# Price Theory I TFUs
# Practice Set 03

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1. The market demand for a good is more inelastic the greater the elasticity of supply of goods for which it is a substitute. (3.1.3, Core 1998)

   **False.** Demand curves do not account for conditions of supply.

2. Free trade with China will reduce real wages in the United States to the same level as those of the Chinese if the Chinese workers can produce manufactured goods as efficiently as workers in the U.S. (3.3.2, Core 2003)

   **Uncertain.** Possible answers include: (1) this is true only under free mobility of labor; (2) prices will probably converge but not necessarily to the original Chinese level.

3. Local governments may be willing to subsidize capital investments in manufacturing as a means of raising local labor demand even when labor and capital are gross substitutes for the manufacturing industry as a whole. (3.5.3, Core 2012)

   **True.** At the local level, labor and capital can be complements. In this case, subsidizing capital investments increases the rate of return, which induces a higher usage of capital and thus more labor. (Think of the example where each firm has a Leontief production function.)

4. When consumers overestimate the value received from a good and as a result purchase more of that good than they otherwise would, the loss to the consumer will be smaller when supply is inelastic since inelastic supply limits the degree of overconsumption. (3.7.4, Core 2013)

   **Uncertain.** The key here is that we are talking about consumers as a whole. - Compared to the group of consumers who have the correct assessment of the value, the demand curve is higher. If the supply is inelastic, the extra price each consumer's paying is higher and therefore the welfare loss is larger.

5. In times of tight supply, firms often do not raise the price charged to their long-term customers to the market clearing level and instead ration the amount they can purchase at a lower price than they can sell the good for on the spot market. In this case, they are not profit-maximizing. (4.1.2)

   **False.** This can be profit-maximizing. Lower price is intended for customers that will purchase complementary goods. Rationing is intended to prevent reselling the good at a higher spot price.

6. If all industries in a competitive economy have constant returns to scale and there are no industry-specific factors of production, all supply curves must be infinitely elastic. (Core 1994)

   **False.** If the proportional use of factors $(K/L)$ is different among the firms in the industry, then the supply curve can be rising.

7. Firms in a competitive industry may like having a union of all its workers precisely because the union raises the wages that firms have to pay workers. (Core 2012)

   **True.** In a competitive industry, profits can rise if an input price increases as long as output demand is inelastic and some factors are fixed.

8. You have two plants (A & B) that produce the same output using labor and capital. In plant A, labor and capital usages are each growing at 4% per year while output is growing at 5% per year. In plant B, capital usage is growing at 5% per year while labor usage is growing at 3% per year and output is growing at 6% per year. Based on this evidence, we can conclude that total factor productivity is growing faster in Plant B. (4.7.2, Final 1999)

   **True.** Using the decomposition $\Delta TFP = \Delta Y - S_L \Delta L - S_K \Delta K$, we have

   $$\Delta TFP_A = 5\% - 4\% = 1\%, \quad \Delta TFP_B = 6\% - S_L 3\% - S_K 5\% > 1\%$$

9. A merger that is anticompetitive will generally raise the stock market value of the merging firms but lower the market value of other competing firms. (4.15.1)

   **False.** Other competing firms usually benefit from the high price supported by the more dominant firm.