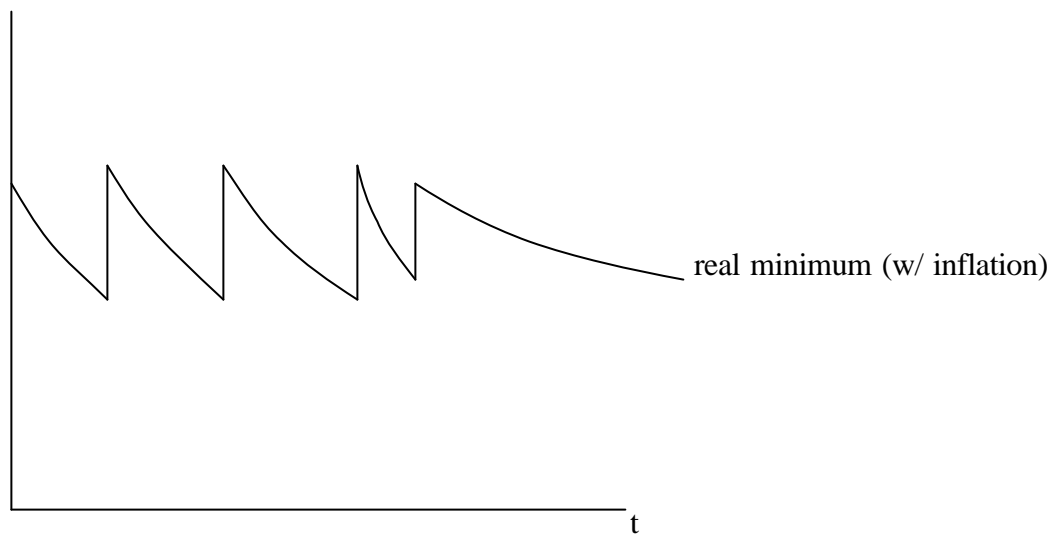
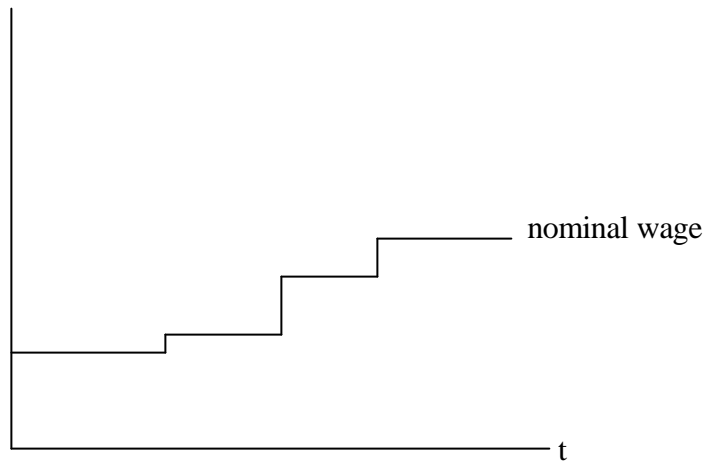


Evidence on the Effects of Minimum Wage Laws

1. History and Nature of Minimum Wage Legislation

- California minimum wage is \$6.25; national minimum is \$5.15 Higher of two will apply in any given state
- in most states federal minimum is higher
- domestic and agricultural workers are not covered by the minimum wage
- also, in some states, teenage sub-wage exists
- minimum wages are nominal; not indexed to inflation
- over time, the level of nominal and real minimum wages in a given state evolves something like this:

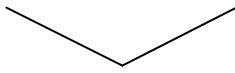


2. Time Series Evidence on the Effects of Minimum Wage Laws

- a number of studies have analyzed time series data on state-level employment-population ratios or unemployment rates, and ask whether employment tends to fall (or unemployment tends to rise) when the real minimum wage is raised.
- Generally, effects are found only for workers aged 16-24.
- A typical study finds that a 10% increase in real minimum wage:
 - Causes a 6% drop in teen employment
 - Causes a 2% drop in employment for 20-24 year olds
- The former result suggests an elasticity of demand = 0.6, which would mean that total teenage labor income increases as a result of the minimum wage
- But this is misleading because, even among teenagers, most workers earn more than the minimum wage. Therefore a minimum wage increase of 10% raises the average teenage wage by much less than 10%: a correct calculation of labor demand elasticity must take this into account, and could yield an elasticity considerably above 1 in absolute value.

3. Case Study Evidence: The Fast Food Industry

- Card and Krueger (1994) studied the effects of raising the minimum wage on employment in the fast food industry
- interviewed 410 fast food restaurants in New Jersey and eastern Pennsylvania, before and after April 1, 1992.
- In April 1, 1992 – NJ raised minimum wage from \$4.25 to \$5.05 but Penn. did not
- Pennsylvania was considered to be the control group
- Did employment in NJ go up or down relative to Penn.?

	Full time equivalent (FTE) employment	
	PA	NJ
Before	23.33	20.44
After	<u>21.17</u>	<u>21.03</u>
Change	-2.16	+0.59
	 +2.75	

- No, it didn't. Relative to PA, employment in NJ restaurants *increased* by 2.75 FTE workers.

- Card and Krueger therefore claim that minimum wages did not reduce employment by fast-food restaurants.
- were not able to address issue of whether minimum wage prevented new restaurants from opening up
- also didn't have any information on whether minimum wage increases changed the mix, or "quality" of workers hired by these restaurants.

4. Panel Data Evidence:

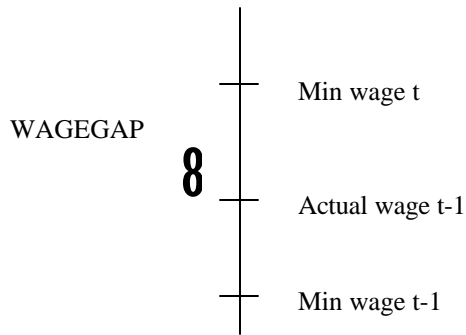
Currie and Fallick (1996) address the issue of minimum wages and labor quality by looking at the employment of individual workers before and after a minimum wage increase.

- To do this they use a *panel data set*- one where the same individuals are surveyed every year, in some cases for 20 years or more.
- They used the National Longitudinal Survey of Youth, looked at employment before and after an increase in the federal minimum wage
- in January 1979, the federal minimum increased from \$2.90 to \$3.10; in January 1980 it increased from \$3.10 to \$3.35.
- looked only at teenagers who were employed in the year preceding the minimum wage hike, asked which ones were still employed a year later
- as a measure of how much each person's wage was raised by the minimum wage law, defined the variable WAGEGAP:

WAGEGAP = 0 if $w_{t-1} < \min_{t-1}$ (if earning less than original min., shouldn't be affected)

WAGEGAP = 0 if $w_{t-1} > \min_t$ (if already earning more than min, shouldn't be affected)

WAGEGAP = $\min_t - w_{t-1}$ if $\min_t < w_{t-1} < \min_{t-1}$



- Currie and Fallick found that workers with larger values of WAGEGAP were less likely to be employed the year after a minimum wage increase than workers with smaller values of WAGEGAP.
- Overall, the average wage increase caused by these legislative changes caused a 3% decrease in probability of being employed in the following year
- those most likely to become unemployed were at relatively low wages to begin with

- Neumark and Wascher have an article that extends Currie and Fallick's analysis to ask whether minimum wage laws affect teenagers' decisions to stay in school or not.
- They found that minimum wage laws increased the dropout rate by making work more attractive relative to school.

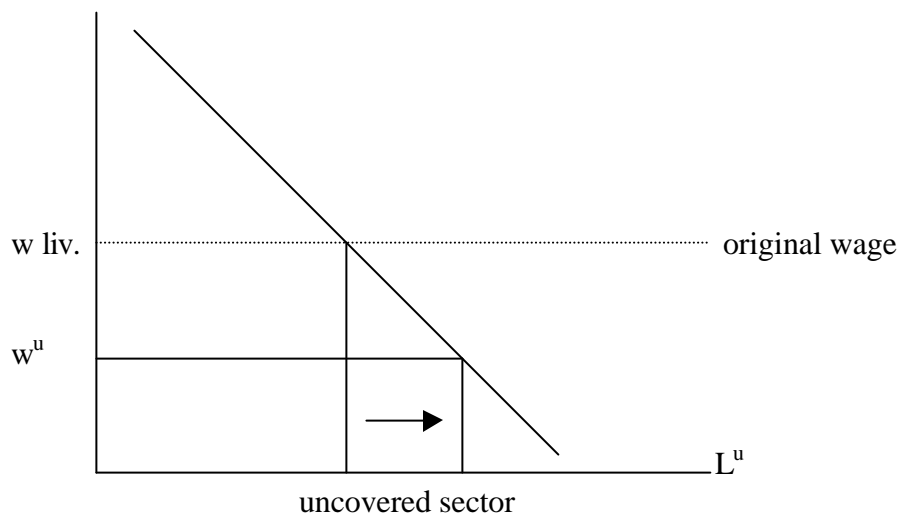
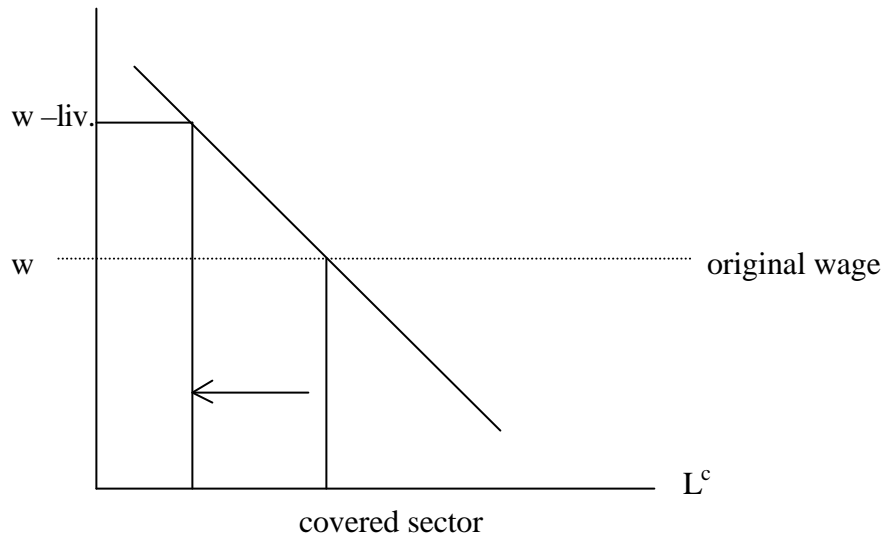
Living Wage Ordinances:

1. History and Nature of Living Wage Ordinances

- These are a kind of minimum wage law that are passed at the municipal level (over 25 cities have them now; Baltimore was the first in 1996)
- higher than state and federal minimum
- Examples: Baltimore - \$7.90/hour; Los Angeles - \$7.30 w/ health benefits or \$8.64 w/o benefits; San Jose - \$9.50 w/ health benefits or \$10.15 w/o benefits
- coverage is restricted to firms with contracts with city or for firms receiving aid from city

2. Theory: Likely Effects of Living Wage Ordinances

-
- Likely effects differ from minimum wage laws because coverage is much more limited
- To see this consider the case where there is a fixed number of unskilled workers available in a city:



-the living wage law forces some workers out of the covered sector who then (rather than becoming unemployed) will look for work in the uncovered sector.

-thus we don't expect unemployment to rise, but expect to see wage declines in the uncovered sector.

- note also that, even if LWO's raise wages overall, they won't have a big effect on poverty unless lots of low-wage workers live in poor households. Do they? No one has looked at this question for LWO's specifically but Burkhauser looked at the 1990 increase in the federal minimum wage. According to Burkhauser, 1/3 of the workers affected by this increase live in poor to near-poor families (up to 1.5 times poverty line). But another 1/3 are in families with income greater than three times federal poverty line

3. Evidence: Actual Effects of Living Wage Ordinances

Neumark and Adams' results on effects of LWO's adopted in the late 1990's:

- effects on wages of low-wage workers (bottom 10%): very small increase
- effects on hours worked by low-wage workers (bottom 10%): little change
- effects on employment rate among low-wage workers: significant decline
- effects on a city's poverty rate: small decrease in poverty

Labor Market Effects of Immigration

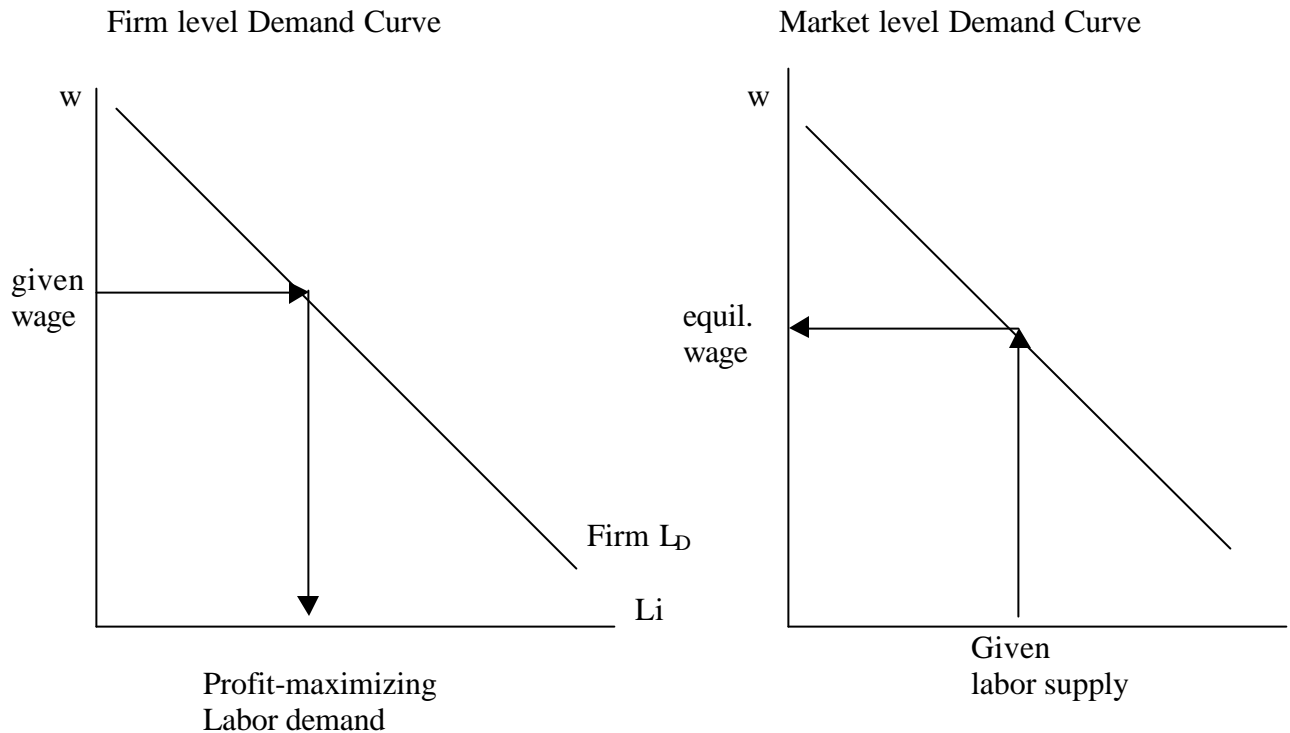
1. Theory

a. A preliminary result: (reading labor demand curves backwards).

-Recall that, on the firm level, we read a labor demand curve by starting on the vertical axis and going over to the labor demand curve (left-hand diagram). The individual firm is a wage-taker. For any given wage, the labor demand curve tells us how many workers it wants to hire.

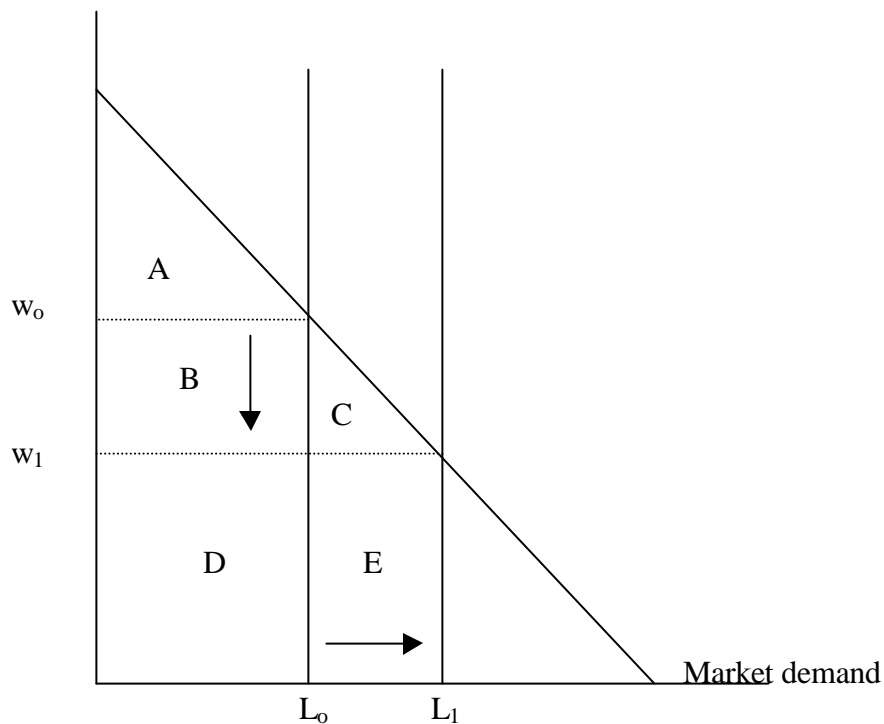
-to get the labor demand curve for the market as a whole, we sum individual firms' labor demand curves horizontally.

-now consider a labor market (e.g. a city) with a fixed total number of workers. (thus its labor supply curve is a vertical line). The equilibrium wage in that market must be at the intersection of the (vertical) supply and (downward-sloping) labor demand curves, as shown in the right-hand diagram below. Thus, at the market level (and when labor "endowments" are exogenously given), we can read labor demand curves starting on the horizontal axis: For any given amount of available labor, the height of the demand curve tells us the equilibrium wage that will prevail in that labor market.



b. Effects of immigration when there is only one type of labor

Now, consider a labor market (e.g. a city) with a fixed initial stock of labor, which then experiences an exogenous inflow of labor. What happens to equilibrium wages, total labor income, etc.?

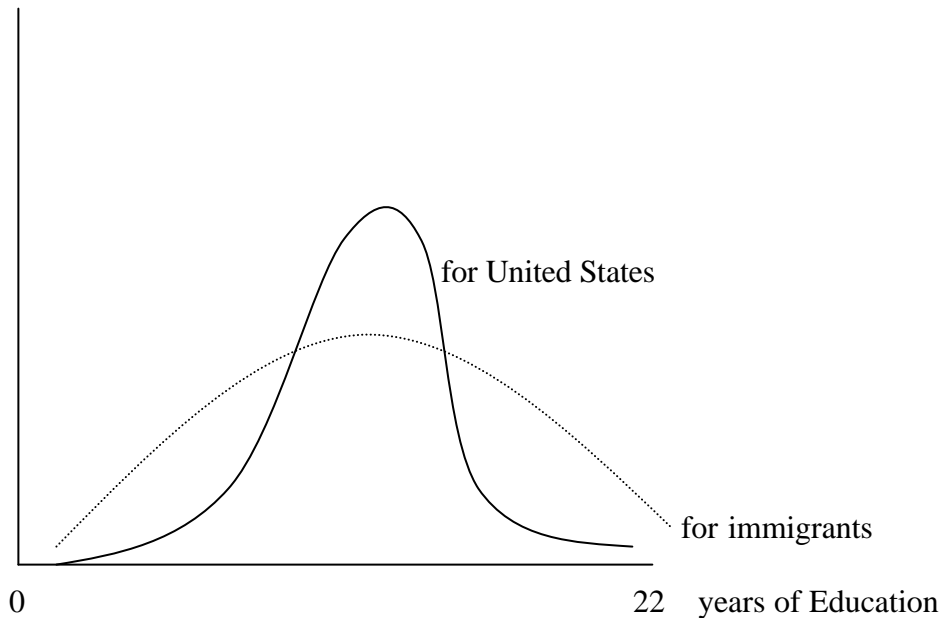


- immigration causes a decrease in equilibrium wage
 - total labor income of native workers before immigration: BC ; after immigration: C
Thus native workers are hurt by immigration
 - total labor income of immigrants: E ; presumably this is more than they earned in the source country so they gain.
 - total non-labor income before immigration: A ; total non-labor income after immigration: ABD So native owners of other inputs gain.
- if all non-labor income goes to natives, then total income of natives after immigration increase by D (the “immigration surplus”).

c. *Effects of Immigration when there are different kinds of labor*

- in reality, workers are not all the same: they are not perfect substitutes
- immigrants have a different mix of skills than natives; they consist disproportionately both of very unskilled workers and of very skilled workers:

fraction of workers



Predicted effects of immigration of one type of worker on the equilibrium wages of another kind of worker depend on whether the second worker's marginal productivity is increased or reduced by increased supply of the first. Mathematically, if the production function is $F(L_1, L_2)$, this is given by the *cross-partial derivative* of the production function, $\partial^2 F / \partial L_1 \partial L_2$, or F_{12} .

Theoretically, this can go either way.

Examples:

1) $F(L_1, L_2) = vL_1 + vL_2$ ($F_{12} < 0$) the two labor types are substitutes: adding one more type-2 worker will decrease the productivity of the type-1 workers

2) $F(L_1, L_2) = vL_1 + vL_2$ ($F_{12} = 0$) independent/separable: adding one more type-2 worker will does not affect the productivity of the type-1 workers

3) $F(L_1, L_2) = vL_1 \cdot vL_2$ ($F_{12} > 0$) complements: adding one more type-2 worker will raise the productivity of the type-1 workers

Generally, the greater the similarity in the work/skills between two labor types, the more likely they are to be substitutes. Adding an administrative assistant will make a manager more productive; adding a second manager won't.

2. Evidence

a. Paper by Lalonde and Topel

- SMSA – defacto local labor market
- Think of each SMSA as having its own production function: $F(M1, M2, M3, \dots, Mn, N)$, where M1 are newly arrived immigrants, Mn are later arrivals, and N are natives
- question posed by this study: what happens when increase M1?
- Immigrants are a much bigger share of population in some cities, when compared to others
- Ran a regression: what's the effect of higher population of M1 on the wage of M1, and a higher population of M2 of the wage of M1, etc.?
- Information from 1970's and 1980's censuses
- Found that, if there is a big influx of immigrants into a city, wages of immigrants in that city tend to fall. A doubling of the population of brand new arrivals reduces wages earned by new arrivals by about 10%; reduces wages of those who have been there 6-9 years by 4%.
- Effects are even smaller for those who have been in country longer? no effect can be detected for those here for more than 20 years and for natives

b. Paper by Topel

- looked at regions instead of cities
- also segregated immigrants and natives into different skill groups
- especially in Southwest, there were negative effects of unskilled immigration on bottom third of natives (i.e. unskilled white men)