

# Is there a Motherhood Wage Penalty for Highly-Skilled Women?

by

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A large body of research on the gender wage gap has shown that the difference in wages between single men and single women and between married men without children and married women without children is not that large but that the gap between married men with children and married women with children is significant. In other words, if one compares the wage profiles of men and women, the disparity in favor of men increases significantly when children are added to the family unit.

Researchers such as Hill (1979), Wellington (1993) and Blau (1998) have concluded that the gender wage gap can be explained by differences in human capital and work experience. These findings are consistent with the results obtained by Becker (1991) in his theoretical work. On the other hand, Waldfogel (1997a) found that wage differences between men and women grow once children are introduced into the family unit, even after account is taken of the differences in human capital and work experience. Researchers have proposed three main reasons to explain this phenomenon:

1. Women with children have less motivation and/or invest less in the labor market (Becker 1985, 1991).
2. Employers discriminate against women with children (Goldin, 1990).
3. The lack of a policy to guarantee that a woman on maternity leave can return to her old job. Researchers such as Jacobsen and Levin (1995) have found that leaving the labor market after giving birth has a negative effect on women's wages. Waldfogel (1997b) found that women who return to the same job after maternity leave have higher wages than those who return to a different one.

There is a consensus among most researchers that the above three hypotheses explain only part of the large wage gap between men and women with children.

The goals of this study are to analyze the wage profiles of men and women with an academic education in Israel in order to determine whether they are similar to those in other countries and, if they are, to determine the reasons why the wage gap grows when children are introduced into the family unit.

To this end, a database was created which includes all individuals who graduated with a first degree from universities and colleges in Israel between the years 1995 and 2008. Data was gathered for each graduate for the period starting with the year of his graduation and ending in 2008.

The file contains, for each graduate and for each year following his graduation, the following wage and employment data: average monthly wage for each year, number of months worked each year, number of jobs held each year, the sector in which the highest monthly wage was earned each year and the average wage in the company for which the graduate worked in each year. The file also contains the following demographic data: gender, country of origin, father's country of origin, age, family status, occurrence of a birth that year, number of children and place of residence. Finally, the file also contains psychometric information: type and name of the academic institution, field of study and profession, both for a first degree and for advanced degrees.

Analysis based on the database show the following:

1. During the first year following graduation, men earn 58 percent more than women on average. The gap grows to 96 percent after 10 years and 100 percent after 13 years.
2. A woman's wage grows at an average annual rate of 3.1 percent as compared to 10.2 percent for men. In other words, the wage profile for men is not only above that of women but is also steeper.
3. The main variable explaining the difference in wage profiles is number of children. Thus, the effect of number of children is positive for men (each additional child increases a man's wage by 3.7 percent) as compared to a negative effect for women (each additional child reduces a woman's wage by 3.6 percent). The average gap in wages between men and women without children is 46 percent while the gap between men and women with three children or more is 129 percent.
4. Many studies have shown that work experience is one of the main reasons for the growth in the wage gap over time. It is claimed that since women leave the labor market after giving birth, they accumulate less work experience and as a result their wages are lower. In this study, we found that the average number of months in which women were absent from the labor market during the 10-year period after graduating was similar to that for men.

The difference in the accumulation of experience in the labor market is in favor of women until the birth of the second child; after that, the gap is in favor of men and grows with number of children.

The number of months outside the workforce has a negative effect on the monthly wage. For women, the effect differs according to whether the reason for not working is birth/childrearing or some other reason. If the reason is birth/childrearing, every month the woman does not work reduces her wage by 1.09 percent. If it is for some other reason, then the reduction is only 0.79 percent. In contrast, for every month that a man does not work his wage declines by only 0.43 percent.

5. Two main factors were found to explain this phenomenon:
  - 1) **The shift of workers from the private to the public sector.** Other things being equal, wages in the public sector are 24 percent lower than in the private sector. We also found that number of children has a positive effect on the probability of women moving to the public sector, particularly if she already had children during the first year after graduation. In contrast, the number of children has a negative effect for men or is not statistically significant. If a man did not already have children during the first year following graduation each additional child lowers his probability of moving to the public sector. If he already had children, the additional children don't affect his probability of moving to the public sector. In addition, the number of months not worked has a positive effect on a woman's probability of moving to the public sector but does not have an effect on a man's (the effect is even negative and almost significant). Furthermore, the effect of absence from the workforce due to birth/childrearing is larger than when it is due to some other reason.
  - 2) **The shift of workers to lower-paying jobs in the private sector.** It was found that among graduates who stayed in the private sector the number of children has a positive effect on the probability of moving to a lower-paying job for women. In other words, as the number of children increases, there is a greater probability that a woman will move to a lower-paying job. In contrast, the effect is negative for men. Furthermore, it was found that the number of months not worked does not affect the probability of moving to a lower-paying job for either men or women.
6. The results for women differ according to the psychometric score. Number of children has a negative effect on the monthly wage only for women with a low psychometric score. In contrast, the effect is positive for men regardless of psychometric score, though it is larger for men with a high psychometric score. The results are similar for men who postponed the birth of their first child and those who didn't. In contrast, the effect of each additional child for men with a high psychometric score who postponed the birth of their first child for more than 4 years after graduation is significantly higher than for men with a low

psychometric score who also postponed the birth of their first child by more than 4 years. Among men who didn't postpone the birth of their first child, the effect of the psychometric score is small.

On the other hand, the effect of the psychometric score differs between women who postponed birth and those who didn't. Thus, each additional child reduces the wage by 3.5 percent in the case that the woman already had children on graduation or when she had her first child 1-3 years after graduation and the effect of the psychometric score is small.

Among women who postponed the birth of their first child by 4-6 years after graduation the effect of each additional child is reduced by half to 1.7%. When women with a high psychometric score postponed the birth of their first child for more than 4-6 years after graduation, additional children do not have any effect on their monthly wage.

For women who postponed birth for more than 7 years after graduation, additional children have no effect on their monthly wage while the effect is positive for those with a high psychometric score.