by women.

A generally accepted empirical law regarding work time and its definitional counterpart, leisure consumption, is that work decreases and leisure increases as income increases. Leisure is considered a normal good, and it should constitute a larger fraction of one's 24-hour day in current times than in the past, given the considerable rise in income over time. It does for men. However, to demonstrate that women are consuming more leisure today than they did years ago, it is necessary to show that the time they spend in housework has decreased sufficiently to offset their increase in market work. No one has demonstrated this, although many experts have referred to the decline in housework as a factor facilitating the increase in market work.¹

Indeed, not only is there no quantitative evidence in support of the proposition that women's housework time has decreased sufficiently to offset the increase in market work, but the most widely cited evidence, which refers to the period from around 1920 to 1966, shows little decline in housework--essentially none for nonemployed women. (See below.) Thus, the data from 1920 on seem to show that married women have increased their total time at work--market work and housework combined. By conventional accounting procedures, therefore, less time is available for leisure and personal care. Because this trend has been accompanied by increased income, we arrive at the anomaly of leisure as an inferior good for women, in contrast to its classification as a normal good for men.

The normative implication of this regarding the economic status, or, more precisely, changes in the economic status, of men and women is rather startling. Women would appear to have benefited much less than men from the rise in per capita income during the past 60 years. Men's standard of living has improved from both increased consumption of goods and services and increased leisure. Have women benefited only from the gains in material well-being? If so, and unless their material well-being increased by a good deal more than men's, they have apparently failed to keep pace with the overall gains made by men. I know of no evidence for women receiving a larger share of the increases in consumption of goods and services stemming from (or defining) the rise in per capita income in this century. In fact, I show in another discussion paper (IRP DP 732-83) that the money income of women is less than men's

among the current generation, and that no major change has occurred in their comparative money incomes during the last 40 years.

Evidence

The most succinct statement of the proposition that the amount of total work by married women has increased from 1920 on is found in a widely cited article in Scientific American by Vanek, based on her unpublished Ph.D. dissertation.² Vanek based her research on a variety of time-use surveys of United States homemakers (mainly wives), which were conducted between 1924 and 1953 by the Bureau of Home Economics of the U.S. Department of Agriculture and in 1965-1966 by the Institute for Social Research of the University of Michigan.

Vanek's statistics, reprinted in summary form in Table 1, show a near-constancy of time spent in homemaking, about 53 to 55 hours per week, by the (mainly) nonemployed women--essentially wives who were not holding market jobs. The time-use survey for 1965-1966 shows that nonemployed women worked 55 hours in housework, which is about one hour more than the averages reported in the previous four decades. Vanek pointed out that the earlier surveys mainly involved farm women, who worked an average of 8 to 10 additional hours in unpaid farm work, but she also noted that the much higher rates of market work by urban wives in 1965-1966 more than offset the decline in time spent in farm work. She concluded that "modern life has not shortened the woman's work day."³

Vanek's statistics are probably surprising to those who are encountering them for the first time, but they may be less surprising in light of the following three points.

Table 1

Hours per Week Spent in Homemaking, by
Residential Location, 1924-1968^a

| Period | Rural Farm | Rural Nonfarm | Urban |
|------------------------|------------|---------------|-------|
| 1924-1929 ^b | 54 | 53 | 54 |
| 1929-1936 ^c | 53 | | |
| 1943 | 56 | | 52 |
| 1953 | 53 | | |
| 1965-1968 ^d | | | 55 |

Source: Joann Vanek, "Keeping Busy: Time Spent in Housework, United States, 1920-1970." Unpublished Ph.D. dissertation (Ann Arbor; Mich.: University of Michigan, Department of Sociology, 1973), compiled from Table 3.2, 80-82. See also the bar chart in Vanek, "Time Spent in Housework," Scientific American, Vol. 231 (November 1974), 118.

^aThe surveys consist of mainly wives ("homemakers" is the term used by Vanek) who either were not engaged in market work or were engaged in minuscule amounts of market work.

^bThe 1924-1929 figures are unweighted averages of the weekly hours reported in six studies of farm women and in three studies each of rural nonfarm and urban women.

^cThe 1929-1936 figures are unweighted averages of the weekly hours reported in three studies.

^dThe 1965-1968 figures are unweighted averages of the weekly hours reported in two studies. In addition to the 1965-1966 study by the Institute for Social Research, mentioned in the text, the averages include the figures in Kathryn E. Walker and Margaret E. Woods, Time Use: A Measure of Household Production of Family Goods and Services (Washington, D.C.: American Home Economics Association, 1976).

1. The historic reduction in child care as a result of fewer children per family would have occurred mainly in the pre-1920 period; there was only a small decrease in fertility between the 1920s and the 1960s.

2. The improvements in home technology between the 1920s and the 1960s presumably reduced the work effort per unit of housework, such as the cleaning of a square foot of housing space or the laundering of an article of clothing, but the size of housing units, the amount of clothing, and perhaps the frequency of cleaning all increased over this period.

3. The figures apply to nonemployed wives, who spend more time in housework than employed wives, and the proportion of nonemployed wives decreased sharply from the 1920s to the 1960s.

These points will be discussed further below, but they do not, by themselves, resolve the puzzle of the apparent increase in women's work over this period.

Vanek's conclusion has been restated in different ways by later scholars, who relied on her work and on the studies she cited. For example, Strasser states: "Sociologists' studies from the 1920s onward ... indicate that women continued to spend about as many hours doing their housework as they had done before."⁴ Hartmann agreed and disputed the claim that "the quantity of time necessary to perform household chores declined and directly contributed to the large increase in female labor force participation rates."⁵

I believe these interpretations are incorrect and that the puzzle referred to above can be resolved. An overview of my reexamination of the issue is as follows. First, I use the authors' data and a recent update of one of the surveys they used to reverse, or at least neutralize, the previous quantitative conclusions. Second, I draw upon the authors' own findings and interpretations to suggest that housework involved less effort and more quasi-leisure activities with the passage of time, which retains the spirit of the conventional view that a reduction in housework was a response to the rise in income and changing home technology. Third, I suggest and offer evidence that the data sources used have built-in biases that serve to understate the true decline in housework. I should note that these hypothesized biases, if actual, are inherent in the data and do not reflect upon the authors' scholarship.

Recalculations of the Vanek Time-Series, 1920-1976

For most comparisons of hours of work by women during different time periods, I compute a weighted average of (a) the housework time by nonemployed women, who are not currently working in a market job at the time of the survey, and (b) the total work time (home plus market) by employed women, who are currently working in the market. The proportions of women in each of the two employment categories are the weights used in the average. The justification for this procedure is not only that it summarizes the hours-of-work statistics for women, but that it reflects a reality in which women move from one employment status to another during their adulthood. Today, few women spend their entire adult married life as either employed or nonemployed, so the weighted average should not be viewed as an abstract average for two separate types of women. It is,

instead, a more realistic description of the hours of total work of most women, averaged over their adulthood. This means that what may appear from a survey at a moment-in-time to be an unequal distribution of work among adults--employed wives working more total hours than husbands who, in turn, work more hours than nonemployed wives--may represent a more nearly equal distribution of work time, averaged over the years. That this latter situation is closer to the truth is brought out later in this paper.

The survey used by Vanek for 1965-1966 was replicated in 1975-1976 by Robinson, who also administered the earlier survey.⁶ In Table 2 I use these two recent surveys along with the initial surveys for 1924-1928 reported by Vanek, and I recalculate the hours-of-work statistics for the full population of wives, both employed and nonemployed wives. The original data for time spent in housework by nonemployed wives are supplemented with hours of market employment, hours of housework by employed wives, and hours of housework by farm wives in 1965-1966 and 1975-1976--sometimes with crude estimates of the desired numbers.

Table 2 shows the accounting system adopted to yield the figures in the last two columns, which show estimates of the average hours per week in housework and in all work among all wives. The numbers standing unbracketed are from Vanek or Robinson. The numbers in parentheses are new statistics based on official sources. The numbers in brackets are reasonable guesses, chosen to be conservative with respect to the hypothesis that hours of work decreased over time. The underlined numbers in columns 7 and 8 are the main results.

Table 2

Weekly Hours of House, Market, and Total Work by Wives in the United States, 1924-1976:
Preliminary Estimates based on Recalculations of Previous Studies

| Year and Farm/Nonfarm Residency (1) | Percent on Farms (2) | LFPR of Wives (3) | Weekly Hours of Work of Wives by Employment Status | | | Weekly Hours of Work of All Wives | |
|--|-------------------------------|-------------------------|--|-------------------|--------------------|--------------------------------------|------------------------|
| | | | Nonemployed | Employed | | Housework (7) | All Work (8) |
| | | | Housework/Housework Including Other Unpaid Work (4) | Housework (5) | Market Work (6) | | |
| 1924-1928 | (27) | (12) | | | | <u>53</u> ^a | <u>57</u> ^b |
| Farm | | (0) ^c | 52/62 | | | | |
| Nonfarm | | (16) | 52/54 ^d | [29] ^e | (35) ^f | | |
| 1965-1966 | (6) | (35) | | | | <u>48</u> ^g | <u>59</u> ^h |
| Farm | | | [55/63] ⁱ | | | | |
| Nonfarm | | | 55/56 | 29 | (33) ^j | | |
| 1975-1976 | (4) | (45) | | | | <u>41</u> ^k | <u>55</u> ^l |
| Farm | | | [51/59] ^m | | | | |
| Nonfarm | | | 51/52 | 26 | (32) ⁿ | | |

Notes: The numbers in the table in brackets are guesses, justified below; the numbers in parentheses are based on census data or other official government statistics; the numbers standing alone are based on Joann Vanek, "Keeping Busy: Time Spent in Housework, United States, 1920-1970," unpublished Ph.D. dissertation (Ann Arbor, Mich.: University of Michigan, Department of Sociology, 1973) 80-82; and John P. Robinson, "Housework Technology and Household Work," in *Women and Household Labor*, Sage Yearbooks in Women's Policy Studies, Vol. 5, ed. Sarah Fenstermaker Berk (Beverly Hills, Calif.: Sage Publications, 1980), 53-67.

(table continues)

Table 2, continued

- Col. 1. The two studies reported by Vanek for 1924-1928 (identified as "Compilations" and "Wilson") included samples of 847 "rural-farm" women, 320 "rural nonfarm" women, and 154 "town and urban" women. The 1965-66 sample consists of 357 urban nonemployed women. The 1975-76 sample is of 438 urban women and is reported in Robinson.
- Col. 2. Source: U.S. Bureau of the Census. Historical Statistics of the United States, Colonial Times to 1970, Part 1 (Washington, D.C., 1975), 457. The 27% figure for 1924-28 is an interpolation between the reported 25% in 1930 and 30% in 1920.
- Col. 3. The labor force participation rate (LFPR) for all wives in 1930 was 12% (Historical Statistics, 133). For nonfarm wives my estimate is 16%, which allows a 2% LFPR for farm wives, making the weighted average of the LFPR for farm and nonfarm wives equal to 12%. The LFPRs for 1965 and 1975 are taken from the Employment and Training Report of the President (Washington, D.C.: Superintendent of Documents, Government Printing Office, 1979) 292.

^aHousework hours by nonfarm wives = 50 = .84(54) + .16(29).
Housework hours for all wives = 53 = .73(50) + .27(62).

^b $57 = 53 + .12(35)$ or $57 = .27(62) + .73(55.6)$, where
 $55.6 = .84(54) + .16(64)$ = total hours of work by nonfarm wives.

^cReports of paid market work by farm wives were negligible in the surveys, and their unpaid farm work is included in the second number, after the slash in column 4.

^dWeighted averages of the reported hours of work for rural nonfarm and urban women, using the Census population weights for the two categories in 1930 (75% urban, 25% rural nonfarm) and the reported 4.8 hours of unpaid "other work" around the house for rural nonfarm women and 1 hour for urban women. The 1 hour is selected to match the reported 1 hour of such "other work" reported in the 1965-66 survey.

^eEstimate based on the reported hours of housework by employed women in the 1965-66 survey.

^fEstimate based on (a) 33 hours of employed market work by wives in 1965-66 and (b) the fact that the standard work week was longer in the 1920s than in the 1960s. The average weekly hours of work by production workers in manufacturing was 42-45 in 1926-1930 and about 40 in 1965-66. See Historical Statistics, 169-170.

(table continues)

Table 2, continued

[§]Housework hours by nonfarm wives = 46.6 = .65(56) + .35(29).
Housework hours for all wives = 47.6 = .94(46.6) + .06(63).

$$h_{59} = 47.6 + (.35)(33).$$

ⁱEstimate based on (a) the equality in 1924-28 between hours of housework for farm and nonfarm women and (b) an assumed decline of 2 hours (10-to-8) in the amount of unpaid hours of farm work by farm wives.

^jWeighted average of full-time and part-time workers reported in Vanek (p. 138), with an assumed 38 hours for full-time work for 75% of the sample and 20 hours for part-time work for 25% of the sample.

^kHousework hours by nonfarm wives = 39.75 = .55(51) + .45 (26.0).
Housework hours by all wives = 40.5 = .96(39.75) + .04(59).

$$l_{55} = 40.5 + .45(32).$$

^mEstimate based on Robinson's reported declines of 5 hours of housework by nonemployed women and of 2.9 hours by employed women in the 1975-76 survey relative to the 1965-66 survey. I use a decline of 4 hours instead of 5 hours for nonemployed women to allow for the lower average age of the later sample, a factor that Robinson associates with a small part of the decline in housework.

ⁿThe full-time and part-time composition of females, 25-64, was about the same in 1966 and 1976. See Employment and Training Report of the President, 1979, 282-283. The hours in the work-week declined slightly from 1966 to 1976.

Housework, which includes unpaid farm work to capture all work around the house other than market employment, declined from 53 to 41 hours per week. The decline reflects three changes relative to Vanek's results: (a) mainly the lesser housework by wives who work for pay and who make up a larger proportion of wives in the 1970s compared to the 1920s; (b) the decline in the proportion of farm wives, whose total nonmarket work time exceeds that of nonfarm wives; (c) the reductions of 5 and 2.9 hours in housework for nonemployed and employed women reported by Robinson in his 1975-1976 survey. Item (a), the increase in the percent of wives in market work, is the most important source of the decline in housework.

Total work time, shown in the last column, stayed about the same, declining from 57 to 55 hours. This does not nearly match the decline in market work by men during the period, but it should be noted that the average work week of prime-age men who are employed declined sharply from 1920 to 1940 and then did not decline much from 1940 to 1970 or 1980.⁷ The main sources of reduced market work by men during the last 30 or 40 years have been the extended periods of schooling when young and the extended periods of retirement when old. Women shared some of these forms of reduced labor force participation rates (LFPR's), but not sufficiently to offset the overall rise in LFPR's by women. The LFPR's of single women declined slightly, and the LFPR's of widowed and divorced women rose slightly, producing a near constancy in LFPR's for all unmarried women over 14 years of age during the 1920 to 1970 period. Hours worked per week by employed women did decline over this period, but this, after averaging unmarried and married women together, would contribute only about a one-hour reduction in the 55-hour figure

reported in Table 2. I will ignore this small reduction and spare the reader the tedious calculations that yield so small a change. We may simply note that the reduction from 57 to 55 hours in the last column would be slightly greater if the change were calculated for all women, not just the predominantly married women as in the table.

The major conclusion of this section is the modest claim that the data from the 1920s to the 1960s and 1970s show a substantial decline in housework, including related nonmarket work, and a very small decrease in total time at work by women. Leisure is not an inferior good for women. I attempt to strengthen this conclusion below.

Women's Housework Before 1920

The opinions and evidence of scholars who have examined the history of housework in America all point to a substantial reduction in the time and physical effort that women homemakers spend in housework. Vanek states: "Changes in household technology have reduced the burdens of housekeeping enormously."⁸ Speaking of a 150-year span from around 1820 on, Strasser states: "For most of that time, industrialization clearly improved the quality of life at home, eliminating backbreaking labor, raising standards of health and nutrition, and freeing people from virtual slavery to natural cycles."⁹ Smuts contrasts housework in the period around 1890 with that of the 1950s in these words: "In 1890 the sewing machine and the egg beater were about the only mechanical aids in most homes. One is apt to think, in this connection, of such appliances as washing machines and vacuum cleaners, but central heating and hot and cold running water have probably done as much to ease women's work as all of the mechanical cleaning devices combined."¹⁰

Reid, whose book The Economics of Household Production appeared in 1934 and whose references to historical trends concentrated on the previous 100 years, stated: "So conspicuous and widespread has been the decline in these [household tasks which women customarily perform] that we need spend little time in marshalling evidence that such a decline has occurred. . . . A decline in tasks may be said to take place when any one of three changes occurs: first, when tasks formerly performed by [family] members are taken over by paid workers; second, when owing to changed circumstances the family no longer demands goods and services previously used; and finally, when the performance of the customary tasks requires less time and energy."¹¹

Using Reid's classifications, the first change refers to the multifarious shifts of the production and preparation of food, clothing, and fuel from the homesite to the commercial market where the household purchases the goods and services. The second change is principally the smaller size of the household, which, as a change that reduced the workload of the woman homemaker, mainly reflects the decline in the number of children born per woman and the decline in the number of boarders and unmarried adults per household. These changes are shown in Tables 3 and 4.

Most of the declines in these sources of housework occurred before 1920 or so. By 1930 most of the decline in number of children born per woman had taken place, although a second period of decline began around 1960. Smuts makes the interesting observation that the reduction in childhood diseases and the rise in commercially provided medical services greatly reduced the housewife's burden of medical care for the family.¹²

Table 3

Children Ever Born per Women Ever-Married
by Birth Cohort of Women

| Women's Birth Cohort (1) | Mid-Year When Age 30 (2) | Children Ever-Born per Women Aged: | | |
|--------------------------------|--------------------------------|------------------------------------|---------------------------|---------------------------|
| | | Over 45 ^a (3) | 40-44 ^b (4) | 30-34 ^b (5) |
| 1855-59 | 1887 | 5.0 | | |
| 1860-64 | 1892 | 4.7 | | |
| 1865-69 | 1897 | 3.9 | | |
| 1870-74 | 1902 | 3.7 | | |
| 1875-79 | 1907 | 3.5 | | |
| 1880-84 | 1912 | 3.3 | | |
| 1885-89 | 1917 | 3.1 | | |
| 1890-94 | 1922 | 3.0 | | |
| 1895-99 | 1927 | 2.7 | | |
| 1900-04 | 1932 | 2.5 | | |
| 1905-09 | 1937 | 2.4 | 2.4 | |
| 1910-14 | 1942 | 2.4 | 2.3 | |
| 1915-19 | 1947 | 2.7 | 2.6 | 2.1 |
| 1920-24 | 1952 | 2.7 | 2.9 | 2.2 |
| 1925-29 | 1957 | | 3.1 | 2.6 |
| 1930-34 | 1962 | | 3.3 | 3.0 |
| 1935-39 | 1967 | | 3.1 | 2.8 |
| 1940-44 | 1972 | | | 2.4 |
| 1945-49 | 1977 | | | 2.0 |

^aU.S. Bureau of the Census, Historical Statistics of the United States, Colonial Times to 1970, Part I (Washington, D.C., 1975), 53.

^bU.S. Bureau of the Census, Statistical Abstract of the United States: 1982-83 (Washington, D.C., 1982) 65. For these children-ever-born measures, the birth cohort year-brackets begin 1906-1910, rather than 1905-1909 as shown in column (1), and each bracket thereafter differs by one year from those shown in column (1).

Table 4

Percent of Unmarried Adults Heading Their Own Households by Age and Gender, Percent of Families with Lodgers, and Number of Secondary Persons per 100 Households, 1930-1970

| Year | Percent of Unmarried Adults Heading Their Own Households ^a | | | | | | | Percent of Families with Lodgers | Number of Secondary Persons per 100 Households ^b |
|------|---|--------|-------|--------|-------|--------|-----|----------------------------------|---|
| | Age: 20-29 | | 30-34 | | 35-64 | | 65+ | | |
| | Male | Female | Male | Female | Male | Female | | | |
| 1930 | 6 | 8 | 14 | 25 | 41 | 52 | 42 | 10 | — |
| 1940 | 6 | 9 | 16 | 29 | 45 | 59 | 49 | 8 | 21 |
| 1950 | 7 | 15 | 20 | 38 | 46 | 60 | 48 | — | 12 |
| 1960 | 15 | 33 | 34 | 66 | 58 | 75 | 58 | 3 | 7 |
| 1970 | 27 | 46 | 52 | 84 | 74 | 87 | 68 | 2 | 5 |

Sources: Proportion of unmarried adults, 1930-1970: George Masnick and Mary Jo Bane, The Nation's Families: 1960-1990 (Cambridge, Mass.: Joint Center for Urban Studies, Harvard University, 1980), 43.

Percent of families with lodgers: U.S. Bureau of the Census, Census of Population: 1970. Subject Reports, Final Report PC(2)4A, Family Composition (Washington, D.C.: U.S. Government Printing Office), 249; _____, 1960, Subject Reports, Final Report PC(2)4A, Families, 1955; _____, 1940, Families, General Characteristics, 28; _____, 1930, Families, Vol. 1, 24.

Households with secondary individuals, 1940-1970: U.S. Bureau of the Census, Historical Statistics of the United States, Colonial Times to 1970, Part I (Washington, D.C., 1975), 41.

^aPercents are unweighted averages of the corresponding figures for five-year age groups. For persons 65 years of age or older, the figures for each gender, by age group, are so similar that only one column of percents are shown.

^bA "secondary person" is defined in this table as a member of a "secondary family" or as a "secondary individual." A secondary family is "two or more persons such as guests, lodgers, or resident employees and their relatives, living in a household and related to each other." A secondary individual in a household is "a person such as a guest, lodger, or resident employee who is not related to any other person in the household." Historical Statistics, 6. The number of persons in secondary families was estimated as twice the number of secondary families, which assumes that the average size of a secondary family is two.

In Table 4 three types of related trends show that unmarried adults were increasingly likely to head their own households and, correspondingly, less likely to be living-in with another family. The columns referring to headship rates among unmarried adults show that a minority headed their own household in 1930, but by 1970 a large majority did so. The last two columns show the declines from 1930 to 1970 in the percent of families with lodgers (or boarders) and in the numbers of "secondary persons" in households. Secondary persons are defined as persons who are not related to the primary family of the household they live in (see footnote b in Table 4), and the category includes lodgers. We see that this source of demand for housework services became negligible by 1970. National data for years before 1930 are not available, but other evidence indicates around 15 to 20 percent of urban households had lodgers during the period from 1890 to 1920, when incomes were low, the housing stock was smaller, and immigration was at its peak.¹³

The third change in Reid's classification refers mainly to the technological changes that save time and energy. As implied above, the changes in technology that probably contributed most to reducing women's workloads were the automated provision of heat, light, and water from municipal and industrial utilities servicing dwelling units. Strasser's description and documentation of the burdens of the most important tasks in the pre-automated period is impressive indeed: cooking on cast iron stoves; home-heating with coal stoves; lighting with kerosene lamps; laundering, which, "without running water, gas, or electricity . . . consumed staggering amounts of time and labor"; ironing, which "usually

consumed a day after washday . . . an enormous amount of hard, hot, heavy work"; and the burdens of hauling water for the above chores and for other tasks of personal care and housecleaning.¹⁴

Statistical time series for the spread of electricity, indoor plumbing, and central heating are difficult to obtain, so the documentation of these changes is scanty. The longest official series is for electricity. In 1907 only 8 percent of all dwelling units had electrical service; 35 percent by 1920. Even as late as 1940 the nationwide percent was only 79, although 91 percent of nonfarm dwelling units had electrical service.¹⁵ In 1940 31 percent of dwelling units were without running water, and 58 percent were without central heating. By 1950 these percentages declined to 15 and 50 percent, by 1970 to 5 and 33 percent.¹⁶

The purpose of these statistics is not to document the rise in the standard of consumption of goods and services, but rather to suggest the decline in time and energy required of women homemakers in housework tasks, with special references to the decline that took place prior to 1920. Let us assume that the decline in numbers of small children and boarders and the reduction in work loads attributable to the commercial provision of water, fuel, and lighting all combined to reduce by one the number of hours of daily housework by women from 1890 to 1920. (As will be noted later in this paper, one less child in the average number of children per family has been estimated to reduce the mother's housework by around 6 hours per week.) With a reduction of 7 hours of housework per week, the comparison from 1890 to 1975-1976, based on the figures in Table 2, would show a decline in weekly housework from 63 to 41 hours and in total work from 65 to 55 hours.¹⁷

Reductions in the Effort Required to Perform Household Tasks

In this section, the issue of time spent in housework is initially set to one side, and attention is directed to the effort required to carry out the tasks. Effort, here, refers to the fatigue, drudgery, and onerousness of the housework tasks. Progress is of two general types. One is the lesser effort required per unit of time spent on specific tasks: child care, housecleaning, the washing, drying, and ironing of clothes, preparing meals, and so on. A second is the reduction in the proportion of time devoted to those tasks that are considered the more toilsome and onerous.

Effort per Task. The first type of effort reduction may be further classified by four interrelated sources: (1) technological equipment to carry out the task; (2) a reduced demand for a given task, such as the reduced demand for child care from lower fertility; (3) improved materials or features of housing that make a given task easier, which would include such major items as improved lighting and air-conditioning, the latter of which improves the temperature and humidity for work (and leisure) and permits closing windows and doors to keep out unwanted noise and dust, and such minor items as Teflon cookware and formica counter tops and tile floors in kitchens--"Modern households were consciously designed to save labor," observed Vanek;¹⁸ (4) improvements in commercially purchased products that are the objects of the household tasks, such as the substitution of clean fuels for coal, the use of wash-and-wear fabrics, disposable diapers, the increased use of restaurants and "pre-prepared" foods, and so on.

During the pre-1920 period, the first, second, and fourth general type of sources were highlighted by, respectively, the commercial provision of utilities for the home; fewer children; and commercial provision of food, clothing, and other household supplies that were once produced at home. Recall Strasser's comment on the elimination of "backbreaking labor" in housework.

A second stage occurred approximately between the 1920s and the 1970s when a flood of home appliances and new products changed the technology of housework. Table 5 shows the sharp increase in the percent of homes with a variety of electrical appliances between 1953 and 1979. Data for 1940 and earlier are meager, but by piecing together scraps of information from various sources we may determine that very few of the 20 items listed in Table 5 would have appeared in more than 10 percent of dwelling units prior to 1940.

Before presenting this evidence, I should explain why radios and television sets are included in the table. They may not contribute directly to the performance of household tasks, but they remind us of the following relevant points: (a) that the home is a principal place for leisure consumption; (b) that some leisure activities, like listening to the radio, may be combined with some housework activities, which contributes to the ambiguity of classifying time allocations as either work or leisure; and (c) that leisure items, such as radio and television, may serve as aids in child care.

The other 18 items in Table 5, with the possible exception of air-conditioning, have a more direct role in housework, and one is struck

Table 5

Selected Electrical Appliances in United States Homes,
1940-1979: Homes with the Appliance as
a Percent of Homes Wired for Electricity

| Item | 1940 ^a | 1953 | 1960 | 1979 |
|--|-------------------|----------|----------|-----------|
| Air conditioner, room | | 1 | 15 | 56 |
| Blenders | | 4 | 8 | 52 |
| Can openers | | | 5 | 64 |
| Coffemakers | 0 ^a | 51 | 58 | 100 |
| Dishwashers | | 3 | 7 | 43 |
| Disposal, food waste | | 3 | 10 | 43 |
| Dryers, clothes (including gas) | | 4 | 20 | 62 |
| Freezers | 0 ^a | 12 | 23 | 45 |
| Frying pans | | | 43 | 68 |
| Hotplates and buffet ranges | a | 21 | 24 | 26 |
| Irons, total | a | 90 | 88 | 100 |
| Steam and steam/spray | | 20 | 59 | 100 |
| Microwave ovens | | | 0 | 8 |
| Mixers, food | a | 30 | 56 | 93 |
| Radios | 83 | 96 | 94 | 100 |
| Ranges (including gas) ^b | a 54 | 24 75 | 37 95 | 69 100 |
| Regrigerators | 44 | 89 | 98 | 100 |

(table continues)

Table 5, continued

| Item | 1940 ^a | 1953 | 1960 | 1979 |
|---------------------------------------|-------------------|-----------------|-----------------|------|
| TV: black and white | 0 | 47 | 89 | 100 |
| color | | | 0 | 90 |
| Toasters | a | 71 | 92 | 100 |
| Vacuum cleaners | a | 59 | 74 | 100 |
| Washers: | | | | |
| fully automatic | 0 ^a | | 55 | 78 |
| semi- or fully automatic ^c | a | 76 ^c | 83 ^c | |

Sources: U.S. Bureau of the Census, Statistical Abstract of the United States (Washington, D.C.), various years, indicated in parentheses, as follows: for 1940 (1950, pp. 742); for 1953 (1970, p. 687); and for 1960 and 1979 (1980, p. 796).

^aOnly items which were present in 10 percent or more homes in 1953 are noted in the 1940 column. The figure 0 represents zero production of the item in 1940. The superscript a without the 0 indicates that there was some production of the item but no data on the percent of homes with it.

^bApparently gas ranges are not included in the figures in the Statistical Abstracts (unlike the entries for "dryers, clothes," which include gas dryers). This row is an estimate of the percent of homes with electric or gas ranges based on the percent of homes with gas and electric cooking fuel. Source: Economic Almanac (New York: National Industrial Conference Board, 1964), 414. The figure of 100 for 1979 is an estimate based on extrapolation.

^cApparently two definitions of an electric washer were used for 1960: 55 percent appeared in the 1980 Statistical Abstract and 83 percent in the 1970 Statistical Abstract. Presumably the larger number refers to fully automatic or semi-automatic washing machines and the smaller number refers only to fully automatic machines.

with how recently they have become part of most homes. Only 44 percent of the homes in 1940 had refrigerators, and so few were produced before 1930 that essentially no homes had them prior to that year.¹⁹

Giedion reports that mechanical washing machines began to appear in numbers and at affordable prices for the general public by around 1930.²⁰ These were nonautomatic machines that, according to Strasser, "demanded constant tending, filling and refilling, and wringing; they probably saved little time [relative to tubs and washboards], but they relieved a substantial amount of back-breaking labor in hand washing."²¹ The fully automatic clothes-washing machine was not a practical invention until 1939, and the modern version with "cycles" of changing soap and water was first produced in 1946.²² This fully automatic machine, which appeared in 78 percent of American homes in 1979 and in 55 percent of the homes in 1960, was nonexistent in 1940. Adding semi-automatic machines increased to 83 and 76 percent the number of homes with a washing machine in 1960 and in 1953.

Electric irons first appeared in mail-order catalogues in 1926, and electric vacuum cleaners appeared in 1917 at what Giedion referred to as "the low price of \$19.45."²³ However, the prevalence of these appliances in the period from 1920 to 1930 would have been limited by the minimal presence of electricity in homes--just 35 percent of homes in 1920--and by the cost of the item relative to prevailing wages. In 1917, when the price of an electric vacuum cleaner was \$19.45, the average weekly earnings of wage earners in manufacturing was about \$15 and that of farm laborers was about \$9.²⁴

The gas stove automated the onerous tasks of supplying fuel for, and removing ashes from, this essential household appliance several decades

before the electric range became popular in the 1940s. This is perhaps the only item in Table 5 that was fairly widespread in the 1920s.

Table 5 is, of course, far from a complete listing of electrical, or otherwise automated, appliances found in the contemporary home. Another table of greater length could be displayed, which would include electric sewing machines, typewriters, food processors, garage-door openers, drills, saws, and other household tools, snowblowers, lawn mowers, hedge trimmers and other yard tools, outdoor grills, carving knives, crockpots, brooms, hair dryers, garbage compactors, phonograph and stereo equipment, calculators and personal computers, portable and multiple telephones, and components that serve to "self-clean" ovens and to "self-defrost" refrigerators. My purpose in listing these and the earlier items is to provide circumstantial evidence for the decline in effort in housework tasks, not necessarily as evidence for a decline in time spent in housework. Note that this argument requires only that the items are found useful by some homemakers; others, perhaps even a majority, may look upon some of these appliances as frivolous, but this would not negate the generalization that the tasks are, on average, eased by these appliances.

Shifts in Tasks. The simple point advanced in this section is that a larger proportion of housework today is devoted to tasks that involve less drudgery and more quasi-leisure activities. The point is simple, but the evidence to substantiate it is partly conjectural.²⁵

Vanek summarized household tasks into five broad categories: (1) food preparation and clean-up, (2) clothing and household linen care (including laundry and mending), (3) home care, (4) family care (mainly

child care), and (5) shopping and home management (combined with the categories "travel" and "other").

From the 1920s to the 1960s Vanek reports a shift from the food and clothing categories towards more family care and shopping-and-management. Home care was allocated about the same amount of time, 10 to 12 hours per week, in both periods (pp. 94-96). Those are the facts reported in the surveys that underlay the hours-per-week of housework reported in Tables 1 and 2.

The argument that the increased time devoted to family care may include some quasi-leisure time is a conjecture based on two facts. One is that family care, which is mainly child care, is frequently cited as the most liked, or least disliked, housework task by homemakers.²⁶ Second, the following definition of family care in the 1965-1966 survey includes activities that may be considered recreational:

. . . the actual direct administration of personal care to members of the household, including physical care and such other direct personal care as teaching, supervising, counseling, managing, training, amusing and entertaining (p. 108).

In the list of 55 activities that are not work (or work related), which are grouped under the headings "personal needs" and "leisure," there is no activity listed for playing with one's children. Thus, it is plausible that perhaps an hour or two of the 10 hours devoted to family care in the mid-1960s involved some recreation with children. In the surveys of the 1920s a different definition was used and an average of only 4 hours was devoted to family care by homemakers, so it is unlikely that a substantial portion of these 4 hours involved activities that would be described as recreation.

The second category of increased time-use in 1965-1966 is "shopping, management, travel, and other," which increased from about 3 hours a week in the 1920s to 8 hours a week in 1965-1966. I conjecture that some aspects of shopping have a quasi-leisure component. Less of one's shopping is for "necessities," such as the daily shopping for food that was required because home refrigerators were uncommon in the 1920s. Also, in those days shopping was more likely to require walking and carrying one's purchases back home. By the 1960s and 1970s the automobile was commonly used in shopping, and daily shopping was not required. Both aspects enhance the leisure component of modern shopping. A leisure component may also be present in some of the tasks in the "other" category, which includes "arranging furniture and flowers, care of plants and pets and some limited home improvements and repairs" (p. 108).

In summary, fully 11 more hours of housework were devoted to the tasks of family care and shopping, etc. from the 1920s to 1965-1966, these tasks having increased from 7 to 18 hours per week. If just two of these hours were subtracted from the work category in the later periods, the total hours of housework would be 39 and the total hours of all work would be 53 in 1975-1976, the last year for the statistics reported in Table 2.

A Downward Bias in the Hours of Housework Reported in the 1920s?

Before we accept the inference from sample surveys about time spent in housework, three types of criticism of them must be met: that the population for the sample may not be representative of all the families of interest; that those who agree to respond to the survey from the originally selected sample are unrepresentative; and that the respondents'

answers about the allocation of their time to work and leisure activities may not be accurate. The recent surveys by Converse and Robinson, cited in footnote 6, have addressed the first criticism. Their 1965-1966 and 1975-1976 surveys are the only American surveys of time-use that are probability samples of the national population. The methods of studying time-use in these surveys were, however, similar to the earlier surveys, and the designers of the recent surveys continue to experiment with ways of dealing with the second and third types of criticism.

Vanek reports that in the 1965-1966 survey respondents "were asked to maintain a diary of activities in fifteen minute intervals for a 24-hour period. On a later day an interviewer visited the respondent, checked through the diary for completeness and administered an interview schedule which included a more detailed description of activities as well as attitudes on time use."²⁷ Nonresponse in these surveys was and is a serious problem. Researchers at the University of Michigan, where the 1965-1966 and 1975-1976 surveys were planned, have reported a 36 percent nonresponse rate in the 1965-1966 survey and a 34 percent nonresponse rate in 1975-1976.²⁸ Understandably, detailed record keeping and being interviewed about one's activities are simply not always convenient or welcomed. Has the problem of nonresponse led to biases in the resulting sample statistics? In time-use surveys perhaps the "busiest" people are less likely to participate. Biases in a survey at a point in time do not rule out unbiased measures of changes over time, however. This happy event requires that the survey's bias remains constant over time.

With this background, we may now consider the crucial comparison of the 1920s surveys with those of the 1960s and 1970s. The first and landmark survey by Maud Wilson, an economist with the Bureau of Home Economics, was not a randomly drawn sample.²⁹ It relied upon volunteers among homemakers in Oregon who were contacted with the help of county agricultural agents. The volunteering housewives agreed to keep a time record for a week. Nonresponse and attrition reduced the sample by more than 50 percent. Of the 1200 women who were reached by the county agents, only 513 usable records were obtained: 288 from farm homes, 71 from rural nonfarm homes, and 154 from city homes. Vanek reports some of the defects of this and several other similar surveys carried out by the Bureau of Home Economics: "over-representation of women with higher educational backgrounds (and) . . . higher status women." Wives among families of tenant farmers and farm laborers were less likely to be included; farm owners were overrepresented.³⁰

This selectivity of the respondents may have led to underestimates of the amount of time spent in housework, if the busiest wives were less likely to participate and if poorer wives worked longer hours. However, a potentially more important source of bias is the apparent underrepresentation of wives with larger numbers of children, particularly young children. This argument is developed in the next several paragraphs.

Consider first a basic finding by Vanek, shown in Table 1, that the time spent in housework by nonemployed wives in mainly rural families in the 1920s was the same or less than that of nonemployed urban wives in 1965-1966. One of the reasons that this was a surprising result is that rural wives from the 1920s had, on average, more children than urban

wives in the 1960s. The cohort of ever-married, white women born in 1885 to 1894 and living on farms as adults--who would have been 32 to 41 years old in 1926, when Wilson's survey was conducted--had a completed cohort fertility of 4.1 children.³¹ (Completed cohort fertility is the same as "children ever born" for women who are older than 45 or so.) As farm wives, their labor force participation rates would have been essentially zero. Ever-married women who were 32 to 41 in 1966 and lived in urban areas have had or will have a completed cohort fertility of about 3.1 children. (See Table 3.) However, when Vanek compares the nonemployed urban wives with the earlier wives, the two samples are not at all reflective of these differences in the numbers of children between farm families in the 1920s and urban families in the 1960s.

The 1960s nonemployed urban wives in Vanek's table have an average of 1.9 children present per family. The rural farm wives in Wilson's sample have an average of 1.6 children per family. In the 1965-1966 sample of currently married wives (337 of the 357 nonemployed urban homemakers), 23 percent have no children present and 35 percent have a youngest child less than four years of age. In the sample of farm wives in the 1920s, 31 percent had no children present and 33 percent had a youngest child less than six years of age.³²

The farm wives surveyed by Wilson almost surely had fewer children present per family than did the average farm family during the 1920s. Unfortunately, neither the 1920 nor the 1930 census reports the average number of children per husband-wife farm-family, but the 1940 census should provide a lower bound estimate, because fertility declined between 1920 and 1940. In 1940 the average number of children present among

husband-wife families in farm residences was 2.0, and 29 percent had no children present. If families in which the husband is over 55 years old are excluded, the average number of children present is 2.4, and only 19 percent have no children present.³³ Perhaps the respondents in Wilson's survey tended to be older, which would be consistent with the overrepresentation of farm owners among them and with the idea that wives with more time on their hands would be more likely to participate in the survey.

If the comparison between the 1920s families and the 1960s families is to reflect the average numbers of children present in the two periods, there should be some adjustment to the 1920s survey to allow for the underestimate of children. According to Vanek's estimated statistical relation between hours of housework and the number of children, one additional child in the family is associated with approximately six more hours of housework per week, and perhaps three more hours are added if the additional child is less than four years of age.³⁴ Thus, adding, say, a "half-a-child" would increase the weekly hours of housework by from 3 to 4.5 hours. This particular value will be used below.

Note, however, that our objective is not simply to correct a bias in the estimate of numbers of children among farm families in the 1920s, but rather to make the 1920s sample comparable to the samples used in the 1960s and 1970s for purposes of making inferences about the national populations of homemakers in these various periods. The fact that fertility rates are higher among farm wives than among the entire population of wives would, by itself, call for a downward adjustment in numbers of children for the 1920s sample if the comparison is to be made with the full representative sample of wives in the later period. In this light the

underrepresentation of children among farm wives in the 1920s sample is almost a blessing in disguise.

Let us focus on the comparison between the mid-1920s and the mid-1970s as the beginning and terminal periods in Table 2. Assuming the wives in the 1920s sample span the ages of 20 to 60, they represent age cohorts of a total population of wives whose completed cohort fertility was around 3.2. A similar age group of wives in the 1970s has or will have a completed cohort fertility that averages 2.8. (See Table 3.) This implies that the 1920s sample should have, on average, 0.4 more children than the 1970s sample--assuming that the numbers of children present bear the same relation to the numbers ever-born in the two periods. The actual average number of children present per family in the 1920s sample was 1.6, as previously noted. The average number of children present per family in the full 1960s sample used by Vanek, combining employed and nonemployed wives, is also 1.6. (The calculations are the same as those cited in footnote 32.) Given the decline in fertility from the mid-1960s to the mid-1970s, we may estimate that the 1920s sample should allow for about one-half more children present than the 1970s sample. As noted above, this would increase the weekly hours of housework for the 1920s period by from 3 to 4.5 hours.

In summary, there is reason to suspect that a sample selection bias in the surveys of the 1920s has understated a true decline in hours of housework relative to the 1970s. With no allowance for biases due to nonresponse and to the overrepresentation of relatively well-off families, allowing only for the likely underrepresentation of children, an increase of 3 hours in the average hours of housework in the 1920s seems

reasonable. In reference to Table 2, the number of hours of housework becomes 56, and the hours of all work become 60, for the 1924-1928 samples.

Housework of Husbands and Other Family Members

No time series of hours of housework are available for persons other than the woman homemaker. The discussion about family composition up to now has concentrated on its effect on the demands on the wife for housework production. In particular, the decline in numbers of young children, in boarders, and in other dependent family members, such as aged or ill parents or other relatives, have been assumed to outweigh the loss of household help from older children or other family members.

Sons aged 14 to 19 who lived with their parents were more likely to work in market jobs in the years prior to 1920, as shown by the time series of labor force participation rates (LFPR's).³⁵ Rising rates of school attendance accompanied the declines in market work from 1890 until 1960, when their LFPR's began to rise. Older daughters who lived with their parents probably were major contributors to housework, but we may assume that this declined as their school attendance rates rose. Their LFPR's were generally stable from 1890 to the 1960s, when they began to rise slowly. The trends of school attendance and market work suggest that the housework of older boys has not much affected the trend in their or their parents' total work time, whereas housework probably declined for older girls during this century, and more housework may have been shifted to their parents as a result.

Time in housework by husbands and fathers has not received much attention for two reasons in addition to the overriding constraint that no time series is available. Housework time by husbands is usually considered to be minor, and it does not appear systematically related to the work time or even to the work allocation--market versus home--of their wives.

Around the turn of the century husbands worked about 60 hours per week at their jobs, and their housework was probably nil in urban places. However, we have no reliable information for their time-use at home until recently, when their housework has been measured to be around 11 hours per week in the Robinson-Converse surveys for 1965-1966 and 1975-1976 and by Walker and Woods, whose survey in 1967-1968 also used time-use diaries.³⁶ The agreement of the three surveys in the estimate of 11 hours is remarkable. The surveys also agreed that most housework by husbands consisted of shopping, child care, home repairs, and yard work. A widely quoted result, again found in all three surveys, is that the husband's time in housework is not related to the wife's employment status. The 1975-1976 survey, which replicated the 1965-1966 survey, showed a tiny reduction of 2 percent in men's housework time, but it should be noted that unemployment was much higher in 1975-1976, and hours of market work by men were unusually low in those years.

The three surveys offer an opportunity to compare total work times of husbands and wives at a point in time. If three categories of employment status by gender are used--employed husbands, employed wives, and nonemployed wives--then, as expected, employed wives work the most, nonemployed wives the least, and husbands are in between. See the first

three rows of Table 6. However, most wives will be in both employment statuses at different times in their lives, and when the hours for the two groups of wives are appropriately averaged, the total work hours of all wives become quite similar to that of all husbands. As shown in the last two rows of Table 6, the total weekly work hours of both spouses is similar and clustered between 61 and 65, not including travel to work, which adds about three hours for wives and five hours for husbands per week.

Time in market and housework tends to be greatest when the married couple has children present. No allowance is made here for any leisure component in child care, yard work, shopping or other tasks. Vacations and holidays on weekdays are probably not accounted for in these reports. All this suggests that the average weekly amount of time spent at work by men and women from, say, ages 14 to 70 would be substantially less than that reported in Table 6.

Summary of Recalculations and Discussion

This paper has tried to serve two purposes. The first is to discuss the nature, measurement, determinants, and trends in housework. Housework was once practically the only occupation of wives, especially mothers, and it remains today the dominant work activity among mothers with children present. It is safe to say that the available data do not permit an accurate time series to measure this sphere of work, despite the innovative efforts of many scholars. The conceptual, measurement, and practical procedural problems for this type of time series are still being worked out.

Table 6

Total Weekly Hours of Work, Home and Market, by Wives
and Husbands, Reported in Three Surveys, 1965-1976

| Employment/ Marital Status | National Survey 1965-1966 ^a | Syracuse, N.Y., Survey, 1967-1968 ^b | National Surveys 1965-1966 and 1975-1976 (averaged) ^c Travel to Work: | |
|---|---|--|--|----------|
| | | | Not Included | Included |
| Employed husbands | 62 | 64 | | |
| Employed wives | 71 | 68 | | |
| Nonemployed wives | 56 | 60 | | |
| All husbands (same as employed husbands) | 62 | 64 | 62 | 67 |
| All wives | 61 | 63 | 65 | 68 |

^aJoann Vanek, "Household Work, Wage Work, and Sexual Equality," in Sarah Fenstermaker Berk, ed., Women and Household Labor, Sage Yearbooks in Women's Policy Studies, Vol. 5 (Beverly Hills, Calif.: Sage Publications, 1980), 277.

^bKathryn E. Walker and Margaret E. Woods, Time Use: A Measure of Household Production of Family Goods and Services (Washington, D.C.: American Home Economics Association, 1976), 64.

^cFrank Stafford, "Women's Use of Time Converging with Men's," Monthly Labor Review, Vol. 103 (December 1980), 58. The results for the 1965-1966 and 1975-1976 surveys are averaged to limit the distorting effects of the recession in 1975-1976.

The second purpose is to resolve the puzzle of existing quantitative evidence that showed an increase in total hours of work by women from the 1920s to the 1970s. In dealing with this puzzle, I found it useful to indulge in some conjectural estimation, including an estimate of hours of housework and of total work by wives in 1890. The results of these calculations, which are discussed in detail in the paper, are summarized in Table 7.

The last row and the second-to-last column of Table 7 show that the amount of time that a married women devotes to housework has declined substantially during the 85-year span from 1890 to 1975-1976. By coincidence, the decline from 66 hours to 39 hours per week is strikingly similar to the decline in the work week of married men over this period. Moreover, for both husbands and wives the improvement in economic well-being represented by these declines would be enhanced by allowing for the decline in the physical effort and drudgery of their work. Working conditions have probably improved more in the home than in the factory or office, if only because the home serves mainly as a place of leisure consumption for the entire family.

Now to the last column, which takes into account the increase in market work by wives and, of course, moderates the foregoing favorable picture for women. Total time at work for women has decreased, but the decrease is considerably less than that estimated for men. (The comparative status of men and women in work and its rewards is discussed in another paper by the author, IRP DP 732-83.) Nevertheless, the question of whether leisure is a normal good for women may now be answered affirmatively.

Table 7

Weekly Hours of Housework and Total Work of Wives in the United States,
1890-1975, Estimated by Various Adjustments to Data in Table 3.2

| Year | Original Estimates from Table 3.2 ^a | | With Estimation for 1890 ^b | | With Allowance for Leisure Component of Housework in 1975 ^c | | With Allowance for Downward Bias in Housework in 1920s ^d | |
|---|---|----------|--|----------|--|----------|---|----------|
| | Housework | All Work | Housework | All Work | Housework | All Work | Housework | All Work |
| 1890 | -- | -- | 63 | 65 | 63 | 65 | 66 | 68 |
| 1920-1928 | 53 | 57 | 53 | 57 | 53 | 57 | 56 | 60 |
| 1975-1976 | 41 | 55 | 41 | 55 | 39 | 53 | 39 | 53 |
| Change in hours from beginning year to terminal year | -12 | -2 | -22 | -10 | -24 | -12 | -27 | -15 |

^aSource: Table 2.

^bSeven hours of housework are added to the 1920s hours to estimate the hours of housework in the 1890s. (See text for explanation.)

^cTwo hours are subtracted from the total of 18 that are devoted to "family care" (including child care) and "shopping" and "other" categories of housework in the 1970s. (See text for explanation.)

^dThree hours of housework are added to the 1920s hours to allow for the understatement of numbers of children in families in the 1920s survey. This adjustment requires another adjustment (mentioned in footnote b) of the 1890s hours.

Two issues that have been neglected in this paper may now be discussed. One concerns the role of technological change in housework and its relation to market work by women. A second is the issue of how much choice people have over their time-uses.

Although the decline in housework that is shown in Table 7 is to some extent a result of the improvements in home technology, the relation of technology to the time people spend in housework, market work, and leisure is complex. The directions of causation run both ways between any pair of these variables. The invention of a household appliance may autonomously improve housework technology, and this may cause a reduction in housework and an increase in market work. But an autonomous increase in market wages for women may increase market work, which, in turn, may cause the woman to buy the "latest" appliance. Clearly, the simple positive correlation that exists in the time series between the purchase of household appliances and increases in market work by wives cannot be interpreted as a simple one-way causal relation.

More market work by wives in response to an autonomous improvement in home technology is plausible, but the full response probably occurs with a considerable time lag. Consider the fact that today's working-age population of women, who were born after 1920, represent the first generations of women to be brought up in a world with the complete commercial provision of utilities and most of the technology currently used in housework, even though the utilities and some of the technology had been invented and begun to be gradually provided to homes one or more generations earlier. Thus, today's women were the first that could see the full possibilities for reduced time and effort in housework and could

plan, if only imperfectly, their education, training, marital status, child-bearing, and work decisions accordingly. The cohorts of women born after 1920 are, of course, those whose rates of market work increased so dramatically from the 1940s onward. Quantifying the causal relation between the changes in technology and market work is difficult, to say the least, because the lags in responses are not well understood, because of the mutual causation between the two variables, and because of the influence of many other variables.

In a cross-section, the relation between the ownership of various forms of home technology and market work is even less interpretable as a causal relation, because the relative fixity of technology at a point in time means that the ownership of differing kinds and amounts is endogenous--an outcome related to various circumstances, preferences, and choices of the household. Several scholars have noted that the time-use surveys often show no relation between the ownership of an appliance, ostensibly a labor-saving appliance, and the amount of time spent in housework, and they have interpreted the absence of a statistical relation to imply that technology has little effect on time in housework.³⁷ This inference is not justified, and the fundamental reason is that technology is not exogenous in these cross-sections.

Consider the automatic dishwasher. Perhaps the family with a preference for multi-course home-cooked meals buys the appliance, and the family with a preference for eating out does not. At a point in time there may well be no relation--or even a positive relation--between ownership and time spent in dishwashing. But the proper test is one that deals with the "before-after" relationship for both families--that is,

the time spent in washing dishes before the availability of the machine compared with the time spent after its availability. This would be the change in technology that corresponds to the change over time, which is what we would like to measure.

Hartmann, who noted the difficulty of making proper inferences in cross-section studies, suggested that the effect of technology on housework could be determined by comparing farm and urban wives in the cross-section data of the time-use studies from the 1920s and 1930s, because technology could be assumed to be exogenously unavailable on farms and exogenously available in urban places.³⁸ This strategy is valid in principle, but to carry it out, the farm wives should be compared with all urban wives--the employed and the nonemployed--and various exogenous factors such as the age of the wife, the number of children present, and so on should be held constant. Such controlled comparisons were not made, and the available data may not permit them. Certainly, the data for a before-after test are not available with the older time-use studies.

Strasser doubted "that women have been 'freed' for market labor by household technology," because she noted that more home technology was likely to be owned by higher-income wives, who were less likely than lower-income wives to be working in the market.³⁹ However, the hypothesis that improvements in household technology reduced the time and effort of housework and thereby promoted more market work is not refuted by a cross-section negative relation between technology and market work rates. The hypothesis concerns the net relation between technological change and changes in the allocation of time to housework and market work. We have already discussed why income would be expected to have a

negative relation to time spent in market work, so the causal effect of home technology may be hidden in its relation with market work that Strasser observed. Well-to-do couples can afford more appliances, and they can afford more leisure consumption. My foregoing arguments do not necessarily refute the conclusions reached by the above scholars, but they suggest that cross-section studies are not likely to yield solid evidence for the relation between technology and time-use.

Finally, let me raise several questions that have been in the background of my interpretation of the behavioral responses by women to the environmental changes in technology, market wages, and other variables. How freely chosen are these responses? If they are freely chosen, can we assume they improve the well-being of the women? If they are not freely chosen, should we assume that they have not improved their well-being?

Strasser raises these questions at various junctures, and her view is illustrated by her interpretation of the increase in meals eaten away from home--mostly in restaurants. She remarks: "As fast foods grew, those few large corporations increasingly dominated not only their industry and their franchises but Americans' daily lives: McDonald's and Burger Chef and the innumerable smaller chains revamped American eating habits."⁴⁰ Another interpretation, however, is that changes in American eating habits have revamped the restaurant industry. Given the "innumerable smaller chains" as well as the many independent restaurants, it would appear at least as plausible that the restaurant owners are competing to satisfy the customers' preferences rather than that the owners control, manipulate, or simply ignore the consumers' preferences and impose their own preferences.

Indeed, the early quotation from Strasser that credited industrialization with "improving the quality of life at home" is followed by the opinion that in recent decades this quality has declined as a result of corporate power.⁴¹ But resolving these issues would take us too deeply into theorizing and philosophizing about how society and markets function to pursue in this book.

NOTES

¹See, for example, Margaret G. Reid, Economics of Household Production (New York: John Wiley and Sons, Inc., 1934), 51, 56-57; Robert W. Smuts, Women and Work in America (New York: Columbia University Press, 1971), especially Chapter 1; Clarence D. Long, The Labor Force Under Changing Income and Employment (Princeton, N.J.: Princeton University Press, 1958), Chapter 7.

²Joann Vanek, "Time Spent in Housework," Scientific American, Vol. 231 (November 1974), 117-120; Joann Vanek, "Keeping Busy: Time Spent in Housework, United States, 1920-1970," unpublished Ph.D. dissertation (Ann Arbor, Mich.: University of Michigan, Department of Sociology, 1973).

³Vanek, 1974, 120.

⁴Susan Strasser, Never Done: A History of American Housework (New York: Pantheon Books, 1982), 251.

⁵Heidi I. Hartmann, "Capitalism and Women's Work in the Home, 1900-1930," unpublished Ph.D. dissertation (New Haven, Conn.: Yale University, 1974), 213.

⁶John P. Robinson, "Housework Technology and Household Work," in Women and Household Labor, Sage Yearbooks in Women's Policy Studies, Vol. 5, ed. Sarah Fenstermaker Berk (Beverly Hills, Calif.: Sage Publications, 1980), 53-67. The earlier survey for 1965-1966 is discussed in John P. Robinson and Philip E. Converse, Summary of U.S. Time-Use Survey (Ann Arbor, Mich.: University of Michigan, Survey Research Center Monograph, 1966); and in John P. Robinson, How Americans Use Time (New York: Praeger Publishers, 1977).

⁷The statistics on the hours of market work and labor force participation mentioned in this paragraph are shown in detail, along with citations to their sources, in Glen G. Cain, "Lifetime Measures of Labor Supply of Men and Women," IRP DP #749-84.

⁸Joann Vanek, "Housewives as Workers," in Women Working, ed. Ann H. Stromberg and Shirley Harkess (Palo Alto, Calif.: Mayfield Publishing Co., 1978) 394.

⁹Strasser, 1982, 311.

¹⁰Smuts, 26.

¹¹Reid, 51.

¹²Smuts, 13.

¹³John Modell and Tamara K. Hareven, "Urbanization and the Malleable Household: An Examination of Boarding and Lodging in American Families," Journal of Marriage and the Family, Vol. 35 (August 1973), 467-479. The authors use data from several New England states to estimate the prevalence of boarders for periods prior to 1930. See also Stanley Lebergott, The American Economy (Princeton, N.J.: Princeton University Press, 1976), 251-254.

¹⁴Strasser, 1982, pp. 48-108. The quoted phrases are on pp. 105-108.

¹⁵U.S. Bureau of the Census, Historical Statistics of the United States, Colonial Times to 1970, Part 2 (Washington, D.C., 1975), 827.

¹⁶U.S. Bureau of the Census, Statistical Abstract of the United States (Washington, D.C.), for the years 1950 (pp. 741-742), 1960 (p. 796), and 1980 (pp. 795, 930).

¹⁷The procedures for calculating the hours worked for women homemakers in 1890 are the same as the procedures for 1924-1928 explained in footnotes a and b in Table 2. In 1890 approximately 42 percent of the population lived on farms, and 5 percent of married women were in the market labor force. The number of hours worked per week by married women in the labor force is assumed to be 40, in recognition of the longer work week in 1890 compared to 1924-1928. (See sources for corresponding figures in Table 2.)

¹⁸Vanek, 1978, 392-414. Reid had also commented on this point with her characteristic acumen: "Poor lighting or ventilation or monotony may greatly increase fatigue and sap the energy of the worker without an appreciable effect on the time spent." Reid, 253.

¹⁹Historical Statistics, Part 2, 695. Strasser comments that "refrigerators did not save much time or labor," but she then adds that "owners could make ice cubes for drinks instead of chipping ice from the block, floors stayed cleaner without those drips . . . and food got and stayed colder . . . [and] fresh longer, reducing some cooking by extending the life of leftovers and relieving the housewife of the necessity of daily shopping." Strasser, 1982, 267.

²⁰Siegfried Giedion, Mechanization Takes Command (New York: Oxford University Press, 1948), 568.

²¹Susan Strasser, "Never Done: The Ideology and Technology of Houseworld Work, 1850-1930" Ph.D. dissertation (State University of New York at Stony Brook, Department of History, 1977), 356.

²²Giedion, 570.

²³Giedion, 573-574 and 595.

²⁴Historical Statistics, Part 1, 168.

²⁵The material in the following four paragraphs is based on Vanek, 1973, 93-112. Page numbers for specific quotations or facts are given in parentheses.

²⁶Robinson, 1980, 64-65; and Kathryn E. Walker and Margaret E. Woods, Time Use: A Measure of Household Production of Family Goods and Services (Washington, D.C.: American Home Economics Association, 1976), 65.

²⁷Vanek, 1973, 64.

²⁸Survey Research Center, University of Michigan, Proposal to the National Science Foundation, "1984-5 Study of Time Allocation Among American Households" (Ann Arbor, Mich., March 1983). This proposal is recommended for its informative discussion of a variety of problems in time-use surveys.

²⁹The information in this paragraph is based on the biography of Wilson by Ava Milan Clark and J. Kenneth Mumford, Adventures of a Home Economist (Corvallis, Oregon: Oregon State University Press, 1969), 177.

³⁰Vanek, 1973, 59, 118.

³¹Irene B. Taeuber and Conrad Taeuber, People of the United States, U.S. Bureau of the Census (Washington, D.C.: Government Printing Office, 1971), 380.

³²Vanek, 1973, 172, 176-177. The average number of children present is estimated on the basis of somewhat incomplete data in Vanek. The statistics for Wilson's survey of farm wives are the only ones available in Vanek for the computations of numbers and presence of children among the 1920s samples. On page 180 of Vanek there are statistics on the

percent of farm families with children from two other time-use surveys of the 1920s, and these show nearly the same percent with no children as Wilson's survey.

³³Estimates calculated from U.S. Bureau of the Census, Sixteenth Census of the U.S., 1940, Population, Families, Size of Family and Age of Head (Washington, D.C., 1940), 27.

³⁴Vanek, 1973, 166-169 and 174-177. These statistical relations are clearest with Vanek's analysis of the 1965-1966 survey, where the data permitted a more rigorous analysis. The surveys from the 1920s and later also showed more housework for women with more children, although the largest increments in housework were among those with some children compared to no children and among those with young children compared to those with older children.

³⁵See note 7, above.

³⁶The 1965-1966 and 1975-1976 survey results are reported in Frank P. Stafford, "Women's Use of Time Converging with Men's," Monthly Labor Review, Vol. 103 (December 1980), 57-59. Robinson, 1980, also discusses the findings of these surveys about husbands' work, but not in detail. See Walker and Woods, 62-64, for rich detail on their 1967-1968 survey of about 1300 husband-wife families in Syracuse, New York.

³⁷Vanek, 1973, 126-156; Hartmann, 242-248; Robinson, 1980, 62; and James N. Morgan, Ismail Sirageldin, and Nancy Baerwaldt, Productive Americans, Survey Research Center Monograph 43, Institute for Social Research (Ann Arbor, Mich.: University of Michigan, 1966), 111-112. Morgan et al. do note that families with a greater need or preference for the services of an appliance are more likely to own one--a point discussed in the next paragraph.

³⁸Hartmann, 230.

³⁹Strasser, 1977, 355.

⁴⁰Strasser, 1982, 295.

⁴¹Strasser, 1982, 311.