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Manhattan Atlantic Capital

How To Close the Gender Pay Gap

In light of recent gender pay disparity headlines such as “Deloitte Pays U.K. Women 43% Less Than Men” and “Goldman Sachs Pays Women in UK 56% Less Than Male Colleagues”, I deem it apt to provide policy recommendations that may reduce both gender and racial pay gaps.

But before I expound on my policy recommendations, it is important that I appropriately frame this issue. It is illegal for a US company to discriminate along gender and/or racial lines. But the palliative anti-discrimination laws in their current iteration are not designed to prevent employers from discriminating, but rather to prevent employers from declaring that they are discriminating. By and large, anti-discrimination laws are adjudicated under the purview of those who are subject to it. There are few viable third-party verification mechanisms in the design of the current laws. Third party verification mechanisms are the normative functions of many legal frameworks. For those who want to board a plane, it is not enough for passengers to declare that they mean no ill will to those on board. A third-party mechanism verifies one’s travel documents and sanctions a passenger’s body scan despite one’s protestations of innocence. The same frame holds for paying taxes. The government deducts taxes from one’s pay check with immediate effect as opposed to leaving it to individuals to pay taxes at their discretion.

An erroneous narrative abounds that labor supply and demand fall under the purview of capital markets whose purpose is to maximize profits. Thus, employers, the argument goes, have an incentive to hire the best. This logic is often extended by the pronouncements of certain economists in which free market participants have access to perfect information, markets are efficient, and participants want to maximize their profits. Let us assume that market participants want to maximize their profits. Yet how participants maximize their profits may vary and the definition of maximized profits may also vary from one market participant to another. Moreover, when are profits maximized? The role of confirmation bias and emotions in both investment and hiring decisions do not play a role the argument goes. There are studies published in the Harvard Business Review that illustrate that people make decisions within a few micro seconds and brain scans confirm that decision makers are not aware of their decisions, yet they unconsciously seek information to confirmation their original decisions.

There are studies that show that the gender pay gaps between men and women of comparable experiences and education are negligible and that in some cases women out earn their male counter parts. The flaws in such studies are that they do not account for women who are not offered roles and promotions. As of 2017, 6 percent of the Fortune 500 CEOs were female. Comparing the salaries of 6 percent of female CEOs to those of 94 percent of male CEOs is a skewed comparison which creates a wealth gap. A more apt contrast will be circa 40 percent female CEO salaries compared to 60 percent male CEO salaries. Why? 43 percent of Fortune 500 CEOs hold an MBA while women make up, as of 2016, 37 percent of US business school cohorts; 30 percent of Fortune 500 CEOs only have a bachelor's degree while women make up 57% of all bachelor degree holders and 42 percent of Maths and Statistics bachelor degree holders. Further, women are close to the majority of STEM graduates in the US, yet they only receive 3% of venture capital funding. Black Americans receive less than 1% of venture capital funding. Even though both groups have spending power of $5T and $1.2T per year respectively. You could imagine the amount of their pension fund dollars that venture capitalist invest on their behalf without much representation. Given that 40% of the S&P 500 companies once needed venture capital funding, you could also imagine that the major share holders of the Googles and Facebooks of tomorrow will be heavily skewed away from these demographics. Thus, the said wealth gap is further expanded.

Hence, the government has a role in ensuring fairness among market participants, employees and employers. How could this be accomplished? Phase one covers the supply and demand for talent and phase two covers the compensation gap among talent.

Regarding the supply and demand of female and male talent, a Hypothesis Test for two population means using a z test should the variance be known or a t test which includes an equal variances t test i.e. the population variance does not differ significantly, or an unequal variances t test i.e population variances differ significantly, should be deployed. A 90% confidence interval should be utilized to confirm that there is a significant difference between two populations means. In other words, the government should be 90% confident that there is a significant discrepancy between the hiring of a group of men and women at a firm by using the t test or the z test.

This analogue holds for racial discrepancies in hiring. A 2007 UK government study showed that of all the law students in the UK, 23.8%(supply) were non-white and 77.2% were white, yet the non-white demand for one-year training contracts, a prerequisite to becoming an associate at UK law firms, was 8% and the non-white demand for partners at the top 100 UK law firms was 0.001% from a supposed supply of 23.8%.

For a two tail test,

$H_0: \mu_1 = \mu_2$ (1),

where H_0 is the null hypothesis, μ_1 is the population mean of group 1(Females) and μ_2 is the population mean of group 2(Males).

Equation 1 represents that null hypotheses which stipulates that there is no significant difference between the hiring of men and women or whites and blacks at a company.

$H_1: \mu_1 - \mu_2 \neq 0$ (2)

Equation 2 represents the alternative hypothesis, H_1, which posits that there is a significant difference between the mean hiring of men and women or blacks and whites. These are used for two tailed tests.

For the hypothesis for a one tail test on the left tail, we use equations 3 and 4

$H_1: \mu_1 - \mu_2 \geq 0$ (3)

$H_1: \mu_1 - \mu_2 < 0$ (4)

For the hypothesis for a one tail test on the right tail, we use equations 5 and 6

$H_1: \mu_1 - \mu_2 \leq 0$ (5)

$H_1: \mu_1 - \mu_2 > 0$ (6)

Note that a chi square test for differences among more than two independent populations(white female, white male, black female, black male salaries etc) could be deployed as follows:

$\chi 2 = \sum (ek-fk)(ek-fk)/ek$ (7),

where ek is the observed frequency in a particular population and fk is the expected frequency in a particular population if the null hypothesis is true.

How would the US government monitor these calculations? The US government could set up an Employment Fairness Enforcement Agency(EFEA). EFEA's will require that employers instruct all potential candidates to apply via the said company's website. The EFEA will have access to the all employer's online application portals which will not be visible to applicants. Applicants will be required to fill out information regarding their gender, race, age, number of years of experiences, number of years of post high school education (depending on the role) etc. The EFEA should then be able to conduct a z or t test to discern whether there is hiring variation among groups. To simplify this issue without being simplistic, say the number of female law students in the country is 50%, the supply baseline (the supply baseline for other industries could be calculated). The demand for female lawyers at the average law firm at all levels should be 50% plus or minus five percent. The two population means to be compared using a z or t test will be the percentage of female law students(supply baseline) and the percentage of male associates or male senior associates or male partners at a particular firm. The z or t test will allow the EFEA to know with 90% confidence level that there is significant discrepancy between the two groups. Whenever there is a deviation from the said bandwidth, the EFEA should step in and fine the said law firm and require it to recalibrate the demand for female talent within a certain time period. The said law firm will have to put on hold the hiring of more men until recalibration is complete. This data should be made public and constitute part of a company's annual report so that consumers could make informed decisions. Companies could be rated from AAA+ , full compliance, to Junk rating or Ba. It is not enough to require a company to publish hiring data for name and shame purposes. We do not name and shame tax dodgers as deterrence mechanism. People often obey laws not due to their consciences, but rather due to consequences. In this case, the consequences should include significant fines used to fund the EFEA and corrective measures mandated by the EFEA to be adhered to within a short time frame.

I have provided a framework as to how to address the demand and supply of labor imbalance along gender and racial lines, but what about the gender or racial pay gap within organizations once demand for labor has been accepted?

The EFEA could use the multifactor regression model below to monitor and to enforce gender and racial pay parity.

$Y = \alpha + \beta_1 Gender + \beta_2 Race + \beta_3 YearsEx + \beta_4 YearEd + \varepsilon$ (8),

where Y, the dependent variable, represents the compensation of an employee, α is the constant or intercept, β_1Gender is a dummy variable for gender, β_2Race is the dummy variable for race, β_3YearsEx represents the number of years of work experience, β_4YearEd signifies the number of years of education and ε represents residuals or error size of the equation. The EFEA should be able to reconcile tax records of employees with its burgeoning data base.

The EFEA could run regressions for the said company which may show that a women on average with, say, four years of experience, white, four years of post high school education is earning $22,000 per year less than a man of the same profile at a particular company. This revelatory data must then cause the EFEA to fine the company in question and to force it to rectify the situation so that men and women's salaries are proffered on average within a certain bandwidth of plus or minus 2%. EFEA will then instruct the said company to increase the salaries of its female employees or reduce those of its men ones.

This frame does not suggest that every woman with the same amount of education and experiences and so forth should be compensated the same as every man with comparable profiles. There will be some men with comparable experiences as their female counter parts who out perform their female colleagues, but the reverse should also hold, causing the average bandwidth to not deviate that much from the mean. There will be employees who perform better than others with the same profiles and could be paid higher than a 2% spread but this gap should not be along gender or racial lines.

It is important to monitor the residuals or errors from these independent variables by reviewing the levels of heteroskedasticity, the spread of residuals; multicollinearity, the intercorrelation of more than two independent variables, and autocorrelations, a measure of correlation within a time series, all of which regression assumes limited effects.

I will not venture to make an economic argument as to why women should be included in the work force proportionate to the supply of qualified female applicants at all levels of the work place because as TS Elliot reminds us, "there is no greater heresy than to do the right thing for the wrong reason." There are Mckinsey studies that show a positive correlation between a company's diversity and its profits. However, we must grow fond of doing the right thing for the right reason.

I conclude by venturing to argue that change is fraught with difficulty because we are creatures of habit and we attach emotions to those habits and as such these will trump facts. It is also noteworthy, as Martin Luther King once said, that "privileged groups never give up their privileges voluntarily, they never do without strong resistance."

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