

Compensating Wage Differentials: First Lecture

LABOR ECONOMICS (ECON 385)

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Introduction

In the supply and demand analysis so far, it has been assumed that there are no meaningful differences among types of labor nor types of jobs. This assumption enables the student to concentrate his attention on the comparative statics of a single labor market and observe the workings of supply and demand.

- This is clearly an unrealistic assumption, but it has served its purpose. Now however we will attempt to lift it without obscuring the picture too much.
- Not only do individuals earn widely varying wage rates; they additionally receive other non-wage compensation (“fringe benefits”) in lieu of wages.
- Some of the variation in wage rates results from additional payments from the employer to compensate the employee for undesirable job attributes. Furthermore “payments” from the employee to the employer for desirable job attributes—like fringe benefits—help explain variation in wages.
- Taken together these “side payments” are called compensating wage differentials (CWDs).

Implicit markets

A holistic way of thinking about compensating differentials is to imagine an employment relationship—not as a single transaction for labor, but—as a series of trades for everything related to the job: the work, the hours, the benefits package, the co-workers, the boss, the job’s attributes, whether or not you will have to clean up vomit, et al.

- The employer starts out by paying the employee for his or her time. But then the trades for all the other facets of the job are implicitly made—with the employee purchasing all the “good” things about the job from the employer and the employer purchasing the employee’s tolerance of the “bad” things about the job, e.g., puke cleaning duties.
- All these “side” transactions occur in implicit markets, and the prices in those implicit markets are the CWDs for each job attribute.

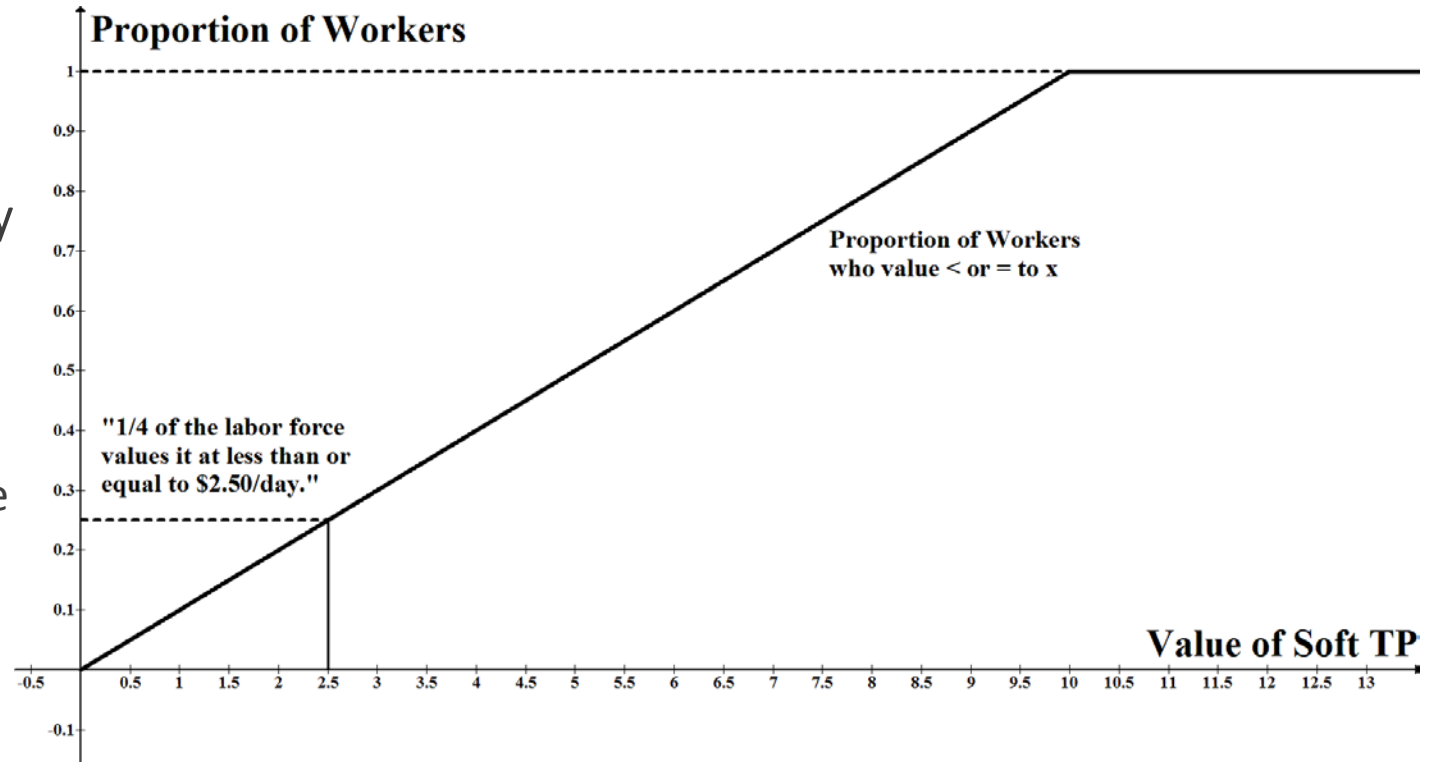
Amenities and disamenities

Imagine two jobs that pay the same wage. They are in the same town, same industry, and the job description is the same except for one thing. Job number 1 has softer toilet paper in the employee bathroom. Which job do you choose? Anyone (everyone, right?) who values this amenity should prefer the job with the softer toilet paper.

- Unless (pardon the pun) job number 2 offers some kind of incentive to compensate for the coarse paper, no workers will want to work there for the same wage as job 1.
 - If you prefer a less farcical example, substitute “an extra day of paid vacation” or “an office with a more attractive view” or some other uncontroversial amenity.
 - So the employer at job 2 has to offer a compensating ($\Delta w = w_2 - w_1 > 0$) wage to attract workers (a CWD). How much will Δw be?

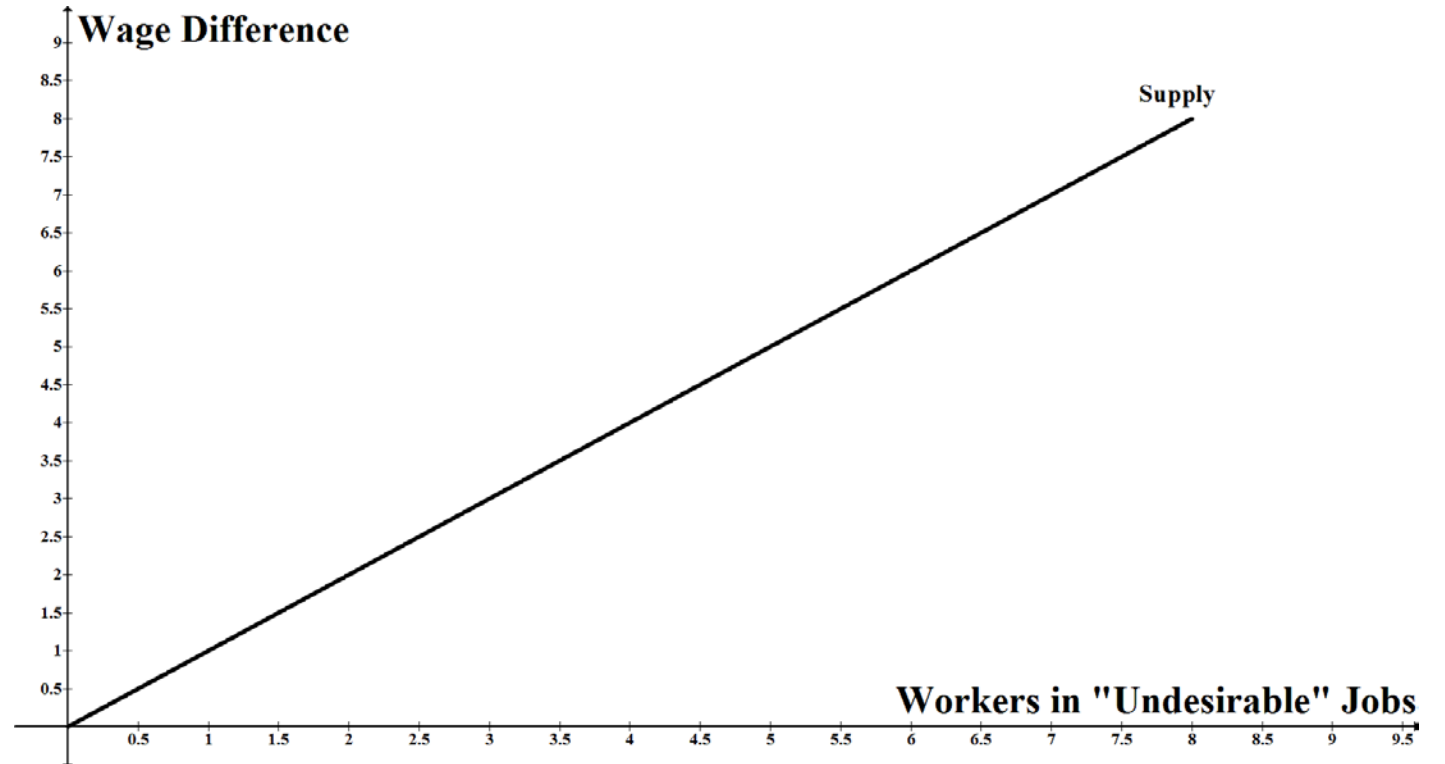
How much do workers value the amenity?

- Employees are heterogeneous concerning their preferences for soft toilet paper. Some are very adamant about it; others are fairly indifferent.
 - For the latter group, a small monetary incentive will induce them to work at job 2. For the former group, it would take a large incentive to get them to accept a job there.
 - The higher the CWD, the larger a fraction of the workers will prefer job 2.



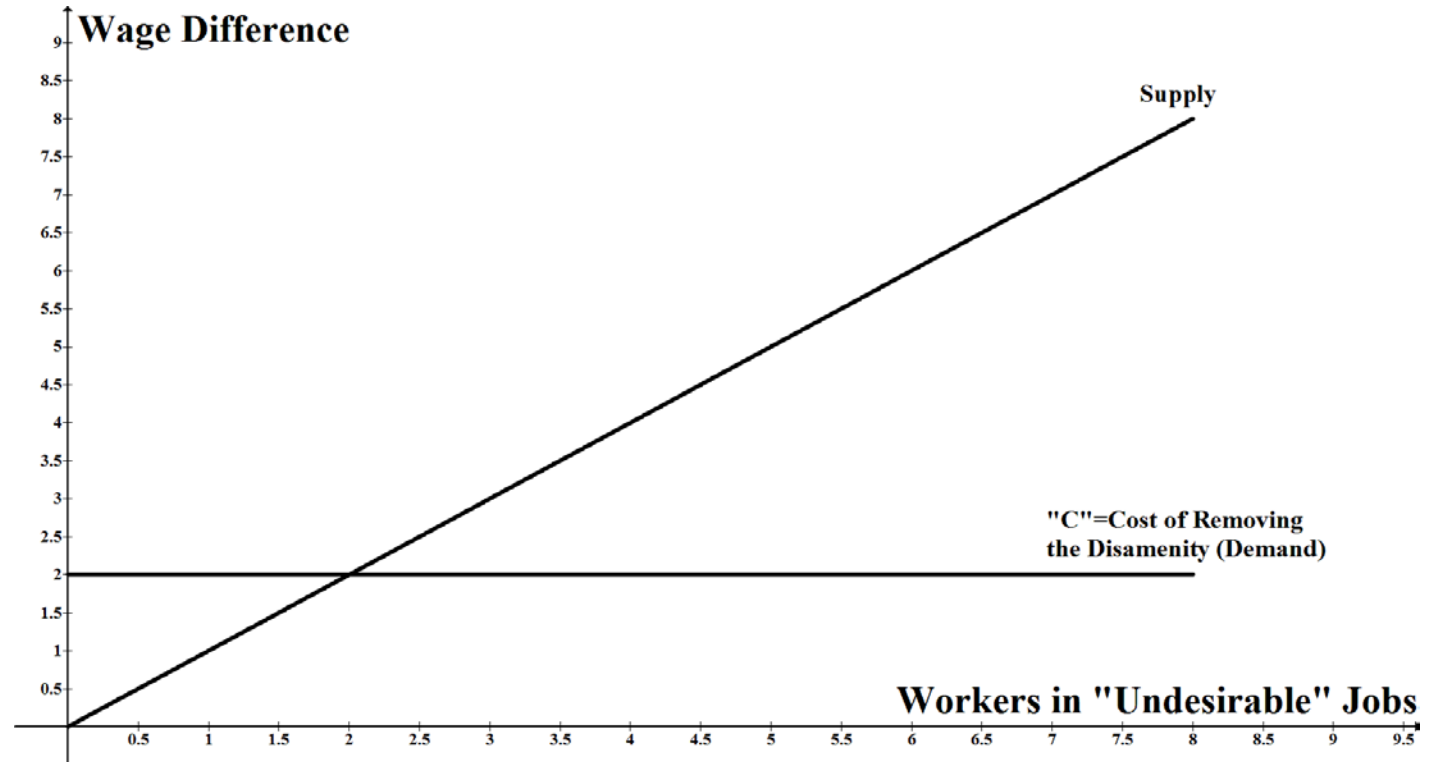
Labor supply for “undesirable” jobs

- This results in a positive relationship between Δw and the number of workers “supplying” their labor to that firm. The labor supply curve for job 2 slopes upward as the CWD increases.



Labor demand for “undesirable” jobs

- Employers, of course, also have a choice. Instead of paying the CWD they could just buy softer toilet paper for their employee rest rooms. But this is more costly, so it would increase the cost of employing workers just like explicitly paying higher wages would.
 - If the additional cost of softer toilet paper is “C”, the firm is willing to pay any amount less than C to workers as a CWD.



Equilibria in both markets

- The intersection of the supply curve for workers for this job and the demand for workers for this job reveals the equilibrium employment in job 2 (L_2^*).

- Employees at job 2 earn w_2 :

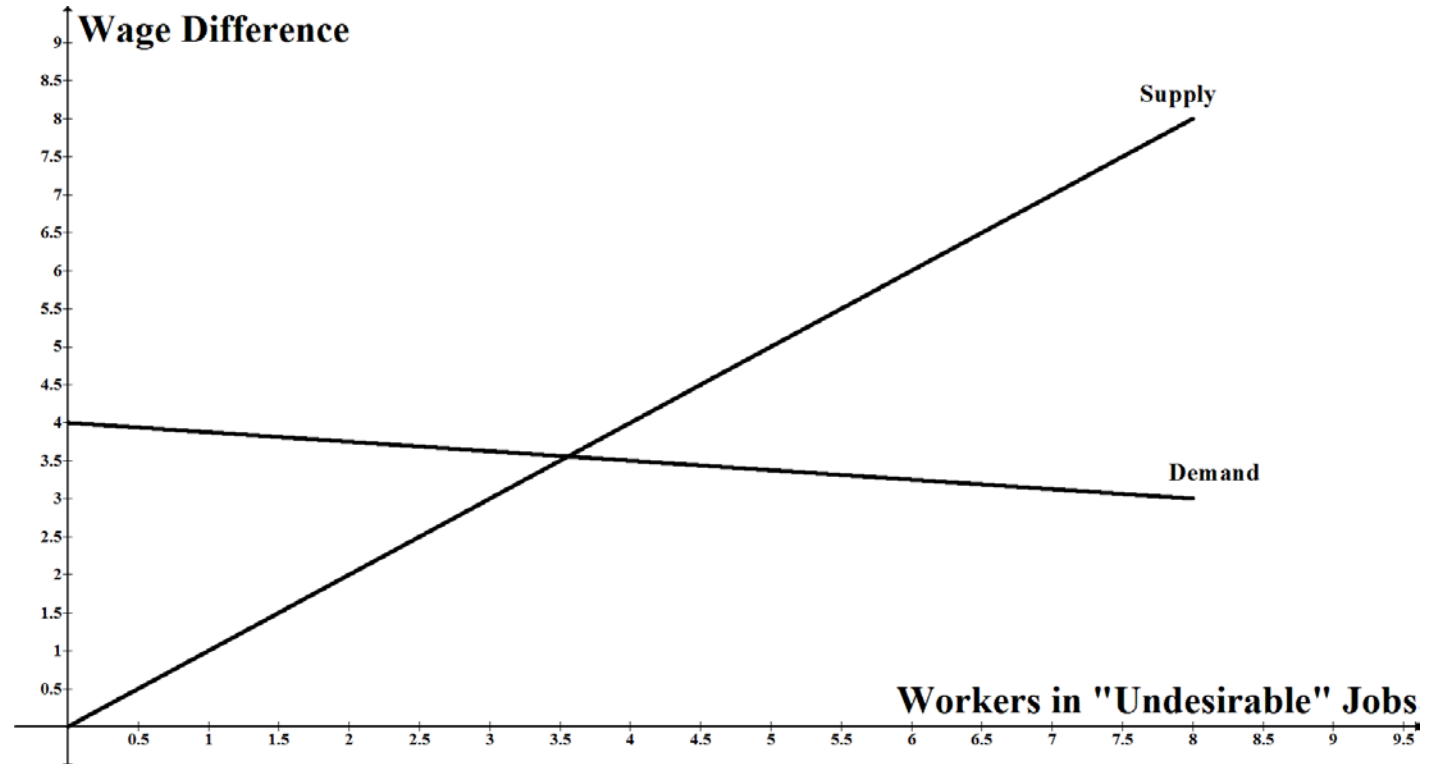
$$w_2 = w_1 + \Delta w^*$$

where w_1 is the wage at job 1, and Δw^* is the CWD level at L_2^* . Unless Δw^* is zero, the employees at job 2 earn more wages than job 1.

- Both jobs are staffed; it just takes a higher wage to attract employees to the “undesirable” job.

Firm heterogeneity

- This can easily be generalized to a case where there are many firms choosing to offer the positive amenity or not. They can even have heterogeneous costs of providing the amenity. In this case, a higher CWD would induce fewer firms to pay the CWD—and instead to just buy the softer toilet paper.
- Demand for employees to accept undesirable job attributes becomes downward-sloping.



Properties of this equilibrium

When both firms and employees have heterogeneous costs and preferences for a job amenity, the markets clear the same as with any good—with a CWD, Δw^* , and L_2^* workers employed in job 2.

- Also notice which workers are going into the coarse paper firm. The people that are the most willing to tolerate the disamenity are the ones that select into that job.
 - So, given that L_2^* people will work in that job, the ones doing it will be the best suited to do so, and the overall disutility that results will be as small as possible.
- The same can be said with respect to which firms are providing the amenity. Firms that have the lowest cost of “cleaning up” (buying soft TP) will be the ones that do so. Again given the number of firms providing the amenity, that level will be provided at minimal cost.
- The invisible hand at work, yet again! Even in an implicit market.

More important examples

This analysis can be applied generally to all job amenities and disamenities:

- paid vacation,
 - health insurance,
 - Pensions and 401k contributions,
 - paid parking,
 - “clean” working conditions,
 - flexible scheduling,
 - injury risk,
 - unemployment risk,
 - abusive supervisors, et al.
- Employees “pay for” positive job attributes with lower wages. Employers “pay for” negative job attributes with higher wages.

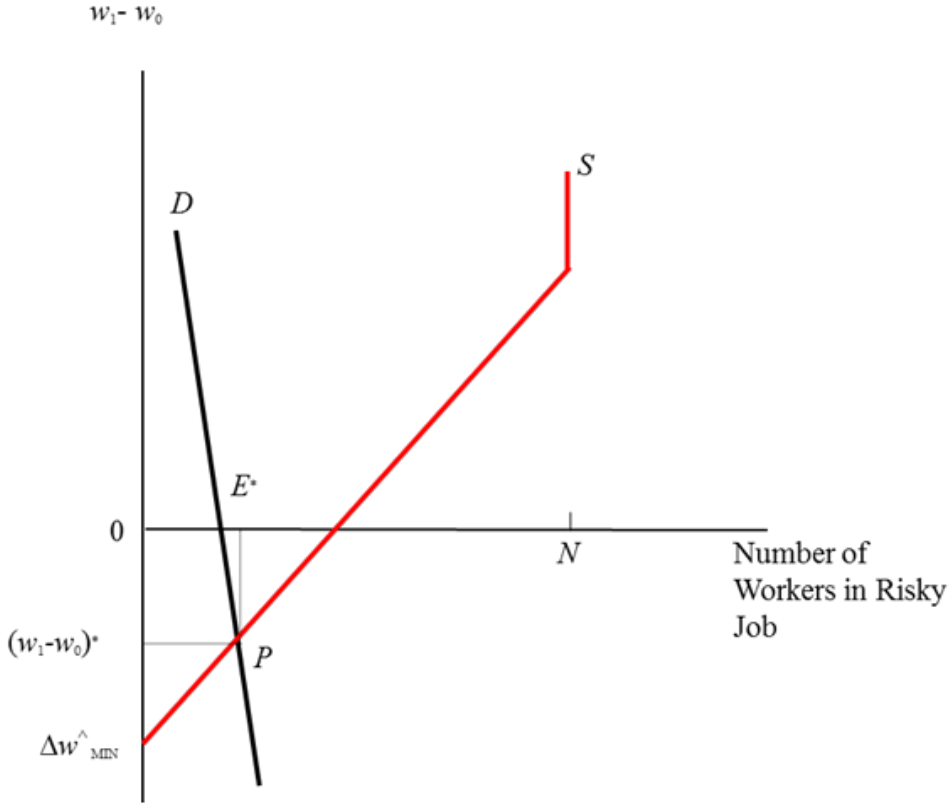
Unusual examples: “wrong way” CWDs

It is crucial that all workers agree about whether a job attribute is a “good” or a “bad”, though. If even a subset of workers “likes” injury risk or repetitive tasks, for example, the equilibrium CWD for those can be the opposite sign that one would expect.

- This can arise, particularly if only a few jobs feature the trait in question.
- If demand is low and inelastic, only the most “dare devil” workers will actually be employed in that job. To attract the marginal “dare devil” worker who likes risk, the compensating differential would actually be negative.

Despite the fact that most people are risk averse and would require a positive CWD to take risks.

Unusual examples (continued)



“Wrong way” CWDs (continued)

- Sometimes researchers even make the mistake of assuming CWDs exist that are consistent with their own preferences.
- Just because a “boring” or “repetitive” job seems undesirable to a professor, doesn’t mean that it’s considered bad by the people who select into repetitive jobs. They might like the “non-stressful” nature of the job rather than seeing it as a drawback.
- Bottom line: the CWD is determined by the wage necessary to attract the marginal worker to the job. It is conceivable that the marginal worker will not have the same preferences as the researcher or the general labor force.
 - But that’s why that guy is doing that job—because he is the one most eager to do it.

Conclusion

- Jobs differ according to amenities and disamenities.
- Workers prefer jobs with amenities and require CWDs to accept jobs with disamenities.
- CWDs function like implicit markets for the (dis)amenities.
 - Side payments between employer/employee that accompany the base wage.
- The equilibrium CWD reflects firms' costs of providing an amenity and employees' valuations of it.
- Sometimes employees differ concerning whether something is an amenity/disamenity.
 - CWDs can go in an unexpected direction.