Discrimination as a Compensating Differential:
Becker’s Taste-Based Model

To abstract from total labor demand and the overall wage level, assume N workers and N firms. Each ‘firm’ employs one worker.

Workers are of two types:  B + W = N in number. Let \( \theta^S = W/N \), the share of W workers in labor supply.

All workers produce the same amount and type of output, Q. They can move costlessly across firms, so the ‘law of one price’ prevails for workers of a given type. This means there at most two wages: \( w^W \) and \( w^B \).

There is a distribution of firms, \( j \), with different distastes \( d_j \) for employing B workers, given by the pdf \( g(d) \), on the interval \([ d, \bar{d} ]\):

Utility of firm j is given by:
\[
U_j = Q - w^W \quad \text{if its worker is white}
\]
\[
U_j = Q - w^B - d_j \quad \text{if its worker is black}.
\]

Therefore firm j hires a white worker if: \( w^W - w^B < d_j \).

The share of firms hiring whites is then \( 1 - G(w^W - w^B) \equiv \theta^D \) (where G is the cdf corresponding to g), i.e. the area under the curve to the right of the dashed line in the above figure.
The height of the dark curve in the above figure gives the share of firms that choose to employ white workers as a function of the racial wage gap, \( w^W - w^B \).

Switching the horizontal and vertical axes in the above figure shows that we can think of the inverse of \((1-G(d))\) as the market’s relative demand curve for white labor as a function of its relative price, \( w^W - w^B \).

With fixed supplies of white and black labor, equilibrium occurs at the intersection of this demand curve and a vertical supply curve:

Predictions are that an increase in the relative supply of the “discriminated-against” group (B) (moving \( \theta \) from \( \theta^S_0 \) to \( \theta^S_1 \)) raises the equilibrium racial wage gap, \( w^W - w^B \) (note that this is the opposite of some sociological theories). A decline in discriminatory tastes (a downward shift of the relative demand curve for white labor) reduces the equilibrium gap (and could make it negative).
Other Lessons:

-in equilibrium, the marginal employer is indifferent between hiring a W and a B worker, but all other employers strictly prefer to hire the type they pick over the other type. This provides a theoretical basis for studies like Kuhn-Shen (QJE 2013) that study cross-sectional variation in firms’ explicit hiring preferences.

-in equilibrium, firms employing B workers make more profits than firms employing W workers (simply because $Q - w_B > Q - w_W$). So, expanding the model to allow free entry of firms with nondiscriminatory tastes ($d_j = 0$) means that those firms will replace discriminating firms, and eventually eliminate the racial wage gap (Becker). For this reason, Becker and others have argued that increasing competition in product markets should reduce discrimination, and others have tested this prediction (Black and Stachan AER 2001). But Becker’s reasoning actually depends on a pretty special way of thinking about tastes-- see Goldberg QJE 1982.

-in this frictionless world, only the tastes of the marginal employer matter. Thus, adding or subtracting firms with ‘extreme’ tastes does not affect the equilibrium:

In the above picture, 30% of the employers have ‘extreme’ distastes for B workers: they will not hire B workers under any circumstances. Still, as long as the rest of the employers have the same tastes as before, the equilibrium wage gap will be the same as before also: the ‘extremists’ never interact with B workers so their tastes don’t affect the equilibrium wage. This is the reasoning behind Charles and Guryan’s (JPE 2008) ‘test’ of Becker’s model using measures of discriminatory attitudes from the General Social Survey (GSS). CG find that state-level racial wage gaps are associated not with mean or median attitudes, but with attitudes in
the “lower tail” of the distribution (near $d$). The reason is that the wages of minority will be determined by the tastes of employers most willing to hire them. It is only when even those employers—the least averse to the minority—have a strong distaste for the minority that the minority can’t self-sort in a way that avoids employers who dislike them.

A related property is that, as long as there are enough nondiscriminatory employers (for whom $d_j = 0$), the equilibrium wage gap will be zero, regardless of the tastes of other employers. In the figure below, 50% of the employers dislike B’s, 30% don’t care (are nondiscriminatory), and 20% dislike W’s. (In other words, there’s a mass point in $g(d)$ at zero.) Thus, if the share of B’s in the workforce is between 20 and 50% (e.g. at $\theta^*_1$), the equilibrium wage gap will be zero.

**Extensions:**

1. Adding search frictions to these types of models eliminates the result that ‘non-marginal’ employers don’t matter. See for example Black (JOLE 1995) and Lang, Manove and Dickens AER 2005). In the latter model, even vanishingly small discriminatory tastes can lead to large wage gaps.

2. Other taste-based models of discrimination include:
   - *co-worker discrimination models* (in general, these predict workplace segregation; a wage gap emerges only if that is not possible due to frictions or complementarities)
   - *customer discrimination models*.

These models contrast with employer-taste-based models because in them, competitive product markets do not eliminate discrimination, even using Becker’s specific formulation of tastes. In fact, firms who cater to their customers’ discriminatory tastes will earn higher profits than firms who don’t.
3. The leading non-taste-based models of discrimination are models of statistical discrimination. Here, employers use membership in a group as a signal of unobserved productivity. In these models, firms treat identically qualified workers (or resumes) differently on the basis of group membership because group membership conveys information about the mean level of skills that are not captured in the available information about the worker’s qualifications. While one can debate whether using sincerely held or objective beliefs about groups’ relative productivity in hiring decisions is really “discrimination”, the dictionary.com definition of discrimination is “treatment or consideration of, or making a distinction in favor of or against, a person or thing based on the group, class, or category to which that person or thing belongs rather than on individual merit.” Thus, in common usage, it is the use of group membership as a basis for a decision, not the employer’s motivation, that defines discrimination.

In the most basic statistical discrimination models, there are exogenous differences in the mean productivity of the groups, even after controlling for observables. These differences can then explain residual wage gaps or the effect of group membership in hiring decisions (Bertrand and Mullainathan 2004). In more nuanced versions, two groups can have the same mean ability but one group’s productivity is harder for employers to measure. This leads, endogenously, to different human capital investments and productivity levels (Lundberg and Startz AER 1983). Other models have identical underlying ability and observability, but generate multiple, stable, Pareto-ranked, self-confirming equilibria with different endogenous investment levels for different groups. (Coate and Loury AER 1993). The intuition for the low-level equilibria is that when employers base hiring decisions on the expected productivity of your group (rather than your individual productivity), investing in skills is a public good: it raises the employment prospects of everyone in your group, with only negligible gains to you. Thus there is little incentive to undervest. (In high-level equilibria, membership in a group automatically gets you hired into jobs where ‘skills matter more’, preserving the incentive to invest.)