Intergenerational Labor Supply in Interwar London

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I. Introduction

This paper examines the dynamics of household labor supply during the interwar period in Britain, using the detailed information contained in the 1929-31 *New Survey of London Life and Labour* (NSLLL). How did households containing older adults, younger adults and teenage workers living at home allocate labor supply among the generations? Did teenage and young adult workers act as substitutes for or complements to the labor market activity of their parents, and specifically their mothers? Did teenage workers replace their mothers in the labor market, or were all members of a household equally more likely to be working when income was deficient? How did the labor supply behavior of daughters compare to that of sons in working-class London households? Previous research has stressed the role of both married women and young single women as secondary workers, but the division of labor among mothers and their young adult sons and daughters has been relatively little explored. I examine the labor supply behavior of individual workers and households in interwar London, focusing especially on intergenerational trade-offs and the roles of wives, adult sons and adult daughters as secondary earners.

Few previous studies have been able to look at the characteristics and determinants of labor supply decisions at the household level with data as rich and detailed as that provided by the NSLLL. Its main objective was to determine whether poverty among the working classes had increased or decreased in the 40 years since Charles Booth's pioneering *Life and Labour of the People of London*, and as a result the survey contains a thorough accounting of the weekly earnings of each working household member and of the amount and sources of non-labor

[1] Preliminary and incomplete – please do not cite.

income. Detailed information about the ages and relationships of earning and non-earning household members, as well as information about the occupations and weekly hours of work of earners, make the NSLLL an ideal source for the study of household labor supply decisions. So far the analysis has focused on the individual labor supply decisions of 29,151 adult females, the characteristics and probability that a young adult son or daughter was in the labor force in 16,867 husband-wife households, and on the labor supply behavior of 16,867 male household heads. A data set that will allow a comparable analysis of the individual labor supply behavior of unmarried men is in the process of being created.

Preliminary results suggest that, consistent with some previous studies, married women and female household heads (mainly widows) were less likely to be in the labor force in the presence of a working adult child, male or female. Interestingly, it also appears that a young adult female was less likely to be working if her mother was in the labor market, which suggests that a grown daughter could potentially serve as a substitute either in the labor market or in home production. Although young single women were more likely to be in the labor market when household income was low and in the presence of an unemployed male household head, overall their participation and hours decisions were much less sensitive to household characteristics than were those of married women and female household heads. The analysis raises questions about how to consider the labor of young adult workers in the household context – should they be viewed as secondary workers, or more as primary workers, saving for their own future households?

There is also persistent evidence of some sort of "household effect" in employment – the likelihood of any given young adult worker being in the labor force was in general positively related to the labor force participation of other young adult workers. One possible explanation is

that households were responding to local employment opportunities en masse. In order to further explore this possibility, I also plan to examine the allocation of workers of different genders, age groups and geographical locations into occupation – was the occupation of a wife related to that of her husband, and did children tend to follow their parents into the same work? Analysis so far indicate that the wives, daughters and sons of men engaged in professional, clerical and skilled occupations were less likely to be working than were those of men in semi-skilled or unskilled occupations, but that overall their appears to be less correlation between the occupation of a male household head and the labor force participation of an adult son or daughter than might be expected. Finally, I also investigate the impact of interwar unemployment and the prevalence and characteristics of an added-worker effect among female or young male workers. Preliminary results indicate that the wives of unemployed men were almost three times as likely to be working than were the wives of employed men, and that an added-worker effect is present but much more muted for the sons and daughters of unemployed male household heads.

II. A Model of Household Labor Supply?

Much of the discussion in the labor economics literature on the topic of household or family labor supply seems to focus on the joint decision-making of a male and a female, usually interpreted as the husband-wife pair (Ashenfelter and Heckman, 1974 and Lundberg, 1988, for example). In the historical context of the 1930s labor market, however, it is not so clear what the appropriate household-level model would be. Most historical studies and earlier studies of British women's labor supply assume that wives and other secondary earners took the labor supply of the male household head as given (see Goldin 1990 and Greenhalgh 1980). This seems like a reasonable assumption for interwar Britain, but the fact that the predominant source of

secondary earnings in households in the NSLLL appears to have come from young-adult children raises questions about whether young adult workers in the household should actually be viewed as secondary earners, whether their labor supply decisions were related to those of the male breadwinner, and how strongly, and to what degree the labor supply decisions of male and female young adults in the household were similar or different, and influenced by the other adult workers in the household.

Labor force participation of female workers in the NSLLL fell off sharply after about age 24, and the difference in labor force participation rates between unmarried and married women was stark – less than 7% for wives, more than 80% for unmarried women. By contrast, almost 95% of male household heads were in the labor force, and 89% of unmarried men. Labor force participation rates were thus much higher among female household heads and single women than among married women, to a greater extent than in the modern labor market, and these groups have normally been treated as equivalent to male workers in the modern labor supply literature. In the historical context, however, there is evidence that young single women, who often lived at home until marriage, were responsive to household need in their labor supply behavior. Several studies of the U.S. in the late nineteenth and early twentieth centuries stress that, in this period, young adults living at home were the most important source of secondary labor for working class households, that they tended to pool their income with that of the household, and that their labor supply decisions were often made within a household framework (Goldin 1979; Fraundorf 1979; Rotella 1980; Moehling 2005). Goldin's (1979) study of teenage labor force participation in Philadelphia in 1880 found evidence that daughters substituted for mothers in the labor force, but also that daughters were far less likely to be working than were sons if there was no mother present in the household -- they could also substitute for an absent mother in home production.

Hatton and Bailey's (1993) investigation of household labor supply in interwar London stresses that it was marriage rather than child-bearing that reduced female labor supply, and found little evidence that daughters substituted for mothers, or vice versa, in that labor market. Horrell and Humphries (1995), Horrell and Oxley (1999) and Horrell and Oxley (2000) all stress the vital contributions that children made to household income in Britain in the nineteenth century. As Figure 1 illustrates, in the NSLLL the earnings of male household heads peaked at age 35, but total household earnings peaked at age 55, when many aging household heads would have been likely to have wage-earning adult children still in the household (Baines and Johnson 1999, p. 963).

Most modern labor supply models do not consider households with more than two potential labor-market participants, and focus on the issue of the cross-effects of the male (husband's) wage and hours of work on female (wife's) labor supply, and vice versa. Lundberg notes that "the most common empirical specification of family labor supply treats the work hours of married men as independent of the behavior of their wives and the husband's behavior, in turn, as exogenous with respect to the wife's work decision," which she refers to as the "traditional family" model (Lundberg 1988, p. 225). In the context of the interwar labor market it seems likely that this sort of model would well describe the labor supply interactions between husbands and wives, but less clear what model would describe interactions between fathers and adult children, between mothers and adult children, and between sibling pairs of the same and mixed genders.

One key question is the issue of income pooling and the motivations of young adult workers. Moehling's (2005) overview of the existing evidence for the U.S. in the early twentieth century concludes that income pooling was the norm, and that "even sons and daughters in their

twenties turned over most of the contents of their pay envelopes to their parents" (Moehling 2005, p. 418). This raises a question about what motivated young adult workers living at home, and Moehling explores the issue by looking at how their earnings affected their bargaining power, and specifically the allocation of resources within the household. She also discusses the potential difficulties involved in extending the existing models of household labor supply to the parent-child relationship, and concludes by arguing: "Accepting that children received rewards for working requires re-thinking the way we model family labor supply decisions in this period. Most discussions of youth employment in the nineteenth and early twentieth centuries focus exclusively on the needs of the household as a whole. The presence of working children is viewed as the consequence of a shortfall of income from the head or a high dependency ratio in the household. The findings here indicate that we must also consider the needs and desires of the child" (Moehling 2005, pp. 418-22, p. 436).

A model in which young adult workers were sent into the labor market as the result of household need and contributed their earnings to household income would suggest that they be viewed as secondary workers and that their labor supply decisions would be expected to be related to the household context. Specifically, we might expect that they would be more likely to be working the lower the earnings of the male household head and the lower all other sources of household income, and more likely to be working in the presence of an unemployed male household head. We might also expect that the likelihood of any individual young adult being in the labor force would be negatively related to the presence of other, alternative secondary workers in the household, but positively related to overall household size, and particularly to the number of children younger than working age present. Finally, we might expect male and female young adults to display differences in the determinants of their labor supply – to the extent that

daughters were more likely to be helping their mothers in domestic production, the relationships between the demographic characteristics of the household and the labor supply decision might look quite different by gender. One testable hypothesis might be that the number of young children present would increase the demand for child care and home production services from young adult women and decrease their labor supply outside the home, but would also increase the dependency ratio and thus the need for extra earnings, and might increase the labor supply of young adult men.

An alternative model is one in which young adult workers lived at home but were essentially acting as primary workers for themselves, most likely with the aim of saving their earnings in anticipation of setting up their own households on marriage. If this were the case, we would expect the labor supply decisions of young men and young women to be largely unrelated to household composition and to the earnings of other household members. In order to determine which model is more accurate for the context of interwar London, it will be necessary to find further evidence where possible on the motivations (and opportunity costs) of young adult workers, the prevalence of income pooling, and the structure and expectations of the marriage market in this time and place. The studies discussed above mainly are focused on the U.S. in a slightly earlier time period, and it might be the case that by around 1930 paid work outside the home during the years of young adulthood was simply the norm, rather than a reaction to household circumstances, for both males and females.

III. Data: The New Survey of London Life and Labour

The NSLLL was undertaken between 1929 and 1931 by researchers at the London School of Economics under the direction of Hubert Llewellyn Smith, and covered approximately 28,000

working-class households, about a 1-in-50 sample, in 38 boroughs of greater London.[2] The methodology of the household survey was developed by Arthur Bowley; households were sampled from directories of inhabited buildings kept by local borough offices.[3] Its main objective was to determine whether poverty among the working classes had increased or decreased in the 40 years since Charles Booth's pioneering *Life and Labour of the People of London*, and as a result the survey contains a thorough accounting of the weekly earnings of each working household member and of the amount and sources of non-labor income. Detailed information about the ages and relationships of earning and non-earning household members, as well as information about the occupations and weekly hours of work of earners, make the NSLLL an ideal source for the study of household labor supply decisions.[4]

Since the focus of the survey was on working class poverty, households that were deemed by the investigator, or by subsequent examination of the completed survey card, to be middle class were removed from the sample. The distinction between working class and middle class households was primarily based on the occupation of the male household head or primary

[2] The contents of the surviving 29,915 household record cards were computerized and coded in a project overseen by Tim Hatton, Roy Bailey and Anna Leith at the University of Essex and Dudley Baines and Paul Johnson at the LSE, and the resulting data sets were deposited in the UK Data Archive.

[3] One in fifty households were selected from these lists by choosing every fiftieth listing, and Bowley notes that "the list of houses selected for investigation was made at headquarters quite independently of any local considerations. From it houses were assigned to investigators, who were instructed not to make any variation except for such reasons as that a house was unoccupied," in which case specific further instructions were provided to substitute the house to the left hand side in the first instance, or the house to the right hand side if no such house exists or was also unoccupied (NSLLL, Vol III, p. 32, 413).

[4] The instructions given to the interviewers do not specifically address from whom they were expected to obtain information, but did specify that "Vague estimates of husband's earnings by wife, of child's by parent, or of lodger's by landlady, should not be entered until an effort has been made to see the wage-earner concerned. Where only estimates can be obtained, that fact should be noted together with reason why exact statement cannot be obtained" (NSLLL Vol III, 415).

wage earner, with professional and clerical occupations designated as middle-class.[5] In cases where the occupation did not clearly indicate a social classification -- such as shopkeepers, some shop assistants and various self-employed and small employers -- those with a yearly income of less than £250 were designated as working class. Bowley estimated that between 20% and 30% of families in the survey area were classified as middle class (NSLLL, Vol VI, p. 30).

This paper primarily makes use of a data set of 16,867 husband-wife households contained in the NSLLL, though some of the analysis refers to a data set of 29,151 females -- married, widowed, and single -- contained in the NSLLL.[6] Table 1 presents descriptive statistics for the husband-wife households. The average household had about four people, three total adults, including the husband and wife present, and one child under the age of 14. Male household heads were clearly the primary breadwinners in most households, with a labor force participation rate of 95%, and earning an average of 676.3 pence per week, as compared to 124.4 and 104.6 for all other males and female household members, respectively, in total. The average male household head worked just under 40 hours a week, while average hours for other male and female household members were considerably lower -- because their labor force participation rates were lower, however, these estimates say less about the weekly hours of any individual worker. Table 2 summarizes some characteristics of the data for the 29,151 female workers, in aggregate and separately for female household heads, wives of household heads, and other females (mostly unmarried adult daughters living with parents or other family members). Although less than 7% of wives could be considered as active within the labor force, the average

[5] Full instructions to investigators regarding the designation of middle class households are given in the NSLLL, Vol. III, p. 416. In many cases, the children of working class household heads were engaged in clerical and professional occupations, and these were included in the survey.

[6] Both data sets were derived from essentially the same set of households used in Hatton and Bailey (1998). I am very grateful that they were generous enough to share the data used for that paper.

married woman who was earning worked about 35 hours per week, while more than 80% of other adult females were in the labor force, and worked an average of about 46 hours per week.

Figure 2 displays the corresponding age-participation profile for females in the NSLLL, which peaked in the late teen years and the fell off dramatically after age 25, as the majority of working young women exited the labor force on marriage. The age-wage profile, on the other hand, climbed steadily until age 40-44 and then fell off slightly, and the average wage figures given in Table 2 follow this pattern – those married women who did work commanded higher wages than single women, and working widows out-earned working wives. As is also apparent in Table 2, there was a clear shift in employment opportunities, or preferences, after marriage. Married women and widows were overwhelmingly employed in the personal service industry, which included domestic service, office cleaning and laundry, while single women were concentrated in manufacturing, retail and clerical work. The clothing industry utilized significant proportions of all three groups.

Figure 3 and Table 3 highlight some relationships between the labor force participation rates of wives and single women living in male-headed households to the wage level, industry of employment and employment status of the male household heads in the NSLLL. Figure 3 shows sharply declining labor force participation rates of married women as their husbands' wages increase. The trend for single women is not as straightforward or as dramatic, but appears to be mainly decreasing in the male wage as well. Table 3 orders the labor force participation rates of all females, wives and others by the industry of employment and skill level of the male household head; the wives and daughters of men engaged in professional, clerical and skilled occupations were less likely to be working than were those of men in semi-skilled or unskilled occupations. This is also evident in the ordering of labor force participation rates by industry,

where the biggest difference is between the wives and daughters of clerks and men in the civil service and other professional jobs, and all the others. Finally, the wives of unemployed men were almost three times as likely to be working than were the wives of employed men, and although the effect is less dramatic, their daughters appear to have been affected as well.

IV. Results

Table 4 presents the results for Probit estimations of female labor force participation from a previous study of female labor supply using the NSLLL (Bean 2013 working paper). Although there is evidence that adult daughters ("other" females) were more likely to be in the labor force the lower the other sources of income for the household, on the whole these young single women appear to have been less responsive to household income than were married women and widows. As would be expected, the presence of young children reduced the probability that a married woman worked, and for both married women and female household heads, the greater the number of other workers in the household, both male and female, the less likely they were to be working outside the home – evidence that young adult workers in at least some cases served as substitutes for the paid labor of their mothers. Although young single women were not significantly less likely to be in the labor force if there were small children present in the household, they were more likely to be if an older child not yet of working age was also present -- an indication that adult daughters might serve as complements to (or substitutes for) their mothers in home production, but were less likely to be doing so if a younger teenage sibling was available instead. Interestingly, the labor force participation of "other" females was positively related to both the number of other female workers and to the number of other female non-workers present. Table 5 illustrates this point in a slightly different way -- in general, the labor

force participation rates of female and male household members are increasing as the numbers of each get larger -- i.e., the more females of working age are present in the household, the higher the proportion of them are labor force participants.

Table 6 presents a Probit estimation of the probability that a male household head is in the labor market. Probably most interesting here is the increased probability that a male household head is in the labor force as the number of both children and other adults in the household increase. Also of note is the positive effect of having a working wife in the specification that does not control for the borough of residence (location within London), which disappears once borough is controlled for. A husband's increased probability of working given that his wife is in the labor market might be further evidence of some sort of "household effect" for the propensity to work among all adult members, and the fact that the effect is eliminated in this case by the inclusion of borough controls might suggest that this "household effect" is determined by local employment opportunities available to the entire household.

Tables 7 and 8 present the results of Probit estimations of the probability that a given household has at least one young adult (unmarried) female or male, respectively, in the labor force, given that at least one is present. Neither gender displays a large effect of other household income, though the sign is negative as would be expected. Perhaps surprisingly, it is males for whom a higher household head's wage lessens the likelihood or working. It might be the case that the sons of higher-wage fathers are able to continue with education or engage in some kind of training programs or apprenticeships in their late teens and early twenties -- in any case, this finding seems worthy of further explanation. Less surprisingly, it is females for whom the presence of small children lessens the likelihood of working outside the home. It also appears that a household is less likely to send a young female into the labor force if the mother is

working, which suggests that there may be some substitution of young adult females for their mothers in home production. Households are more likely to send a young adult of either gender in the labor force if the male household head is unemployed in the simplest specification, but this effect disappears once other household characteristics are controlled for. Finally, there is a positive relationship between the number of other male adults present and the likelihood that a household sends at least one young adult female into the labor force, and vice versa -- this seems to suggest that young men and young women acted as complements in household labor supply, rather than substitutes.

Table 9 relates the probability that a household sends a young female or young male into the labor force to the industry of the household head's occupation. These results appear to confirm the impression gleaned from Table 3 that the father's occupation does not appear to be very highly correlated with the likelihood the household contains a working daughter, although females with male household heads in the wood furniture, retail, metal trades were somewhat less likely to be in the labor force, with the largest negative coefficient on the daughters of clerks. The households headed by professional males were least likely to send an adult male son into the labor force, followed by those of household heads in the retail, metal and printing trades. Since the labor force participation rate of both young males and young females were quite high it is perhaps not surprising that they don't display much sensitivity to the occupation of the household head, and it will likely be more illuminating to relate the occupations of the young adult workers to those of their fathers and siblings.

V. Conclusions

So far the analysis seems to suggest that the labor supply decisions of young single women in the households represented in the NSLLL were in general somewhat less responsive to household income and composition than were those of married women, that married women and widows were less likely to be working in the presence of working sons and daughters, and that young single women and men were in general more likely to be working in the presence of siblings, both working and non-working. Many findings are suggestive of further investigation, but one key area for future research lies in determining more about the motivations of young adult workers at this time and in this place – were households with multiple generations of workers pooling income, or is the more appropriate model for interwar London one in which young adults accumulated private savings to take into forming their own households? Labor force participation rates for young adult workers in the NSLLL might be high enough that working should be seen as the norm and as relatively un-influenced by household income and demographic characteristics, but there is evidence that young females were at least somewhat responsive to the household context, though less so than were married women and female household heads. It seems likely, indeed, that the motivations of young adult workers and the roles they played in the household economy would have varied by gender and by the social and economic status of the household. Thus the key avenues for further exploration lie in a more explicit comparison of the labor supply determinants of young adult males with those of young adult females, and in exploring how patterns of labor supply might have varied geographically within London and by the industry and occupation of the male household head and other household members.

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Table 1: Descriptive Statistics for Husband-Wife Households in the NSLLL

Variable	N	Mean	St Dev	Min	Max
Household size	16,867	3.92	1.82	2	13
Total adults in household	16,867	2.72	1.16	2	10
Total children (under 14)	16,867	1.2	1.39	0	9
Age of male head (where known)	14,467	43.3	12.37	18	97
Earnings of male head (pence, weekly)	16,867	676.3	301.96	0	2160
Hours of male head (weekly)	16,867	39.45	18.89	0	118
Earnings of other males	16,867	124.39	306.27	0	3192
Hours of other males	16,867	13.38	30.31	0	267
Earnings of females	16,867	104.57	220.9	0	2130
Hours of females	16,867	14.62	30.22	0	288
Total household income	16,867	973.52	464.67	108	5388
Hourly wage of male head (pence)	14,036	16.38	3.92	2.14	70
Predicted hourly wage of male head	16,867	16.32	0.89	12.9	18.6
	Heads	Wives	Other Females	Other Males	
Labor force participation rate	94.9%	6.8%	82.4%	89.7%	

Table 2: Basic Descriptive Statistics of Females and Households in the NSLLL

	All	Heads	Wives	Other
Full Sample				
Total number	29,151	3,516	16,867	8,768
Participation rate	33.5%	43.8%	6.8%	80.8%
Household size	4.11	2.33	3.92	5.19
Children in household	1.02	0.34	1.19	0.97
Age	37.1	56.4	41.2	23.3
Sample of Workers*				
Age of workers	27.0	48.3	39.6	21.3
Weekly hours of workers	43.3	37.4	35.3	45.7
Hourly wage of workers (d.)	7.58	9.88	8.87	6.91
Occupied in service, laundry, cleaning	27.1%	61.2%	60.2%	14.3%
Occupied in clothing industry	21.2%	16.1%	12.3%	23.7%
Occupied in manufacturing	24.4%	10.3%	16.9%	28.7%
Occupied in retail industry	14.5%	7.9%	8.1%	17.0%
Occupied in clerical or professional trade	12.5%	3.8%	2.0%	16.1%

* Sample of workers includes 9,767 occupied females (1,541 heads, 1,143 wives, and 7,083 others); 30 had a missing or unknown occupation.

Table 3: Female Labor Force Participation Rates by Occupation, Skill Level and Employment Status of the Household Head in the NSLLL

	Number of HH Heads	Number of Females	FLFP Rate	FLFP Rate Wives	FLFP Rate Other	Average Children per Wife
Occupation of Male Head						
Unknown	31	47	0.40	0.13	0.88	1.13
Other Laborers	1959	2726	0.31	0.08	0.84	1.39
Clothing	495	727	0.30	0.04	0.80	1.13
Warehouse, Packers	644	907	0.30	0.07	0.82	1.08
Personal Service	962	1288	0.30	0.09	0.83	1.08
Other Manufacturing	616	851	0.30	0.07	0.83	1.21
Wood Furniture	962	1358	0.29	0.06	0.77	1.10
Paper and Printing	488	684	0.28	0.05	0.80	1.04
Food, Drink, Tobacco	404	570	0.28	0.05	0.80	1.35
Painting, Decorating	674	949	0.28	0.06	0.80	1.30
Building	1184	1604	0.27	0.08	0.76	1.30
Transport	4239	5711	0.27	0.07	0.79	1.37
Retail	1271	1658	0.24	0.07	0.74	1.08
Metal, Electric	2110	2791	0.24	0.05	0.77	1.16
Civil, Professional	422	520	0.18	0.04	0.73	1.11
Clerks	44	61	0.18	0	0.61	0.72
Skill Level of Male Head						
Professional	113	151	0.23	0.03	0.72	0.68
Skilled and Clerical	8297	11235	0.25	0.05	0.77	1.11
Semi-skilled	3214	4352	0.28	0.07	0.80	1.31
Unskilled	4900	6748	0.31	0.09	0.82	1.42
Unknown	474	642	0.34	0.11	0.82	0.38
Employment Status of Male Head						
Employed	15501	20980	0.26	0.06	0.78	1.22
Unemployed	1004	1472	0.41	0.17	0.86	1.45
Not in Labor Force	941	1322	0.36	0.11	0.82	0.32
Employment Status of Female Head						
Employed	1488	618			0.85	
Unemployed	53	31			0.77	
Not in Labor Force	1975	1212			0.87	

Table 4: Probit Estimation of Female Labor Force Participation

	(1)	(2)	(3)	(4)	(5)	(6)
	Wives	**Wives**	**Heads**	**Heads**	**Other**	**Other**
Wage (d/h)	-0.029	-0.029	0.007	0.008	0.004	0.004
	(0.019)	(0.019)	(0.010)	(0.010)	(0.005)	(0.005)
Earnings of Male Head (Full Week)	-0.256	-0.256			-0.133	-0.129
	(0.016)***	(0.016)***			(0.013)***	(0.013)***
Benefit Income	-0.224	-0.223	-0.631	-0.631	-0.123	-0.105
	(0.053)***	(0.053)***	(0.057)***	(0.058)***	(0.043)***	(0.043)**
Children Ages 0-5	-0.297	-0.298	-0.135	-0.133	-0.078	-0.075
	(0.034)***	(0.034)***	(0.118)	(0.119)	(0.052)	(0.051)
Older Child Present	0.096	0.096	-0.839	-0.837	0.205	0.207
	(0.063)	(0.063)	(0.241)***	(0.242)***	(0.101)**	(0.101)**
Number of Other Workers	-0.131		-0.350		0.080	
	(0.018)***		(0.024)***		(0.015)***	
Number of Other Nonworkers	0.006		-0.043		0.228	
	(0.048)		(0.077)		(0.038)***	
Male Head Unemployed	0.695	0.695			0.295	0.281
	(0.070)***	(0.070)***			(0.088)***	(0.089)***
Other Workers Male		-0.147		-0.426		-0.018
		(0.026)***		(0.038)***		(0.020)
Other Nonworkers Male		-0.078		0.078		-0.101
		(0.086)		(0.152)		(0.078)
Other Workers Female		-0.114		-0.278		0.187
		(0.028)***		(0.035)***		(0.023)***
Other Nonworkers Female		0.056		-0.078		0.331
		(0.061)		-0.426		(0.044)***
Constant	-0.418	-0.420	0.746	0.731	0.825	0.731
	(0.168)**	(0.168)**	(0.116)***	(0.115)***	(0.090)***	(0.092)***
Observations	16,867	16,867	3,516	3,516	8,768	8,768
	Robust standard errors in parentheses					
	* significant at 10%; ** significant at 5%; *** significant at 1%					

Note: Dependent variable =1 if the woman works and =0 if not. Includes controls for age using a series of dummy variables denoting age group in five-year intervals. Women who were unemployed in the sample week or otherwise have missing earnings are excluded (315 in total). Wages are predicted for women not in the labor force using the wage equation described Bean, 2012.

[1]Benefit income (unemployment insurance payments and state pensions) is subtracted from other household income and inserted separately.

Table 5: Numbers and Participation Rates of Adult Men and Women in the NSLLL

For households with:	Number	LFP rate	For households with:	Number	LFP rate
1 female	12,654	7%	1 male	12,677	95%
2 females	5640	41%	2 males	5482	90%
3 females	3081	60%	3 males	3090	94%
4 females	1156	68%	4 males	1360	93%
5 females	295	72%	5 males	335	94%
6 females	96	72%	6 males	66	89%
7 females	14	86%	7 males	7	86%

Table 6: Probability male household head is in the labor market (Probit model)

Variable	(1)	(2)	(3)
Predicted wage	**0.634**	**0.535**	**0.846**
	(0.021)* **	**(0.022)*** **	**(0.029)*** **
Other income	**-0.001**	**-0.002**	**-0.002**
	(0.00003)* **	**(0.00007)*** **	**(0.00007)*** **
Wife in LF		**0.186**	**-0.003**
		(0.065)* **	**-0.069**
Number of kids		**0.232**	**0.153**
		(0.022)* **	**(0.023)*** **
# other adults		**0.530**	**0.465**
		(0.031)* **	**(0.032)*** **
Borough controls	**N**	**N**	**Y**
Constant	**-8.119**	**-7.273**	**-13.033**
	(0.333)* **	**(0.341)*** **	**(0.503)*** **
Observations	**16,867**	**16,867**	**16,867**

Note: Predicted wages were generated for male household heads using an equation including sets of dummy variables for age in 5-year increments, birth place and borough of residence.

Table 7: Probability that an "other" adult FEMALE is in the labor force (Probit model)

Variable	(1)	(2)	(3)
Other income	**-0.000013**	**-0.00048**	**-0.00045**
	(0.00005)	**(0.00007)*** **	**(0.00007)*** **
Head's wage	**-0.032**	**-0.001**	**0.002**
	(0.029)	**(0.029)**	**(0.029)**
Head unemployed	**0.301**	**0.098**	**0.094**
	(0.103)* **	**(0.109)**	**(0.109)**
Kids under 2		**-0.293**	**-0.297**
		(0.078)* **	**(0.078)*** **
Total kids		**0.032**	**0.028**
		(0.019)*	**(0.020)**
Other male adults		**0.344**	**0.334**
		(0.039)* **	**(0.039)*** **
Wife in LF		**-0.214**	**-0.223**
		(0.099) **	**(0.099)** **
Head semi-skilled			**0.057**
			(0.065)
Head unskilled			**0.118**
			(0.057) **
Constant	**1.496**	**1.233**	**1.141**
	(0.469)* **	**(0.478)*** **	**(0.479)** **
Observations	**4,213**	**4,213**	**4,213**

Table 8: Probability that an "other" adult MALE is in the labor force (Probit model)

Variable	(1)	(2)	(3)
Other income	**0.000076**	**-0.00038**	**-0.00036**
	(0.00008)	**(0.0001)*** **	**(0.0001)*** **
Head's wage	**-0.151**	**-0.104**	**-0.102**
	(0.035)* **	**(0.036)*** **	**(0.037)*** **
Head unemployed	**0.401**	**0.232**	**0.233**
	(0.137)* **	**(0.145)**	**(0.145)**
Kids under 2		**0.056**	**0.060**
		(0.096)	**(0.096)**
Total kids		**-0.049**	**-0.054**
		(0.022) **	**(0.022)** **
Other female adults		**0.340**	**0.335**
		(0.043)* **	**(0.043)*** **
Wife in LF		**-0.113**	**-0.124**
		(0.117)	**(0.117)**
Head semi-skilled			**0.172**
			(0.082) **
Head unskilled			**0.057**
			(0.066)
Constant	**3.733**	**3.235**	**3.149**
	(0.576)* **	**(0.594)*** **	**(0.599)*** **
Observations	**4,190**	**4,190**	**4,190**

Table 9: Probability that an (available) “other” female or “other” male is in the labor force

Household Head Industry	Females St. Error in ()	Males St. Error in ()
Other laborers	-0.023 (0.124)	-0.188 (0.151)
Clothing	-0.193 (0.157)	-0.196 (0.202)
Warehouse/packers	0.080 (0.164)	-0.356 (0.185)*
Personal service	-0.161 (0.147)	-0.300 (0.174)*
Other manufacturing	-0.159 (0.157)	-0.270 (0.188)
Wood furniture	-0.332 (0.135)**	-0.214 (0.172)
Paper/printing	-0.127 (0.170)	-0.400 (0.201)**
Food/drink/tobacco	-0.275 (0.173)	-0.349 (0.216)
Painting/decorating	-0.241 (0.149)	-0.080 (0.192)
Building	-0.211 (0.133)	-0.208 (0.167)
Transport	-0.208 (0.112)*	-0.255 (0.140)*
Retail	-0.326 (0.134)**	-0.407 (0.163)**
Metal/electric	-0.281 (0.122)**	-0.361 (0.150)**
Civil, professional	-0.313 (0.198)	-0.648 (0.225)***
Clerks	-0.734 (0.350)**	
Constant	1.165 (0.101)***	1.595 (0.129)***
Observations	4,213	4,179

Note: Excluded category is occupation unknown

Figure 1: Household Earnings Profile by Age of Male Household Head for NSLLL

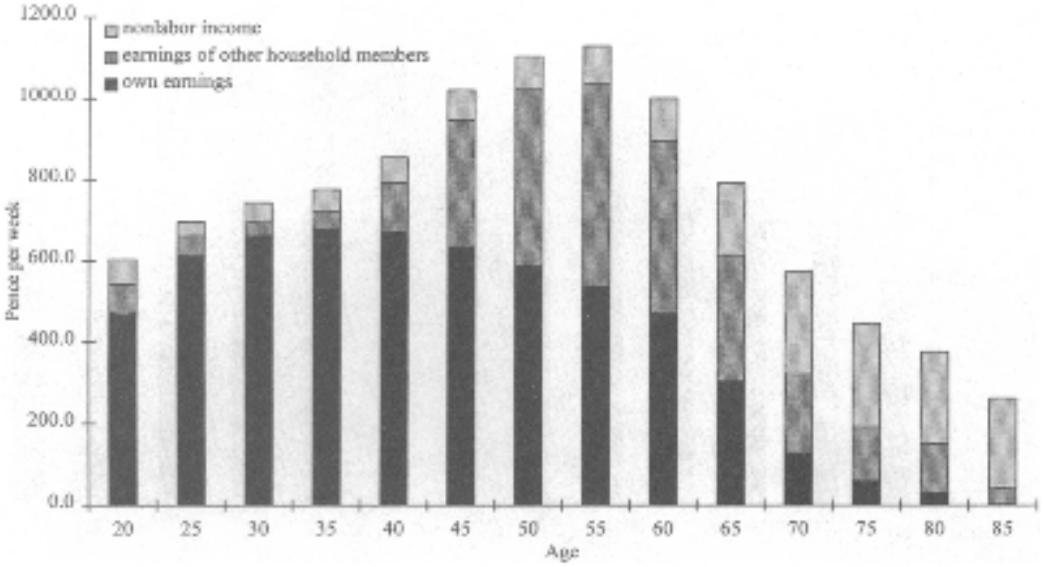

FIGURE 1
HOUSEHOLD INCOME BY SOURCE: ALL MALE HOUSEHOLD HEADS

Source: See the text.

Source: Baines and Johnson (1999), p. 963

Figure 2: Participation Rates and Wages by Age for Females in the NSLLL

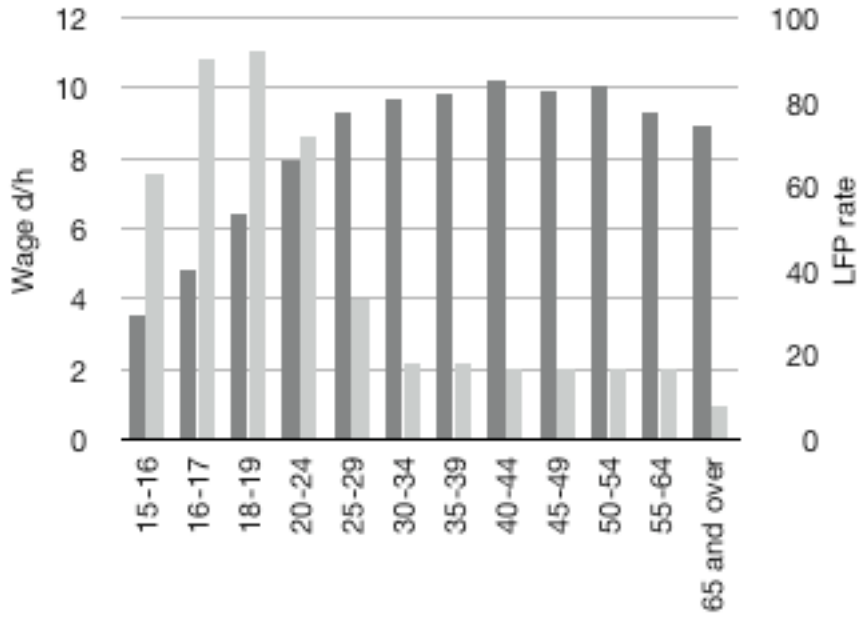

Figure 3: Labor Force Participation Rates of Wives and Unmarried Females According to the Wage Level of the Male Household Head in the NSLLL