1.

Wage discrimination can’t explain why women earn so much less than men. When economists try to examine the gender pay gap, what economists do is use data to figure out whether the individuals are the same. They try to make women and men are comparable for equal work by squeezing out differences and productive attributes. After holding lots of things constant, the number for wage discrimination is quite small and we don’t have strong evidence showing that it’s true discrimination.

Some other factors may explain the wage gap. For example, men may favor competition and have a stronger willingness to bargain on salary. But these factors can’t explain why we often see large differences in their pay after 10 to 15 years later instead of at the very beginning.

It is “temporal flexibility,” that Claudia Goldin, a professor of economics at Harvard University, sees as perhaps the most powerful explanation for the gender pay gap. Women often have caregiving obligations. Hence, they need to work flexibly or differently. Women often take jobs that have different characteristics and different amenities. They don’t necessarily work less hours than men but they choose to do jobs that have more temporal flexibility so that they can work on their own time.

Some people may also argue that the difference in average earning is due to women select jobs paying less. But the fact is, in every occupation, women receive less than men, and this is largely due to women need more flexibility. It also appears that temporal flexibility can cost a lot in certain occupations. This explains why the gender pay gap vary across different professions.

The over-exaggerating gender pay gap, therefore, is not correct. Women do not necessarily get paid less than men for doing the same job, but often doing different work that provides more flexibility and less pay.

If the cost is expensive, then it’s the case that individuals who need temporal flexibility being paid less. If more people value temporal flexibility or life balance, more firms will realize the high cost of providing it. Only then will firms start to use information technology to reduce the high cost of temporal flexibility.

Claudia Goldin points out that the improvement of the gender pay gap would need to be ‘’organic.’’ The improvement should simply occur along with the technology advances. The real problem is the high cost of temporal flexibility. And legislation, in most cases, can only change who need the temporal flexibility instead of reducing the cost. The best legislation we can have probably is to extend certain parts of school system.

Changing the social norm, having men take more responsibility in family, and minimizing opportunity gap in gender are ideal but difficult. But we can hardly see actual costs to the pursuit of this equality.

2.

a. Why can’t we compare the average wage of high school and college graduates to arrive at a measure of the returns to schooling

因為不同的人有著不同的家庭背景與知識、能力，高中生的平均薪資較低可能真正的因果是家境不富裕，不能直接說是因為受教育程度不同導致，如果兩個人具有相同的標準背景，我們才能比較。

b. How might the use of twins be helpful in measuring the returns to schooling? Are there any potential problems?

雙胞胎在家庭背景、智商能力上可能都較為相似，因此可比性較高，比較能將受教育程度的影響獨立出來。

但雙胞胎可能在性格、行為上仍會有顯著差異，若這種差異也會影響受教育的報酬，則結果可能仍是不精確的。

(Having the same innate ability≠having the same current ability/aptitude.)

c.

(a) Based on Ashenfelter’s methodology, what is an estimate of the rate of return to a year of schooling?

Rate of return for lottery number 1 = (42000/12.3) = 3414.63 per year

Rate of return for lottery number 307 = (40000/11.8) = 3389.83 per year

3414.63-3389.83=24.8

Estimate of the rate of return to a year of schooling=(3414.63-3389.83)/3389.83=0.007316

(b) What is the key assumption of Ashenfelter’s method?

參與越戰的抽籤數字是random assignment

3.

a.



The fraction of individuals who have no college degree=59.01%

The fraction of individuals who have at least a college degree(專科以上)=40.99%

b.



Average earning for high-school graduates=31832.14

Average earning for individuals who have at least a college degree=43669.86

They are significantly different from each other at 5% level.

c.









The estimated return to education is 0.0751993

給定相同年齡、性別下，每增加一單位的教育年數，平均而言，lwage會增加0.0751993單位。(increase in earnings with schooling)

給定相同性別、教育、年齡為零下，增加一單位的年齡，平均而言，lwage會增加0.0581935單位，但邊際效益遞減。(concavity of log earnings in experience)

給定相同年齡、教育下，平均而言，女性的lwage會比男性少0.2245205單位。