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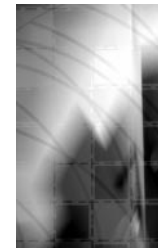

Does women's employment reduce poverty? evidence from Israel

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ABSTRACT

This article focuses on two dimensions of the effect of women's employment on poverty. On the micro level, it examines the effects of women's employment on the odds of their household being poor, and, on the macro level, it examines the effects of women's employment on poverty rates in society. Analysing Israel's 1996 Income Survey, our findings confirm the general argument that women's employment is negatively related to poverty, in both female- and couple-headed households. The findings show that poverty levels are substantially lower in households in which women participate in the labour market, either on a full-time or on a part-time basis, than in households in which the woman is not economically active. At the macro level, our simulations demonstrate that increasing women's employment, even to a part-time level, would reduce poverty in both couple- and female-headed households, and would reduce the economic disparities between these two types of households. Our findings also suggest that while universal employment of female heads of household has an unequivocal equalizing effect on poverty rates, universal employment of women in couple-headed households increases the poverty rate. These findings reveal the different selection processes of women in female- and couple-headed households into paid employment.

KEY WORDS

couple-headed / distribution / female-headed / female labour force participation / household income / inequality / structure

Introduction

The effect of women's paid work on measures of household income inequality and poverty depends to a great extent on the selection mechanism of women into paid labour. If women are drawn to the labour force mainly by financial hardship and the economic necessities of their households (for example, single mothers, wives of unemployed or low-paid men), their employment is assumed to reduce poverty and income inequality. In contrast, if wage rate considerations attract mainly highly educated, well-paid women (who tend to be married to similarly educated and well-paid men) to the labour force, their employment will increase societal inequality. It is likely that both types of recruitment of women into paid employment exist, especially in societies in which women's labour force participation is not universal. The result is that some households enjoy two relatively high pay cheques, while others live on one low pay cheque or no income from work at all (Danziger and Gottschalk, 1995).

In this article, we analyse the effect of women's employment on poverty at both the micro and the macro levels. First, at the micro level, we examine the effect of women's employment on their households' likelihood of escaping poverty. Second, by simulating various scenarios of women's employment, we investigate the implication of women's work on the poverty line and on poverty rates among couple- and female-headed households. We begin with an outline of the major findings regarding the effect of women's employment on the distribution of household income and the influence of their paid work on the poverty status of their households. We discuss the economic opportunities of women and their selection into the labour force. We then provide a short overview of Israel as a case study, referring to the characteristics of working women, their opportunity structure and the conditions according to which they base their decision to join the labour force. In subsequent sections, we draw our hypotheses, describe the data used for the analysis and present the findings.

The effect of women's earnings on household income and poverty

Although married women's employment rate has increased substantially in most industrialized societies, their status in the labour market still renders them a marginal economic role. A relatively high proportion of the female labour force is employed part-time, although even for those employed full-time women's level of earnings is on average substantially lower than that of men (Blau and Kahn, 1995). Overall, studies focusing on women's economic contribution to a household's income have found that women's employment improves the household's economic well-being and standard of living (Martin and Roberts, 1984). The effect is especially salient in poor households in which women's salaries are essential either because they are the sole providers or because other family members (mostly husbands) have a very low level of earnings (Morris, 1990).

The potential contribution of women's employment to their household's well-being depends on three main factors: the availability of employment, women's wage rate, and the number of hours they allocate to market activity. Indeed, women's inferior position and limited prospects in the labour market are among the major reasons for the feminization of poverty (Bianchi, 1999) and for their marginal contribution to the economic standing of their household. Women tend to be located in non-lucrative, dead-end jobs, and their salaries fall below those of men in almost all occupations and market positions (Goldin, 1990). Moreover, because of their traditional domestic responsibilities, women are compelled to take part-time jobs. This further lowers their earnings and, subsequently, their contribution to the economics of their household (Abelda and Tilly, 1997; Smith et al., 1998).

Notwithstanding women's inferior position in the economy, in many societies women are encouraged – by legal, normative and institutional arrangements – to participate in paid employment. For example, social policies in Sweden encourage women to participate in paid employment by creating jobs, providing job training and facilitating parenting by providing child care. Moreover, when wages are low, the Swedish government provides a variety of benefits, such as a supplement to earnings (Kamerman, 1995). In the USA, economic self-sufficiency is at the heart of anti-poverty policy, and public policy is designed to increase employment (Blank, 1994; Lewin, 2001). Though both the USA and Sweden encourage women's employment, state transfer policies differ substantially in these two countries. Sweden has a universal transfer policy with a relatively high level of grants, while US welfare policy is targeted and means-tested, and grants are relatively low. Hence, the poverty level in Sweden is considerably lower than in the USA (Casper et al., 1994; Korpi and Palme, 1998).

The effect of women's earnings on the distribution of household income and poverty rates

At the individual level, it is clear that employment is the most effective and most legitimate way to improve the economic standing of families and households. Yet, the question remains whether women's employment reduces the poverty level of society as a whole, and of particular groups within it. At first glance, it may seem reasonable to argue that, since employment is beneficial to the economic standing of the individual household, it contributes to a reduction in poverty in society. However, the situation is more complex because poverty, when measured in relative terms, is determined by the distribution of income in society. Therefore, the effect of women's employment on poverty is determined by its effect on the distribution of household income.

Findings regarding the effect of women's wages on household income distribution generally support the claim that women's employment tends to reduce inequality (Blackburn and Bloom, 1990; Cancian and Reed, 1999; Cancian et al., 1993a; Danziger, 1980; Smith, 1979; Treas, 1987). This 'equalizing effect' may

result from the fact that women are drawn to the labour market by the economic necessities of their households, although a large proportion of the recent increase in female labour force participation is attributed to the incorporation of women married to high-salaried men into the labour market. Accordingly, there is a positive correlation between husbands' and wives' wages, and this correlation is expected to grow over time (Cancian et al., 1993a; England and Farkas, 1986; Treas, 1987). Women's education is on the rise and their opportunities in the market improve over time. Because women with high wage prospects tend to marry men with good market positions (for the changing mechanism of selection in the marriage market, see Oppenheimer, 1988), the number of households with two highly-paid partners is likely to increase. At the other extreme, unemployment is often determined by structural forces (that is, employment opportunities vary across communities) and, thus, households located in high unemployment, high poverty areas face an increased risk of both spouses being unemployed (de Graaf and Ultee, 2000; Eggers and Massey, 1991). As a consequence, one would expect income inequality, and therefore poverty rates, to rise with the increase in married women's (selective) employment. In their recent article, however, Cancian and Reed (1999: 184) found that, although there is a positive selection of women into paid employment, in the last two decades in the USA 'the earnings of married women have reduced family income inequality relative to the level that would have prevailed without their earnings, all else being equal'.

The effect of women's employment on poverty reaches beyond couple-headed households; it affects poverty in single-headed households as well. Treas (1987) maintains that women's employment in the USA did not substantially affect the feminization of poverty, as poverty rates among female-headed households remained stable at 35 percent over time. In fact, an increase in married women's employment may potentially worsen the relative economic position of female-headed households, as the latter are compared to households with two pay cheques, one of which (i.e. the male's) is assumed to be substantially higher than the other.

Most studies examining the effect of women's wages on income inequality concentrate on summary measures of inequality such as the Coefficient of Variance (Cancian and Reed, 1999) and the Gini coefficient (Karoly and Burtless, 1995). In this article, we focus on the effect of women's employment on the lower end of income distribution – the poverty level of both couple- and female-headed families in Israel. Our question is: to what extent do women's earnings affect the relative poverty line and the number of families that fall below it? We provide details regarding the definition and measurement of the poverty line in the methodological section.

The Israeli context

Israeli women's labour force participation rate is similar to that of women in many industrialized countries (OECD, 1998; *Statistical Abstract of Israel*,

1998). To date, 53 percent of women aged 15–64 participate in the paid economy. The majority of employed women (more than 60 percent) hold full-time jobs (Stier, 1995). Gender segregation in the labour market is high, and most women work in a few female-dominated occupations (Cohen et al., 1987). Similar to most western countries, women tend to work in white collar occupations, but their earnings fall far below those of men (Cohen and Haberfeld, 1998).

Inequality in Israel is structured along national and ethnic lines. Jews of European origin are at the top of the hierarchy, holding the best social and economic positions. At the other extreme, Arabs suffer from limited market opportunities and severe economic hardship (Haberfeld and Cohen, 1998; Lewin-Epstein and Semyonov, 1993). Similarly, recent immigrants to Israel (those arriving in Israel since 1990) face difficulties in securing adequate jobs, and experience high rates of unemployment and underemployment (Raijman and Semyonov, 1997, 1998; Stier and Levanon, 2001). In addition, Arabs and – to a lesser extent – Jews of North African origin tend to be concentrated in the geographic periphery, which affects the economic opportunities available to them (Lewin-Epstein and Semyonov, 1992; Mesch and Stier, 1997).

The National Insurance Institute (NII, 1999) reported that 16.6 percent of Israeli families were defined as poor. The report showed that certain groups were overrepresented among the poor, for example 35 percent of families with four children or more were defined as poor, as were 38 percent of non-Jewish families (NII, 1999: 49). Arabs were overrepresented among the poor for several reasons: they had large families and low rates of female labour force participation; their labour market opportunities were inferior because they had low levels of education; they were highly concentrated in peripheral areas; and they faced discriminatory practices (Awad, 1998; Lewin and Stier, 2001; Lewin-Epstein and Semyonov, 1993; Mesch and Stier, 1997; Rozenhek, 1999).

Data and method

This study is based on Israel's 1996 Income Survey, conducted by the Central Bureau of Statistics. This is a nationally representative sample of the population aged 15 and above, and includes about 17,000 individuals living in approximately 6000 households.[1] The survey collects personal and household information regarding income and demographic characteristics, enabling us to distinguish between female- and couple-headed households, and between households living above and below the poverty line.[2]

Similar to other western countries, Israel has adopted a relative approach to defining poverty, namely that the poverty line is defined as 50 percent of the median disposable income of all households. We employ the conventional definition of 'disposable income' as the *net* (i.e. after tax) household income from all sources – earnings, income from property and capital, and state transfers (which are exempt from taxes in Israel). The disposable income is standardized

by household size, based on an 'equivalency scale' that translates the number of persons in the family into a number of 'standardized members', with diminishing weight for each additional household member (NII, 1999: 41).[3] According to these guidelines, the poverty line in 1996 stood at 938 NIS (New Israeli Shekel) per (standardized) person per month, which is about 3000 NIS[4] for a family of four.

The analysis is composed of two complementary parts: first, we examine the effect of women's employment on the odds of their household living below the poverty line, comparing couple- and female-headed households; second, we examine the effect of women's employment on the poverty line and poverty rates by household type. For the micro level analysis, we restrict the sample to include only the working-age population (couple- and female-headed households in which the heads of household are younger than 65) because we focus on the effect of employment on household poverty. The sample for the micro level analysis includes 4808 working-age households, of which 3831 are headed by a couple and 977 are headed by a female. For the macro level analysis, we include all households in the sample (n = 6692) because we are interested in the overall income distribution to calculate poverty rates for the entire population.

Findings

The micro-effects of women's employment

We begin our analysis by exploring the relationship between women's employment and poverty. Table 1 presents the poverty levels of couple- and female-headed households by the woman's employment status. The Table demonstrates the correspondence between women's labour force participation and poverty: only 3.2 percent of couple-headed households with an employed woman are poor, in comparison with 25.8 percent of couple-headed households in which the woman is not active in the labour force. Poverty rates are especially low (0.6 percent) in couple-headed households with a woman employed full-time (the comparable figure for part-timers is 5.3 percent). The relationship between women's employment and poverty is even more pronounced among female-headed households. While 7.8 percent of female-headed households with an economically active woman are poor (3.6 percent if the woman holds a full-time job; 12.8 percent if she has a part-time job), almost half (49.2 percent) of all female-headed households with a non-working woman live below the poverty line.

Clearly, poverty rates are higher in households in which the woman does not participate in paid work. This, however, does not necessarily imply that women's employment reduces poverty. It is possible that employed women, especially in couple-headed households, live in non-poor households, independent of their own earnings. To establish the relationship between women's employment and poverty we turn to a multivariate analysis. The dependent

Table 1 Poverty rate among households by headship type, Israel 1996

	Total population	*Couple-headed*	*Female-headed*
		% Below poverty line	
All households	14.7	13.1	20.8
Employed woman	4.3	3.2	7.8
Woman employed full-time	1.4	0.6	3.6
Woman employed part-time	7.0	5.3	12.8
Woman not employed	29.5	25.8	49.2
N	4808	3831	977

variable in this analysis is the households' poverty status (1 = below poverty line; 0 = otherwise). Women's employment (measured as a set of dummy variables differentiating between full-time, part-time and non-employment as reference category) serves as the main independent variable. The model also includes a set of control variables: women's education (measured in years of schooling) is included in the model because of its relationship to employment, income and poverty; we also include a control for age (measured in years); and, finally, a control for the number of other providers in the household. Ethnicity in Israel has been found to be associated with income inequality and is therefore likely to be related to poverty. We expect higher poverty rates among Arabs, Jews of Asian and African origin and recent immigrants from the former USSR, compared with Jews of European and American origin (the reference category). Finally, we include a three-category indicator for the number of children below age 18 residing in the household: no children (reference category); one to three children; and large households with four or more children. We expect large families to have higher odds of being poor than smaller families.

The definition and description of the variables included in this analysis are presented in Appendix A1. The results of the logistic regression models are presented in Table 2. The first two columns of Table 2 pertain to couple-headed households, the second two columns to female-headed households. Model 1 includes the control variables, while Model 2 adds the effect of the woman's employment status to the equation. Comparison between the two models reveals the significance of women's employment on the odds of being poor. Among couple-headed households, the X^2 increases by 231 points (with 2 degrees of freedom), suggesting a significant contribution from women's employment above and beyond the contribution of a spouse or any other provider to the household income. The coefficients in the second column show that, controlling for the other variables in the equation, women's employment substantially reduces the odds of being poor. Having a woman employed part-time in the household reduces the log odds of being poor by –1.695. In terms of odds ratios, households with a woman employed part-time have 18 percent

Table 2 Logistic regression coefficients (standard error) predicting poverty status, by household type, Israel, 1996

	Couple-headed		*Female-headed*	
	(Model 1)	(Model 2)	(Model 1)	(Model 2)
Woman's age	–0.035*	–0.036*	0.010	–0.010
	(0.007)	(0.007)	(0.008)	(0.008)
Education	–0.192*	–0.162*	–0.032	–0.014
	(0.019)	(0.020)	(0.020)	(0.015)
Ethnic origin ('European-American' reference category)				
Jewish-Asian	0.469*	0.395	0.458	0.420
	(0.222)	(0.237)	(0.328)	(0.361)
Jewish-African	0.409	0.317	1.015*	0.669*
	(0.217)	(0.231)	(0.300)	(0.319)
Jewish-Israeli	0.417	0.258	0.573	–0.008
	(0.284)	(0.311)	(0.399)	(0.439)
Recent immigrant	1.031*	0.788*	0.962*	0.622*
	(0.212)	(0.228)	(0.270)	(0.298)
Arabic	0.841*	0.336	1.411*	1.156*
	(0.234)	(0.249)	(0.366)	(0.400)
Number of children in HH ('no children' reference category)				
1–3 children	0.825*	0.898*	1.055*	0.841*
	(0.161)	(0.175)	(0.245)	(0.281)
4+ children	1.538*	1.347*	1.367*	1.697*
	(0.180)	(0.193)	(0.512)	(0.578)
Additional providers	–3.056*	–3.233*	–1.672*	–0.958*
	(0.144)	(0.165)	(0.336)	(0.361)
Woman's employment status ('not employed' reference category)				
Part-time	—[a]	–1.695*	—[a]	–1.589*
		(0.204)		(0.248)
Full-time	—[a]	–3.673*	—[a]	–3.022*
		(0.432)		(0.334)
Constant	2.619	3.314	–2.158	–0.204
	(0.499)	(0.540)	(0.575)	(0.550)
X^2 (d.f.)	934.99 (10)	1165.93(12)	104.89(10)	236.19(12)
X^2 increase		230.94(2)*		131.3(2)*
N	3622	3622	856	856

[a] Not included in the model.
* $p < 0.05$

$\{e^{(-1.695)} = 0.18\}$ less of a chance of being poor than households with a non-economically active woman. Similarly, having a woman employed full-time in the household reduces the log odds of being poor by –3.673. In terms of odds ratios, households with a woman employed full-time have only 2.5 percent $\{e^{(-3.673)} = 0.025\}$ less of a chance of being poor than households in which the woman does not participate in paid employment. The strong negative effect of women's employment on poverty suggests that, independent of the economic activity of other household members (including spouses), women's employment substantially alleviates economic pressures and helps the household to avoid poverty in couple-headed households.

Having four or more children in the household substantially increases the odds of being poor – these households are 4.6 times more likely to live below the poverty line $\{e^{(1.538)} = 4.655\}$ in comparison with households with no children. A comparison between Model 1 and Model 2 shows that the inclusion of women's employment status in the analysis does not change the strong effect of the number of children on the odds of being poor. This suggests that the effect of family size on poverty is not due to the constraints on mothers' employment that large families entail, but is rather the effect of other indicators associated with family size on poverty. In contrast, the effect of ethnicity is related to women's economic activity. While Arabs and – to a lesser extent – Jews of Asian origin have higher odds of being poor than Jews of European origin, before controlling for women's employment status (Model 1), the effect of ethnicity becomes non-significant when women's economic activity is included in the model (Model 2). These changes indicate that the ethnic difference in poverty results from differences in women's labour force participation among the different ethnic groups. For example, the rate of labour force participation among Arab women is extremely low (less than 20 percent). This may provide a partial explanation as to why Arabs have higher odds of being poor than most Jewish groups, and especially groups with high rates of female labour force participation such as Jews of European origin. This finding underscores the importance of women's employment in reducing the odds of being poor.

The high rates of poverty among recent immigrants are only partly related to women's employment; the odds ratio for immigration status declines (from 2.804 $\{e^{(1.031)}\}$ to 2.199 $\{e^{(0.788)}\}$) with the inclusion of women's employment, but it remains strong and statistically significant. This finding points to the economic hardships experienced by immigrants above and beyond their (relatively high rates of) economic activity.

The effect of women's economic activity on the odds of being poor among female-headed households is similar to that found among couple-headed households. The main difference is that the effect of ethnicity remains significant even after controlling for women's employment status. Accordingly, Arabs and Jews of African origin have higher odds of being poor than Jews of European origin. These findings indicate that there are differences between the groups, other than women's employment, that affect the likelihood of households to be poor. Interestingly, education does not affect the odds of being poor among

female-headed households, either before or after the inclusion of employment status. This may be an indication of the overall vulnerability of female-headed households, among which even highly educated women are unable to protect themselves from falling into poverty. It also raises a question regarding the selection of women to paid employment. The selection of female heads of household to market activity may be less dependent upon their education than women in couple-headed households, as financial hardship drives them to participate in the labour force.

The macro-effects of women's employment

The results thus far demonstrate that women's employment reduces the odds of household poverty. One conclusion is that, in order to reduce the risk of poverty, women should be encouraged to participate in paid employment, and public policy should aim at increasing women's employment by providing the necessary conditions (for example, child care arrangements) to increase their market activity. The question remains as to whether women's employment contributes to the reduction of the overall poverty rate or whether it increases poverty, either for all households or differently, for different groups in society. To answer this question, we simulated various scenarios of women's economic activity, and examined their effect on the rates of poverty among couple- and female-headed households. Holding everything else constant, we simulated the following four hypothetical scenarios: a) a case in which no woman participates in paid employment; b) all currently non-working women are employed part-time (20 hours per week); c) all currently non-working women are employed 35 hours per week; d) all currently non-working women are employed full-time (40 hours per week). These four hypothetical scenarios are based on the assumptions that: 1) changes in women's working patterns have no effect on the labour supply decision of other household members (including husbands); and 2) changes in women's working patterns have no effect on the distribution of social transfers. The first assumption is plausible because men are less likely than women to base their labour supply decisions on their spouse's income, and because, on the market level, men and women do not substitute each other and do not compete for the same jobs. This assumption follows Cancian et al. (1993a, b).[5]

The second assumption – that women's work has no effect on transfers – is more problematic because it might lead us to overestimate the household income of extremely poor families (those who benefit from means-tested social transfers). In Israel, most public transfers are universal, with child allowance being the most common. Child allowance is not income-dependent and is not affected by women's employment. A very small and extremely poor group (less than 5 percent of the population) is eligible to means-tested income maintenance. Our data did not enable us to distinguish between income maintenance and other types of social transfers, hence we could not exclude income maintenance from our simulations.

To calculate the poverty line for each of the above situations it was necessary first to compute the household income distribution under each scenario. For the first scenario (no woman employed) we simply deleted women's net earnings from household income (as we explain below, we recalculated married men's income tax under the assumption that their wives were no longer employed). For the other scenarios it was necessary, first, to estimate the expected earnings of currently non-employed women, and then to calculate simulated household income taking into account women's earnings. Non-employed women's potential income was calculated using the Heckman two-stage selection model to control for the selection of women to paid employment (Heckman, 1979).[6] From the calculated earnings, we deducted taxes based on the principles according to which the various taxes (income tax, social security tax and health tax) are calculated in Israel.[7] This calculation takes into account the level of earnings, household composition and immigration status. We then calculated the total household income for the entire population under each scenario, and derived the median household income standardized by household size (NII, 1999). Under each simulated scenario we obtained a different distribution of standardized income, which served as a basis for calculating a different poverty line, measured as 50 percent of the standardized median income. The results for the entire population – and shown separately for the working-age population and the elderly – are presented in Table 3. The figures for the total population include all types of households (couple-headed, female-headed and male-headed in all age groups). The working-age and older populations refer only to couple- and female-headed households.

Simulation 1: eliminating women's employment

The comparison between the hypothetical situation in which no woman works and the current situation reveals that the poverty line would decline considerably from 938 NIS to 717 NIS, and the overall poverty rate for the entire population would decline from 17.1 to 12.7 percent. The poverty rate would remain almost unchanged, however, among the total population of households with working-age females – couple- or single-headed (14.7 percent compared to 14.4 percent). An examination of the poverty level of the working-age population by household type reveals that, while the poverty rate would decline from 13.1 percent to 8.1 percent among couple-headed families, it would double (from 20.8 percent to 39.5 percent) among female-headed families. These results suggest that women's employment in Israel transforms income distribution in such a way that it reduces poverty rates among female-headed households, while it increases poverty (from 8.1 percent to 13.1 percent) among couple-headed households.

Although these results seem counter-intuitive at first glance, they suggest that women are positively selected into the Israeli labour market. If women were randomly selected into employment the entire income distribution would shift to the right, but the shape of the distribution would not change. If this

Table 3 Observed and simulated poverty rates, by household type and women's employment, Israel, 1996

	% Poor			Poverty line
	Total	*Couple-headed*	*Female-headed*	
Observed rates				
Total population	17.1	13.7	25.7	938
Working-age	14.7	13.1	20.8	
Elderly	26.3	18.4	33.2	
Scenario 1				
No employed woman				
Total population	12.7	7.9	27.7	717
Working-age	14.4	8.1	39.5	
Elderly	7.2	5.4	9.1	
Scenario 2				
If non-employed woman worked 20 hours per week				
Total Population	15.2	11.5	23.0	966
Working-age	11.0	9.7	12.5	
Elderly	28.4	19.4	39.5	
Scenario 3				
If non-employed woman worked 35 hours per week				
Total population	13.0	8.1	22.5	1031
Working-age	7.4	5.2	9.3	
Elderly	30.6	20.8	42.7	
Scenario 4				
If non-employed woman worked 40 hours per week				
Total population	13.0	8.0	23.9	1043
Working-age	7.4	5.0	10.0	
Elderly	30.7	21.0	40.7	

were the case, the percentage of households below poverty line would remain unchanged. Our data suggest that there is a selection of women with higher wages into the labour force. Once these women join the labour force, the income distribution becomes more dispersed towards the right tail, raising the median income and leaving a larger proportion of couple-headed households below the poverty line. Hence, the selection of better educated women into the labour market sharpens the economic differences between couple-headed

households with and without a working wife. The counter-effect of women's employment in these two types of couple-headed household creates a balance, thus poverty rates seem unaffected.

Simulations 2,3 and 4: increasing the employment of currently non-working women

Since there is a positive selection of Israeli women into the labour market, it is reasonable to expect a reduction of poverty once all women enter the labour force. Indeed, simulation 2 shows that the overall poverty level among working-age households would decline to 11 percent if currently non-working women contributed 20 hours per week to paid employment. The poverty level would decline further (to 7.4 percent) if all non-working women worked 35 hours per week (simulation 3). Increasing currently non-working women's workload to 40 hours per week (simulation 4) would not further reduce the poverty rate of working-age households.

Yet, the decline in poverty is not uniform among all types of household. Working-aged, couple-headed households would gain the most from the increase in women's labour supply. The poverty rate would decline dramatically from 13.1 percent to 9.7 percent if currently non-employed women worked 20 hours, 5.2 percent if they worked 35 hours, and 5 percent if they worked 40 hours per week. The decline in poverty is more modest among female-headed households. Indeed, poverty would decline substantially if non-employed female heads of households worked 20 hours per week (from 20.8 percent to 12.5 percent), but a working week of 35 hours would reduce poverty by only an additional 3.2 percent. The gap between couple- and female-headed families would slightly widen alongside the overall reduction in the level of poverty if currently non-employed women increased their workload beyond 20 hours per week (from 3 percent to 5 percent).

At the survey date, 18.4 percent of the couple-headed and 33.2 percent of the female-headed households among the elderly were poor. Increasing working-aged women's labour force participation to 35 hours per week would exacerbate the differences between households with and without a provider, and would increase the rates of poverty among the elderly (20.8 percent among couple-headed and 42.7 percent of female-headed elderly households). If no woman worked among the working-aged population, the poverty rate among the elderly would decline dramatically to 5.4 percent among couple-headed and 9.1 percent among female-headed households. The effect of women's work on the relative standing of the older population reflects the effects of having a provider and receiving social transfers. Under the scenario of no woman working, the position of the elderly is relatively improved because they are entitled to transfers and pensions, but these social transfers do not pull them above the poverty line when all working-aged women are working.

To summarize, the findings underscore the contribution of women's employment both to households' economic standing and to the reduction of the

poverty gap between household types. Increasing women's involvement in the labour market, even on a part-time basis, has the potential of reducing poverty among the working-age population and improving the relative standing of economically vulnerable, female-headed households.

Conclusions

Social policy aimed at reducing poverty emphasizes the need to increase employment opportunities (Blank, 1994) because employment is perceived not only as an efficient way to enhance households' economic resources, but also as the most legitimate way to do so. Our findings confirm the general argument that women's employment reduces the odds of being poor in both female- and couple-headed households. We have shown that poverty levels are substantially lower among households in which women participate in the labour market, whether on a full- or part-time basis, than in households in which women are not economically active.

Although the effect of women's earnings on their household's well-being is clearly apparent, the extent to which they affect measures of inequality and poverty rates at the societal level is not self-evident. Past research emphasized the equalizing effect of women's employment on the overall income distribution (Cancian et al., 1993a; Treas, 1987), but did not examine the effect of women's employment on poverty rates. Our study shows that increasing women's employment, even to a part-time level, may potentially reduce poverty in both couple- and female-headed households. Moreover, if all non-working women joined the labour force on a part-time basis, the economic disparities between couple- and female-headed households would decline considerably. Thus, our main conclusion is that policy encouraging women's participation in paid employment would effectively reduce the level of poverty in society.

Our findings also suggest that there are two different mechanisms operating simultaneously to select women into the Israeli labour force. The equalizing effect of female heads of households' employment suggests a 'negative' selection, by which economic hardship drives women into paid employment. Thus, their labour force participation reduces both the poverty rate within the group and their relative status compared to couple-headed families. The mechanism seems different among women in couple-headed households; here, women's employment increases the poverty rate, suggesting that there is a 'positive' selection of married women into paid employment. If no women worked, the poverty rate among couple-headed families would decline, although the overall standard of living would decline at the same time.

To conclude, the findings have important implications for public policy. The findings emphasize the importance of policy that encourages women's participation in paid employment as a means to increase the well-being of households – especially economically vulnerable ones – and, at the same time, as a

means to reduce the gap between couple- and female-headed households. Such policy should focus on improving women's employment opportunities and on providing the daycare centres, kindergartens and long school days that are necessary for mothers of young children to become economically active. Investments in child care institutions would contribute to transferring child care responsibilities from the family to the public sector, and would also create new employment opportunities for women. The limited range of opportunity (and the low potential wages) available to women, especially those with low levels of education, call for developing other schemes and solutions within the labour market itself. Efforts should be made towards enforcing equal wages and equal opportunities for the sexes, as well as providing job training to match the transformations occurring in the economy.

Appendix A1 Operational definition of variables used in logistic regression

Variable	*Definition*	*Mean (SD) or %*
Independent variables		
Woman's education (years)		12.3
		(5.4)
Woman's age (years)		41.0
		(11.7)
Woman's ethnicity	A set of five indicators:	
	Jewish of Asian origin	17.6%
	Jewish of North African origin	18.5
	Jewish of European origin (omitted category)	26.4
	Jewish of Israeli origin	7.6
	Arabic	17.5
	Recent immigrant (former USSR)	12.5
Number of children below 18	A set of three dummy variables:	
	No children in household (omitted category)	57.8%
	One to three children	31.8
	Four or more children	10.3
Additional wage earner in household	Number of wage earners in household other than respondent	1.06 (0.75)
Woman's employment status	A set of three binary variables:	
	Not employed (omitted category)	44.7%
	employed part-time	24.1
	employed full-time	31.2
Dependent variable		
Living below poverty line	Binary variable 1 = poverty (half of the median income, standardized by household size), 0 = above poverty	14.7

Appendix A2 Estimated coefficients from Heckman Selection Model predicting women's wage, Israel, 1996

Variables	
Education (in years)	95.847
	(11.83)
Post-high school education	1455.128
	(103.51)
Age	54.854
	(4.16)
Number of hours worked	95.644
	(27.81)
Number of children at home	34.91
	(40.14)
Recent immigrant	−1824.054
	(110.26)
Arabic	−1000.596
	(206.56)
Constant	−4152.413
	(308.77)
Lambda	392.069
	(172.35)

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Notes

1 The Income Survey does not collect income on the self-employed.
2 We define a household as headed by a couple if the household has two adults, one of whom defines him/herself as 'head of household', and the other defining him/herself as 'partner'.
3 According to this scale, a family with one member has a value of 1.25 persons, a family with two persons has the value of 2 and a family of four has the value of 3.20 standard persons. That is, the cost of living alone is estimated to be greater than half the cost of living in a two-member household.
4 In 1996, US$1 equalled 3.2 NIS.
5 This assumption has implications that are extremely difficult to predict. 1) If married men do base their employment decisions on the employment of

their wives, then our results are distorted. The degree of distortion will differ by group, and its assessment would require assuming that there are full-time jobs available to all men and that their market activity is a matter of choice, dependent only on household needs. 2) Similarly, an estimation of the extent to which women's employment affects the demand for labour would require either assuming that the demand for labour is constant and that men and women can fully substitute each other, or predicting the ways in which the market may accommodate changes in labour supply, and assuming that these solutions are not affected by the sexual composition of occupations and jobs.

6 The wage equation includes age, education, an additional indicator for having a post-high school degree, number of hours worked, number of children, whether the respondent is a recent immigrant, and whether the respondent is Arab. The results are presented in Appendix A2. The probit equation (not shown here) used to model women's selection into the labour market included the presence of other providers in the household, detailed ethnicity (see Appendix A1), and whether the woman is a single head, in addition to age, education and number of children.

7 Income taxes in Israel are based on a progressive, individualistic scheme. Special tax deductions are given to single mothers and fathers who have children under 18, men with non-working wives and recent immigrants.

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