





4 Firm Concentration Ratio

$$1000 + 000 + 000 = 1000\%$$

Number of
Firms

Share of the
market



2

10,000

100%

50%

1000/10,0000

=0.01%

The Herfindahl-
Hirschman Index HHI

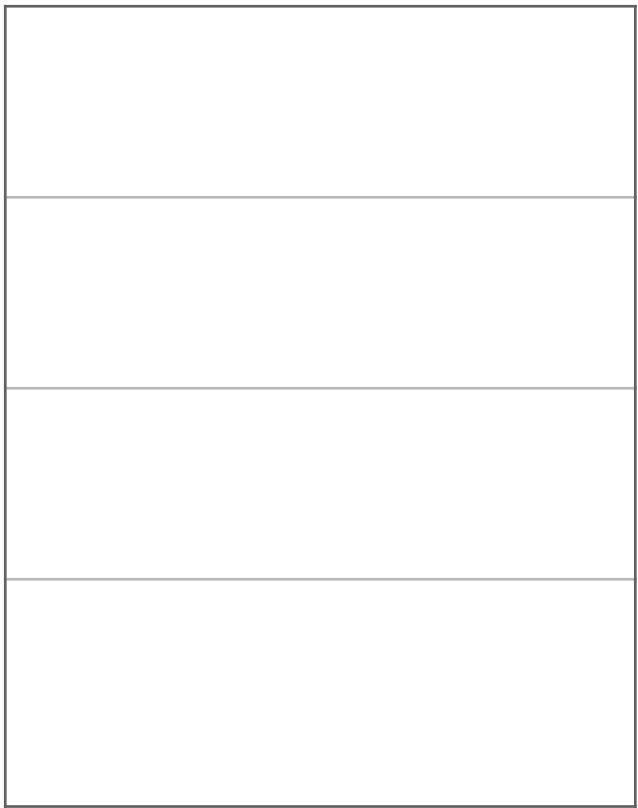
$$1000^2 = 100,000$$

$$50 + 50 + 0 + 0 = 100\%$$

$$0.01 + 0.01 + 0.01 + 0.01 = 0.04\%$$

$$50^2 + 50^2 = 2 \times (50^2) = 5,000$$

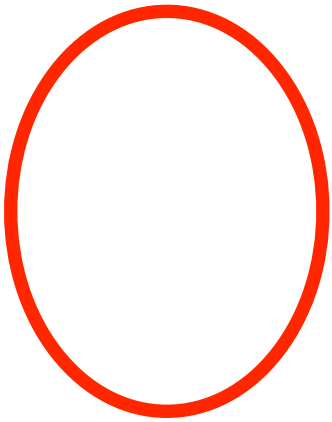
$$10,000 \times (0.01^2) = 1$$

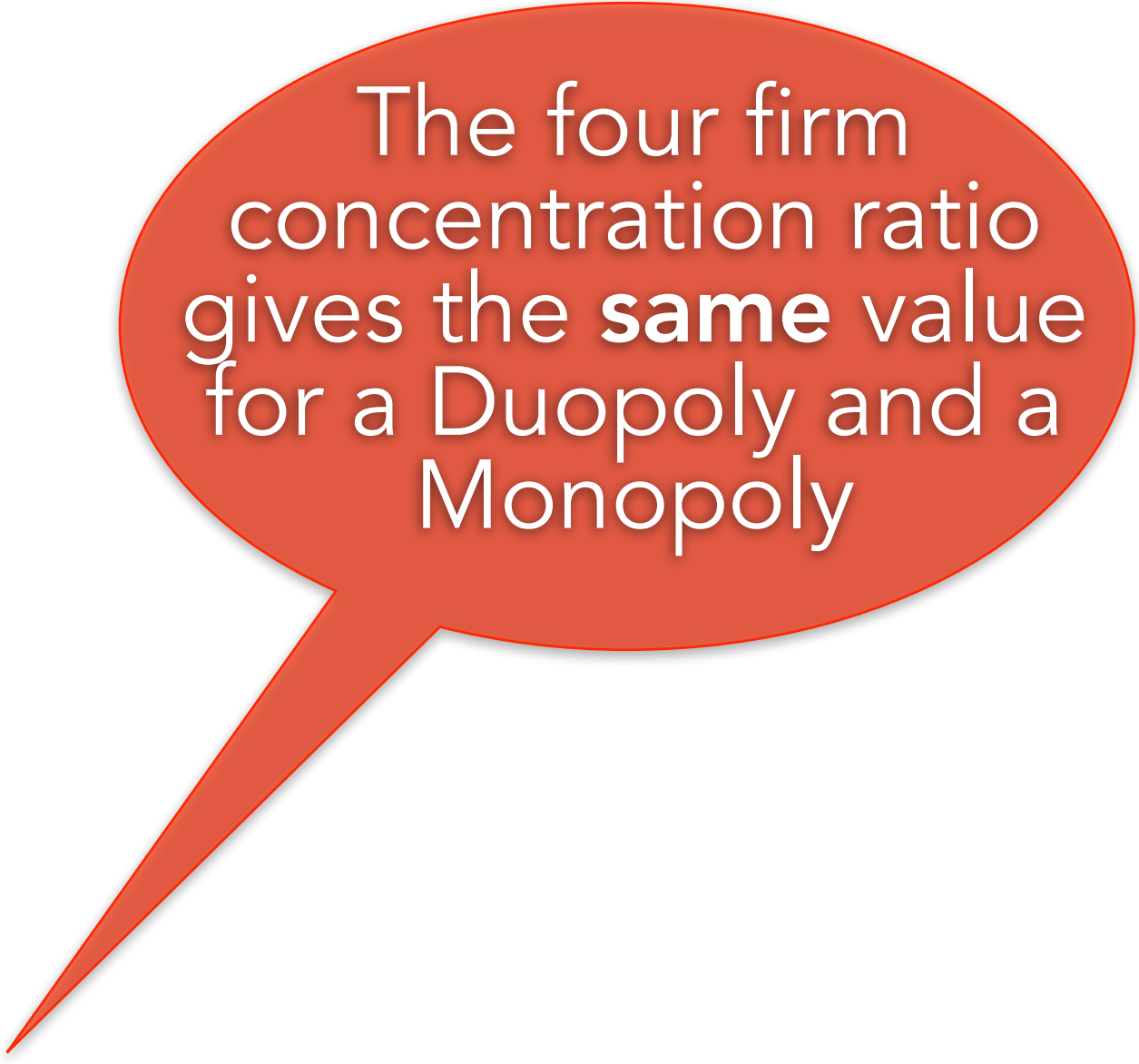


Monopoly

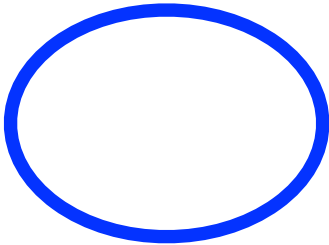
Duopoly

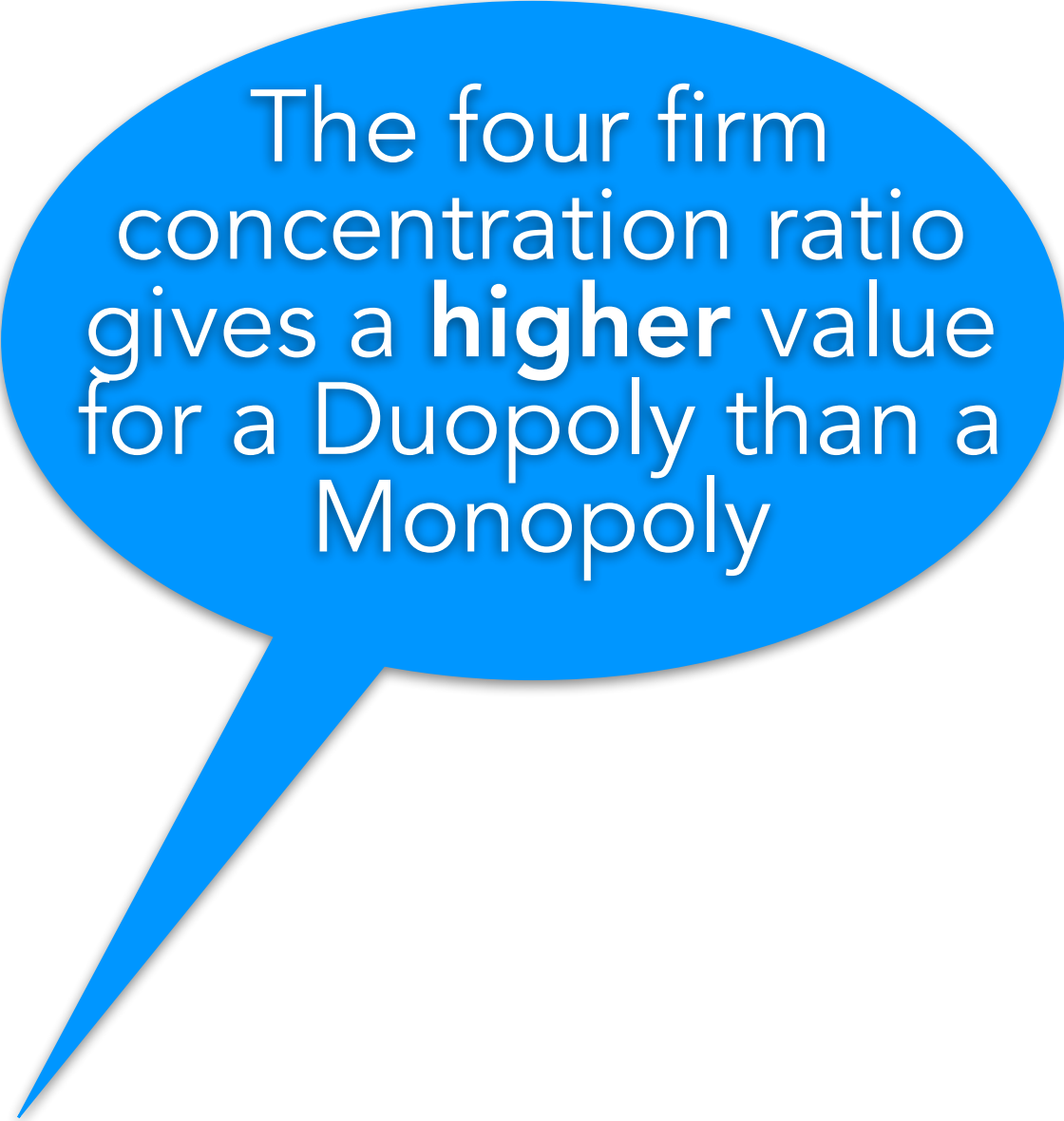
Perfect Competition



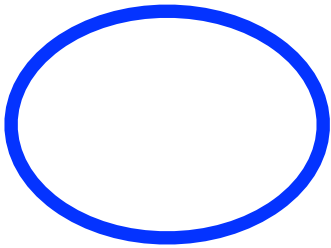


The four firm
concentration ratio
gives the **same** value
for a Duopoly and a
Monopoly





The four firm
concentration ratio
gives a **higher** value
for a Duopoly than a
Monopoly



The Herfindahl-Hirschman Index (H_h) is a more accurate measure of concentration

	Number of Firms	Share of the market	4 Firm Concentration Ratio	The Herfindahl–Hirschman Index HHI
Monopoly	1	100%	$100+0+0+0 = 100\%$	$100^2 = 10,000$
Duopoly	2	50%	$50+50+0+0 = 100\%$	$50^2+50^2 = 2 \times (50^2) = 5,000$
Perfect Competition	10,000	$100/10,000 = 0.01\%$	$0.01+0.01+0.01+0.01 = 0.04\%$	$10,000 \times (0.01^2) = 1$

The four firm concentration ratio gives the **same** value for a Duopoly and a Monopoly

The four firm concentration ratio gives a **higher** value for a Duopoly than a Monopoly

The Herfindahl–Hirschman Index HHI is a more accurate measure of concentration

A Comparison of Various Market Structures

Structure	Monopoly	Oligopoly	Monopolistic Competition	Perfect Competition
Characteristics				
Number of Firms	One	Few	Many	Almost infinite
Barriers to Entry	Significant	Significant	Few	None
Pricing Decisions	$MC = MR$	Strategic pricing, between monopoly and perfect competition	$MC = MR$	$MC = MR = P$
Output Decisions	Most output restriction	Output somewhat restricted	Output restricted somewhat by product differentiation	No output restriction
Interdependence	Only firm in market, not concerned about competitors	Interdependent strategic pricing and output decision	Each firm acts independently	Each firm acts independently
Profit	Possibility of long-run economic profit	Some long-run economic profit possible	No long-run economic profit possible	No long-run economic profit possible
P and MC	$P > MC$	$P > MC$	$P > MC$	$P = MC$