

# Briefing Paper



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## The Impact of Equal Pay on Poverty and the Economy\*

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Women make up almost half of the workforce, yet they continue to earn less than men on average in nearly every single occupation for which there is sufficient earnings data for both men and women to calculate an earnings ratio (Hegewisch and DuMonthier 2016a). In 2015, women working full-time, year-round earned just 80 cents for every dollar that men earned (Hegewisch and DuMonthier 2016b). The pace of progress toward pay equity has been slow, and if progress continues at the same pace, it will take until 2059 for women to finally reach pay equality. For women of color, equal pay is even further away. Hispanic women will have to wait until 2248 to reach pay equality with White men and Black women will have to wait until 2124 for equal pay (Institute for Women's Policy Research 2016).

Despite being paid less, women's earnings are increasingly important to the economic stability of families. In the United States, half of all households with children under 18 have a breadwinner mother, who is either a single mother who heads a household, regardless of earnings, or a married mother who provides at least 40 percent of the couple's joint earnings (Anderson 2016). And many women without children, both single and married, work to support themselves and other family members. Thus, persistent earnings inequality for working women translates into lower pay, less family income, and more children and families in poverty.

This briefing paper summarizes analyses of the 2014-2016 Current Population Survey Annual Social and Economic supplement and uses statistical controls for labor supply, human capital, and labor market characteristics to estimate: 1) how much women's earnings and family incomes would rise if working women were paid the same as comparable men (men who work the same number of hours, are the same age, have the same educational attainment and urban/rural status and live in the same region of the country); 2) how much women and their families lose because women earn less than similarly qualified men; 3) how many children would benefit from the increased earnings of their mothers; 4) how many children and families would be brought out of poverty if women received equal pay; and 5) how much the economy as a whole suffers from inequality in pay between women and men.

Findings from this analysis include:

- Nearly 60 percent of women would earn more if working women were paid the same as men of the same age with similar education and hours of work. Nearly two-thirds (65.9 percent) of working single mothers would receive a pay increase.
- Providing equal pay to women would have a dramatic impact on their families. The poverty rate for all working women would be cut in half, falling from 8.0 percent to 3.8 percent. The very high poverty rate for working single mothers would fall by nearly half, from 28.9 percent to 14.5 percent.

\* This briefing paper summarizes work prepared for and funded by LeanIn.Org for #20PercentCounts, a public awareness campaign highlighting the unfairness of the gender pay gap.

- For the 15.3 million single women—divorced, widowed, separated, and never married women living on their own—equal pay would mean a significant drop in poverty rates from 10.8 percent to 4.4 percent.
- Approximately 25.8 million children would benefit from the increased earnings of their mothers if they received equal pay.
- The number of children with working mothers living in poverty would be nearly cut in half, dropping from 5.6 million to 3.1 million.
- The United States economy would have produced additional income of \$512.6 billion if women received equal pay; this represents 2.8 percent of 2016 gross domestic product (GDP).<sup>1</sup>

## **Pay Inequality Stifles Growth of the United States Economy**

Table 1 shows women’s annual earnings, hours worked, annual family incomes, and poverty rates for all women workers aged 18 and older. Nearly 60 percent (59.8 percent) of women would earn more if working women were paid the same as comparable men. Overall, average earnings for women would increase from \$38,972 to \$45,842, or by \$6,870 (17.6 percent) annually if women were compensated for their labor supply and human capital at least as well as men in their regional labor markets. The poverty rate would be cut in half, falling from 8.0 percent to 3.8 percent among working women.

The United States economy would have produced income of \$512.6 billion more if women received equal pay; this represents 2.8 percent of 2016 gross domestic product (GDP). The total increase in women’s earnings under a regime of pay equity represents approximately 16 times what the federal and state governments spent in fiscal year 2015 on Temporary Assistance to Needy Families.<sup>2</sup>

The failure to pay women fairly results in the misallocation of human capital and contributes to women working at less productive pursuits than they otherwise would, thus holding back economic growth. For this reason, the estimate of the growth in earnings if women were paid equally with comparable men is very likely an underestimate, since women’s work hours, educational achievement, or occupational attainment were not increased, as they almost surely would be if women received pay equal to that of comparable men.

**Table 1. Mean Annual Earnings, Mean Family Income, and Poverty Rates if Working Women Earned the Same as Comparable Men, 2013-2015 Average, in 2016 Dollars**

	<b>All Working Women</b>
Population Size	74,609,025
Annual Hours Worked	1,729
<b>Women's Annual Earnings</b>	
Current	\$38,972
After Pay Adjustment	\$45,842
Percent of Women With Wage Adjustments	59.8%
Average Increase (inc. zero)	\$6,870
<b>Annual Family Income (Families with Women Earners, Including Single Working Women)</b>	
Current	\$93,075
After Pay Adjustment	\$100,917
Percent of Families with Income Adjustments	62.6%
Total Income Gains (\$B)	\$512.6
Increase in Income as Percentage of 2016 GDP	2.8%
<b>Family Poverty (Including Single Women)</b>	
Number Currently in Poverty	5,968,722
Current Poverty Rate	8.0%
Number in Poverty After Adjustment	2,835,143
Poverty Rate After Adjustment	3.8%
Percent of Families Brought out of Poverty by Equal Pay	52.5%

Source: Institute for Women's Policy Research calculations based on the Current Population Survey Annual Social and Economic supplements, 2014-2016, for calendar years 2013-2015; all in 2016 dollars.

## **Pay Inequality Contributes to Lower Family Income and Increased Poverty among Families with a Working Woman**

Table 2 shows women's annual earnings, hours worked, annual family incomes, and poverty rates in five different types of families with women workers classified according to the status of the family head or spouse: 1) self-supporting single women aged 18 and older, 2) working single mothers aged 18 and older, 3) working married women aged 18 and older, 4) working married non-mothers aged 18 and older, and 5) married working mothers aged 18 and older. Single women—never married, divorced, separated, and widowed—are limited to those who live without other family members; these women are clearly dependent on their own earnings and for them it is easy to calculate household income. Many other single women live in a variety of household formations—and also suffer from wage discrimination—but it is more difficult to determine the relevant household income for complex households, whose members may or may not pool income with each other.

**Table 2. Mean Annual Earnings, Mean Family Income, and Poverty Rates for Selected Family Types if Working Women Earned the Same as Comparable Men, 2013-2015 Average, in 2016 Dollars**

	Families Headed by a Working Woman Who is:				
	Single, Living on Own	Single Mother	Married	Married, non-Mother	Married Mother
Number of Families	15,283,445	7,111,304	36,535,493	19,752,399	16,783,094
Annual Hours Worked by Women	1,811	1,732	1,775	1,806	1,738
<b>Women's Annual Earnings</b>					
Current	\$41,078	\$32,950	\$44,629	\$43,883	\$45,507
After Pay Adjustment	\$47,691	\$40,265	\$51,586	\$51,373	\$51,836
Percent of Women With Wage Adjustments	56.6%	65.9%	56.6%	58.1%	54.8%
Average Increase (inc. zero)	\$6,613	\$7,315	\$6,957	\$7,490	\$6,329
<b>Annual Family Income (Families with Women Earners, Including Single Working Women)</b>					
Current	\$46,985	\$41,474	\$125,691	\$123,801	\$127,915
After Pay Adjustment	\$53,598	\$49,164	\$133,036	\$131,794	\$134,497
Percent of Families with Income Adjustments	56.6%	67.5%	58.6%	60.4%	56.3%
Total Family Income Gains (\$B)	\$101.1	\$52.0	\$254.2	\$147.9	\$106.2
<b>Family Poverty (Including Single Women)</b>					
Number Currently in Poverty	1,650,612	2,055,167	767,245	237,029	503,493
Current Poverty Rate	10.8%	28.9%	2.1%	1.2%	3.0%
Number in Poverty After Adjustment	672,472	1,031,139	365,355	98,762	251,746
Poverty Rate After Adjustment	4.4%	14.5%	1.0%	0.5%	1.5%
Percent of Families Brought out of Poverty by Equal Pay	59.3%	49.8%	52.4%	58.3%	50.0%

Note: Not all family types are represented. Many single women, for example, live in a variety of household formations (and may also suffer from wage discrimination) but it is more difficult to determine the relevant household income for complex households, whose members may or may not pool income with each other. Source: Institute for Women's Policy Research calculations based on the Current Population Survey Annual Social and Economic supplements, 2014-2016, for calendar years 2013-2015; all in 2016 dollars.

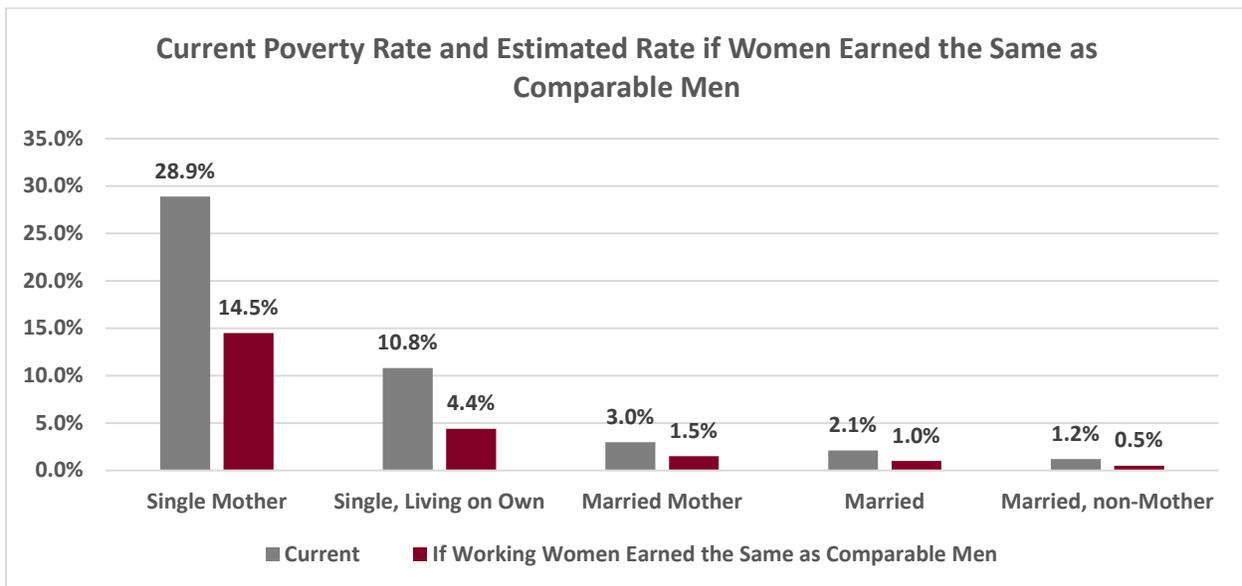
Table 2 reflects gains to family incomes and reductions in poverty rates that would result from boosting women's pay to that of comparable men.<sup>3</sup> Estimated additional income for the average family of each type is calculated from the earnings gains working women would enjoy if they earned as much as men who work the same number of hours, are the same age, have the same educational attainment and urban/rural status and live in the same region of the country. As shown in Table 2 and Figure 1, raising women's pay would have a dramatic impact on their families:

- The **15.3 million single women** living independently of other family members, including divorced, widowed, separated, and never married women, would earn a total of \$101.1

billion more if they were paid the same as comparable men. These single working women would earn an average of \$6,613 more per year. Single women would also experience a very significant drop in poverty—from 10.8 percent to 4.4 percent, a fall of more than half.

- If the **7.1 million single mothers** earned as much as comparable men, their annual earnings would increase by \$7,315, on average, or about 22.2 percent. Nearly two-thirds (65.9 percent) would receive a pay increase. Total income gains for this group of families amount to \$52.0 billion, and the very high poverty rate for families headed by working single mothers would fall by nearly half, from 28.9 percent to 14.5 percent.
- Paying women in the **36.5 million families with a married working woman** the same as comparable men would increase earnings for married working women by an average of 15.6 percent. This translates into an average of \$6,957 per year for each woman and a total of \$254.2 billion nationwide. Poverty rates would fall by more than half, from 2.1 percent to 1.0 percent.
- Among married women, the families of **19.8 million married non-mothers** would earn a total of \$147.9 billion if they were paid the same as comparable men, with an average income increase of \$7,490 for each woman, while the families of **16.8 million married mothers** would earn a total of \$106.2 billion, with an average income increase of \$6,329 for each woman.

**Figure 1. Equal Pay Would Reduce Poverty by Half for Families with a Working Woman**



Source: Institute for Women’s Policy Research calculations based on the Current Population Survey Annual Social and Economic supplements, 2014-2016, for calendar years 2013-2015; all in 2016 dollars.

## Equal Pay Would Have a Dramatic Impact on the Lives of Children of Working Women

As Table 2 and Figure 1 highlight, equal pay for working women would lead to a significant increase in earnings for millions of families across the country. A substantial number of working women have children who would also benefit from the increased earnings of their mothers under equal pay. Table 3 illustrates this impact by estimating the total number of children living in households with a working mother, how many of them would benefit from the increased

earnings of their mothers, how many of them currently live in poverty, and how many would be lifted out of poverty through the increased earnings of their mothers.

- In the United States, 43.0 million children live in families with a **working mother**. Under equal pay, 25.8 million would benefit from the increased earnings of their mothers. The number of children whose families would be brought out of poverty under a regime of pay equality amounts to 2.5 million, which is nearly half of all children living in poverty in these households at present (5.6 million).
- About 12.2 million children live in families with a **single working mother**. If mothers of these children were provided with equal pay, more than 8.3 million children would benefit from the increased earnings of their mothers, and the families of nearly 2 million children would be brought out of poverty.
- A total of 30.8 million children live in families with a **married working mother**. If women were paid the same as comparable men, 17.5 million of these children would benefit from the increased earnings of their mothers and 0.6 million children would be brought out of poverty as a result.

**Table 3. Number of Children Affected if Working Women Were Paid the Same as Comparable Men, 2015**

	Single Working Mothers	Married Working Mothers	All Working Mothers
Total Number of Children	12,234,807	30,761,448	42,996,254
Number of Children Benefiting from the Increased Earnings of their Mothers	8,325,338	17,470,195	25,795,534
Number of Children In Families Living in Poverty	4,329,120	1,286,028	5,615,147
Number of Children Whose Families Would be Brought out of Poverty	1,959,133	583,528	2,542,660

Source: Institute for Women’s Policy Research calculations based on the Current Population Survey Annual Social and Economic supplements, 2014-2016, for calendar years 2013-2015; all in 2016 dollars.

## Making Progress on Closing the Gender Wage Gap

As the analyses reported above show, paying working women the wages of comparable men would increase individual earnings and family incomes and dramatically cut poverty—by half overall for all working women and for most family types with a working woman. In single mother families, poverty would be cut by nearly half. Yet the gender wage ratio is currently 80 percent, not very different from the 2002 level, which was 77 percent (Proctor, Semega, and Kollar 2016). If trends of the past five decades are projected forward, it will take more than four decades—until 2059—for women to reach pay equity (Institute for Women’s Policy Research 2016).

Strengthened enforcement of state and national equal pay and equal employment opportunity laws, higher minimum wages, stronger collective bargaining, and better family friendly policies, such as paid family leave and subsidized child care, would go a significant way towards ensuring that working women are paid fairly and are better able to support their families.

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## Notes

<sup>1</sup> According to the U.S. Department of Commerce Bureau of Economic Analysis (February 28, 2017) Current-Dollar GDP, in 2016 the United States gross domestic product (GDP) was \$18,565.6 billion.

<sup>2</sup> Total Federal TANF and State Maintenance of Effort (MOE) Expenditures in fiscal year 2015 were \$31.7 billion. Adjusted for inflation to 2016 dollars, this amounts to \$32.1 billion.

<sup>3</sup> IWPR researchers use annual earnings and employment information reported in the Current Population Survey Annual Social and Economic supplement (CPS-ASEC) for the years 2014-2016 to estimate women's and men's earnings. For a more detailed discussion of the methodology used for this analysis, please see the Technical Appendix.

## References

Anderson, Julie. 2016. "Breadwinner Mothers by Race/Ethnicity and State." Quick Figures, IWPR #Q054. Washington, DC: Institute for Women's Policy Research. <<http://iwpr.org/publications/pubs/breadwinner-mothers-by-race-ethnicity-and-state>> (accessed October 26, 2016).

Hartmann, Heidi, Katherine Allen, and Christine Owens. 1999. "Equal Pay for Working Families." Report, IWPR #C343. Washington, DC: Institute for Women's Policy Research. <<https://iwpr.org/wp-content/uploads/wpallimport/files/iwpr-export/publications/C343.pdf>> (accessed March 23, 2017).

Hegewisch, Ariane and Asha DuMonthier. 2016a. "The Gender Wage Gap by Occupation 2015 and by Race and Ethnicity." Fact Sheet, IWPR #C440. Washington, DC: Institute for Women's Policy Research. <<https://iwpr.org/wp-content/uploads/wpallimport/files/iwpr-export/publications/C440.pdf>>.

———. 2016b. "The Gender Wage Gap: 2015." Fact Sheet, IWPR #C446. Washington, DC: Institute for Women's Policy Research. <<http://iwpr.org/publications/pubs/the-gender-wage-gap-2015-annual-earnings-differences-by-gender-race-and-ethnicity>>.

Institute for Women's Policy Research. 2016. "If Current Trends Continue, Hispanic Women Will Wait 232 Years for Equal Pay; Black Women Will Wait 108 Years." Quick Figure, IWPR #Q058. Washington, DC: Institute for Women's Policy Research. <<http://iwpr.org/publications/pubs/if-current-trends-continue-hispanic-women-will-wait-232-years-for-equal-pay-black-women-will-wait-108-years>>.

Proctor, Bernadette D., Jessica Semega, and Melissa Kollar. 2016. *Income and Poverty in the United States: 2015* (P60-256(RV)). U.S. Census Bureau. <<https://www.census.gov/content/dam/Census/library/publications/2016/demo/p60-256.pdf>> (accessed March 20, 2017).

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## Technical Appendix

This study updates an earlier study of labor market discrimination and the gender wage gap, *Equal Pay for Working Families*, first undertaken by IWPR in 1999 (Hartmann, Allen, and Owens 1999).<sup>1</sup> Using the 2014-2016 Current Population Survey Annual Social and Economic supplement (CPS-ASEC), the analysis of women's and family earnings gains is based on a model that predicts women's earnings as if they were not subject to wage inequality. In this model, we control for many factors that contribute to wage differences and account for a portion of the wage gap and then correct women's earnings as if the unexplained portion of the wage gap in this analysis did not exist.

An ordinary least squares (OLS) model is employed that controls for the differences between men and women in age, education, annual hours of work, metropolitan residence, and region of the country. The dependent variable is the natural log of annual earnings. The variables for age and age squared are included as proxies for work experience, since specific information about work experience is not available in the CPS-ASEC. This is a more realistic assumption for men than for women because at any given age, men typically have spent more years in the workforce and fewer years out of the workplace. Use of this experience variable (for lack of a better one in this data set) tends to overstate their earnings losses relative to comparable men (they may be less comparable than the data indicate). On the other hand, including variables such as education and hours of work, which may themselves be affected by labor market discrimination against women (causing them to invest less in human capital and work less than they otherwise would) tends to understate their true earnings losses relative to men.

In this model, men's earnings are predicted based on a sample of men aged 18 or older with positive earnings and positive hours of work during the previous year. Since a key component of the analysis is the contribution of women's earnings to family income and the resulting changes in family poverty rates if women's earnings were not subject to discrimination, the sample of men is restricted to those who earn at or below the 90<sup>th</sup> percentile of men's annual earnings, or \$112,299 in 2016 dollars. This selection assures that the predicted earnings for those at middle or lower income levels are not upwardly biased by the few high earners in the sample. Poverty rates are calculated using preliminary poverty thresholds for 2016 adjusted for family size provided by the U.S. Bureau of the Census.

Women's earnings are predicted using the coefficients from the men's earnings equation (this method assumes that women retain their own human capital but are rewarded at the same rates as men would be) and calculated only for the actual hours that women worked during the year. Those with reduced predicted earnings are assigned their actual earnings during the year. The average earnings increase calculated for working women includes those with no predicted earnings increases under equal pay.

The model is used to estimate women's earnings in the absence of gender-based wage inequality. The control variables for marital status and the presence of children younger than 18 are explicitly excluded since these characteristics are often linked to gender-based discrimination. For instance, higher earnings are typically predicted by researchers for men who are married, but lower earnings are typically predicted for married women. Likewise, the presence of children often predicts lower earnings for women but does not have a significant effect for men (or in some studies, increases their earnings).

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Poverty rates under an equal pay regime are determined by calculating a family's adjusted income if working women were paid the same as comparable men (families whose income is predicted to be lower are assigned their actual income during the year). These income increases are slightly larger than those estimated for individual women in each family type because some families can have more than one working woman (e.g. an adult woman living with her mother who also works). These adjusted income values are then compared with the appropriate poverty threshold in order to determine the poverty rate under equal pay. These estimates do not take into account the impact of increased family income on tax benefits such as the Earned Income Tax Credit (EITC). Since the EITC was developed to encourage work, for some families the increase in income would actually increase the value of the EITC that could be claimed, but for others with higher incomes the value would decrease with increased earnings. The value of these benefits are used in determining total family income under the official federal poverty measure, thus it is unclear whether the impact of equal pay on poverty estimated here is an under- or an overestimate.

To estimate the impact that equal pay for working women would have on children, we estimated the total number of children living in households with a working mother as well as the number of children with working mothers living in poverty. We then identified the families with working mothers that would experience an increase in income under equal pay and estimated how many children would benefit from the increased earnings of their mothers. Finally, we identified the families with working mothers that would be brought out of poverty because of the increase in income under equal pay and estimated how many children lived in those households that would be brought out of poverty.

<sup>1</sup> Also see "How Equal Pay for Working Women Would Reduce Poverty and Grow the American Economy," by Heidi Hartmann, Jeff Hayes, and Jennifer Clark (2014).

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# LEAN IN #20PERCENTCOUNTS

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