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What is the Cost of Married Women's Paid Work?

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LABOR AND POPULATION

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ABSTRACT

This study uses the 2003-2004 Consumer Expenditure Survey to assess costs incurred by dual-income, married-couple households. It finds that, compared to one-earner households with equal income and similar demographics, dual-earner households pay significantly more in tax, social security and private pension contributions but, except for families with pre-school children, do not have more work-related expenditures. The findings indicate a convergence of consumption patterns between one-earner and two-earner households. They also indicate that dual-earner households save more for retirement through pension plans.

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WHAT IS THE COST OF MARRIED WOMEN'S PAID WORK?

The median income of married-couple households is nearly twice that of other households in the United States (DeNavas-Walt, Proctor, Smith, & U.S. Census Bureau, 2010). There are at least two explanations for this difference. First, married men may have higher earnings than single men either because of productivity gains from marriage or through endogenous selection in the marriage market (Korenman & Neumark, 1991; Nakosteen & Zimmer, 1987). Second, a married-couple household may have two earners. Recent government statistics indicate that 59 percent of married couple families had both husband and wife in the labor force (U.S. Census Bureau, 2008).

Dual income, especially as the pay gap between men and women narrows, can help married couples avoid poverty, enter the middle class, or even gain affluence (Frank, 2008; Levy, 1987; U.S. Census Bureau, 2006). A supplementary wage earner can help families through recession or unemployment. Among U.S. households in the top five percent of income distribution, three in four have at least two earners, while at the bottom income quintile only about one in twenty have two earners (U.S. Census Bureau, 2006).

The economic effect of dual incomes has long interested researchers. Most have been interested in one of three broad topics: first, the effect of dual income on household income distribution and inequality (Cancian & Reed, 1998; Danziger, 1980; Lerman & Yitzhaki, 1985; Maxwell, 1990; Treas, 1987); second, the foregone value of household production; and third, the second earner's work-related expenditures and tax costs. The first topic addresses macroeconomic effects which are outside our immediate focus; the latter two address our concern with household economic costs associated with dual income.

Previous research on the foregone value of household production examined dual-earner

couples' additional consumption expenditures (Bellante & Foster, 1984; Bivens & Volker, 1986; Bryant, 1988; Ferber & Birnbaum, 1980; Jacob, Shipp, & Brown, 1989; Lazear & Michael, 1980; Rubin, Riney, & Molina, 1990; Strober, 1977; Strober & Weinberg, 1977), or investigated use of household time and handling of housework by employed wives and mothers (Berardo, Shehan, & Leslie, 1987; Bielby & Bielby, 1988; Homan, Hagenars, & van Praag, 1991; Nickols & Fox, 1983). While not necessarily unfavorable toward married women's employment, these studies did show that unpaid work at home has economic values and hence there is economic loss from doing less of it.

Previous research on work-related expenses found that those for transportation, clothing and personal care, reduced working wives' net contribution to the household (Hafstrom & Dunsing, 1965; Hanson & Ooms, 1991; Strober, 1977; Strober & Weinberg, 1977). Institutional disadvantages, such as progressive income-tax structures and resulting "marriage penalty," also reduced gains in disposable income from the second earner (Feldstein & Feenberg, 1995; Pritchard, 1990).

This study revisits economic costs incurred by dual-income households and evaluates the household's net financial gain from the wife's employment. Specifically, we seek to accurately assess the total monetary cost associated with dual income and better understand the net pecuniary gain in dual-income decisions. We do so by assessing direct, indirect, and tax costs of dual income and the resulting disposable income.

There are several reasons to reassess the economic costs incurred by dual-income households. First, most previous research is from the 1970s and the 1980s, when employment of married women began to increase. There have been fewer efforts to assess the economic effect of dual income since the late 1980s.

Second, there has been increasing convergence of economic lives between men and women in recent decade. Wages have become significantly less important in married women's labor force participation decisions. Between 1980 and 2000, the female-to-male earnings ratio rose from 60 to 74 percent, and married women's labor supply elasticity dropped from 0.9 to 0.4 (Blau & Kahn, 2007; DeNavas-Walt et al., 2010). This may imply that the economic and demographic profile of dual-income couples has significantly changed from two decades ago and hence may have altered households' net gains from wives' employment.

Third, government programs and market alternatives have increasingly replaced household production (Alm, Dickert-Conlin, & Whittington, 1999; Juhn & Potter, 2006; Lundberg & Pollak, 2007; Teachman, Tedrow, & Crowder, 2000). These changes may have influenced couples' labor supply, household production, and consumption decisions. Expansion of markets for consumer products and services might have lowered the prices of time-saving market alternatives, reducing the demand for time-intensive household production and decreasing the opportunity costs for couples choosing to pursue dual incomes. Recent shifts in the U.S. anti-poverty policy that promote marriage (e.g., termination of the Aid to Families with Dependent Children, stronger child support enforcement), subsidize parental employment (e.g., Welfare-To-Work programs, expansion of Earned Income Tax Credit), and increase the availability of government-based alternatives to household production (e.g., eldercare) may provide increased support for dual-earner households, especially among lower-income households. Although estimating the value of household production is not central to our study, our analysis contributes to precise, updated measurement of the economic value of household production.

To assess recent economic costs incurred by dual-income households, we analyze

household expenditure data from the 2003-2004 Consumer Expenditure Survey (CES). Specifically, we investigate how much more a dual-earner household paid in taxes, pension contributions, and wife's work-related consumption than a comparable household with one-earner and a fulltime homemaker. Because wives who were employed might have been characteristically dissimilar from fulltime homemakers in ways that related to their spending patterns, we decomposed the difference in household expenditures by wife's employment status into the portion due to differences in characteristics and the portion due the wife's employment itself. These decompositions help us assess costs in hypothetical dual-income choices, which we can compare to the second earner's gross contribution.

In the next section, we summarize the theoretical literature and previous empirical evidence on expenditures by dual-earner households. We then describe the data and analytic methods of this study and the results of our analyses. We conclude with interpretation of our findings and suggestions for further research.

THE COST OF DUAL INCOME BY SOURCES

Previous research has indicated three reasons dual-income married-couple households may have less disposable income than single-income married-couple households of otherwise similar characteristics. First, the dual-earner households may spend more than one-earner married-couple households on goods and services that can substitute for household production. Second, dual-income households incur expenses (e.g., clothing, transportation) related to the second earner's work. Third, tax and government transfer programs, such as marriage penalties or subsidies, may affect disposable incomes differently for one-earner and dual-earner households. We review each of these, and the costs dual-income householders may incur from

them, below.

Goods-intensive household production

The theory of household production predicts that persons with higher wage rates or greater valuation of money income are more likely to work in the market and adopt more goods-intensive and less time-intensive modes of household production (Becker, 1991; Gronau, 1977). Hence, we would expect dual-earner households to spend more money on goods and services that can replace the time needed for domestic production. And, indeed, empirical evidence has shown that dual-earner households have greater consumption expenditure, which may indicate the value of household production lost due to employment, than comparable one-earner households.

Previous research indicates that families with working wives spent more on time-saving non-durables than those with nonworking wives (Strober, 1977). One study using the 1972-1973 Consumer Expenditure Survey found the amount of a wife's work was positively correlated with greater expenditures on "services that are expected to be sensitive to the value of time," including child care and food away from home (Bellante & Foster, 1984). Another using the 1980-1983 Consumer Expenditure Survey found that families with an employed wife/mother spent eight times as much on child care than those with a fulltime homemaker. Such costs reduced the second earner's contribution by as much as 68 percent (Hanson & Ooms, 1991).

Evidence supporting the substitution of expenditures for household time is less consistent for household durables. As early as the 1950s households with working wives spent considerably more on household durables than those with wives not employed spent (Mincer, 1960). Nevertheless, a later study using the Survey of Consumer Finances did not find wife's employment to be an important predictor of major family expenditures such as time-saving

durable goods (Strober & Weinberg, 1977). These conflicting findings may have been a result of endogeneity bias of wife's employment in the regression function of purchase of durables; that is, there might have been certain unobserved factors, omitted from previous analyses that made wives more likely to choose to work and also to buy more household durables. With proper use of instrumental variables, subsequent research showed wives' employment reduced household spending on the purchase of durables, suggesting wives' time and durable goods were complements rather than substitutes (Bryant, 1988).

We suggest most extant knowledge about expenditure differences between one-earner and dual-earner households is obsolete and does not reflect demographic and social shifts of recent decades. Recent decades have seen persistent increases in women's labor force participation, delayed and decreasing rates of marriage and childbearing, increases in women's earning power, and less gender-based specialization in the household (Juhn & Potter, 2006; Lundberg & Pollak, 2007; Teachman et al., 2000). Expanding market alternatives and government programs also may have affected household production and decreased work-related costs for dual-earner households.

Direct expenses

Direct expenses resulting from employment of an additional household member include those on clothing, transportation and personal care (Hanson & Ooms, 1991). Dual-earner households spent more on women's clothing, transportation and personal care than one-earner households (Hanson & Ooms, 1991; Rubin et al., 1990). The difference is particularly sharp among households in the lower- and middle-income classes. Nevertheless, the difference between one-earner and dual-earner households in such expenditures may be getting smaller. Research that compared expenditure differentials between the two types of households from 1972 to 1984 found that expenditures for private transportation increased among one-earner

households but not among dual-earner households (Rubin et al., 1990).

Tax and government programs

Previous crude comparisons of household incomes suggested that dual-earner households had only slightly higher average incomes than one-earner households (Ferber & Birnbaum, 1982; Lazear & Michael, 1980; Strober, 1977). The difference was even less significant for disposable incomes, a possible result of certain characteristics, such as the marriage penalty, under the progressive tax structure (Pritchard, 1990).

“Marriage penalty” or “marriage subsidy” occurs when two individual-earners pay a greater (or lower) amount of income tax as a married couple paying taxes jointly than they would if paying separately (Steuerle, 1999). Such differing tax treatment may affect whether couples decide to both earn income as well as the resulting level of their disposable income.

One-earner households are likely to face marriage subsidy rather than penalty because marriage would only increase standard taxpayer deductions and not change gross income for the two partners. Dual-earner households may face a higher tax bracket after marriage. Indeed, a study using 1980-83 Consumer Expenditure Survey found two-earner households paid more personal taxes than one-earner households (Hanson & Ooms, 1991). Another suggests more dual-earner households have been affected by the marriage penalty as wives’ earnings have grown (Alm et al., 1999). Given progressive marginal tax rates in the United States, we expect that the narrowing gender wage gap has increased the marriage penalty among dual-earner households and hence the costs incurred by such households.¹

¹ One might argue that marriage penalty deters couples from becoming dual-earners, meaning the average tax differences between one-earner households and two-earner households would underestimate the real tax costs to dual-income households. Nevertheless, one study found that dual-earner couples’ time-allocation decisions responded little to taxation (Leuthold, 1981), and that tax reforms explain only a small fraction of the increase in dual-earner households from 1960 to 2000 (Bar & Leukhina, 2009).

Pension payments such as contributions to social security and individual retirement accounts also reduce current disposable income for dual-earner households. Given women's increased earnings as well as increased employment in sectors with contributory social insurance and other individual retirement plans (Deere & Doss, 2006), pension costs of dual-earner households may also have increased in recent years.

DATA

Because information on household consumption expenditures was essential, we used data from the 2003-2004 Consumer Expenditure Survey (CES) to assess economic costs incurred by dual-earner households. The CES provides data on household income, consumption expenditures, and household characteristics.²

We restricted the sample for our analysis to those who participated in four consecutive quarters of interview surveys and who provided annual income and expenditure data. To better compare dual-earner and one-earner households, we further restricted the sample to married couples with a husband working fulltime, a wife less than 60 years old either working fulltime or not at all, and no household members other than own children. We also restricted the sample to households of less than 6 members (which covered 96 percent of married households in the CES), whose incomes or expenditures were not in the top or bottom 1 percent, and, among households with wives who worked full time, to those making at least \$900 annually (lest those with lower income affect estimation of the mean and standard deviation). Table 1 presents descriptive statistics of our sample for analysis.

² The CES interview survey does not collect data on expenses for housekeeping supplies, personal care products, and nonprescription drugs (Bureau of Labor Statistics, 2003). These contribute about 5 to 15 percent of total expenditures—meaning the CES accounts for as much as 95 percent of total household expenditures.

ANALYSIS METHODS

Differences in family income, tax payments, and pension contributions

We first compared dual- and one-earner households by gross family income, tax payments, and social security and private pension contributions, which significantly reduced disposable income. Because dual earner households earn more income than one earner households, the differentials in tax and social security payments between dual- and one-earner households are partly due to differences in gross family income. Therefore we try to control the level of gross family income in comparing tax, social security payments, and disposable income by grouping households by income quintiles and compared public and private pension contributions as well as disposable income by household type within quintiles. We aggregated the four quarterly surveys on income and expenditures into annual sums.

Differences in consumption expenditures

Dual-earner households may spend more than one-earner households for two reasons. First, working wives have less time for household production and therefore substitute market goods and services for their time at home. Second, working wives incur several direct work-related costs, such as commuting and personal care. We compared household consumption expenditures for the two types of households. We excluded payments for vehicle purchases from the total consumption expenditure because the large, infrequent payments for them may not reflect ordinary expenditure but rather distort consumption data for comparison. Because differences in consumption expenditures might be due to differences in disposable incomes, it is necessary to control the levels of disposable income to investigate the differences in expenditures

due to wife's working. Therefore we also grouped households by quintiles of disposable income and compared expenditures by household type within the same quintile.

In comparing consumption expenditures by disposable-income quintile, we found dual-earner households spent no more than single-earner households. We therefore sought specific consumption expenditure categories on which dual-earner households spent more than one-earner households. We defined the wife's work-related expenditure as the sum of expenditures in these specific categories. To identify the categories related to wives' work-related expenditures, we regressed the expenditure categories on a dummy variable for wife's employment status as well as on demographic control covariates. We conducted quantile regression at median, and checked the signs and significance of regression coefficients for wife's employment status.

Decomposition of the expenditure gap

We decomposed the differentials of tax, social security, private pension payments, and wife's work-related expenditures into the two parts, one attributable to different household characteristics such as family size and income, and the other attributable to different marginal propensity to consumption, by applying the Blinder-Oaxaca decomposition technique. The decomposition can be written as

$$\sum B_{j1} \bar{X}_{j1} - \sum B_{j0} \bar{X}_{j0} = \sum B_{j0} (\bar{X}_{j1} - \bar{X}_{j0}) + \sum \bar{X}_{j1} (B_{j1} - B_{j0}) \quad (1)$$

where B_{ji} is a vector of regression coefficients for household i , $i = 1$ denotes dual-earner households and $i = 0$ denotes one-earner household, X_{ji} is a vector of household characteristics, $\sum B_{j1} \bar{X}_{j1}$ is the predicted expenditure of the dual-earner households at the mean of X_{j1} , and $\sum B_{j0} \bar{X}_{j0}$ is the predicted expenditure of the one-earner households at the mean of X_{j0} .

We made the decomposition using the expenditure structure of one-earner households as

the reference; gaps therefore indicated the additional expenditure of dual-earner households relative to one-earner households. The first term on the right side in equation (1) was an estimate of the additional expenditure for dual-earner households resulting from differences in objective household characteristics such as income, demographic characteristics, family life-cycle stages, and family size. The second term was an estimate of additional expenditure for dual-earner households attributable to structural differences, such as different treatments in the tax and social security systems, private pension programs, and different demands for market goods and services. This expenditure attributable to structure difference represented the costs of wife's working.

Specification of the variables

We conducted ordinary least square regression analysis to estimate the regression coefficients. The dependent variable is expenditure measured by \$10,000 U.S. dollars. The independent variables include wife's demographic characteristics (e.g., ethnicity, education, and age), family life-cycle stage, family size, region and city size of residence, and housing tenure. For the estimation of public and private pensions, we included the logarithm of annual gross family income. For estimating work-related expenditures, we included the logarithm of annual disposable income. Wife's age, family size, and income logarithms are continuous variables; other variables are categorical. We converted categorical variables into dummy variables, as shown in Table 1.

RESULTS

Differences in Income and public and pension expenditures

Table 1 shows that, on average, households with a fulltime working wife earned more and made more contributions to tax, social security and other private pension than those with a

wife not employed. Dual-earner households had an average income of \$88,342, of which \$37,863 was contributed by working wives. Married-couple households without a working wife had an average income of \$64,585, which amounted to 73% of the dual-earner households' average income. Average household expenditure was \$43,050 for dual-earner households and \$38,630 for one-earner households. The expenditure differential between dual- and single-earner households was smaller than the income differential.

Altogether, as Table 2 also shows, working wives contributed about 44 percent of income to dual-earner households. Analyzing single- and dual-earner households by income quintile suggests that dual income allows many who might not otherwise do so reach middle-class or higher status. Among one-earner households, 64 percent were in the bottom two overall income quintiles; among dual-earner households, 72 percent were in the top three quintiles.

Working wives contribute more to the income of dual-earner households in lower quintiles. Among dual-earner households in the bottom quintile, working wives contribute, on average, 54 percent of household income; among those in the top quintile, they contribute, on average, 42 percent.

Within the bottom two quintiles, dual-earner households had a significantly higher gross income than one-earner households. In the top quintile, single-earner households had a significantly higher gross income. Accounting for tax and pension payments changes many of these differentials for disposable income. The disposable income difference between dual-earner and one-earner households is lower than that for gross income in the bottom quintile. In the second quintile, the disposable income difference between dual and single-earner household is not significant, while dual-earner households have significantly higher gross income than one-earner households. In the third and fourth quintiles, accounting for tax and pension payments

show that dual-earners have less disposable income than one-earner households. For the top income quintile, dual-earner households' larger pension contributions results in an even greater difference between dual- and single-earner households in disposable income.

Across all quintiles, dual-earner households paid a higher proportion of gross income for taxes (5.26 percent compared to 1.68 percent), social security (7.76 percent compared to 5.98 percent) and private pension (2.13 percent to 1.14 percent). In the top quintile, dual-earner and one-earner households paid approximately the same proportion (about 7 percent) of gross income in tax, even though one-earner households had substantially higher gross incomes. In all quintiles, dual-earner households paid a statistically significant, greater proportion of their income for Social Security and public pensions than single-earner households did. In the bottom and top quintiles, dual-earner households paid a statistically significant, greater proportion of their income to private pension contributions than one-earner households did.

Differences in consumption expenditures between dual- and one-earner households

Table 3 shows that, overall, dual-earner households have a higher level of consumption expenditures (\$43,050) than one-earner households have (\$38,630). Because differences in consumption expenditures might also be attributable to budget constraints, i.e., disposable income, we also compare expenditures within quintile. One of the striking findings on Table 3 was that one-earner households spent more or did not spend less in some expenditure than dual-earner households with a comparable level of disposable income. One-earner households have as much consumption expenditure as dual-earner households in the third and fourth quintiles, or had even higher expenditure in the second and fifth quintiles. The overall mean expenditure for dual earner households becomes higher since they are distributed more heavily in the higher

income quintiles.

We then further examined specific consumption expenditure categories on which dual-earner households spent more than one-earner households by regressing the 19 expenditure categories on a dummy variable for wife's employment status and on other control variables. These results are presented in Table 4. As shown in Table 4, we find that one-earner households spent more on food at home, shelter, and utilities, whereas dual-earner households spent significantly more on household operations, transportation, and miscellaneous expenditures. Furthermore, contrary to expectations, dual-earner households spent significantly less than one-earner households, all else equal. For the total household expenditure, the regression coefficient of the wife's full-time working dummy variable was -0.04 indicating that dual-earner households spent less than one-earner households by about \$400 annually all other things being equal.

Table 5 defines each of these categories of expenditures. Household operations represent domestic services substituted for household production activities. Transportation reflects the direct costs of commuting. Miscellaneous expenditures include fees, such as union dues, and occupational expenses. Based on this finding, we defined wife's work-related expenditure as the sum of expenditures in household operations, transportation, and miscellaneous categories.

Table 6 presents mean work-related expenditures across disposable income quintiles by wife's working status. Overall, dual-earner households had greater expenditures for household operations, but the differences were statistically significant only for the first and third quintiles. Similarly, overall differences in transportation expenditures for dual-earner and one-earner households were statistically significant only for the bottom quintile. Finally, differences in miscellaneous expenditures by household type were not statistically significant. These results suggest further investigation is needed to identify what accounts for differences in expenditures

between dual-earner and single-earner households. We turn to this below.

The results of the Blinder-Oaxaca decomposition

Tables 7 through 9 decompose expenditure differentials into two parts: those due to differences in observed household characteristics and those due to different demand structure, reflecting the costs of wife's employment. Appendix tables present full regression analyses on which these tables are based.

The "Total" column on Table 7 presents the sum of tax, social security, private pension, and wife's work-related expenditures for dual-earner and one-earner households. On average, dual-earner households spent \$8,929 more than one-earner households each year on these expenditures. Nearly half, or 47 percent, of the total differential is attributable to the different demands on dual-earner households. We estimate this annual cost to dual-income households to be \$4225.

Social security and tax payments appeared to be the primary sources of the expenditure differential between dual- and one-earner households. Together, they constituted about two-thirds of the total differential. Most of this difference was due to household characteristics. As Table 8 shows, dual-earner households paid more tax because they earned more. Nevertheless, as the bottom line of Table 7 shows, 34 percent of the gap in tax expenditures between dual-earner and one-earner households resulted from differing tax treatment of dual-earner households than of one-earner households of similar income. For Social Security payments, 59 percent of the gap between dual-earner and one-earner households was a result of different treatment of dual-earner households than of one-earner households of similar income. For private pension contributions, 68 percent of the difference was attributable to greater opportunities dual-earner households have for participating in such programs through a working wife's employee-benefit program.

Work-related expenditures for working wives constituted less than 7 percent of the total gap. Only one-third of this difference was attributable to unique demands that dual-earner households have for goods and services.

Altogether, about two-thirds of the additional costs incurred by dual-earner households are from differential treatment of such households in tax and social security policies. Only 14 percent of the additional costs is attributable to work-related expenditures dual-earner households uniquely incur. .

Table 8 presents more detail on expenditure differentials attributable to household characteristics. These results suggest that dual-earner households spent more money on Social Security, private pension contributions, and wife's work-related expenditures because they had more income than one-earner households.

Gross family income, city size, and family life-cycle stages had a significant effect on the expenditure differentials attributable to the unique demands of dual-earner households (on Table 9). For each additional dollar of gross income, dual-earner households pay significantly more income and Social Security taxes, increasing the total costs of a wife's employment. Dual-earner households living in large metropolitan areas populations of more than four million paid significantly more tax and spent more on work-related expenditures than comparable one-earner households did. In areas with a population between 125,000 and 330,000, dual-earner households had greater expenditures for private pensions and for total costs of wife's employment. Finally, dual-earner households with children 11 or younger spent significantly more on wife's work-related expenditures than one-earner households with such children.

SUMMARY AND CONCLUSION

In this study we used the 2003-2004 CES to assess the cost of dual income among married-couple households. We compared tax and Social Security payments, private pension contributions, and work-related household expenditures for married-couple households in which one or both spouses worked full-time. Our regression analysis of expenditure found wife's work-related expenditures to be the expenditures in household operations, transportation, and miscellaneous other expenses. Applying the decomposition technique, we estimated how much of the differentials in tax, social security, private pension contributions, and wife's work-related expenditures were attributable to the differences in the observable household socioeconomic characteristics such as income and how much were attributable to the unique circumstances of dual-earner households. We defined the cost of dual income as the expenditure differential attributable to the unique demands of such households.

We estimated the average cost of dual income to a household is \$4,225 a year. This amount constitutes about 11 percent of the average annual earnings of a wife employed fulltime. Dual-earner households made higher tax payments and social security contributions. Consequently, they had a lower level of disposable income than married households with one earner who made equivalent gross family income. Of the estimated annual costs of dual income, 43 percent came from the difference in Social Security and 23 percent came from the difference in tax payment between the two types of households. Work-related expenditures for working wives constituted only 15 percent of the cost.

All else equal, dual-earner households spent significantly less than one-earner households did. This contradicts common expectations that households with wives working fulltime would purchase more market goods and services to substitute for their foregone household time.

Discussions

We find that the major source of the cost of dual income comes from institutional factors (tax and social security). Whether this suggests that there is some level of economic transfer from dual-earner to one-earner households through the taxation and public pension accounts is a question for further investigation. It is possible that the greater Social Security contributions made by dual-earner households will supplement their post-retirement income. Yet, given the redistributive nature of the Social Security system, whether the future returns on public pension contribution offsets the reduction in consumption remains unanswered. Dual-earner households also save more through private pension contributions, thus delaying consumption to a later time and becoming better prepared for retirement than single-earner households of the same income.

We find the cost of dual income due to work-related expenditures is more pronounced among younger families in large cities. Considering that young families are the ones whose opportunity cost of employment may be greatest, this may reflect a different consumer market environment for dual-earner families, with higher living cost and therefore higher price levels for substitutes. The surprising convergence in consumption patterns between dual-earner households and one-earner married households may indicate that the mode of household production has changed in the United States. The increase in married women's labor force participation may have resulted in increased availability of low-cost market services that can replace household production in both dual-earner and one-earner households. The finding that households with fulltime homemakers spend as much as dual-earner households may imply that substitution-based assessment of household production yields a smaller estimate than opportunity-cost-based assessment does (time-use-based method). Lower fertility also may have reduced the demand for household production, and thus the opportunity cost of employment.

Our findings confirm the work of Leuthold (1981) suggesting that couples work

regardless of tax disadvantages. While Leuthold looked at time allocation only for dual-earner couples, we analyzed data on both one- and two-earner households in finding that couples do not respond to taxation in labor supply decisions but that their decisions are “rather dominated by longer–run considerations such as career continuity” (Leuthold, 1981).

REFERENCES

- Alm, J., Dickert-Conlin, S., & Whittington, L. A. (1999). Policy watch: The marriage penalty. *Journal of Economic Perspectives*, 13(3), 193-204.
- Bar, M., & Leukhina, O. (2009). To work or not to work: Did tax reforms affect labor force participation of married couples? *B.E. Journals of Macroeconomics: Contributions to Macroeconomics*, 9(1), 1-28.
- Becker, G. S. (1991). *A treatise on the family*. Cambridge, MA: Harvard University Press.
- Bellante, D., & Foster, A. C. (1984). Working wives and expenditure on services. *Journal of Consumer Research*, 11(2), 700-707.
- Berardo, D. H., Shehan, C. L., & Leslie, G. R. (1987). A residue of tradition: Jobs, careers, and spouses' time in housework. *Journal of Marriage and the Family*, 49(2), 381-390.
- Bielby, D. D., & Bielby, W. T. (1988). She works hard for the money: Household responsibilities and the allocation of work effort. *American Journal of Sociology*, 93, 1031-1059.
- Bivens, G. E., & Volker, C. B. (1986). A value-added approach to household production: The special case of meal preparation. *Journal of Consumer Research*, 13(2), 272-279.
- Blau, F. D., & Kahn, L. M. (2007). Changes in the labor supply behavior of married women: 1980-2000. *Journal of Labor Economics*, 25, 393-438.
- Bryant, W. K. (1988). Durables and wives' employment yet again. *Journal of Consumer Research*, 15(1), 37-47.
- Bureau of Labor Statistics. (2003). *Consumer Expenditure Survey Anthology: 2003*. Washington, DC: U.S. Department of Labor.
- Cancian, M., & Reed, D. (1998). Assessing the effects of wives' earnings on family income inequality. *Review of Economics and Statistics*, 80(1), 73-79.
- Danziger, S. (1980). Do working wives increase family income inequality? *Journal of Human Resources*, 15(3), 444-451.
- Deere, C. D., & Doss, C. R. (2006). The gender asset gap: What do we know and why does it matter? *Feminist Economics*, 12(1-2), 1-50.
- DeNavas-Walt, C., Proctor, B. D., Smith, J. C., & U.S. Census Bureau. (2010). *Income, poverty, and health insurance coverage in the United States: 2009*. Washington, DC: U.S. Government Printing Office.
- Feldstein, M. S., & Feenberg, D. R. (1995). The taxation of two earner families. *NBER Working Papers*, No. W5155.

- Ferber, M. A., & Birnbaum, B. G. (1980). Housework: Priceless or valueless? *Review of Income and Wealth*, 26(4), 387-400.
- Ferber, M. A., & Birnbaum, B. G. (1982). The impact of mother's work on the family as an economic system. In S. Kamerman & C. Hayes (Eds.), *Families that work: Children in a changing world* (pp. 84-143). Washington, DC: National Academy Press.
- Frank, R. (2008). *Richistan: A journey through American wealth boom and the lives of the new rich*: Three Rivers Press.
- Gronau, R. (1977). Leisure, home production, and work - The theory of the allocation of time revisited. *Journal of Political Economy*, 85(6), 1099-1123.
- Hafstrom, J. L., & Dunsing, M. M. (1965). A comparison of economic choices of one-earner and two-earner families. *Journal of Marriage and the Family*, 27(3), 403-409.
- Hanson, S. L., & Ooms, T. (1991). The economic costs and rewards of two-earner, two-parent families. *Journal of Marriage and the Family*, 53(3), 622-634.
- Homan, E., Hagenaaers, A., & van Praag, B. (1991). Income inequality between one-earner and two-earner households: Is it real or artificial. *De Economist*, 139(4), 530-549.
- Jacob, E., Shipp, S., & Brown, G. (1989). Families of working wives spending more on services and nondurables. *Monthly Labor Review*, 112(2), 15-23.
- Juhn, C., & Potter, S. (2006). Changes in labor force participation in the United States. *Journal of Economic Perspectives*, 20(3), 27-46.
- Korenman, S., & Neumark, D. (1991). Does marriage really make men more productive? *Journal of Human Resources*, 26(2), 282-307.
- Lazear, E. P., & Michael, R. T. (1980). Real income equivalence among one-earner and two-earner families. *American Economic Review: Papers and Proceedings*, 70(2), 203-202-208.
- Lerman, R. I., & Yitzhaki, S. (1985). Income inequality effects by income source: A new approach and application to the United States. *Review of Economics and Statistics*, 67(1), 151-156.
- Leuthold, J. H. (1981). Taxation and the consumption of household time. *Journal of Consumer Research*, 7(4), 388-394.
- Levy, F. (1987). *Dollars and dreams: The changing American income distribution*. New York: Russell Sage Foundation.
- Lundberg, S., & Pollak, R. A. (2007). The American family and family economics. *Journal of Economic Perspectives*, 21(2), 3-26.

- Maxwell, N. L. (1990). Changing female labor force participation: Influences on income inequality and distribution. *Social Forces*, 68(4), 1251-1266.
- Mincer, J. (1960). Labor supply, family income, and consumption. *American Economic Review: Papers and Proceedings*, 50(2), 574-583.
- Nakosteen, R. A., & Zimmer, M. A. (1987). Marital status and earnings of young men: A model of endogenous selection. *Journal of Human Resources*, 22(2), 248-268.
- Nickols, S. Y., & Fox, K. D. (1983). Buying time and saving time: Strategies for managing household production. *Journal of Consumer Research*, 10(2), 197-208.
- Pritchard, M. E. (1990). The value of the second income to two-earner families with children. *Lifestyles: Family and Economic Issues*, 11(2), 127-141.
- Rubin, R. M., Riney, B. J., & Molina, D. J. (1990). Expenditure pattern differentials between one-earner and dual-earner households: 1972-1973 and 1984. *Journal of Consumer Research*, 17(1), 43-52.
- Steuerle, C. E. (1999). Valuing marital commitment: The radical restructuring of our tax and transfer systems. *The Responsive Community*, 9(2), 35-45.
- Strober, M. H. (1977). Wives' labor force behavior and family consumption patterns. *American Economic Review: Papers and Proceedings*, 67(2), 410-417.
- Strober, M. H., & Weinberg, C. B. (1977). Working wives and major family expenditures. *Journal of Consumer Research*, 4, 141-147.
- Teachman, J. D., Tedrow, L. M., & Crowder, K. D. (2000). The changing demography of America's families. *Journal of Marriage and the Family*, 62, 1234-1246.
- Treas, J. (1987). The effect of women's labor force participation on the distribution of income in the United States. *Annual Review of Sociology*, 13, 259-288.
- U.S. Census Bureau. (2006). Current Population Survey: 2006 Annual Social and Economic Supplement. Retrieved July 18, 2010, from http://pubdb3.census.gov/macro/032006/hhinc/new05_000.htm
- U.S. Census Bureau. (2008). *Table MC-1, "Married Couple Households by Labor Force Status of Spouses: 1986 to Present"*.

Table 1
Descriptive Statistics of the Sample

	Total n=1,766		Wife Employed Fulltime n=1,145		Wife Not Employed n=621	
	Freq	%	Freq	%	Freq	%
Wife Employed Fulltime	1,145	64.83	1,145	100.00	0	0.00
Race of Wife						
White	1,552	87.89	995	86.94	557	89.63
Black	113	6.42	92	8.03	21	3.45
Others	101	5.69	58	5.02	43	6.93
Education of Wife						
Less than high school	632	35.77	334	29.17	298	47.95
Some college	347	19.65	224	19.54	123	19.85
College degree	787	44.58	587	51.29	200	32.19
Family Life-Cycle						
Children age <6	376	21.30	191	16.65	186	29.87
Children age 6-11	285	16.16	170	14.89	115	18.49
Children age 12-17	346	19.58	242	21.15	104	16.68
Couple wife's age<45	214	12.11	187	16.30	27	4.37
Couple wife's age≥45	545	30.86	355	31.01	190	30.58
Housing Tenure						
Owned w mortgage	1,235	69.91	856	74.73	379	61.01
Owned w/t mortgage	292	16.51	164	14.34	128	20.53
Rented	240	13.58	125	10.93	115	18.46
Region						
Northeast	342	19.37	223	19.49	119	19.15
Midwest	419	23.75	296	25.86	123	19.86
South	659	37.33	426	37.17	234	37.62
West	345	19.55	200	17.48	145	23.36
City Size						
>4 million	473	26.80	290	25.31	183	29.53
1.2-4 million	377	21.35	261	22.77	116	18.74
0.33-1.19 million	297	16.79	187	16.32	110	17.67
125000-329900	189	10.69	110	9.61	79	12.68
<125000	430	24.73	298	25.99	133	21.38
	M	SD	M	SD	M	SD
Wife's Age	42.13	9.39	42.17	9.06	42.05	9.97
Family Size	3.22	1.03	3.10	1.00	3.46	1.04
Gross Household Income (US\$)	79,988	47,338	88,342	40,084	64,585	55,023
Wife's Earning (US\$)	24,642	25,211	37,863	22,031	267	1,721
Total Household Expenditure (US\$)	41,496	19,909	43,050	18,714	38,630	21,629

Note: All values are weighted.

Table 2

Mean Annual Income, Tax and Pension Payments of Married Households by Gross Income Quintiles (US\$)

	Gross Family Income Quintiles					
	Total		1 st		2 nd	
	Wife Employed Fulltime	Wife Not Employed	Wife Employed Fulltime	Wife Not Employed	Wife Employed Fulltime	Wife Not Employed
	n=1,145 (64.83%)	n=621 (35.17%)	n=107 (30.21%)	n=247 (69.79%)	n=208 (58.21%)	n=149 (41.79%)
Household income	88,342 _a	64,585 _b	33,926 _a	25,960 _b	53,311 _a	50,920 _b
Wife's earning	37,863	267	18,134	348	23,655	103
% income	43.68	0.76	53.53	1.51	44.42	0.21
Tax	5,406 _a	2,565 _b	625 _a	0.93 _b	1,676 _a	774 _b
% income	5.26 _a	1.68 _b	1.51 _a	-0.88 _b	3.10 _a	1.50 _b
Public pension	6,794 _a	3,762 _b	2,537 _a	1,428 _b	4,212 _a	3,524 _b
% income	7.76 _a	5.98 _b	7.47 _a	5.34 _b	7.89 _a	6.86 _b
Private pension	2158 _a	904 _b	465 _a	159 _b	787 _a	683 _a
% income	2.13 _a	1.14 _b	1.30 _a	0.56 _b	1.45 _a	1.32 _a
Disposable income	73,984 _a	57,354 _b	30,299 _a	24,373 _b	46,636 _a	45,939 _a
% income	84.84 _b	91.19 _a	89.72 _b	94.99 _a	87.55 _b	90.32 _a
	3 rd		4 th		5 th	
	Wife Employed Fulltime	Wife Not Employed	Wife Employed Fulltime	Wife Not Employed	Wife Employed Fulltime	Wife Not Employed
	n=259 (74.44%)	n=89 (25.56%)	n=295 (83.50%)	n=58 (16.50%)	n=276 (78.16%)	n=77 (21.84%)
Household income	71434 _a	72088 _a	95,616 _a	95,887 _a	143,982 _b	182,708 _a
Wife's earning	30,499	176	40,223	354	60,626	365
% income	42.72	0.24	42.07	0.35	41.91	0.28
Tax	3,456 _a	1,930 _b	6,357 _a	4,419 _a	10,888 _a	13,596 _a
% income	4.88 _a	2.71 _b	6.59 _a	4.43 _a	7.29 _a	7.02 _a
Public pension	5,695 _a	4,940 _b	7,507 _a	5,955 _b	10,664 _a	8,702 _b
% income	7.97 _a	6.86 _b	7.86 _a	6.24 _b	7.49 _a	5.15 _b
Private pension	1,213 _a	1,140 _a	2,180 _a	2,115 _a	4,714 _a	2,534 _b
% income	1.71 _a	1.61 _a	2.25 _a	2.20 _a	3.25 _a	1.33 _b
Disposable income	61,070 _b	64,077 _a	79,573 _b	83,398 _a	117,716 _b	157,876 _a
% income	85.44 _b	88.83 _a	83.29 _b	87.12 _a	81.97 _b	86.50 _a

Note: All values are weighted. The values of “% income” are the averages of individual household values and are not as exactly same as the ratios of the aggregate means. Means within a quintile in the same row that do not share subscripts differ at $p < .05$ in the GLM test

Table 3

Mean Annual Expenditure by Disposable Income Quintiles

	<i>Frequency (Row %)</i>		<i>Mean Annual Expenditure (\$)</i>	
	Wife Employed Full-time	Wife Not Employed	Wife Employed Full-time	Wife Not Employed
<i>Total</i>	1145 (64.83)	621 (35.17)	43,050 _a	38,630 _b
<i>1st</i>	108 (30.40)	246 (69.60)	27,907 _a	24,522 _b
<i>2nd</i>	220 (62.35)	133 (37.65)	31,723 _b	36,887 _a
<i>3rd</i>	268 (75.81)	86 (24.19)	39,697 _a	42,576 _a
<i>4th</i>	283 (80.25)	70 (19.75)	47,609 _a	48,739 _a
<i>5th</i>	266 (75.43)	87 (24.57)	57,054 _b	69,337 _a

Note: All values are weighted. Means within a quintile in the same row that do not share subscripts differ at $p < .05$ in the GLM test

Table 4

Mean Annual Expenditures and Quantile Rregression Coefficient of Wife's Full-time Work

	Wife Employed Fulltime n=1,145	Wife Not Employed n=621	Effect of Wife's Employment
	Mean (US\$)	Mean (US\$)	Median Quantile (β)
Total Household Expenditure	43,050	38,630	-0.04*
Food	6,949	6,811	-
food at home	4,826	5,164	-0.31*
food away home	2,123	1,647	NS
Alcohols beverages	413	302	NS
Housing	17,523	15,591	-
shelter	10,778	9,807	-.11***
utilities	3,631	3,440	-.04*
household operations	1,341	651	0.49***
household equipments	1,773	1,693	NS
Clothing	1,887	1,627	-
women's clothing	569	434	NS
other clothing	1,318	1,193	NS
Transportation	5,624	4,562	0.06**
Health	2,671	2,743	NS
Entertainment	3,095	2,782	NS
Personal care	376	304	NS
Read	184	155	NS
Tobacco	401	381	-
Education	1,086	990	NS
Miscellaneous	535	507	0.29**
Contribution	1,594	1,332	NS
Personal insurance	711	543	NS

Note: All values are weighted. * $P < 0.1$, ** $P < 0.01$, *** $P < 0.001$

Table 5
Descriptions of Work-Related Expenditures

Categories	Including expenditure items
Household operations	Personal services and other household expenses. Personal services include baby-sitting; day care, nursery school, and preschool tuition; care of the elderly, invalids and handicapped; adult day care; and domestic and other duties. Other household expenses include housekeeping services, gardening and lawn care services, coin-operated laundry and dry-cleaning (non-clothing), termite and pest control products and services, home security systems service fees, moving, storage, and freight expenses, repair of household appliances and other household equipment, repair of computer systems for home use, computer information services, reupholstering and furniture repair, rental and repair of lawn and gardening tools, and rental of other household equipment.
Transportation	Gasoline and motor oil, maintenance and repairs, vehicle insurance, public transportation, vehicle rental, leases, licenses, and other charges.
Miscellaneous	Safety-deposit box rental, checking account fees and other bank service charges, credit card memberships, legal fees, accounting fees, funerals, cemetery lots, union dues, occupational expenses, expenses for other properties, and finance charges other than those for mortgages and vehicles.

Source: BLS Consumer Expenditure Survey Glossary

Table 6
Means of Wife's Work-related Expenditure by Disposable Income Quintiles (US\$)

	Disposable income quintiles					
	Total		1 st		2 nd	
	Wife Employed Fulltime n=1145 (64.83%)	Wife Not Employed n=621 (35.17%)	Wife Employed Fulltime n=108 (30.40%)	Wife Not Employed n=246 (69.60%)	Wife Employed Fulltime n=220 (62.35%)	Wife Not Employed n=133 (37.65%)
Total Expenditure	43,050 _a	38,630 _b	27,909 _a	24,522 _b	31,723 _b	36,887 _a
Work-Related Expenditure	7,500 _a	5,720 _b	4,865 _a	3,692 _b	5,600 _a	5,473 _a
Household operation	1,341 _a	651 _b	452 _a	260 _b	718 _a	543 _a
Transportation	5,624 _a	4,562 _b	4,068 _a	3,128 _b	4,442 _a	4,544 _a
Miscellaneous	535 _a	507 _a	345 _a	304 _a	440 _a	387 _a
All other expenditures	35,550 _a	32,909 _b	23,044 _a	20,829 _b	26,123 _b	31,414 _b
	3 rd		4 th		5 th	
	Wife Employed Fulltime n=268 (75.81%)	Wife Not Employed n=86 (24.19%)	Wife Employed Fulltime n=283 (80.25%)	Wife Not Employed n=70 (19.75%)	Wife Employed Fulltime n=266 (75.43%)	Wife Not Employed n=87 (24.57%)
Total Expenditure	39,697 _a	42,576 _a	47,609 _a	48,739 _a	57,054 _b	69,337 _a
Work-Related Expenditure	7,167 _a	7,124 _a	8,000 _a	7,254 _a	9,938 _a	9,244 _a
Household operation	1,195 _a	663 _b	1,398 _a	964 _a	2,301 _a	1,666 _a
Transportation	5,431 _a	5,724 _a	6,038 _a	5,195 _a	6,982 _a	7,008 _a
Miscellaneous	541 _a	736 _a	565 _a	1,095 _a	654 _a	571 _a
All Other Expenditures	32,530 _b	35,452 _a	39,609 _a	41,486 _a	47,116 _b	60,093 _a

Note: All values are weighted. Means within a quintile in the same row that do not share subscripts differ at $p < .05$ in the GLM test

Table 7

Summary of Blinder-Oaxaca Decomposition of the Gap in Payments and Expenditures (US\$)

	Tax		Social Security		Pensions		Work-Related Expenditure		Total		
Payments and Expenditures											
Dual-earner households $\sum B_{j1} \bar{X}_{j1}$	5418	(329)	6794	(98)	2156	(141)	7497	(140)	21865	(516)	
One-earner households $\sum B_{j0} \bar{X}_{j0}$	2561	(434)	3759	(123)	902	(100)	5714	(168)	12936	(608)	
Gap $\sum B_{j1} \bar{X}_{j1} - \sum B_{j0} \bar{X}_{j0}$	2858	(545)	3035	(157)	1254	(172)	1783	(218)	8929	(780)	
Due to characteristics $\sum B_{j0} (\bar{X}_{j1} - \bar{X}_{j0})$	1898	(561)	1233	(138)	401	(103)	1172	(195)	4704	(727)	
Due to structure $\sum \bar{X}_{j1} (B_{j1} - B_{j0})$	959	(933)	1802	(141)	853	(216)	611	(284)	4225	(1120)	
<i>% of the gap explained</i>	33.55		59.37		68.02		34.27		47.32		

Note: Standard errors are in parentheses. All values are weighted.

Table 8

The Effects of Explanatory Variables on the Gap in Payments and Expenditures Due to Household Characteristics

Variables	Tax		Social Security		Pensions		Work-related Expenditure		Total	
	B	SE B	B	SE B	B	SE B	B	SE B	B	SE B
Log(Gross income)	0.27***	0.50	0.16***	0.01	0.06***	0.01	...	...	0.61***	0.07
Log(Disposable income)	...	...	...	...	...	...	0.10***	0.01	...	...
Home Ownership (Rent omitted)										
Own w mortgage	-0.01	0.01	-0.006*	0.003	-1.87e-3	2.58e-3	0.01	0.01	-0.01	0.01
Own w/o mortgage	0.01	0.01	1.86e-3	1.44e-3	-1.39e-3	2.01e-3	-5.00e-3	3.77e-3	1.89e-3	0.01
Wife's age	-6.27e-4	2.66e-3	-3.06e-6	1.64e-4	-3.28e-5	2.35e-4	-5.24e-5	4.09e-4	-7.31e-4	3.10e-3
Wife's Education (Less than HS omitted)										
High school	-0.01	0.01	-0.01	3.70e-3	-2.42e-3	4.14e-3	0.01	0.01	-0.01	0.02
College and more	0.03	0.02	8.74e-5	3.99e-3	3.03e-3	0.01	-2.06e-3	0.01	0.03	0.03
Wife's race-White	3.85e-3	3.90e-3	-6.29e-5	4.47e-4	-4.3e-4	6.57e-4	-1.89e-3	1.74e-3	1.25e-3	3.70e-3
Region (South omitted)										
Northeast	-7.26e-5	5.52e-4	-2.24e-6	7.25e-5	-3.83e-5	2.56e-4	4.91e-5	3.24e-4	-7.76e-5	6.35e-4
Midwest	0.02	0.01	-1.63e-3	1.22e-3	1.12e-3	1.58e-3	7.76e-4	2.14e-3	0.02	0.01
West	-0.02	0.01	1.93e-3	1.43e-3	-1.45e-3	1.67e-3	-0.01	3.53e-3	-0.02	0.01
City Size (<125K omitted)										
>4 million	0.01	4.69e-3	-1.68e-3	1.30e-3	1.39e-3	1.56e-3	-3.12e-3	2.40e-3	2.06e-3	4.94e-3
1.2-4 million	3.73e-3	4.45e-3	5.25e-4	8.43e-4	7.47e-4	1.23e-3	4.17e-3	2.74e-3	0.01	0.01
0.33-1.19 million	-4.15e-3	0.01	2.14e-4	4.67e-4	2.87e-5	3.95e-4	-6.66e-4	1.14e-3	-4.51e-3	0.01
125K-329.9K	-1.49e-4	2.83e-3	3.86e-4	8.04e-4	1.13e-3	1.03e-3	1.55e-3	1.50e-3	2.67e-3	4.14e-3
Family Life-cycle (Couple wife's age≥45 omitted)										
Children age <6	0.02	0.03	-1.05e-3	0.01	-3.64e-3	0.01	0.02	0.01	0.03	0.03
Children age 6-11	4.03e-3	0.01	7.67e-4	1.29e-3	-2.36e-3	1.97e-3	0.01	3.81e-3	0.01	0.01
Children age 12-17	-0.01	0.01	-2.16e-3	1.72e-3	-5.33e-4	1.49e-3	-7.67e-4	2.76e-3	-0.01	0.01
Couple wife's age<45	-0.05	0.02	-1.94e-3	4.70e-3	-3.99e-3	4.20e-3	0.01	0.01	-0.04	0.03
Family Size	0.04*	0.02	-2.26e-3	4.02e-3	0.01*	4.65e-3	-0.02*	0.01	0.03	0.02

Note: All values are weighted. * $P<0.1$, ** $P<0.01$, *** $P<0.001$

Table 9

The Effects of Explanatory Variables on the Gap in Payments and Expenditures Due to Structure

Variables	Tax		Social Security		Pensions		Work-Related Expenditure		Total	
	<i>B</i>	<i>SE B</i>	<i>B</i>	<i>SE B</i>	<i>B</i>	<i>SE B</i>	<i>B</i>	<i>SE B</i>	<i>B</i>	<i>SE B</i>
Log(Gross income)	3.16*	1.51	2.95***	0.22	1.97***	0.52	...	...	9.04***	1.91
Log(Disposable income)	...	...	...	...	...	...	0.30	0.48	...	...
Home Ownership (Rent omitted)										
Own w mortgage	0.06	0.07	0.03	0.02	0.03	0.02	-5.55e-4	0.05	0.11	0.10
Own w/o mortgage	0.02	0.02	0.01*	4.01e-3	0.01	0.01	-9.97e-4	0.01	0.04	0.03
Wife's age	0.09	0.40	-0.05	0.07	0.14	0.13	0.30	0.15	0.44	0.50
Wife's Education (Less than HS omitted)										
High school	-0.02	0.03	-2.15e-3	0.01	-0.01	0.01	0.01	0.02	-0.02	0.04
College and more	-0.04	0.07	0.01	0.01	0.03	0.02	0.03	0.03	0.02	0.09
Wife's race-White	0.05	0.13	2.48e-3	0.02	-0.01	0.04	-0.07	0.06	-0.04	0.17
Region (South omitted)										
Northeast	-0.02	0.03	-1.46e-3	4.88e-3	-0.01	0.01	0.01	0.01	-0.02	0.03
Midwest	-0.06	0.05	0.01	0.01	0.01	0.01	0.01	0.01	-0.02	0.05
West	-0.03	0.03	0.01	4.66e-3	1.70e-3	0.01	-0.01	0.01	-0.03	0.03
City Size (<125K omitted)										
>4 million	0.08*	0.03	-4.01e-3	0.01	0.02	0.01	0.03*	0.01	0.11*	0.04
1.2-4 million	0.01	0.03	-8.11e-4	0.01	0.01	0.01	8.83e-4	0.01	0.01	0.04
0.33-1.19 million	-0.03	0.03	9.78e-4	4.75e-3	2.38e-3	0.01	-2.61e-3	0.01	-0.03	0.03
125K-329.9K	0.02	0.01	1.53e-3	2.83e-3	0.01*	4.91e-3	0.01	0.01	0.04*	0.02
Family Life-cycle (Couple wife's age≥45 omitted)										
Children age <6	-0.01	0.04	-3.83e-3	0.01	-3.74e-3	0.01	0.08***	0.02	0.07	0.06
Children age 6-11	0.01	0.04	1.82e-3	0.01	-0.02	0.01	0.03*	0.01	0.03	0.04
Children age 12-17	0.05	0.04	0.01	0.01	-2.03e-3	0.01	0.01	0.02	0.07	0.05
Couple wife's age<45	0.05	0.04	4.81e-4	0.01	4.40e-3	0.01	0.02	0.01	0.07	0.05
Family Size	0.02	0.21	-0.01	0.04	0.01	0.08	0.07	0.09	0.09	0.29
Constant	-3.42*	1.34	-2.81***	0.22	-2.14***	0.51	-0.75	0.44	-9.71***	1.76

Note: All values are weighted. * $P < 0.1$, ** $P < 0.01$, *** $P < 0.001$

Table A1. Results of Regression Analysis

Variables	Tax				Social Security			
	Wife Employed Fulltime		Wife Not Employed		Wife Employed Fulltime		Wife Not Employed	
	B	SE B	B	SE B	B	SE B	B	SE B
Log(Income)	0.82 ***	0.09	0.54 ***	0.09	0.59 ***	0.01	0.33 ***	0.01
Home Ownership (Rent omitted)								
Own w mortgage	-0.01	0.07	-0.08	0.07	-8.51e-4	0.01	-0.04 *	0.02
Own w/o mortgage	0.03	0.10	-0.09	0.10	0.04 *	0.02	-0.03	0.02
Wife's age	-2.77e-3	0.01	-4.90e-3	0.01	-1.25e-3	9.73e-4	-2.39e-5	1.28e-3
Wife's Education								
(Less than HS omitted)								
High school	-0.02	0.08	0.06	0.08	0.02	0.01	0.03	0.02
College and more	0.06	0.08	0.14	0.12	0.03 *	0.01	4.57e-4	0.02
Wife's race-White	-0.09	0.11	-0.14	0.11	0.01	0.01	2.34e-3	0.02
Region (South omitted)								
Northeast	-0.11	0.10	-0.02	0.10	-0.01	0.01	-6.44e-4	0.02
Midwest	0.09	0.07	0.32	0.17	3.98e-3	0.01	-0.03	0.02
West	0.09	0.09	0.26 *	0.12	-3.24e-3	0.02	-0.03	0.02
City Size (<125K omitted)								
>4 million	0.17	0.09	-0.13	0.08	0.03	0.02	0.04	0.02
1.2-4 million	0.12	0.08	0.10	0.11	0.01	0.01	0.01	0.02
0.33-1.19 million	0.11	0.09	0.31 *	0.15	-0.01	0.02	-0.02	0.02
125K-329.9K	0.20 *	0.10	4.87e-3	0.09	3.30e-3	0.02	-0.01	0.03
Family Life-cycle								
(Couple wife's age ≥ 45 omitted)								
Children age <6	-0.18	0.16	-0.15	0.22	-0.02	0.03	0.01	0.04
Children age 6-11	-0.02	0.13	-0.11	0.20	-0.01	0.02	-0.02	0.03
Children age 12-17	0.03	0.12	-0.22	0.16	1.74e-3	0.02	-0.05	0.03
Couple wife's age <45	-0.06	0.14	-0.39	0.20	-0.01	0.02	-0.02	0.04
Family Size	-0.11 *	0.05	-0.11 *	0.05	4.22e-3	0.01	0.01	0.01
Constant	-8.31 ***	1.00	-4.89 ***	0.88	-6.02 ***	0.16	-3.21 ***	0.15
R ²	15.57		18.33		76.53		67.60	

Note: All values are weighted. * $P < 0.1$, ** $P < 0.01$, *** $P < 0.001$

Table A1. Results of Regression Analysis-continued

Variables	Pension				Work-related expenditure			
	Wife Employed Fulltime		Wife Not Employed		Wife Employed Fulltime		Wife Not Employed	
	B	SE B	B	SE B	B	SE B	B	SE B
Log(Income)	0.29 ***	0.04	0.12 ***	0.02	0.27 ***	0.03	0.24 ***	0.03
Home Ownership (Rent omitted)								
Own w mortgage	0.03	0.02	-0.01	0.02	0.07	0.04	0.07	0.06
Own w/o mortgage	0.09 *	0.04	0.02	0.03	0.07	0.05	0.08	0.06
Wife's age	3.12e-3	2.57e-3	-2.56e-4	1.53e-3	0.01 **	2.37e-3	-4.10e-4	2.75e-3
Wife's Education								
(Less than HS omitted)								
High school	-0.02	0.03	0.01	0.02	-0.03	0.03	-0.06	0.05
College and more	0.07 *	0.03	0.02	0.03	0.05	0.03	-0.01	0.05
Wife's race-White	0.01	0.03	0.02	0.02	-0.01	0.04	0.07	0.05
Region (South omitted)								
Northeast	-0.05	0.04	-0.01	0.03	0.06	0.04	0.01	0.04
Midwest	0.06	0.04	0.02	0.03	0.07 *	0.03	0.01	0.04
West	0.03	0.04	0.02	0.03	0.08 *	0.04	0.11 **	0.04
City Size (<125K omitted)								
>4 million	0.03	0.04	-0.03	0.03	0.19 ***	0.04	0.08	0.04
1.2-4 million	0.06	0.04	0.02	0.03	0.11 ***	0.03	0.11 *	0.05
0.33-1.19 million	0.01	0.05	-2.14e-3	0.03	0.03	0.03	0.05	0.04
125K-329.9K	0.09 *	0.04	-0.04	0.03	3.57e-3	0.04	-0.05	0.04
Family Life-cycle								
(Couple wife's age≥45 omitted)								
Children age <6	4.98e-3	0.08	0.03	0.04	0.35 ***	0.07	-0.14	0.08
Children age 6-11	-0.04	0.06	0.07	0.04	0.05	0.06	-0.16 *	0.06
Children age 12-17	-0.02	0.06	-0.01	0.03	0.03	0.05	-0.02	0.06
Couple wife's age<45	-0.01	0.07	-0.03	0.03	0.15 **	0.05	0.05	0.07
Family Size	-0.02	0.02	-0.03 *	0.01	0.08 ***	0.02	0.05 **	0.02
Constant	-3.23 ***	0.46	-1.09 ***	0.21	-3.00 ***	0.35	-2.25 ***	0.26
R ²	13.94		13.87		27.90		29.96	

Note: All values are weighted. * $P<0.1$, ** $P<0.01$, *** $P<0.001$

Table A1. Results of Regression Analysis-continued

Variables	Total Payments and Expenditures			
	<i>Wife Employed Fulltime</i>		<i>Wife Not Employed</i>	
	<i>B</i>	<i>SE B</i>	<i>B</i>	<i>SE B</i>
Log(Income)	2.03 ***	0.13	1.23 ***	0.11
Home Ownership (Rent omitted)				
Own w mortgage	0.07	0.10	-0.08	0.10
Own w/o mortgage	0.22	0.14	-0.03	0.14
Wife's age	4.72e-3	0.01	-0.01	0.01
Wife's Education				
(Less than HS omitted)				
High school	-0.03	0.10	0.05	0.10
College and more	0.19	0.11	0.14	0.14
Wife's race-White	-0.10	0.14	-0.05	0.13
Region (South omitted)				
Northeast	-0.11	0.12	-0.02	0.12
Midwest	0.22 *	0.10	0.32	0.18
West	0.19	0.12	0.36 *	0.14
City Size (<125K omitted)				
>4 million	0.39 **	0.12	-0.05	0.12
1.2-4 million	0.29 **	0.11	0.23	0.14
0.33-1.19 million	0.13	0.12	0.34 *	0.16
125K-329.9K	0.29 *	0.13	-0.09	0.13
Family Life-cycle				
(Couple wife's age ≥ 45 omitted)				
Children age <6	0.16	0.23	-0.25	0.25
Children age 6-11	-0.02	0.19	-0.23	0.23
Children age 12-17	0.04	0.17	-0.30	0.18
Couple wife's age <45	0.06	0.20	-0.37	0.23
Family Size	-0.05	0.07	-0.08	0.06
Constant	-21.17 ***	1.39	-11.47 ***	1.07
R ²	37.57		40.24	

Note: All values are weighted. * $P < 0.1$, ** $P < 0.01$, *** $P < 0.001$