31E99906 Capstone Microeconomic Policy
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Return method: through mycourses by the deadline

## Problem Set 3: Question 3

In lecture 10 our guest introduced horizontal and vertical mergers. In this problem we focus on horizontal mergers, and study the Williamson trade-off that was discussed in lecture 10 (you can also read it (here))

In Figure below $A C_{0}$ is the average cost for two firms before merging, and $A C_{1}$ is this cost after the merger. Assume that there is enough competition before the merger so that the price equals costs, $P_{0}=A C_{0}$. After the merger, there is upward price pressure so the that the new price is $P_{1}>P_{0}$.


1. Recall the Williamson trade-off: Identify from the Figure when the society is indifferent between accepting or rejecting the merger?
2. Assume now that demand has constant elasticity, $\eta$. If the price increases by $x \%$ because of the merger, what should be the percentage cost reduction to offset the price increase? For numbers in the Table below, please obtain the cost-reduction needed to offset the deadweight loss from a price increase.

Table 1: How many percent cost must decline to offset the percentage price increase?

| $x \%$ | $\eta=3$ | $\eta=2$ | $\eta=1$ |
| :---: | :---: | :---: | :---: |
| 5 | - | - | - |
| 10 | - | - | - |
| 20 | - | - | - |

