

Kosmas Marinakis, Ph.D.

Lecture 6

Market Failure & Government Intervention




Economics
& Society



SMU

1

Previously in E&S

- * Monopolistic Competition 
- * Cournot Oligopoly
- * Bertrand Oligopoly
- * Collusion 
- * Kinked demand model 

© 2019-23 Kosmas Marinakis, SMU

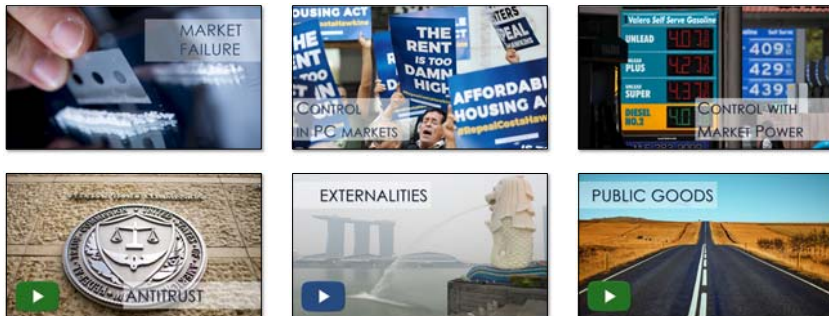
Lecture 6

2

2

Market Failure & Government Intervention

Estimated duration: 80min



Lecture 6

3



4

Market failure

> Market failure

- * Market failure is the situation when the market **outcome** is **socially undesirable**
- * Different societies have **different preferences**:
 - ▶ In Singapore **marijuana** is illegal but **sex work** is legal
 - ▶ In L.A. **marijuana** is legal but **sex work** is illegal
 - ▶ In Tehran **marijuana** is OK but **alcohol** is illegal

© 2019-23 Kosmas Marinakis, SMU

Lecture 6

5

5

Types of market failure

> Market failure

- * Monopolies are known to cause economic **inefficiency** and are socially **disliked**
- * But even PC outcomes, which are **100% efficient**, are socially disliked at times
- * There are **7 main types** of market failure:
 1. Market prices may fail to reflect the **real cost** or the **real benefit** of the product
 2. The market may fail to **allocate** the good to those who value it the most
 3. The market may fail to produce the good at the **min opportunity cost**
 4. The market may produce a good that fails to **cover the real needs** of the society
 5. The market may fail to control the abuse of **monopoly power**
 6. Consumers may **fail to evaluate the consequences** of the use of a product
 7. The market may fail to **equilibrate** for various reasons.

© 2019-23 Kosmas Marinakis, SMU

Lecture 6

6

6

Regulation

> Market failure

- * Regulation is a **response** to market failure and may **lead to improvement** in social welfare
- * Winners from intervention could **compensate** the losers and still be winners
- * Olga has the **right to choose** the plan she would **choose plan B** causing a **DWL** of 8 units ($20 - 12 = 8$)
- * A regulator could **tax George** for 1 unit and pay it to **buy Olga's right** to choose. Olga has **no reason to not sell** the right because she will anyway receive 11
- * A is implemented; Olga receives $10 + 1 = 11$ and George receives $10 - 1 = 9$. **no one is worse off** and the **DWL is eliminated** by the intervention.

	George	Olga
Plan A	10	10
Plan B	1	11

© 2019-23 Kosmas Marinakis, SMU

Lecture 6

7

7

Regulatory intervention

> Market failure

- * There are **2 approaches** to regulatory intervention:
 1. **Direct** intervention:
 - ▶ The regulator directly **sets the market outcome** that is prone to market failure
 - ▶ For example, setting **prices**, product **specifications** or product **variety**.
 2. Affecting market **institutions**:
 - ▶ The regulator **adjusts the rules** of competition to indirectly avoid failing outcomes
 - ▶ For example, **antitrust** or **other legislation** that sets market rules.

© 2019-23 Kosmas Marinakis, SMU

Lecture 6

8

8



9

Price ceiling

> Price control > Competition

- ★ Market equilibrates at A with price p^*
- ★ If a **maximum price** p_{max} is imposed:
 - ▶ Quantity demanded **increases** from Q^* to Q_D
 - ▶ Quantity supplied **decreases** from Q^* to Q_S
 - ▶ A **shortage** equal to $Q_D - Q_S$ is created.
- ★ Producers **sell less** at **lower price**
- ★ Consumers along **EA** can **no longer** buy
- ★ Consumers along **FE** **buy cheaper**
- ★ This policy creates **winners and losers**
- ★ Intervention decreases price but creates a **DWL**.

© 2019-23 Kosmas Marinakis, SMU Lecture 6

10

Price floor

> Price control > Competition

- ★ Market equilibrates at A with price p^*
- ★ If a **minimum price** p_{min} is imposed:
 - ▶ Quantity supplied **increases** from Q^* to Q_S
 - ▶ Quantity demanded **decreases** from Q^* to Q_D
 - ▶ A **surplus** equal to $Q_S - Q_D$ is created.
- ★ Producers **sell less** (Q_D) at **higher price**
- ★ Consumers along **CA** can **no longer** buy
- ★ Consumers along **FC** **buy but more expensive**
- ★ The policy creates **winners and losers**
- ★ Intervention comes at an **efficiency cost**.

© 2019-23 Kosmas Marinakis, SMU Lecture 6

11

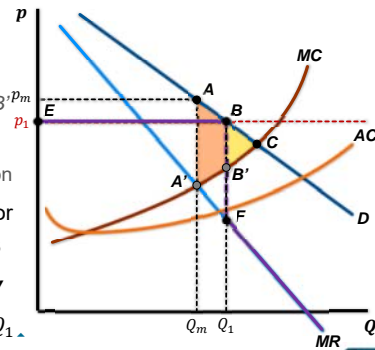


12

Price regulation in monopoly

> Price control > Market power

- ★ If **left alone**, the seller charges p_m
DWL ACA' is imposed in the market
- ★ The regulator may **impose** max price p_1 :
to **raise** quantity to Q_1 ; **limit** the DWL to BCB'
- ★ Up to Q_1 , demand yields prices **above** p_1
demand and MR **do not apply** with regulation
- ★ Up to Q_1 , seller **takes** p_1 from the regulator
with regulation, **demand** and **MR** are line EB
- ★ Above Q_1 , original demand and MR **apply**
- ★ Monopolist indeed **wants to produce** at Q_1



© 2019-23 Kosmas Marinakis, SMU

Lecture 6

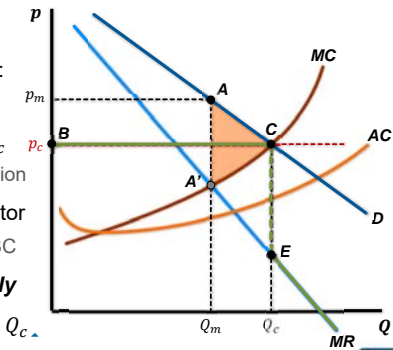
13

13

Elimination of DWL

> Price control > Market power

- ★ If **left alone**, the seller charges p_m
DWL ACA' is imposed in the market
- ★ The regulator may **impose** max price p_c :
to **raise** quantity to Q_c ; **eliminate** the DWL
- ★ Up to Q_c , demand yields prices **above** p_c
demand and MR **do not apply** with regulation
- ★ Up to Q_c , seller **takes** p_c from the regulator
with regulation, **demand** and **MR** are line BC
- ★ Above Q_c , original demand and MR **apply**
- ★ Monopolist indeed **wants to produce** at Q_c



© 2019-23 Kosmas Marinakis, SMU

Lecture 6

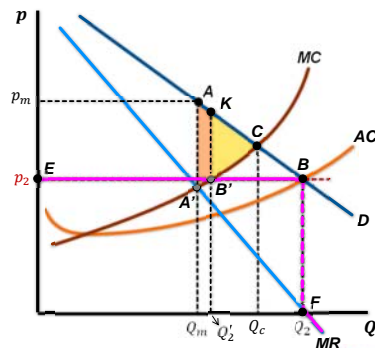
14

14

Price regulation overshooting

> Price control > Market power

- ★ If **left alone**, the seller charges p_m
DWL ACA' is imposed in the market
- ★ The regulator may **impose** max price p_2
to cause **quantity to increase** to Q_2
- ★ With regulation, **MR curve** becomes EBF
- ★ At Q_2 the monopolist has **zero profit**
- ★ Monopolist **maximizes profit** at Q'_2
- ★ Regulation is **unsuccessful**:
 - ▶ **Limits quantity** to $Q'_2 < Q_c$
 - ▶ **Yields significant DWL** $KCB'A'$



© 2019-23 Kosmas Marinakis, SMU

Lecture 6

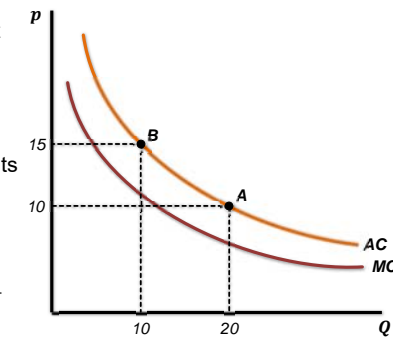
15

15

Natural monopolies

> Price control > Market power

- ★ In some markets, it is possible that a single firm can produce the entire output at a **significantly lower cost** than if there were several firms
this is due to large **economies of scale**
- ★ **Splitting** the monopoly into 2 firms results in considerably **higher cost**:
 - ▶ **Monopoly**: 20 units cost $20 \cdot \$10 = \200
 - ▶ **2 firms**: 20 units cost $10 \cdot \$15 + 10 \cdot \$15 = \$300$.
- ★ **Examples**: metro, airports, city water



© 2019-23 Kosmas Marinakis, SMU

Lecture 6

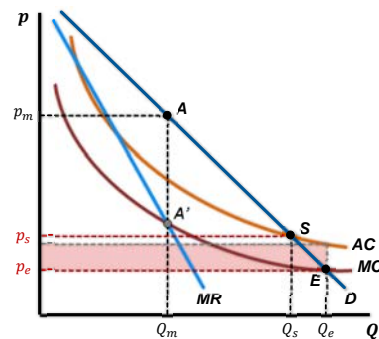
16

16

Regulating a natural monopoly

> Price control > Market power

- * Unregulated monopolist would produce Q_m and charge p_m
- * Regulation at p_e yields the **maximum market efficiency** but at **losses**
- * Regulation at p_s allows the monopolist to **break even** and offers **sustainability** however, a **lower quantity** is produced.



© 2019-23 Kosmas Marinakis, SMU

Lecture 6

17

17

Thank you!

(you are welcomed to stay for *consultation* or *discussion*)

31

⚠ WARNING! ⚠

The slides in this handout are created with the intention to serve a visual aid for the audience during the live presentation of the material in the lecture. As such, **they are not designed to be standalone reading material** and should be used strictly as **reference**, side by side with notes taken in the lecture. Studying solely from the slides **is not recommended** and might in some cases **mislead** those who have not attended the relevant lecture. **Less than 20% of tasks in test and exam can be answered solely from the slides.**

32