

# Oligopoly

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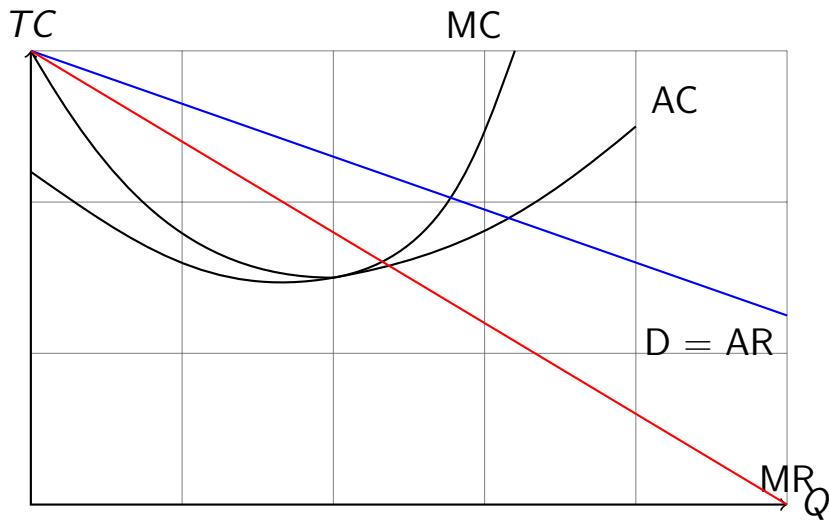
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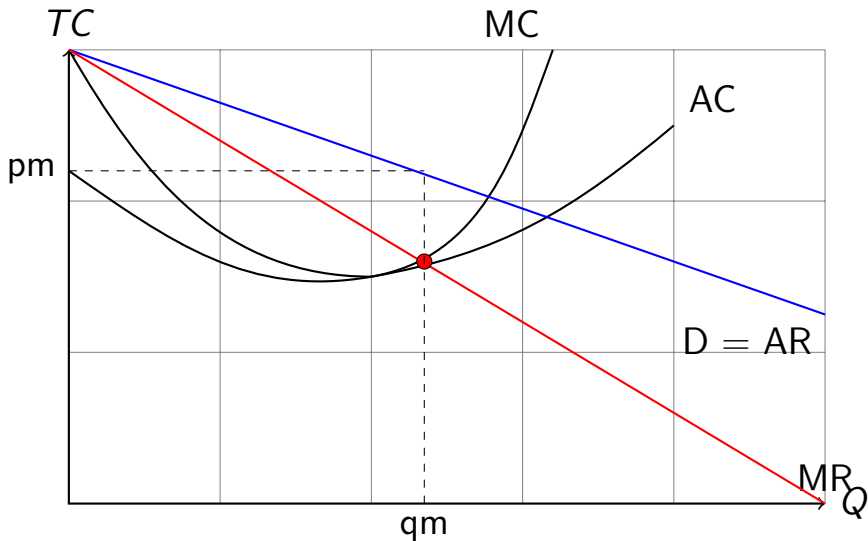
There are two broad categories of *imperfect competition*

- Monopolistic competition: where there is *product differentiation*. There tend to be lots of small companies because there are no barriers to entry
- Oligopoly: where there are some barriers to entry. There tend to be a few large companies

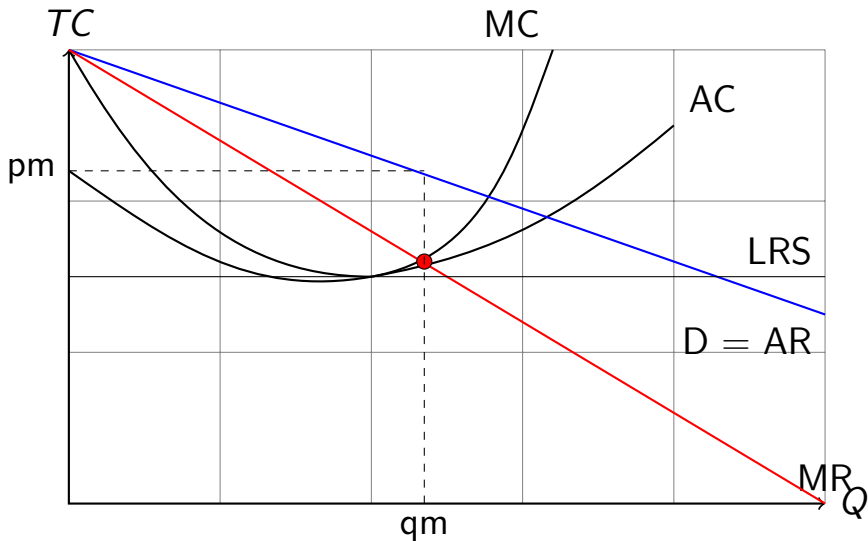
# Competition vs monopoly



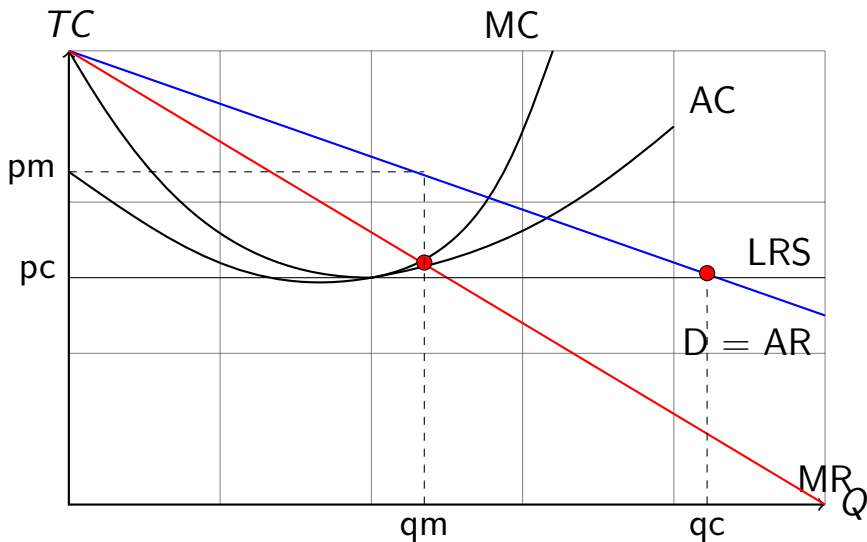
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- Durability of barriers to entry
- Level of social cohesion

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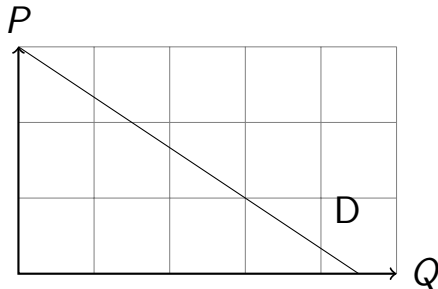
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- More complicated analysis.
- Use of *game theory*

# Duopoly

Q	P	TR ( $P \times Q$ )
0	120	0
20	100	2000
40	80	3200
60	60	3600
80	40	3200
100	20	2000
120	0	0



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- profit is 3600 (1800 each)

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- Or, total output 80, price 40, profit 3200 (1600 each)
- *Nash equilibrium*
- Total output 90, price 30, profit 2700 (1500 1200 split)

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At the extreme as number of firms tends to infinity, output effect dominates and there is perfect competition.

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- These are portrayed in a *pay-off matrix*

# Prisoners' dilemma 1

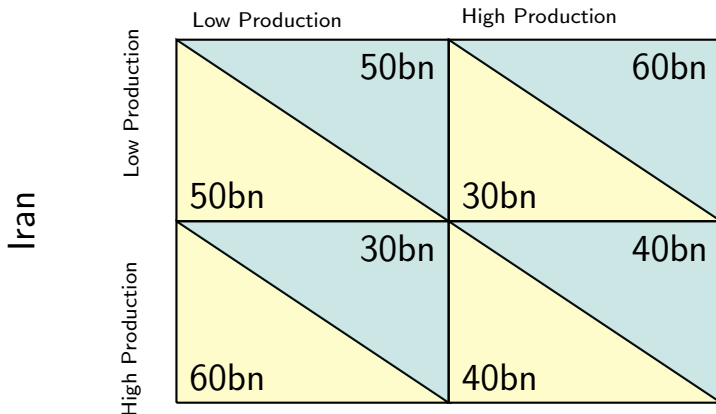
Prisoner B

Prisoner A

		Keep Quiet	Confess
Prisoner A	Keep Quiet	1 / 1	0 / 20
	Confess	20 / 0	8 / 8

# Prisoners' dilemma 2

## Saudi Arabia



# Prisoners' dilemma 3

		Firm B	
		No Advertising	Advertising
Firm A	No Advertising	<div>4bn</div> <div>4bn</div>	<div>5bn</div> <div>2bn</div>
	Advertising	<div>2bn</div> <div>5bn</div>	<div>3bn</div> <div>3bn</div>

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- The auction of G3 networks

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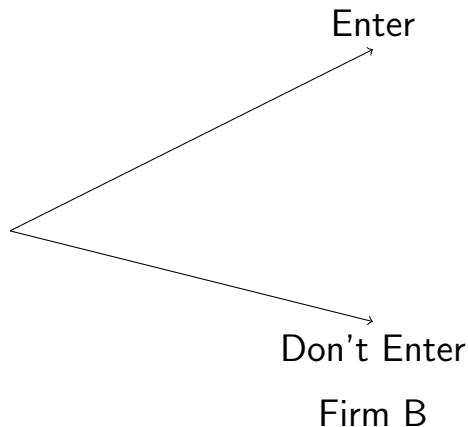
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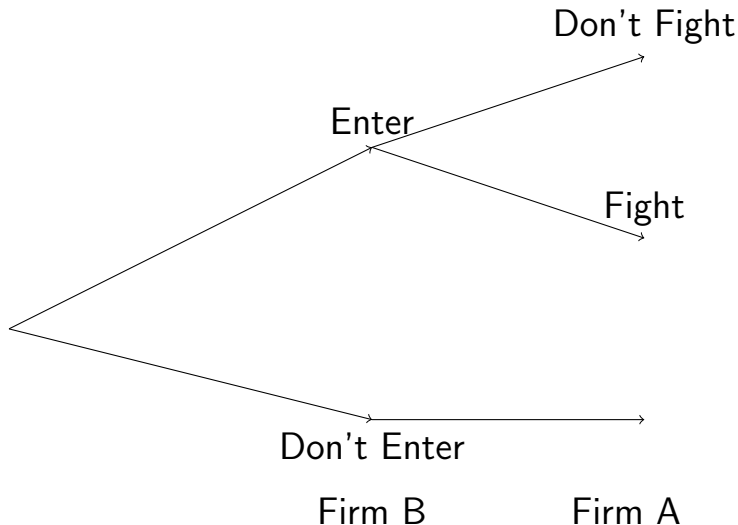
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- Barriers to entry
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  - Credible threats



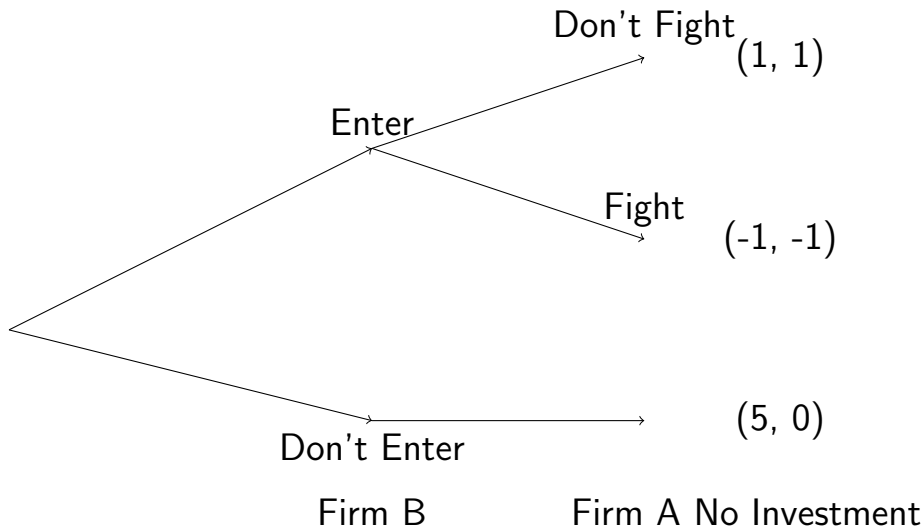
## Credible Threats: No investment



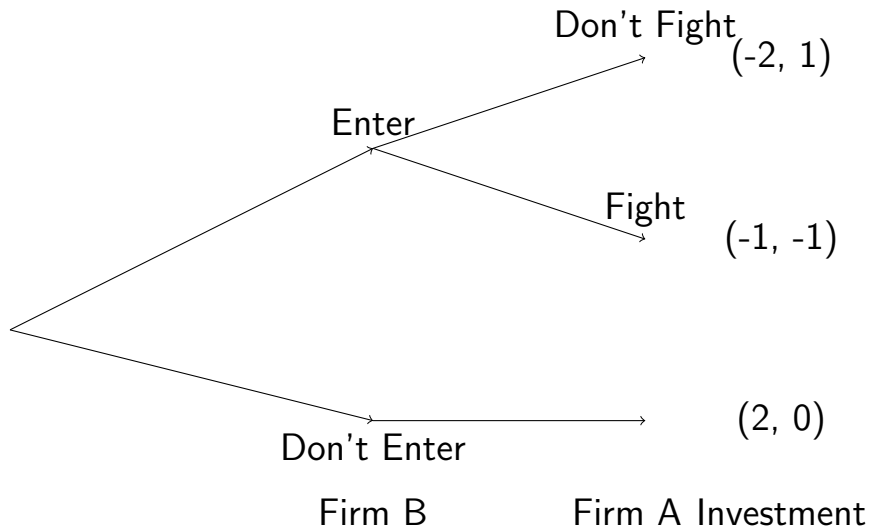
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