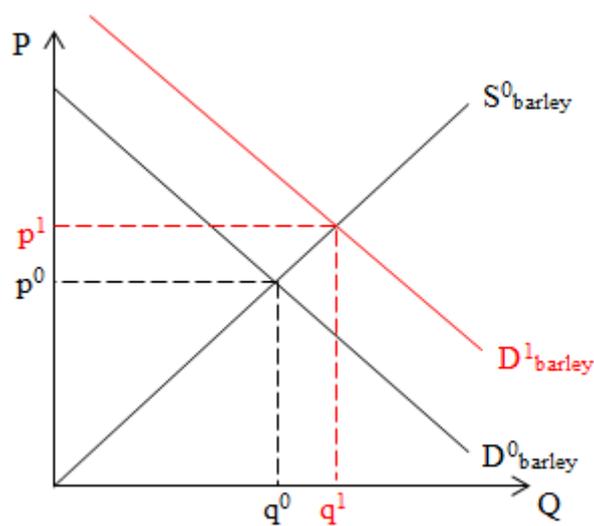


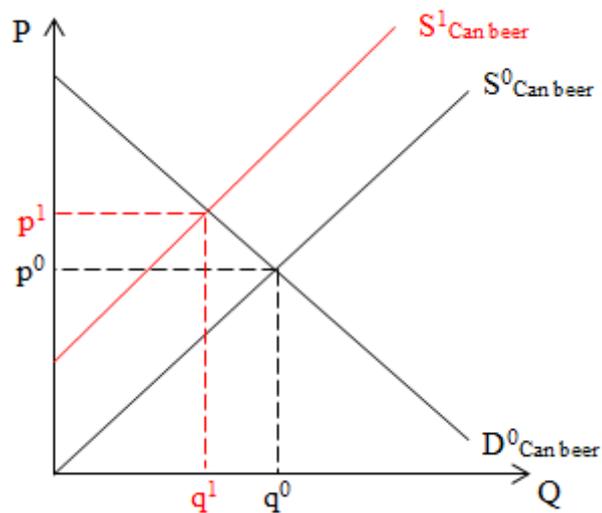
Problem Set 1—Solutions

Producers celebrate first anniversary of marketing freedom

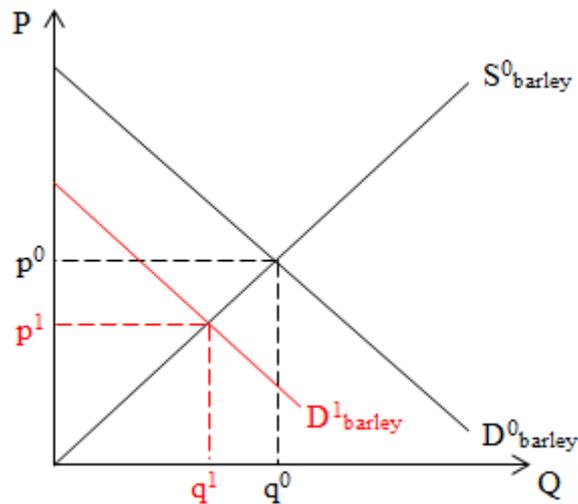
1. There was an increase in Canadian barley demand, increasing both quantities demanded, produced, and prices.



2. Increase in the price of inputs (Canadian barley) will lead to an inward shift of the Canadian beer supply curve.



3. If US brewers begin to contract with a substitute supplier, then the demand for Montana barley may decrease.



4. Solving for initial equilibrium:

- (a) $Q_{beer}^* = 33.73$
- (b) $P_{beer}^* = \$45.34$
- (c) $P_{labor}^* = \$17.46$
- (d) $Q_{labor}^* = 33.73$

5. Accounting for transportation costs:

- (a) $Q_{beer}^* = 32.94$
- (b) $P_{beer}^* = \$66.17$

6. Additional fixed costs:

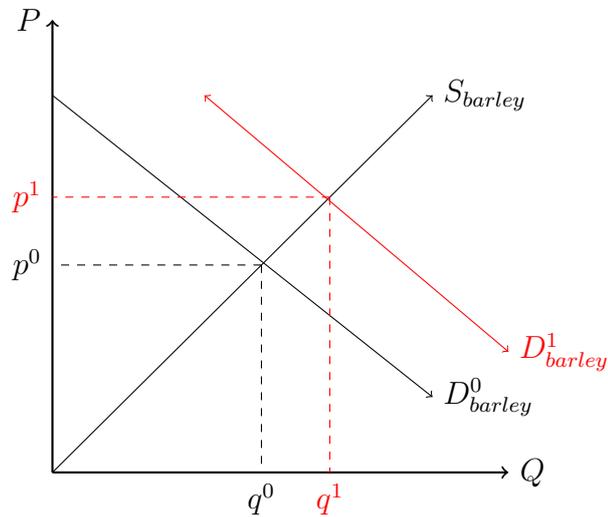
- (a) $Q_{beer}^* = 27.90$
- (b) $P_{beer}^* = \$167.03/\text{gallon}$
- (c) $P_{beer}^* = \$20.88/\text{pint}$
- (d) Local craft beer market may substantially shrink.

7. Equilibrium market for fed cattle:

- (a) $Q_{fed} = 14.71$ (in thousands of head)
- (b) $P_{fed} = \$1141.44$
- (c) $P_{vet} = \$158.84$

(d) $Q_{vet} = 14.71$ (visits per year)

8. The market for barley



(a)

(b) Price of barley and quantity of barley sold has risen.

(c) Expansion of demand likely occurred over time rather than instantaneously.

9. 2013 barley market

(a) $Q_{fed} = 13.14$ (in thousands of head)

(b) $P_{fed} = \$1147.44$

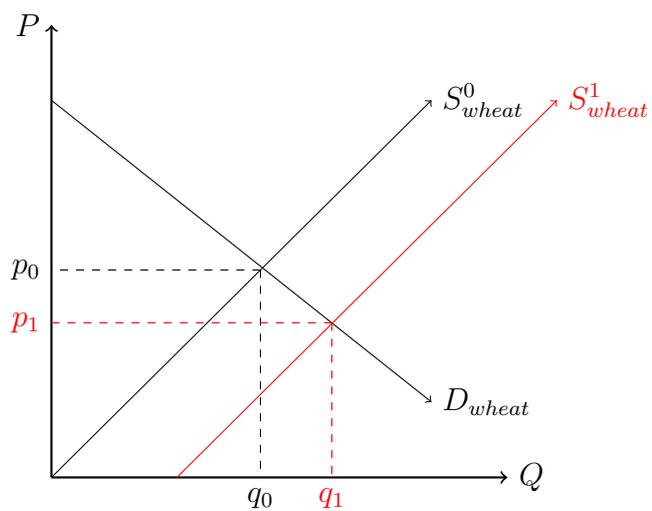
(c) $P_{vet} = \$152.56$

(d) $Q_{vet} = 13.14$

10. Great falls barley market

(a) The demand for barley in Great Falls had likely fallen, as central Montana markets expanded their own operations.

(b) As the demand for barley in Great Falls decreased, the opportunity costs of growing barley instead of wheat increased. This likely led to a positive supply shift in the GF wheat markets.



(c) The quantity of wheat produced increased and the price of wheat decreased.