**Advanced Public Finance**

**Assumptions**

2 companies (A and B)🡪 2 goods

1 worker = 1 consumer which can decide how to split his time into the 2 companies,

Consumer 2 whose utility function gets influenced by

**Consumer’s problem**

Variables input: Wage and Price

Variables output: Amount consumed(Q) and Hours per worker(H)

**Producer’s problem**

Company A:

Company B:

We want to maximize the profit, so we need to derive the benefit and equalize it to 0.

We first substitute in the quantity of hours by the quantity of output obtain in that time . Obtaining the following:

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Variables input: Wage, Price for A and B

Variables output: Amount produced(Q) for A and B and Hours per worker(H)

**Planner’s problem**

**Externality Analysis**

First we will analyse the utility of both consumers without the interaction of the other and then when they interact they do not like the smell of tobacco and then we can compare how much utility we lost overall.