Problem Set 3: Question 2

Consider a market for a simple insurance contract: Each consumer either buys or does not buy it (no other choice), and all firms behave competitively offering the contract at the same price p (no discrimination possible). The coverage is not a choice variable (could be regulated or otherwise fixed).

Assume that fraction $1 - \frac{p}{80}$ of potential customers buy the contract if facing price p. This demand follows if customers have valuations $u \in [0, 80]$, uniformly distributed, and all customers with $u \geq p$ buy the product. Firms estimate that the cost of the contract to firms decreases with the fraction of customers served. Market studies have found that the highest valuation customers cost 50 to serve. This is the expected cost of one contract to any firm selling a contract to a high cost customer. This number 50 is a good estimate for the first 25% of the customers who buy the contract. When the pool of buying customers increases above this 25% limit, the cost of an additional contract drops to 10.

1. Can you draw figure where you show demand, marginal costs, and average costs as a function of price? It is not conventional to depict costs as a function of price but the lecture on insurance markets gave you reasons for why this is a legitimate thing to do here.

2. What is the equilibrium price of the contract in the market? Precise number can be found but explaining the principle governing the price is sufficient.

3. Identify the impact of adverse selection on the market outcome (adverse selection: worse risk types enter the customer pool first).

4. What policies could improve welfare?