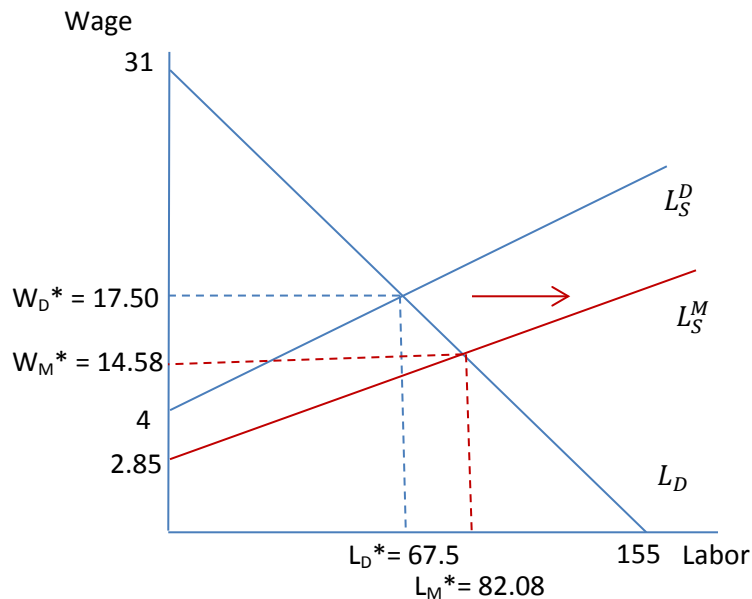# Mobility/Immigration[1]
In-Class Problem[2]

Let's assume that we have a market for domestic workers parameterized by the labor supply and demand equations $L_S^D = -20 + 5W$ and $L_D = 155 - 5W$ where W = wage and L = 100's of workers and we observe that the supply of domestic plus foreign workers can be observed through the equation $L_S^M = -20 + 7W$. We also know that these foreign workers each $6.00 per hours (USD) in their native labor markets. In this problem we're going to assume that firm is in a competitive goods and labor market. How would we think about this sort of problem? As always, we want to locate equllibria, intercepts and form our graphic model in the usual ways[3].

Equilibrium	**Domestic Supply and Demand**	**Market Supply and Demand**
	$L_S^D = L_D$	$L_S^M = L_D$
	$-20 + 5W = 155 - 5W$	$-20 + 7W = 155 - 5W$
	$W^* = 17.5;\ L^* = 67.5$	$W^* = 14.58;\ L^* = 82.08$

Intercepts

Domestic Supply	**Domestic Demand**	**Market Supply**
$L_S^D = -20 + 5W$	$L_D = 155 - 5W$	$L_S^M = -20 + 7W$
If $W = 0\ \mid L_S^D = -20$	If $W = 0\ \mid L_D = 155$	If $W = 0\ \mid L_S^M = -20$
If $L_S^D = 0\ \mid 0 = -20 + 5W$	If $L_S^D = 0\ \mid 0 = 155 - 5W$	If $L_S^M = 0\ \mid 0 = -20 + 7W$
$5W = 20;\ W = 4$	$5W = 155;\ W = 31$	$7W = 20;\ W = 2.85$

Graphic Model

a) **With this influx of foreign workers, what is the wage domestic workers would now receive?**

$W_M{}^* = 14.58$

b) **How many domestic workers would be willing to supply their labor at this wage?**

$L_S^D = -20 + 5(14.58) = 52.9$

c) **How many foreign born workers would be willing to supply their labor at this wage?**

$L_S^M = -20 + 7(14.58) = 82.08 - 52.9 = 29.18$

d) **What does this tell us about the costs of foreign workers moving to this market?**

We may not be able to tell this expressly, but we do know that they were working for $6.00 and now can work for $14.58, so the compensating wage differential is $8.58. This must include ALL of the costs of relocating to the new market (tangible and intangible).

e) **How might we define the supply curve of immigrant workers in given what we already know?**

We can associate a few basic rules to these supply equations:

$L_1 + L_2 + \dots + L_N = L_S$

$W_1 = W_2 = \dots = W_N = W$

You might recall that these are the same as the rules for private goods because labor is largely a private good in that it is rival and excludable.

With these rules we can say that $L_S^T - L_S^D = L_S^I$ or $L_S^I = L_S^T - L_S^D$

$L_S^I = -20 + 7W - (-20 + 5W) = -20 + 7W + 20 - 5W = 2W$

$L_S^I = 2W$

With these values in mind, we might also consider a few other issues:

- How is it that we can consider the wage differential between what the foreign born worker made in their native labor markets and what they might earn in this labor market as a compensating wage differential?

- Does the presence of an immigrant labor force necessarily depress wages for domestic workers?

- What are the relative skill levels of domestic and foreign workers and how might this equate to productivity and MRP_L?

- Is it necessarily accurate to suggest that foreign born workers receiving less than domestic workers represents some form of discrimination?