Rodrigombia and Oblivia are two neighboring countries with strict immigration laws. No Rodrigombian can work in Oblivia and no Oblivian is allowed to work in Rodrigombia. Rodrigombian firms have a labor demand given by

\[ L_R^d(w) = 6 - \frac{w^2}{2} \]

where \( w \) represents the wage rate. Rodrigombian workers, on the other hand, have a labor supply represented by

\[ L_R^s(w) = w. \]

a) Draw an accurate picture of the Rodrigombian labor market and find its equilibrium.

b) What is the surplus that Rodrigombian firms get in equilibrium (the difference between their willingness to pay and what they actually pay for the hired workers)? What about workers’ surplus?

Let’s consider Oblivia’s labor market. Oblivian firms have a labor demand given by

\[ L_O^d(w) = 12 - w \]

where \( w \) represents the wage rate. Oblivian workers, on the other hand, have a labor supply represented by

\[ L_O^s(w) = \frac{w}{2}. \]

c) Draw an accurate picture of the Oblivian labor market and find its equilibrium.

d) What is the surplus that Oblivian firms get in equilibrium? What about workers’ surplus?

The two countries are considering the idea of economic integration.

Hey! We can keep our flag, national anthem and laureate poets, and at the same time allow free labor mobility,

said the Rodrigombian minister of Trade.

What a great idea!

replied Oblivia’s Minister of Industry.

Oblivia’s firms could hire workers from either country and our workers could work for firms in both countries. This is a win-win situation!

Carried away by a vision of the legacy of cooperation between the two countries that he will so disinterestedly leave, the Rodrigombian minister concluded:

This may be the first step toward the Obligombian Union.

Under the system of economic integration,

e) what would the aggregate labor demand be?
f) what would the aggregate labor supply be?

g) what would the equilibrium wage rate be?

h) how many Rodrigombian workers will work at the new equilibrium?

i) how many Oblivian workers will work at the new equilibrium?

j) which country will import workers?

k) Taking into account the change in the surplus of a) Rodrigombian firms, b) Rodrigombian workers, c) Oblivian firms and d) Oblivian workers, can you tell which sectors will support the idea of economic integration and which sectors will oppose it? Who is likely to claim “They will steal our jobs!”? Who will warn “The national industry will be destroyed”?

l) Is there any way for the winners to compensate the losers in the process of economic integration?

Challenge question: In order to protect the Oblivian worker force from foreign workers, and the Rodrigombian national industry from foreign competition, the two countries agreed to impose a quota on the number of Rodrigombian workers that are allowed to work in Oblivia: Only one Rodrigombian worker at most will be allowed to work in Oblivia. What will the equilibrium wage and employment levels in each of the two countries be under the new immigration restriction?