

# ECO 610: Lecture 6

## Competitors and Competition: Introduction to Market Structure

# Competitors and Competition: Outline

- Defining a market: product market and geographic market
- Identifying competitors: who are your rivals?
- Characteristics of market structure: sellers, buyers, product differentiation, entry conditions, information
- Measuring market structure
- Taxonomy of market structures:
  - Perfect competition
  - Monopolistic competition
  - Oligopoly
  - Monopoly

# Defining a market

- What is a market? Buyers, sellers, product, place.
- Two dimensions to a market: product market and geographic market
- Examples? Product market and geographic market scope of the following markets? UK MBA degree program; new Camry at Green's Toyota; Tempur-Pedic gel-cooled mattress; Alltech's Bioplex.
- Key element is price sensitivity: firms competing in the same market will be sensitive to one another's prices.
- How to measure price sensitivity? Cross-price elasticity of demand

# Identifying competitors

- Who are your rivals?
- Do you have identifiable rivals? Examples?
- Are you competing against “the market”? Examples?
- If you have identifiable rivals, how close are they?
- Do you have to take into account your rivals’ possible reactions when deciding what the best course of action is for you? Examples?

# Market structure

- Definition: Market structure refers to those characteristics of market organization that influence firms' behavior and performance.
- What market characteristics matter most?
  - Number and size distribution of sellers
  - Number and size distribution of buyers
  - Extent of product differentiation
  - Ease or difficulty for new firms to enter the industry
  - Availability of information to buyers and sellers

# Measuring market structure

- Are there numerical measures that might indicate how competitive or uncompetitive the supply side of a market might be?
- Number of firms,  $n$ .
- Concentration ratios: the share of total industry output (or sales or employment) accounted by the top four ( $CR_4$ ), top twenty ( $CR_{20}$ ), or top fifty ( $CR_{50}$ ) firms.
- Herfindahl-Hirschman Index (HHI):
  - $HHI = \sum_{i=1}^n s_i^2$ , where  $s_i$  represents the market share of the  $i^{\text{th}}$  firm.
  - $0 < HHI < 10,000$ ; atomistic firms:  $HHI \rightarrow 0$ ; monopoly:  $HHI \rightarrow 10,000$

# Number and size distribution of sellers

- Many sellers, each one small relative to the market
  - <http://www.alligatorfur.com/alligator/ranchers.htm>
  - <https://www.zomato.com/lexington-ky/downtown-restaurants>
- Many sellers, but one (or a few) dominant firm and many fringe producers
  - <http://www.statista.com/statistics/216573/worldwide-market-share-of-search-engines/>
- Small number of sellers, each with a significant share of the market
  - <http://www.statista.com/statistics/236309/market-share-of-global-express-industry/>
  - [https://en.wikipedia.org/wiki/Competition\\_between\\_Airbus\\_and\\_Boeing#/media/File:Lufthansa Airbus A380 and Boeing 747 \(16431502906\).jpg](https://en.wikipedia.org/wiki/Competition_between_Airbus_and_Boeing#/media/File:Lufthansa_Airbus_A380_and_Boeing_747_(16431502906).jpg)
- One seller of a product with no close substitutes
  - <http://www.scientificamerican.com/article/we-now-have-the-cure-for-hepatitis-c-but-can-we-afford-it/>
  - <http://www.dmv.org/articles/the-best-and-worst-times-to-visit-the-dmv/>

# Number and size distribution of buyers

- Many buyers, each one small relative to the market
  - <https://foursquare.com/top-places/lexington/best-places-pizza>
- Small number of buyers, each with a significant market share
  - <http://www.wsj.com/articles/aircraft-makers-narrow-engine-options-1405457174>
- Only one buyer
  - <http://www.gdeb.com/>



# Extent of product differentiation

- Homogeneous product: In some markets buyers consider each seller's product to be a perfect substitute for every other seller's product, i.e. commodity markets. Price is the only thing that matters.
- Differentiated product: In many other markets, especially markets for final goods and services, sellers are able to differentiate their product from rival firms' products in a myriad of ways.

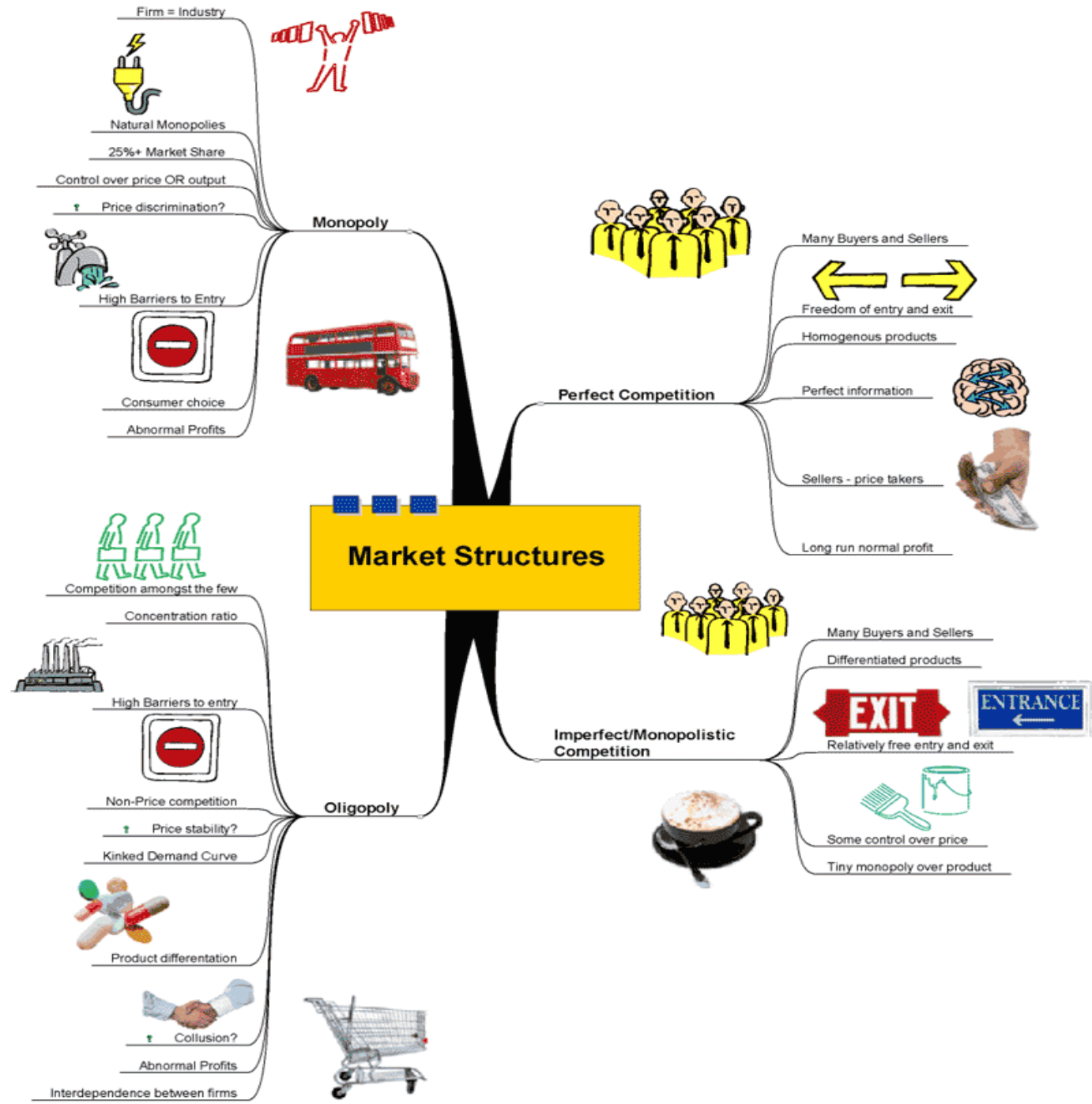
<https://www.lexingtonburgerweek.com/burgers>

- Physical attributes
- Quality
- Location
- Brand image
- Etc.
- Etc.

# Conditions of Entry

- Barriers to entry: how easy or difficult is it for new firms to enter the industry and compete with existing sellers?
- Insignificant barriers to entry
  - <https://www.entrepreneur.com/article/73384>
  - <http://myfwc.com/wildlifehabitats/managed/alligator/farming/>
- Significant barriers to entry
  - <http://www.greentechmedia.com/articles/read/tesla-founder-marc-tarpenning-how-to-start-a-car-company>
- Blockaded entry
  - <https://www.highbeam.com/doc/1G1-82277010.html>

# A taxonomy of market structures



# Why study market structure?

- Goal has been to understand the supply decisions of firms
- Assumption (with qualifications) is that firms seek to maximize profits
- Supply decision: Choose  $Q$  so as to maximize  $\pi(Q) = TR(Q) - TC(Q)$
- The principles we developed relating the firm's output with its short-run and long-run costs do not depend on the type of market structure in which the firm operates.
- The relationship that a firm sees between its output and its total revenue does depend on the type of market structure in which the firm competes.
- Price takers vs. price searchers
- So we will undertake to study firms' supply decisions in the different types of market structures in which firms compete.