



# Graduating to a Pay Gap

The Earnings of Women and Men  
One Year after College Graduation

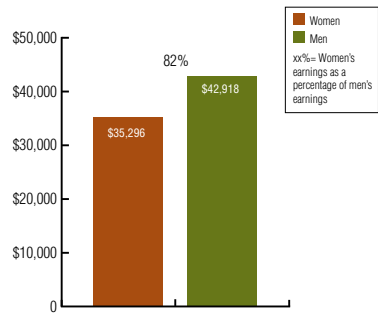
**Executive Summary and Recommendations**

# Executive Summary

Fifty years after the passage of the Equal Pay Act of 1963, women continue to be paid less than men in nearly every occupation. Because pay is a fundamental part of everyday life, enabling individuals to support themselves and their families, the pay gap evokes passionate debate. Although the data confirming the persistence of the pay gap are indisputable, the reasons behind the gap remain the subject of controversy. Are women paid less because they make different choices than men do? Does discrimination play a role? What other issues might be involved?

*Graduating to a Pay Gap* explores the pay gap between male and female college graduates working full time one year after graduation. You might expect the pay gap between men and women in this group of workers of similar age, education, and family responsibilities to be small or nonexistent. But in 2009—the most recent year for which data are available—women one year out of college who were working full time were paid, on average, just 82 percent of what their male peers were paid. After we control for hours, occupation, college major, employment sector, and other factors associated with pay, the pay gap shrinks but does not disappear. About one-third of the gap

**Average Annual Earnings One Year after College Graduation, by Gender**



Note: This chart shows average earnings among 2007–08 bachelor's degree recipients employed full time in 2009 and excludes graduates older than age 35 at bachelor's degree completion. Source: Authors' analysis of U.S. Department of Education, National Center for Education Statistics, 2008–09 Baccalaureate and Beyond Longitudinal Study data.

cannot be explained by any of the factors commonly understood to affect earnings, indicating that other factors that are more difficult to identify—and likely more difficult to measure—contribute to the pay gap.

## Why do women graduate to a pay gap?

Education and occupational differences between men and women help explain the pay gap. Explaining or accounting for a portion of the pay gap simply means that we understand the effect of certain factors, not that the gender differences related to those factors are necessarily fair or problem-free. Both discrimination and cultural gender norms can play a role in the “explained” portion of the pay gap. With that in mind, we find that college major is an important factor driving pay differences. Men are more likely than women to major in fields like engineering and computer science, which typically lead to higher-paying jobs. Women are more likely than men to major in fields like education and the social sciences, which typically lead to lower-paying jobs. But college major is not the full story. One

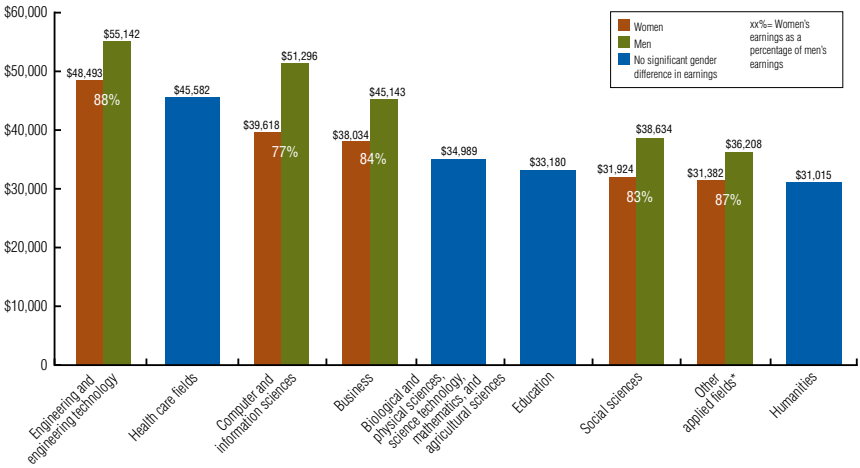
year after graduation, a pay gap exists between women and men who majored in the same field. Among business majors, for example, women were paid just over \$38,000, while men were paid just over \$45,000. Gender differences in college major only partially explain the pay gap.

**One year after graduation, a pay gap exists between women and men who majored in the same field.**

Occupational factors also drive differences in pay. Although the choice of major is related to occupation, the relationship is not strict. For example, male engineering majors are more likely than their female counterparts to work as engineers after graduation. Women are more

likely than men to work in business support and administrative assistance occupations and as teachers, social services professionals, and nurses and other health care providers one year after college

### Average Annual Earnings One Year after College Graduation, by Undergraduate Major and Gender



Notes: This chart shows average earnings among 2007–08 bachelor's degree recipients employed full time in 2009 and excludes graduates older than age 35 at bachelor's degree completion. In majors with red and green columns shown, men earned significantly more than women earned. In majors with one blue column shown, there were no significant gender differences in earnings one year after graduation. Source: Authors' analysis of U.S. Department of Education, National Center for Education Statistics, 2008–09 *Racial/Latino and Beyond Longitudinal Study* data.

\*Includes architecture, communications, public administration and human services, design and applied arts, law and legal studies, library sciences, and theology and religious vocations.

graduation. Men are more likely than women to work in business and management occupations, computer and physical science occupations, and as engineers. Jobs primarily held by men tend to pay more than jobs primarily held by women.

Differences in the number of hours worked also affect earnings and contribute to the pay gap. One year out of college, women in full-time jobs reported working 43 hours per week on average, and men in full-time jobs reported working an average of 45 hours per week. Economic sector is another part of the equation. Men were more likely than women to work in higher-paying sectors of the economy.

Yet, when we control for each of these factors, women still tended to be paid less than their male peers were paid. Within a number of occupations, women were already paid less than men were paid just one year out of college. Among teachers, for example, women were paid 89 percent of what men were paid. In business and manage-

ment occupations, women were paid 86 percent of what men were paid; similarly, in sales occupations, women were paid just 77 percent of what their male peers were paid.

When we compare the earnings of men and women who reported working the same number of hours, men were paid more than women were paid. For example, among those who reported working 40 hours per week, women were paid 84 percent of what men were paid. Among those who reported working 45 hours per week, women's earnings were 82 percent of men's.

Finally, when we control for economic sector, again men typically were paid more than women were paid. In the two largest economic sectors—the for-profit and government sectors—men were paid significantly more than women were paid one year after college graduation. Occupation, hours worked, and economic sector help us understand the pay gap, but these differences do not fully explain it.

Regression analysis allows us to analyze the effect of multiple factors on earnings at the same time. Controlling for occupation, college major, hours worked per week, and many other factors all at once, we found that college-educated women working full time were paid an unexplained 7 percent less than their male peers were paid one year out of college.

### **What accounts for the unexplained gap?**

Gender discrimination is one potential contributor to the unexplained pay gap. The increasing numbers of claims filed with the Equal Employment Opportunity Commission and the millions of dollars employers pay annually in awards, settlements, and other legal fees make clear that gender discrimination remains a serious problem in American workplaces. Experimental evidence confirms that many people continue to hold biases against women in the workplace, especially women who work in traditionally male fields.

Thus, there are solid reasons to believe that gender discrimination is a problem in the workplace.

Yet discrimination is impossible to measure directly, and many who discriminate—both men and women—may not be aware that they are doing so. For all of these reasons, it is likely that at least part of the unexplained gap results from discrimination.

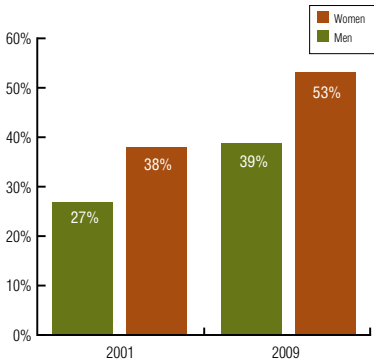
Another possible explanation for the unexplained portion of the pay gap is a gender difference in willingness and ability to negotiate salary. Negotiating a salary can make a difference in earnings, and men are more likely than women to negotiate their salaries. In part, this difference may reflect women’s awareness that employers are likely to view negotiations by men more favorably than negotiations by women. Nonetheless, negotiation may account for some portion of the unexplained gap.

*Women and men pay the same amount for their college degrees, but they often do not reap the same rewards.*

### **One immediate effect of the pay gap is high student loan debt burden.**

For many young women, the challenge of paying back student loans is their first encounter with the pay gap. “Student loan debt burden” is defined as the percentage of earnings devoted to student loan payments. A high student loan debt burden is an indicator that repayment may create hardship. Individuals with high student loan debt burden are less likely to own a home, have a car loan, or even make rent payments. High student loan debt burden is a challenge for a growing number of college graduates, men and women alike, but is particularly widespread among women, in large part because of the pay gap.

### Share of Women and Men with High Student Loan Debt Burden One Year after College Graduation, by Year



Notes: Student loan debt burden is the percentage of earnings devoted to student loan payments. This chart shows the share of 1999–2000 and 2007–08 bachelor's degree recipients working full time and making non-zero payments on their student loans one year after graduation who were paying a higher proportion of their earnings toward student loan debts than a typical individual could reasonably afford. We estimate that, in 2009, a typical man could reasonably afford to devote 8.9 percent of his earnings to student loan payments, and a typical woman could reasonably afford to devote 7.8 percent of her earnings to student loan payments. In 2001, those percentages are estimated at 9.5 percent and 8.5 percent for men and women, respectively. This analysis excludes graduates older than age 35 at bachelor's degree completion. Source: Authors' analysis of U.S. Department of Education, National Center for Education Statistics, 2000–01 and 2008–09 Baccalaureate and Beyond Longitudinal Study data.

Women and men pay the same amount for their college degrees, but they often do not reap the same rewards. Among 2007–08 college graduates, women and men typically borrowed similar amounts to finance their educations, about \$20,000. Because women are paid less than men are paid after college, student loan repayments make up a larger part of women's earnings. In 2009, among full-time workers repaying their loans one year after college graduation, just over half of women (53 percent) compared with 39 percent of men were paying more than what we estimate a typical woman or man could reasonably afford to pay toward student loan debt. These numbers have risen in recent years. In 2001, 38 percent of women and 27 percent of men in the same situation were paying more toward student loan debt repayment than what we estimate was affordable for a typical woman or man. Women are more likely than men to have high student loan debt burden in large part because of the pay gap.

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# Recommendations

What can be done about the pay gap? To begin with, we must publicly recognize it as a problem.

Too often, both women and men dismiss the pay gap as simply a matter of different choices. But even women who make the same educational and occupational choices that men make do not typically end up with the same earnings. Here are some recommendations for what employers, public policy makers, and individuals can do to narrow the pay gap.

## Employers

Employers have a great deal of discretion in pay decisions. As long as employers do not discriminate on the basis of characteristics such as gender, race, and age—and they follow minimum wage rules—they are free to offer as much or as little as they like. Employees rarely know if they are paid fairly because most do not know what their colleagues or others in the industry earn.

Greater transparency in pay systems is associated with a smaller gender pay gap. By making salary ranges for job categories available, employers provide workers with information that helps them assess the fairness of their earnings. Transparency in pay scales increases a sense of fairness among workers, which can improve performance and morale. In addition to increasing transparency in pay systems, employers can create fair workplaces by assessing the pay gap in their organization and taking steps to address any gender pay differences they find.



## Public Policy

Federal and state laws can help ensure fair pay for all employees. Legislative measures that have been pending in Congress for several years could improve both enforcement of pay equity laws and public awareness of the pay gap. Key among these measures is the Paycheck Fairness Act, a comprehensive bill and a much-needed update to the Equal Pay Act of 1963. It would create incentives for employers to follow the law, empower women to negotiate for equal pay, and strengthen federal outreach and enforcement efforts.

*Women experience the consequences of the pay gap from their very first paycheck to their very last Social Security check.*

## Individuals

Women cannot choose to avoid the pay gap, but they can make choices that enhance their earning potential. An individual's college major has life-long financial implications. Likewise, an individual's first salary provides the foundation on which future raises are based and earnings expectations are formed. Our analysis finds that majors and occupations like engineering, nursing, and computer and information sciences are some of the best-paying majors and jobs for women one year after graduation. These majors and occupations also tend to pay well throughout the course of a career.

The pay gap has been part of the workplace for so long that it has become simply normal. Yet the pay gap has serious ramifications for women and their families throughout their lifetimes. Women experience the consequences of the pay gap from their very first paycheck to their very last Social Security check. Fifty years after the passage of the Equal Pay Act of 1963, it is surprising that women continue to be paid less than men are paid, even when they make the same choices. Making equal pay for women and men a reality will require action on the part of employers, public policy makers, and individuals.



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