晚上课程的第一个证明，我在黑板上的写法有 typo，以下内容是修改后的，你们以此做为参考：

Suppose that the demand curve has the form $Q^d = A_d - B_dP$ and the supply curve has the form $Q^s = B_sP - A_s$, where A_d, A_s, B_d, and B_s are all positive numbers. The larger are B_d and B_s, the more responsive are demand and supply to price.

Setting $Q^d = Q^s$ and solving for the equilibrium price we find that

$$P^* = \left(\frac{A_d + A_s}{B_d + B_s}\right) \tag{1}$$

Substituting formula (1) into either the demand or supply curve, we see that the amount bought and sold is

$$Q^* = \left(\frac{B_s}{B_d + B_s}\right)A_d - \left(\frac{B_d}{B_d + B_s}\right)A_s \tag{2}$$

An equal increase in demand at every price corresponds to an increase in A_d. Taking the derivative of the equilibrium price with respect to A_d in formula (1), we see that

$$\frac{dP^*}{dA_d} = \left(\frac{1}{B_d + B_s}\right)$$

which tells us that the price changes more when B_d and B_s are smaller. That is, the price changes more when demand and supply are less responsive to price.

Similarly, taking the derivative of the amount bought and sold with respect to A_d in formula (2), we see that

$$\frac{dQ^*}{dA_d} = \left(\frac{B_s}{B_d + B_s}\right)$$

The fraction $(B_s/B_d + B_s)$ gets larger as B_s increases and smaller as B_d increases. That is, the amount bought and sold changes more in response to a shift of the demand curve when supply is more responsive to price and demand is less responsive to price.

You can check that the conclusions described in the text hold for shifts in the supply curve by taking the derivatives of P^* and Q^* with respect to A_s.