SUMMARY OF THE MODELS OF LESSONS 20a and 22a

Chapter 20: Income Inequality

MODEL: The Case for Equality: The Utility Maximizing Distribution of Income (The 5Es President Example)

MODEL: The Occupational Segregation Model of Discrimination

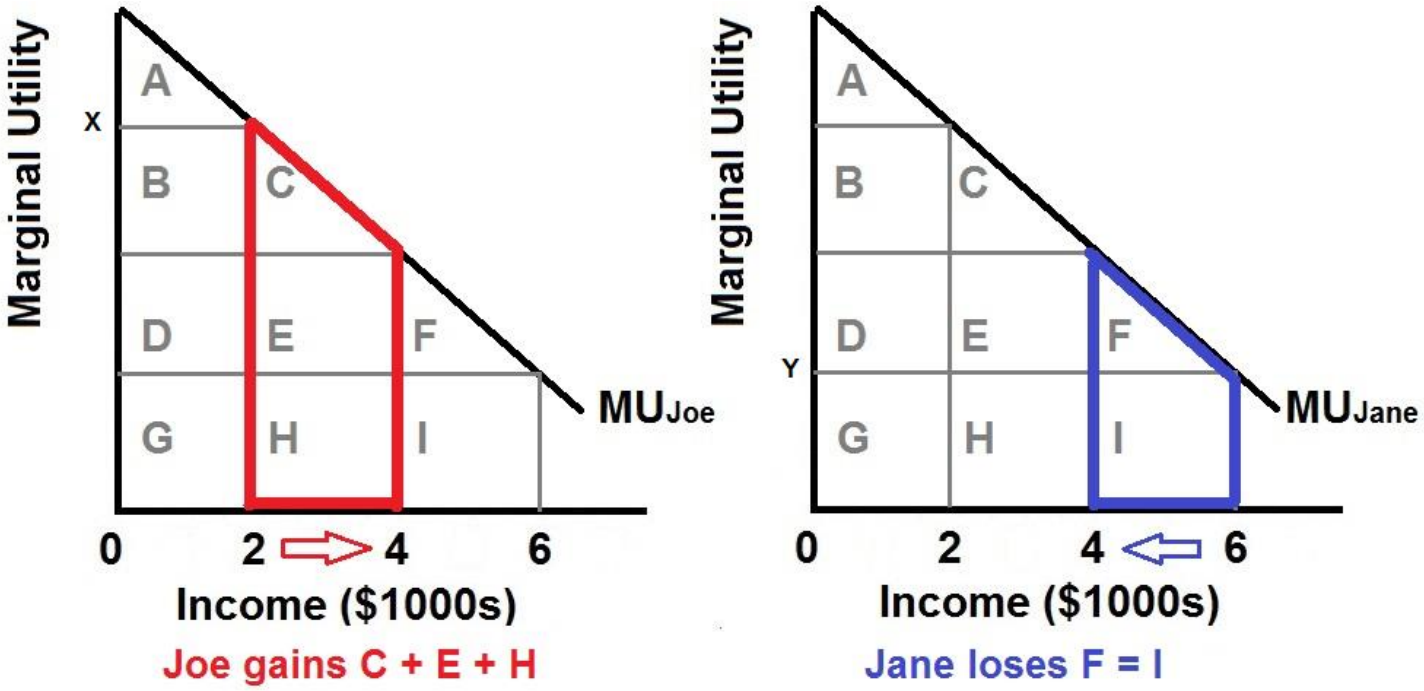
Chapter 22: Immigration

MODEL: A Simple Immigration Model

MODEL: Impact of Illegal Workers in a Low Wage Labor Market

MODEL - The Case for Equality = The President Trump Example of the 5Es 20a

The Utility Maximizing Distribution of Income



Assumptions:

- assume that the money incomes of two individuals, Joe and Jane, are subject to diminishing marginal utility.
- In any time period, income receivers spend the first dollars received on the products they value most—products whose marginal utility is high.
- The identical diminishing-marginal-utility-from-income curves (MU_{Joe} and MU_{Jane} in the figure) reflect the assumption that Joe and Jane have the same capacity to derive utility from income.
- income is initially unequally distributed (say, $2000 to Joe and $6000 to Jane), therefore, the marginal utility derived from the last dollar will be greater for Joe than for Jane.

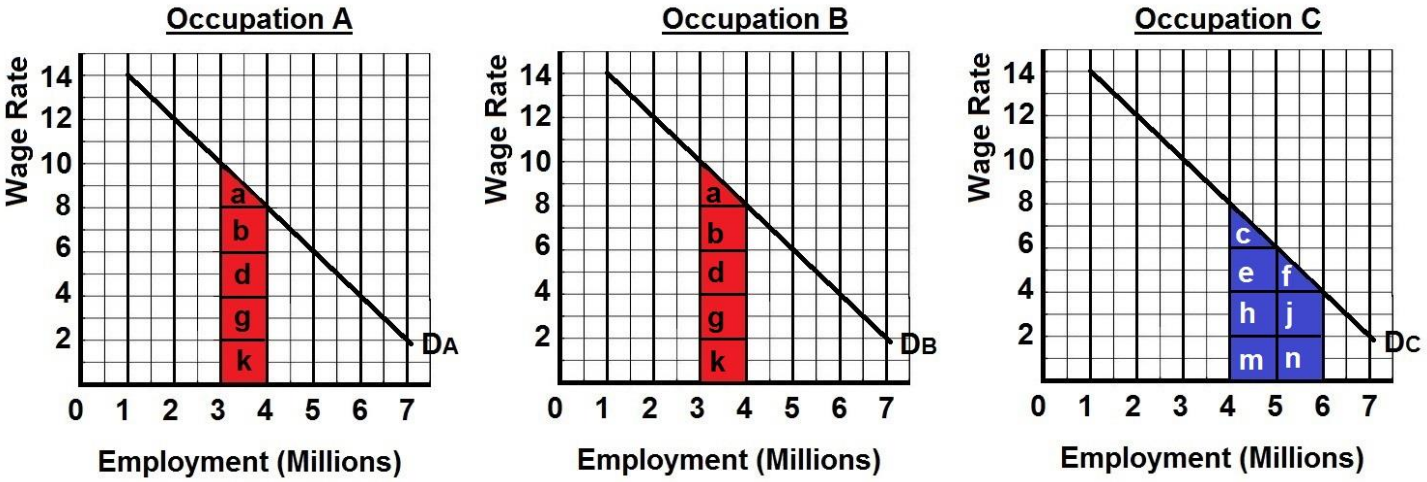
Conclusions:

- The basic argument for an equal distribution of income is that income equality maximizes total consumer satisfaction (utility) from any particular level of output and income.
- If a single dollar of income is shifted from Jane to Joe—that is, toward greater equality—then Joes's utility increases by X and Jane's utility decreases by *I*. The combined utility then increases by X minus Y (Joe's large gain minus Janes's small loss).
- The area under the MU curve and to the left of the individual's particular level of income represents the total utility of that income. Therefore, as a result of the transfer of the $2000, Joe has gained utility represented by the red area below curve MU_{Joe} (area C + E + H), and Jane has lost utility represented by the blue area below curve MU_{Jane} (area F + I).
- The red area is obviously greater than the blue area, so if the income distribution is initially unequal, then distributing income more equally can increase the combined utility of the two individuals.

Criticisms: Incentives and Efficiency (The Equality-Efficiency Trade-off)

- Although the logic of the argument for equality is sound, critics attack its fundamental assumption that there is some fixed amount of output produced and therefore income to be distributed.
- Critics of income equality argue that the way in which income is distributed is an important determinant of the amount of output or income that is produced and is available for distribution.

MODEL - The Occupational Segregation Model of Discrimination 20a



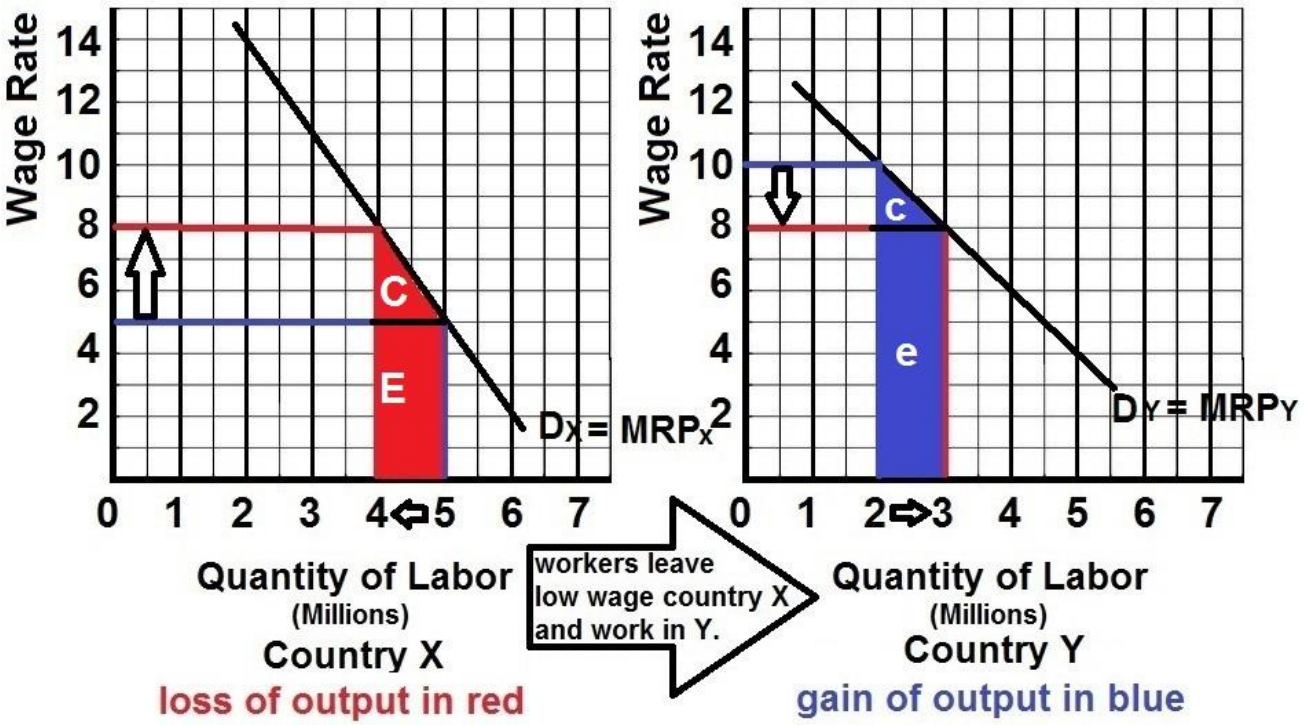
Assumptions:

- the labor force is comprised of 6 million men and 6 million women workers
- the economy has 3 occupations, A, B, and C, each having identical demand curves for labor;
- men and women workers are homogeneous with respect to their labor-market capabilities
- women are discriminated against by being excluded from occupations A and B and are confined to C
- except for discrimination, the economy is competitive, therefore D_L = MRP = P x MP.
- There are no barriers to mobility between the occupations for men.

Conclusions:

- Men would distribute themselves equally in occupations A and B (3 million in each) and earn high wages, $10
- All 6 million women will be crowed into occupation C and earn low wages, $4
- **The result of discrimination is a loss of output for society** (less is being produced with the same number of workers)
    - Remember that labor demand reflects labor's marginal revenue product (MRP = P x MP), which is labor's contribution to domestic output.
    - Thus, the red areas for occupations A and B (a + b + d + g + k in each occupation) in the figure above show the decrease in domestic output (MP x P) caused by subtracting 1 million women from each of these occupations.
    - Similarly, the blue area for occupation C (c + e + h+ m + f + j + n) shows the increase in domestic output caused by moving 2 million women into occupation C.
    - Although society would gain the added output represented by the blue area in occupation C, it would lose the output represented by the sum of the red areas in occupations A and B. **That output loss exceeds the output gain, producing a net output loss for society caused by discrimination.**
- **If discrimination disappears**, women, attracted by higher wage rates, shift from occupation C to A and B
    - 1 million women move into A and another 1 million move into B.
    - Ending discrimination clearly benefits women, who now receive higher wages; it hurts men, who now receive lower wages.
    - **Society gains.** The elimination of occupational segregation reverses the net output loss discussed above. Society gains the output represented by the two red areas in occupations A and B and loses the output represented by the blue area in occupation C. **When discrimination is ended society gains more than it loses.**

MODEL - A Simple Immigration Model 22a



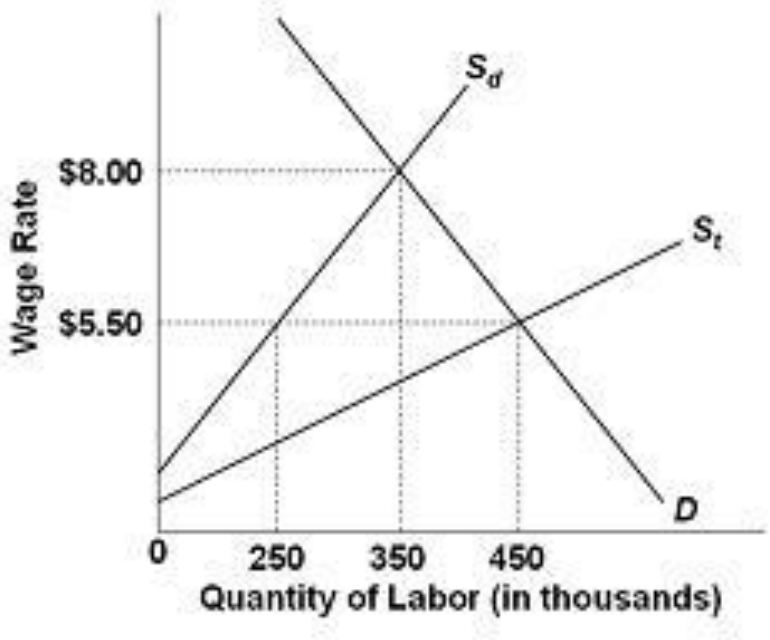
Assumptions:

- D_x is the demand for labor in country X; D_y is the demand for labor in country Y. The demand for labor presumably is greater in the country Y because it has more capital, advanced technology, and better infrastructure that enhance the productivity of labor. Therefore wages are higher in country Y
- before-migration the labor force of country X is 5 million and the wage is $5
- before-migration the labor force of country Y is 2 million and the wage is $10
- there is full employment in both countries;
- labor quality is the same in both countries.
- migration (1) has no cost, (2) occurs solely in response to wage differentials, and (3) is unimpeded by law in both countries,

Conclusions:

- workers will migrate from low wage country X to high wage country Y until wage rates in the two countries are equal at $8
- At that level, 1 million workers will have migrated from country X to Country Y.
- In country Y, the wage rate will decrease from $10 to $8
- In country Y the domestic output (the sum of the marginal revenue products of the entire workforce) will increase as shown by the blue area c + e.
- In country X, the wage rate will rise from $5 to $8
- In country X the domestic output (the sum of the marginal revenue products of the entire workforce) will decrease as shown by the red area C + E.
- Observe that the gain in domestic output in country Y exceeds the loss of domestic output country X. The migration from Y to the UXhas clearly increased the world's output and income.
- Migration enables the world to produce a larger output with its currently available resources. So labor mobility joins international trade in enhancing the world's standard of living.

MODEL - Impact of Illegal Workers in a Low Wage Labor Market 22a



Assumptions:

- Employers in this market are willing and able to ignore minimum wage laws
- S_d represents the supply of domestically-born (and legal immigrant) workers;
- S_t represents the total supply of workers in this labor market (S_d plus illegal immigrants
- The horizontal distances between S_t and S_d at the various wage rates measure the number of illegal immigrants offering their labor services at those wage rates
- Unless otherwise stated, illegal immigration is *not* effectively blocked by the government.

Conclusions:

- With illegal workers present, as implied by curve S_t, the equilibrium wage and level of employment in this labor market are $5.50 and 450,000.
- At the low wage of $5.50
  - Only 250,000 domestic-born workers are willing to work as field hands;
  - the other workers (200,000) are illegal immigrants.
- Can we therefore conclude that illegal workers have filled field jobs that most U.S.-born workers do not want?
  - The answer is "yes," but only with the proviso: "at wage rate $5.50"
  - if the United States cut off the full inflow of illegal workers to this market, the relevant supply curve would be S_d and the wage rate would rise to $8.00. Then 100,000 more domestic-born workers would work as field hands and 200,000 illegal immigrants would lose jobs.
- Can we therefore conclude that illegal workers reduce the employment of Americans by an amount equal to the employment of illegal workers? No.
  - illegal immigration causes some substitution of illegal workers for domestic workers, but the amount of displacement is less than the total employment of the illegal workers. Illegal immigration—as with legal immigration—increases total employment in the United States.