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Week 2: Immigration As Trade

I. Population Economics with Identical Workers
    A. Immigration is a special kind of population growth, so let's start with that.
    B. Aggregate Labor Markets analyze large labor markets (cities, states, countries, the world) using Aggregate Labor Supply and Aggregate Labor Demand.
    C. Aggregate Labor Supply depends on hours/worker and number of workers.
        1. The larger the region, the more fixed is the number of workers – and the more vertical the ALS curve.
    D. Aggregate Labor Demand overwhelmingly depends on worker's Marginal Value Product = Marginal Physical Product * Price.
        1. Since this isn't a macro class, it's helpful just to think of the central bank as targeting the price level, so ALD is just a function of workers Marginal Physical Productivity.
    E. Question: What happens to the Aggregate Labor Market when the population of workers rises?
    F. Let's start with the admittedly unrealistic assumption that all workers are identical. Then immigration:
        1. Increases Aggregate Labor Supply.
        2. Has no effect on Aggregate Labor Demand. (There's no clear reason why rising population would shift MPP, and the central bank continues to target P, so MVP=MPP*P stays the same).
    G. Conclusion: Population growth reduces wages.
    H. Does this mean that population growth is bad for humanity? Absolutely not. The new people are almost certainly glad to be alive.
    I. Does this mean that population growth is bad for existing people?
        1. Probably not for the families of the new people.
        2. Not for *employers* of labor – including everyone who owns stock or a retirement account, or who hires a nanny, housekeeper, or elder care professional.
        3. Not for home- or land-owners - more people means higher housing prices.

II. Population Growth and Comparative Advantage
    A. In the real world, workers are *far* from identical. Skills vary widely.
    B. This implies that population growth can actually raise wages. Why? Comparative advantage: People with different skills produce more *total* output if they specialize and trade.
    C. Simple example: Young workers are relatively good at physically demanding jobs. Mature workers are relatively good at mentally demanding jobs.

          1.   Imagine that initially the young workers are kept in exile, cut off from the rest of the economy.

D.   Suppose that in a day, young and old people can produce:

	Young	Mature
Boxes Moved	4	4
Furniture Restored	.5	5

E.   Both sides can increase production via specialization and trade! Have ten young people switch from restoring furniture to moving boxes (-5 furniture, +40 boxes), and two mature workers switch from moving boxes to restoring furniture (+10 furniture, -8 boxes). The world is richer by 5 furniture's and 32 boxes.

F.   How can we show this in an Aggregate Labor Market diagram? Thanks to comparative advantage, trade effectively raises MPP. Suppose that post-trade, furniture and boxes have equal prices. Then trade effectively changes the productivity table to:

	Young	Old
Boxes Moved	4	5 (by trading furniture for boxes)
Furniture Restored	4 (by trading boxes for furniture	5

          1.   Implication: population increases *both* ALS and ALD, so the effect on average wages is now ambiguous.

G.   Wait, what about externalities?

III.   What's the Optimal Number of People?

A.   People often worry about "overpopulation" or "underpopulation." What does this mean in economic terms?

B.   It's tempting to say "optimal population"="population with maximum GDP per capita." But:

          1.   Anyone who has a baby rejects this at the household level. When my wife and I had twins, our family's per-capita income fell by 50% as a matter of pure arithmetic.

          2.   By this standard, the existence of life-loving but below-average people is "suboptimal."

C.   Even by the "maximize per capita GDP" standard, though, the world still might be underpopulated. Consider: Over the last two centuries, both population and per capita GDP have massively increased.

D.   Furthermore, over the last 150 years, the real prices of food, fuel, and minerals have fallen by about 1%/year. The main commodity that keeps getting more expensive: labor. If we're "running out" of anything, it's people.

E.   In any case, economists' real standard for over- or underpopulation is whether *the marginal baby born has (on net) negative or positive externalities*.

F.   Slogan: "You don't have to raise the average to pull your weight."

IV.   Negative Externalities of Population

   A.   As Landsburg notes, many people think that each child born gets a 1/7 billion share of world resources - implying negative externalities.

   B.   This isn't how the world really works. Instead, when a family has one more child, each child in that family gets a *lot* less, with little effect on anyone else.

   C.   This is especially clear from bequests. Picture a simple agricultural economy where kids always divide their parents' landholdings equally. If everyone but you has lots of kids, your kid inherits just as much land – and his land will actually be worth more due to higher demand.

   D.   Lesson: With private property, parents who care about their kids automatically internalize any "poverty externality." Under old-school socialism, in contrast, the poverty externality is very real. You can have an many kids as you like without reducing your family's consumption at all.

   E.   Poverty aside, people also often worry about the negative *environmental* externalities of population.

   F.   Key economic point: Limiting population to reduce environmental externalities is using a sword to kill a mosquito. Why not just raise the price of environmental damage with e.g. pollution taxes?

   G.   The same applies to congestion externalities. If the roads are crowded at rush hour, rush hour tolls are a much cheaper and more humane solution than preventing people from existing.

V.   Positive Externalities of Population

   A.   Does population have any *positive* externalities? Yes!

   B.   Existence externality: Most people are happy to be alive, but parents can't charge you for the privilege of existing.

      1.   In Singapore, though, you are financially responsible for your elderly parents.

   C.   Idea externality: Progress depends largely on ideas, and ideas come from people.

      1.   Historically, almost all progress comes from populous, connected regions of the world – especially Eurasia.

      2.   Historically, isolated areas with low populations have low, zero, or negative progress. See Tasmania.

   D.   Notice: Technology has now connected the whole world. A great idea anywhere quickly becomes a great idea everywhere.

   E.   Population increases both the supply and demand for new ideas. This is most obvious for languages, but works in all areas of idea creation.

      1.   Imagine deleting half the names in your music collection, or half the Nobel prize-winners.

   F.   Choice externality: More population means more choices. See NYC vs. Hays, Kansas. The fact that urban rents are higher than rural rents shows

that people prefer (people + the indirect effects of people) to splendid isolation.

1. Pointed question: Why don't people who complain about overpopulation move to the middle of nowhere?

G. Retirement externality: Government old-age programs are pyramid schemes. With lots of kids, low taxes can sustain high benefits. Low birth rates are a major reason why Social Security and Medicare are going to be in big trouble.

1. What if government benefits for the elderly depended on your number of kids?

H. Even without government programs, the elderly benefit if other people have kids. Imagine: What would happen in seventy years if everyone stopped having kids today?

VI. Immigration and AS-AD

A. Everything we said about AS-AD and population applies to AS-AD and immigration.

1. If natives and immigrants have identical skills, immigration definitely reduces wages.

2. If natives and immigrants have different skills, the effect of immigration on wages is ambiguous.

B. In the real world, native workers and immigrant workers are *far* from identical.

1. Most obvious difference: Current immigrants tend to be either low-skilled or high-skilled compared to Americans.

2. Potential immigrants tend to be very low-skilled compared to Americans.

3. Slightly less obvious difference: Holding overall skill constant, natives usually speak much better English.

C. These facts imply that immigration can actually raise American wages. Why? Again, comparative advantage: People with different skills produce more *total* output if they specialize and trade.

D. Simple example: Many highly educated American women stay home with their kids because it is so expensive to hire a nanny. Many women in Mexico know how to take care of children, but have little education.

E. Suppose that in a day, American and Mexican women can produce:

	American Woman	Mexican Woman
Computer Programs Written	4	.1
Children Cared For	2	2

F. Both sides can increase production by immigration and specialization! Have ten Mexican women switch from writing computer programs to childcare (-1 program, +20 childcares), and one American woman switch from childcare to computer programs (+4 programs, -2 childcares). The world is richer by 3 programs and 18 childcares.

G. How can we show this in an Aggregate Labor Market diagram? Thanks to comparative advantage, trade effectively raises MPP. Suppose that post-immigration, computer programs and childcare have equal prices. Then immigration effectively changes the productivity table to:

	American Woman	Mexican Woman
Computer Programs Written	4	2 (by trading childcare for programs)
Children Cared For	4 (by trading programs for childcare)	2

H. As usual, comparative advantage implies mutually beneficial trade even when one side is worse at *everything*. So the early 20th century debate about "inferior peoples" was doubly misguided.
  1. Pearson on IQ and immigration: "What is definitely clear, however, is that our own Jewish boys do not form from the standpoint of intelligence a group markedly superior to our natives. But that is the sole condition under which we are prepared to admit that immigration should be allowed."
I. Key difference between population growth and innovation: If population growth doesn't happen, the potential people who don't exist never know what they're missing.
  1. Population growth changes the numerator (GWP) *and* the denominator (world population) for "average world living standards," so we can't definitively say that population growth raises world living standards.
J. Immigration, in contrast, only changes the numerator (GWP), leaving the denominator (world population) the same. So we can definitively say that immigration raises world living standards.
K. What about externalities of immigration? As usual, there are both positive and negative externalities. Figuring out the net effect is a complicated empirical question (which we'll try to ballpark this semester).
VII. Trade and Arbitrage
  A. Price differentials naturally provoke arbitrage.
  B. As a result, we should expect that – transportation costs aside – free international trade will equalize global prices.
  C. The same goes for labor, of course. With free trade in labor, we would expect equally productive labor to earn the same wage all over the world.
  D. Is this an oversimplification? Definitely. Regulation and taxes aside, the labor market could discriminate against some workers.

E.   How severe should we expect such discrimination to be?

VIII.   Basic Economics of Discrimination: Theory

A.   Gary Becker famously argued that market forces mitigate and perhaps even preclude labor market discrimination.

B.   Why would anyone think this? Let us begin by defining "discrimination" more precisely. In economic terms, we can think of pure dislike or hatred for others as a *taste for discrimination*, a willingness to pay to avoid people you don't like.

C.   For example, suppose a Serbian employer hates Croatians. But how much is he willing to pay for this? Would he give up $1,000,000 to avoid hiring a Croatian? Probably not. There is some amount of money sufficient to make the Serbian hire the Croatian in spite of his discriminatory taste.

D.   Once we understand this notion of the "taste for discrimination," we can use it to analyze a variety of cases. Consider the canonical case of employer-on-worker discrimination.

E.   Assumptions:
1.   Most employers have a taste for discrimination against Asians. Their willingness to pay to satisfy this taste ranges from $2/hour/worker to $0/hour/worker, with an average of $1/hour/worker.
2.   No one else has discriminatory tastes.
3.   Asian and non-Asian workers are equally productive.
4.   Labor markets are competitive and there are no anti-discrimination laws.

F.   What happens? Labor demand for Asians is lower and they earn lower wages - at first.

G.   Who hires them? The **least-discriminatory** employers! If the wage gap is $1.00, then employers who value discrimination by less than $1.00 hire only Asians.

H.   More racism thus means lower profits. Less racist employers hire cheaper Asian labor, while more racist employers higher more expensive non-Asian labor.

I.   Thus, over time the most racially tolerant employers become a larger and larger part of the market, and racist employers are driven out of business.

J.   This shifts employers' distribution of discriminatory tastes in the direction of tolerance - raising the demand for Asian labor and reducing the demand for non-Asian labor. So the wage gap falls.

K.   As long as there are enough employers who care solely about money, not race, the ultimate effect is that racist employers are driven from the market, and equally-productive labor earns the same wage.

L.   Even if most people are racist, selection pressure favors non-racist employers. Businesspeople are competing to make money; any goals other than making money - good or bad - hold them back.

M.   In other words, more greedy, less racist employers tend to drive less greedy, more racist employers out of business.

N. Corollary 1: Government regulation is necessary to **sustain** discrimination by profit-seeking employers.

O. Corollary 2: Discrimination is much more likely to appear in the *non-profit* sector.

IX. Basic Economics of Discrimination: Empirics

A. A vast literature empirically tests Becker's story. Enormous wage *differences* are obvious in the data. But do these differences actually reveal discrimination?

B. Standard approach: Estimate wages as a function of standard labor market variables, plus race, gender, or any other basis for discrimination.

C. Standard result: Adding reasonable controls (education, experience, family status, test scores) almost always drastically shrinks measured discrimination, often reducing it to statistical insignificance or even flipping the sign.

D. Like most people, social scientists tend to be deeply disturbed by even tiny degrees of discrimination. A 10% unexplained wage gap will therefore often be written up as "evidence of serious discrimination."

    1. Query: If you can account for 80% of a large wage gap with a few readily-observed variables, what are the odds you could account for 100%+ with a richer list of variables?

X. Discrimination Against Immigrants

A. People today are much more likely to publicly express anti-immigrant sentiments than racism.

B. Yet strangely, almost no one trusts business to discriminate against immigrants. The main point of internal immigration enforcement is to make discrimination against illegal immigrants *mandatory*.

    1. Remember the two corollaries!

    2. There is research on the effect of legalization on the wages of previously illegal immigrants. This usually leads to roughly +20% earnings.

C. Well-established fact: Immigrants to the First World earn vastly more than seemingly identical people who stayed in their home country.

D. Question: What happens if we analyze *these* earnings gaps using the same method we use to measure discrimination?

    1. Note: Since we're comparing immigrants to people from the same country who stayed home, we're measuring the effect of discriminatory government treatment (some people can migrate; the rest can't) rather than employer discrimination.

E. Clemens, Montenegro, and Pritchett pursue this question in their paper on "The Place Premium." They use a Becker-type setup to estimate the effect of *mandatory segregation* on wages.

    1. Usual estimates show percent of unexplained wage differences. CMP show unexplained wage *ratios*. A value of 4 indicates that wages in the U.S. are quadruple wages in the comparison country, implying a 75% unexplained wage gap. A value of 16.308 implies a 94% unexplained wage gap!

F. Key conclusions:
  1. "It is difficult to find labor markets anywhere on earth that sustain real wage differentials Rc much above 1.5 across geographic areas in the absence of policy restrictions on migration."
  2. "Focusing on male workers in their late thirties with nine to twelve years of education, we estimate that for workers from the median country this ratio (Rc) is 4.54, for the 80th percentile country it is 7.58, and the working-age population weighted average is 6.83."
  3. More advanced models that try to correct for *un*observable differences between workers yield only slightly smaller estimates.
  4. Results by country:

Country	Value	Country	Value
Nigeria	16.308	Peru	4.153
Yemen	15.114	Guyana	4.067
Haiti	14.245	Jamaica	3.790
Egypt	13.526	Brazil	3.769
Cambodia	9.139	Nicaragua	3.643
Vietnam	8.395	Panama	3.635
Ghana	8.160	Chile	3.582
India	7.859	Guatemala	3.226
Sierra Leone	7.608	Uruguay	3.181
Cameroon	7.477	Colombia	3.068
Pakistan	7.433	South Africa	2.985
Indonesia	7.069	Paraguay	2.907
Nepal	6.692	Thailand	2.828
Sri Lanka	6.657	Turkey	2.735
Venezuela	6.532	Belize	2.633
Jordan	5.593	Mexico	2.589
Bangladesh	5.487	Argentina	2.486
Ecuador	5.368	Costa Rica	2.194
Uganda	5.286	Dominican Republic	2.084
Bolivia	5.106	Morocco	2.026
Ethiopia	4.585		
Philippines	4.504		