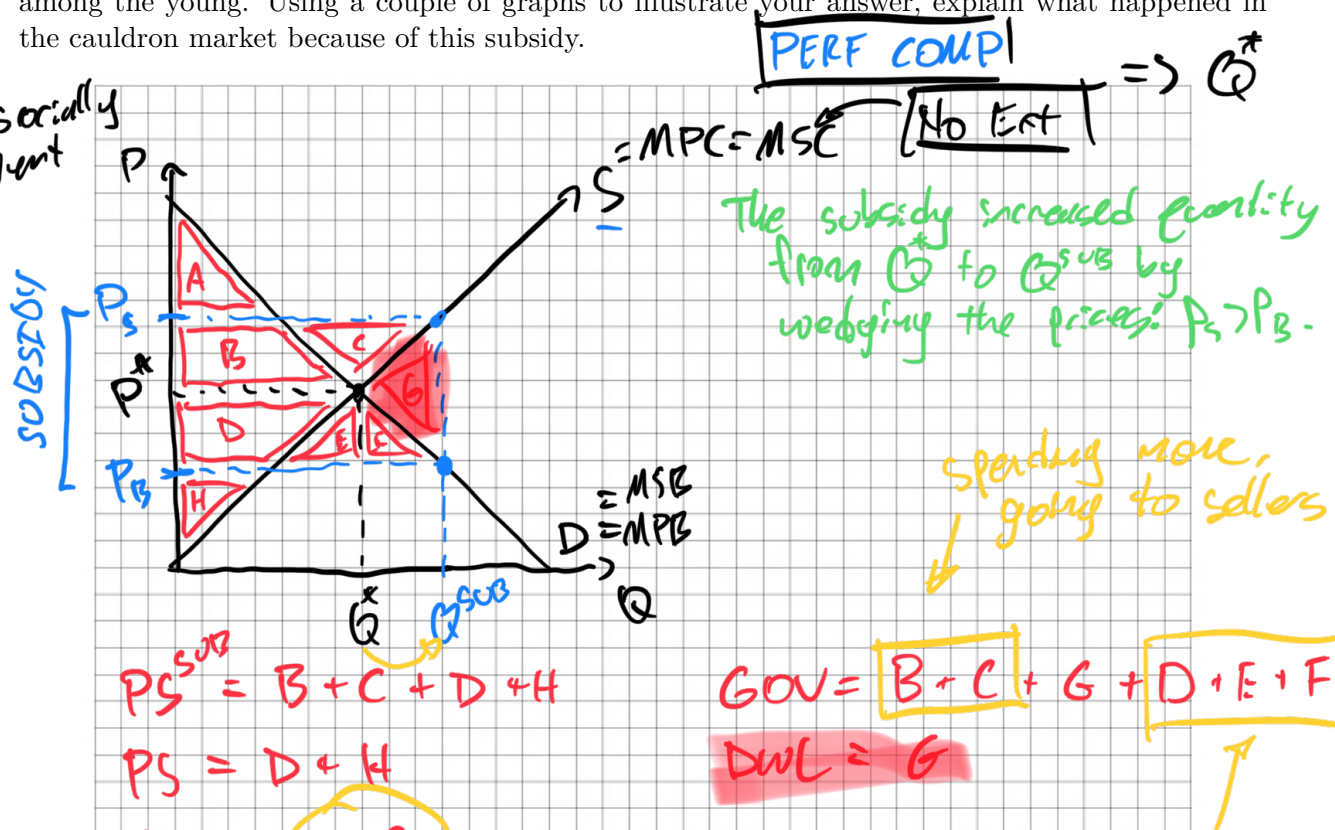# Intro Microeconomics | Homework C Demo

Question 1 | The Cauldron Conundrum

Because of regulations imposed by the Ministry of Magic, all cauldrons had to be manufactured the same in every dimension. The hope was that this uniformity in production would make it easier to train witches and wizards to use the cauldrons, but an unexpected benefit was that the extensive specification documents served as an instruction manual for anyone wishing to begin a new cauldron manufacturing facility. Anyone could easily start manufacturing cauldrons, though the number of cauldron manufacturers had been constant over the past couple of years. This changed when the Ministry imposed a small subsidy on all cauldron sales, hoping to spur interest in potion-making among the young. Using a couple of graphs to illustrate your answer, explain what happened in the cauldron market because of this subsidy.

Q^* is socially efficient

PERF COMP $\Rightarrow Q^*$

$S = MPC = MSC$ [No Ext]

The subsidy increased quantity from Q^* to Q^{SUB} by wedging the prices: $P_S > P_B$.

$D = MSB = MPB$

spending more, going to sellers

$PS^{SUB} = B + C + D + H$

$PS = D + H$

$\Delta PS = \boxed{B + C}$

$CS^{SUB} = A + B + D + E + F$

$CS = A + B$

$\Delta CS = \boxed{D + E + F}$

$GOV = \boxed{B + C} + G + \boxed{D + E + F}$

$DWL = G$

spends more going to buyers

Government spending isn't fully offset by increases in CS and PS.

Question 2 | Somethin's Up With Pumpkins

After years of careful epidemiological analysis, a subcommittee of the Ministry tasked with improving the health and wellbeing of the wizarding community published a story in the Daily Profit establishing a link between the consumption of pumpkin pasties and accidental magical spell casting by wizards and witches in public areas, with many cases of innocent muggles nearly being injured. To address these obvious public health concerns, the fiscal arm of the Ministry imposed a tax on the sale of pumpkin pasties while reinvesting the revenues into researching a magical remedy for this diet-driven ailment. Use a graph to illustrate the impact this tax had on the market and suggest a value to the tax.

NEG EXTERNALITY →

$S: MPC < MSC$
$D: MPB = MSB$

No matter when the externality originates, it requires both a buyer and a seller, which means we can model them the same way.

We reduced the quantity exchanged from $\hat{Q}$ to $Q^* = Q^{TAX}$ saying a tax. This generates some government revenue, and reduces the externality.