MANAGERIAL ECONOMICS

Market Structure :
Introduction and Basic Features

Topic 9

ITM BUSINESS SCHOOL
PGDM 2021 - 2023 - SEM I
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What is Market Structure?

Market	• A market consists of all **firms and individuals willing and able to buy or sell** a particular product.
Market structure	• Market structure describes the **competitive environment** in the market for any good or service.

Market structure is typically characterized on the basis of four important industry characteristics:

Number and Size	• The **number and size distribution of active buyers and sellers** and potential entrants
Differentiation	• The **degree of product differentiation**
Information	• The **amount and cost of information** about product price and quality, and
Entry and Exit	• Conditions of **entry and exit**.

Perfect Competition

From examination point of view.

- Market Characteristics
- Case/Examples

Perfect Competition

A perfectly competitive market is a market in which all market participants are price - takers.

A perfectly competitive industry is an industry in which producers are price - takers.

A price - taking consumer is a consumer whose actions have no effect on the market price of the good or service he or she buys.

A price - taking producer is a producer whose actions have no effect on the market price of the good or service it sells.

Perfect Competition

Market Characteristics	Perfect Competition
Number and size of firms	Very large number of relatively small firms
Type of product	Standardized
Market entry and exit	Very easy
Non-price competition	Impossible
Key Indicators of Competition	
Market power	None
Long-run economics profit	None

Perfect Competition:Examples

Daily Market Rates

General Information

Important Links

msamb.com

agmarknet.nic.in

APMC Nagpur

From Date : 01/08/2016 To Date : 15/08/2016

Rate Per Unit in Rs.

Date	Commodity	Variety	Unit	Quantity	HRate	LRate	Average
01/08/2016	WHEAT		Qtl	300	1726	1690	1717
01/08/2016	WHEAT	SARBATI	Qtl	316	2800	2400	2700
02/08/2016	WHEAT		Qtl	259	1730	1600	1698
02/08/2016	WHEAT	SARBATI	Qtl	250	2800	2400	2700
03/08/2016	WHEAT		Qtl	147	1734	1600	1700

Moto G Turbo Edition	Moto G Turbo 16gb	Moto G Turbo Edition - White	Moto G Turbo (Black, 16GB)	Motorola Motc G Turbo	Refurbished Moto G Turbo
₹१२,८४९.००	₹११,६९९.००	₹९,९९९.००	₹११,७९०.००	₹९,९९९.००	₹१०,४९९.००
ShopClues.c...	ShopClues.c...	eBay India	Amazon India	eBay India	Snapdeal

Nifty 50 Gainers/ Losers   Most active

Gainers

Symbol	LTP	% chng	Volume
CIPLA	554.00	7.37	88,17,547
ADANIPORTS	273.70	5.98	1,51,91,371
HINDALCO	154.45	5.53	1,72,92,821
BPCL	596.00	2.77	32,69,381
AMBUJACEM	269.50	1.89	76,99,939

View all

Currency Rates   Interest Rate Future

USDINR 1 $ ₹66.8983

EURINR 1 € ₹75.0198

GBPINR 1 £ ₹86.3389

JPYINR 100 ¥ ₹66.6800

RBI reference Rate as on Aug 16, 2016 13:30:00 IST

View all

Perfect Competition

Necessary Conditions for the Perfect Competition

- Large number of relatively small buyers and sellers
- Standardized product
- No market power
- Very easy market entry and exit
- Nonprice competition not possible

Example: All three of these conditions hold in markets for agricultural products.

- ❑ **No single consumer or producer** of wheat buys or sells more than a tiny fraction of the total wheat crop.
- ❑ The wheat sold by each wheat grower are **identical or standardized**, and
- ❑ There are **no barriers to a new firm entering** the wheat market by purchasing land and planting wheat.
- ❑ It is the existence of many firms, all selling the same good, that keeps any single wheat farmer from **affecting the price of wheat i.e. no market power**.

Monopoly

- From examination point of view.
  - Market Characteristics
  - Case/Examples

Monopoly

Monopoly

- A firm that produces the entire market supply of a particular good or service.

The Downward-Sloping Demand Curve

- Firms that have market power can alter the price of their output without losing all their customers. Sales volume may drop when price is increased, but the quantity demanded won't drop to zero. In other words, **firms with market power confront downward-sloping demand curves for their own output.**

Natural Monopoly:

- An industry in which one firm can achieve economies of scale over the entire range of market supply.

Monopoly

Market Characteristics	Monopoly
Number and size of firms	One
Type of product	Unique
Market entry and exit	Very difficult or impossible
Non-price competition	Not necessary
Key Indicators of Competition	
Market power	High
Long-run economics profit	High subject to regulation

Market Power

Market Power: Ability of a firm to raise price without losing all its sales

- Any firm that faces **downward sloping demand** has market power
- Gives firm **ability to raise price above average cost** & earn **economic profit** (if demand & cost conditions permit)
- Produces & sells a particular good or service for which there are **no good substitutes**
- New firms are **prevented from entering market.**

Measurement of Market Power: Degree of market power inversely related to price elasticity of demand.

- The less elastic the firm's demand, the greater its degree of market power.
- The fewer close substitutes for a firm's product, the smaller the elasticity of demand (in absolute value) & the greater the firm's market power.
- When demand is perfectly elastic (demand is horizontal), the firm has no market power.

Why Do Monopolies Exist?

A monopolist making profits will not go unnoticed by others. But won't other firms crash the party, grab a piece of the action, and drive down prices and profits in the long run? For a profitable monopoly to persist, something must keep others from going into the same business; that "something" is known as a **barrier to entry.**

Control of a Scarce Resource or Input

- A monopolist that controls a resource or input crucial to an industry can prevent other firms from entering its market.

Why Do Monopolies Exist?

Increasing Returns to Scale

- Many Indians have natural gas piped into their homes, for cooking and heating. Invariably, the local gas company is a monopolist. But why don't rival companies compete to provide gas? When the gas industry was just starting up, companies did compete for local customers. But this competition didn't last long; soon local gas supply became a monopoly in almost every town because of the large fixed costs involved in providing a town with gas lines. The cost of laying gas lines didn't depend on how much gas a company sold, so a firm with a larger volume of sales had a cost advantage: because it was able to spread the fixed costs over a larger volume, it had lower average total costs than smaller firms. Local gas supply is an industry in which average total cost falls as output increases, this phenomenon is called *increasing returns to scale.* There we learned that when average total cost falls as output increases, firms tend to grow larger. In an industry characterized by increasing returns to scale, larger companies are more profitable and drive out smaller ones. For the same reason, established companies have a cost advantage over any potential entrant—a potent barrier to entry. So increasing returns to scale can both give rise to and sustain monopoly.
- A monopoly created and sustained by increasing returns to scale is called a **natural monopoly.**

Why Do Monopolies Exist?

Technological Superiority

- A firm that maintains a consistent technological advantage over potential competitors can establish itself as a monopolist.

Input barriers

- One firm controls a crucial input in the production process

Government - Created Barrier

- Before 1991 Indian economy was a closed economy, licensed were required to start a business. Which lead to practice of protecting incumbent business by not giving license to entrant.

Brand loyalties

- Strong customer allegiance to existing firms may keep new firms from finding enough buyers to make entry worthwhile

Why Do Monopolies Exist?

Network Externality

- you were the only person in the world with an Internet connection, what would that connection be worth to you? The answer, of course, is nothing. Your Internet connection is valuable only because other people are also connected. And, in general, the more people who are connected, the more valuable your connection is.
- whereby the value of a good or service to an individual is greater when many others use the same good or service, is called a network externality—its value derives from enabling its users to participate in a network of other users.
- The earliest form of network externalities arose in transportation, where the value of a road or airport increased as the number of people who had access to it rose. But network externalities are especially prevalent in the technology and communications sectors of the economy.
- When a network externality exists, the firm with the largest network of customers using its product has an advantage in attracting new customers, one that may allow it to become a monopolist. At a minimum, the dominant firm can charge a higher price and so earn higher profits than competitors.
- Moreover, a network externality gives an advantage to the firm with the "deepest pockets." Companies with the most money on hand can sell the most goods at a loss with the expectation that doing so will give them the largest customer base.

Why Do Monopolies Exist?

Patent & Copyrights

- The most important legally created monopolies today arise from patents and copyrights. A patent gives an inventor the sole right to make, use, or sell that invention for a period that in most countries lasts between 16 and 20 years. Patents are given to the creators of new products, such as drugs or devices. Similarly, a copyright gives the creator of a literary or artistic work the sole rights to profit from that work, usually for a period equal to the creator's lifetime plus 70 years. The justification for patents and copyrights is a matter of incentives. If inventors are not protected by patents, they would gain little reward from their efforts: as soon as a valuable invention was made public, others would copy it and sell products based on it. And if inventors could not expect to profit from their inventions, then there would be no incentive to incur the costs of invention in the first place. Likewise for the creators of literary or artistic works. So the law gives a temporary monopoly that encourages invention and creation by imposing temporary property rights.

Case 1

Intel's Concessions Settle Antitrust Suit

- Intel on Wednesday agreed to **never again offer computer makers and retailers hefty rebates** in **return** for **exclusive agreements to use its chips.**
- That concession brought closure to a Federal Trade Commission antitrust lawsuit. As part of a settlement, the world's largest computer chip maker also said it **would not redesign its products mainly to harm a competitor, nor retaliate against computer makers for using chips from rivals** Advanced Micro Devices, Nvidia, or Via Technologies. . . .

Intel's Concessions Settle Antitrust Suit

- Further, Intel **agreed not to seek patent violation claims against rival chipmakers who form joint ventures that might include pieces of Intel technology.** The settlement should prevent Intel from creating "new ways to undermine competition," says FTC Chairman Jon Leibowitz. . . .
- "The FTC is being much more vigorous, and this **has been good for consumers and for the companies competing against each other**," King says. "No one is well served by allowing one company to tilt the playing field in its favor." **—Byron Acohido**

Source: *USA TODAY,* August 5, 2010.

ANALYSIS: Monopoly firms try to **erect entry barriers** to **keep competitors out of their market**.

Monopolistic Competition

From examination point of view.

- Market Characteristics
- Case/Examples

Monopolistic Competition

Monopolistic Competition

- A market structure in which **barriers to entry are low** and **many firms compete by selling similar, but not identical, products**.
- A market in which many firms produce similar goods or services but each maintains some **independent control of its own price.**

Examples

- Many markets in the Indian economy are similar to the **coffeehouse market**: They have **many buyers and sellers**, and the **barriers to entry are low**, but the **goods and services offered for sale are differentiated rather than identical**.
- Examples of these markets include **consumer electronics stores, restaurants, movie theaters, supermarkets, and manufacturing men's and women's clothing**. In fact, the majority of the firms you patronize are competing in **monopolistically competitive markets.**

Monopolistic Competition

Market Characteristics	Monopolistic Competition
Number and size of firms	Large number of relatively small firms
Type of product	Differentiated
Market entry and exit	Easy
Non-price competition	Possible
Key Indicators of Competition	
Market power	Low to high
Long-run economics profit	None

Monopolistic Competition

Low Concentration

- A more precise way to distinguish monopolistic competition is to examine **concentration ratios**. Oligopolies have very high four-firm concentration ratios.
- As we saw **in oligopoly, concentration ratios of 70 to 100 percent are common in oligopolies.** By contrast, there's much less concentration in monopolistic competition.
- A few firms may stand above the rest, but the combined market share of **the top four firms** will typically be in the **range of 20 to 40 percent**.
- Hence **low concentration ratios are common in monopolistic competition.**

Monopolistic Competition

Product	Largest Firms (Market Share)	Concentration Ratio (%)
Notebook computers	Hewlett-Packard (18.8%), Dell (13.9%), Acer (12.2%), Toshiba (8.1%)	52%
Pizza delivery	Pizza Hut (18%), Domino's (11%), Papa John's (7%), Little Caesars (6%)	42
Auto tires (replacement)	Goodyear (16%), Michelin (8%), Firestone (7.5%), General (5%)	36
Bottled water	PepsiCo (Aquafina, 10.3%), Coca-Cola (Dasani, 9.9%), Glaceau (9.6%) Perrier (Poland Spring, 6.0%),	36
Toys	Lego (12%), Mattel (11%), Hasbro (10%), Tyco (5%)	35
Casinos	MGM, Harrahs, Station, Mohegan Sun	33
Coffee bars	Starbucks (15%), Caribou (6%), Peet's (4%), Coffee Beanery (3%)	28
Drugs	GlaxoSmithKline (5.8%), Hoechst-Marion Merrell Dow (4.4%), Merck (4.4%), American Home Products (3.8%)	18
Fast-food restaurants	McDonald's (7.3%), Subway (2.6%), Starbucks (2.27%), Wendy's (1.8%)	14

Source: Industry sources and business publications (2008–2014 data).

Monopolistically competitive industries are characterized by modest concentration ratios and low entry barriers. Contrast these four-firm concentration ratios with those of oligopoly.

Monopolistic Competition

Starbucks has less than 15 percent of the U.S. coffee bar business and a mere 7 percent of all coffee sales. The top four coffee bar outlets (Starbucks, Caribou, The Coffee Beanery, and Peet's) have a concentration ratio of only 28 percent (see Table 1). Other examples of monopolistic competition include banks, radio stations, health spas, apparel stores, convenience stores, night clubs, bars, and law firms.

Given the unique structural characteristics of monopolistic competition, we should anticipate some distinctive behavior.

Product Differentiation

- One of the most notable features of monopolistically competitive behavior is product differentiation.

Brand Image

- In monopolistic competition, each firm has a distinct identity—a brand image. Its output is perceived by consumers as being somewhat different from the output of all other firms in the industry.
- Nowhere is this more evident than in the fast-growing bottled water industry. Pepsi and Coke have become the leaders in the bottled water market as a result of effective marketing (see the News on the next slide).
- Although Aquafina (Pepsi) and Dasani (Coke) are **just filtered municipal water, clever advertising campaigns have convinced consumers that these branded waters are different—and better—than hundreds of other bottled waters.**
- As a result of **such product differentiation**, Pepsi and Coke can raise the price of their bottled waters without losing all their customers to rival firms.

Brand Loyalty

- At first blush, the demand curve facing a monopolistically competitive firm looks like the demand curve confronting a monopolist. There's a profound difference, however. In a monopoly, there are no other firms.
- In monopolistic competition, ***each firm has a monopoly only on its brand image; it still competes with other firms offering close substitutes.*** This implies that the extent of power a monopolistically competitive firm has depends on how successfully it can differentiate its product from those of other firms. The more brand loyalty a firm can establish; the less likely consumers are to switch brands when price is increased.
- In other words, ***brand loyalty makes the demand curve facing the firm less price-elastic.***

Case 1

The Cola Wars: It’s Not All Taste

	Rank	Brand	Brand Value	1-Yr Value Change	Brand Revenue	Company Advertising	Industry
	#4	Coca-Cola	$58.5 B	4%	$21.9 B	$4 B	Beverages
	#29	Pepsi	$19.4 B	3%	$11.8 B	$2.4 B	Beverages
	#32	Nescafe	$16.3 B	-6%	$9.2 B	-	Beverages
	#74	Red Bull	$7.9 B	10%	$6.6 B	-	Beverages

The major weapon in these “cola wars” is advertising. Coke **spends $4 billion a year to convince consumers that its products are superior**. Pepsi spends almost as much to win the hearts and taste buds of all consumers. The **advertisements not only hype the superior taste** of their respective products but also try to **create a particular image for each cola**.

The Cola Wars: It’s Not All Taste

- The advertising apparently works. Half of all soft drink consumers profess loyalty to either Coke or Pepsi. In their view, there’s only one “real” cola, and that’s the one they’ll buy every time. Few of these loyalists can be persuaded to switch cola brands, even when offered lower prices for the “other” cola.
- Ironically, few people can identify their favorite cola in blind taste tests. **Seventy percent of the people who swore loyalty to either Coke or Pepsi picked the wrong cola in a taste test.**
- The moral of the story? That **in imperfectly competitive markets, product image and perceptions** may be as important as **product quality and price in winning market shares.**

ANALYSIS: Advertising is intended to **create brand loyalty**. **Loyal consumers** are **likely to buy the same brand all the time**, even if competitors offer nearly identical products.

OLIGOPOLY

From examination point of view.

- Market Characteristics
- Case/Examples

Introduction of Oligopoly

- Although it's convenient to think of the economy as composed of the **powerful and the powerless**, **market realities don't always provide such clear distinctions.**
- There are very **few perfectly competitive markets** in the world, and **few monopolies.**
- Market power is an important phenomenon nonetheless; it's just that it's **typically shared by several firms rather than monopolized by one**.
- In the **soft drink industry,** for example, **Coca-Cola and Pepsi share tremendous market power,** even though **neither company qualifies as a pure monopoly.**
- The same kind of power is shared by **Kellogg, General Mills, and Ralcorp in the breakfast cereals market**, and by **Sony, Nintendo, and Microsoft in the video game console market**.
- **Apple Computer, Inc., too, now shares power in the tablet computer** market with **Samsung, Lenovo, Hewlett-Packard, Sony, LG, Coolpad, and other firms**.

Introduction of Oligopoly

- These **market structures fall between** the **extremes of perfect competition and pure monopoly**; they represent *imperfect competition.*
- They contain some **elements of competitive rivalry** but also **exhibit traces of monopoly**.
- In many cases, **imperfect competitors behave** much like a
  - Monopoly:
  - Restricting output,
  - Charging higher prices, and
  - Reaping greater profits than firms in a competitive market.
- But behavior in imperfectly competitive markets is **more complicated than in a monopoly because it involves a number of decision makers (firms) rather than only one**.

Introduction of Oligopoly

- **Microsoft** is the **dominant supplier of computer operating systems** and **Google dominates the search-engine market**. As **near monopolies**, those companies have **tremendous market power.**
- The **corner grocery store**, on the other hand, **must compete with other stores** and **has less control over prices**. But even the **corner grocery isn't completely powerless**. If it's the only grocery **within walking distance** or **the only one open on Sunday**, it too **exerts *some* influence on prices and product flows**.
- The **amount of power** it **possesses depends** on the **availability of *substitute goods***—that is, the
  - Proximity and
  - Convenience of alternative retail outlets.

Definition of Oligopoly

Oligopoly: A market in which a **few firms produce all or most** of the **market supply of a particular good or service**.

Oligopoly A market structure in which a **small number of interdependent firms compete.**

- ***In imperfect competition, individual firms have some power in a particular product market.***
- *Oligopoly* refers to one of these **imperfectly competitive** market structures.
- Oligopoly is a situation in which only a ***few* firms** have a **great deal of power in a product market.**
- An oligopoly may exist because only a **few firms produce a particular product** or because a **few firms account for most**, although not all, of a product's output.

Characteristics of Oligopoly

Market Characteristics	Oligopoly
Number and size of firms	Small number of relatively large firms
Type of product	Standardized or differentiated
Market entry and exit	Difficult
Non-price competition	Possible or difficult
Key Indicators of Competition	
Market power	Low to high
Long-run economics profit	Low to high, subject to mutual interdependence

Determinants of Market Power

The number of firms in an industry is a key characteristic of market structure. The amount of market power the firms possess, however, depends on several factors.

- The determinants of market power include;
- Number of producers.
- Barriers to entry.
- Availability of substitute goods.
- Size of each firm.

Number of producers

- When only one or a few producers or suppliers exist, market power is automatically conferred. In addition to the number of producers, however, the size of each firm is also important.

Determinants of Market Power

Barriers to entry

- A critical determinant of market power is the extent of barriers to entry. A highly successful monopoly or oligopoly arouses the envy of other profit maximizers. If it's a contestable market, potential rivals will seek to enter the market and share in the spoils. Should they succeed, the power of the former monopolist or oligopolists would be reduced. Accordingly, ease of entry into an industry limits the ability of a powerful firm to dictate prices and product flows (e.g., patents) to maintain their power.

Availability of substitute goods

- A third determinant of market power is the availability of substitute goods. If a monopolist or other power baron sets the price of a product too high, consumers may decide to switch to close substitutes. Thus, the price of Pepsi is kept in check by the price of Coke.

Concentration Ratio: The standard measure of market power is the concentration ratio. This ratio tells the share of output (or combined market share) accounted for by the largest firms in an industry.

- Using this ratio one can readily distinguish between an industry composed of hundreds of small, relatively powerless firms and another industry also composed of hundreds of firms but dominated by a few that are large and powerful. Thus ***the concentration ratio is a measure of market power that relates the size of firms to the size of the product market.***
- As a rule of thumb, ***an industry with a concentration ratio above 60 percent is considered an oligopoly.*** As is apparent from the table, the supply sides of these product markets easily qualify as *oligopolies* because most of these industries' output is produced by just three or four firms. Indeed, in some markets, one single firm is so large that an outright monopoly is nearly attained. For example, **70 percent of all canned soup is produced by Campbell**. **Procter & Gamble makes 62 percent of this country's disposable diapers.** And **Google produces 76 percent of all web search ads.** All firms that have a market share of at least 40 percent are denoted by **boldface** type in Table.

Firm Size: Market power isn't necessarily associated with firm size—in other words, a small firm could possess a lot of power in a relatively small market.

- Table, however, should be convincing testimony that we're not talking about small product markets here. Every one of the products listed enjoys a broad-based market. **Even the chewing gum market (94 percent concentration ratio) rings up annual sales of $2 billion**.
- **The three oligopolists that produce video game consoles (Sony, Nintendo, Microsoft) have 100 percent of a $14 billion** market. Accordingly, for most of the firms listed in the table, **market power and firm size go hand in hand**. Indeed, the **largest firms enjoy sales volumes that exceed the entire output of most of the *countries* in the world**. Walmart's annual revenues alone would make it the world's 26th largest country!

Product	Largest Firms	Concentration Ratio (%)
Video game consoles	**Nintendo (Wii), Microsoft (Xbox),** Sony (PlayStation)	100%
Baby food	**Gerber Products,** Heinz, Beech-Nut	100
Instant breakfast	**Carnation,** Pillsbury, Dean Foods	100
Laser eye surgery	**VISX,** Summit Technology	100
Tennis balls	**Gen Corp (Penn),** PepsiCo **(Wilson),** Dunlop, Spalding	100
Credit cards	**Visa,** MasterCard, American Express, Discover	99
Disposable diapers	**Procter & Gamble,** Kimberly-Clark, Curity, Romar Tissue Mills	99
Razor blades	**Gillette,** Warner-Lambert (Schick; Wilkinson), Bic, American Safety Razor	98
Sports drinks	**PepsiCo** (Gatorade), Coca-Cola (PowerAde), Monarch (All Sport)	98
Internet search engines	**Google,** Yahoo, Microsoft (MSN), AOL	98
Digital music players	**Apple,** Sony, Microsoft, Real Networks	97
Scientific calculators	**Texas Instruments,** Casio, Hewlett-Packard	97
Electric razors	**Norelco,** Remington, Warner-Lambert, Sunbeam	96
Sanitary napkins	**Johnson & Johnson,** Kimberly-Clark, Procter & Gamble	96
Cigarettes	**Altria,** Reynolds American, Imperial, Liggett	96
Batteries	**Duracell,** Eveready, Ray-O-Vac, Kodak	94
Web search ads	**Google,** Yahoo, Microsoft, AOL	94
Chewing gum	**Wm. Wrigley,** Pfizer, Hershey	94
Soft drinks	**Coca-Cola,** PepsiCo, Cadbury Schweppes (7-Up, Dr Pepper, A&W), Royal Crown	93
Breakfast cereals	Kelloggs, General Mills, Ralcorp, PepsiCo (Quaker Oats)	92
Wireless phone service	**AT&T,** Verizon, Sprint, T-Mobile	92
Computer printers	**Hewlett-Packard,** Epson, Canon, Lexmark	91
Toothpaste	Colgate-Palmolive, Procter & Gamble, Church & Dwight, Beecham	91
Internet browsers	**Google,** Microsoft, Mozilla, Apple	90
Local phone service	AT&T, Verizon, CenturyLink	90
Detergents	**Procter & Gamble,** Lever Bros., Dial, Colgate-Palmolive	90
Art auctions	**Sotheby's, Christie's**	90
Greeting cards	**Hallmark,** American Greetings, Gibson	88
Beer	**Anheuser-Busch,** PhilipMorris (Miller, Coors), Pabst, Yuengling	85
Canned soup	**Campbell,** Progresso	85

Sources: Data from Federal Trade Commission, *The Wall Street Journal, Advertising Age, Financial World, Standard & Poor's, Fortune,* and industry sources.

Note: Individual corporations with a market share of at least 40 percent are designated in **boldface.** Market shares based on selected years, 2007–2014.

Case 1

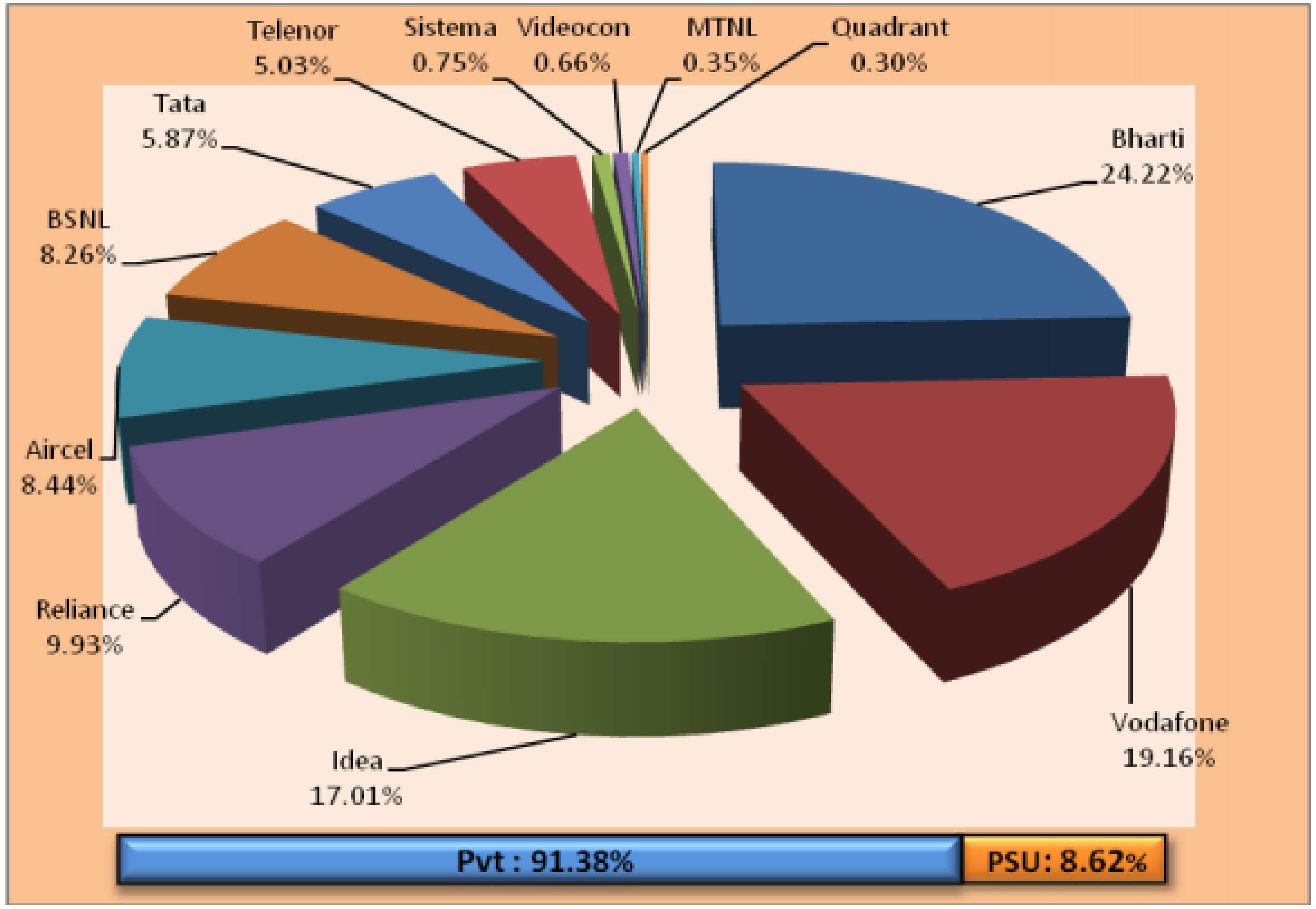
Indian Mobile Operators Market Share for Feb 2016 Revealed

Telecom regulator TRAI today revealed the market share of Indian mobile operators for February 2016.

- Bharti Airtel continues to **lead the Indian mobile operator market with 24.22 percent**. Vodafone, which retains the **second position, has 19.16 percent**.
- **Idea Cellular** has **17.01 percent share** in the Indian mobile service provider's market. **Reliance Communications** has **9.93 percent share**, while **Aircel has 9.93 percent**.
- BSNL's share was 8.26 percent, Tata Docomo has 5.87 percent and Telenor has 5 percent share in the second month of 2016.
- The number of **telephone subscribers** in India **increased 0.82 percent to 1,051.88 million in February 2016** from **1,043.29 million in January 2016**, according to TRAI.
- The number of **broadband subscribers increased 3.4 percent** to **144.87 million** in February from 140.10 million in January.
- Top **five wired broadband** service providers are **BSNL (9.91 million), Bharti Airtel (1.71 million), MTNL (1.11 million), Atria Convergence Technologies (0.91 million) and YOU Broadband (0.52 million).**
- Leading **wireless broadband service** providers are **Bharti Airtel (35.22 million), Vodafone (26.44 million), Idea Cellular (22.20 million), Reliance Communications Group (15.52 million) and BSNL (10 million).**

Case 1

Indian Mobile Operators Market Share for Feb 2016 Revealed



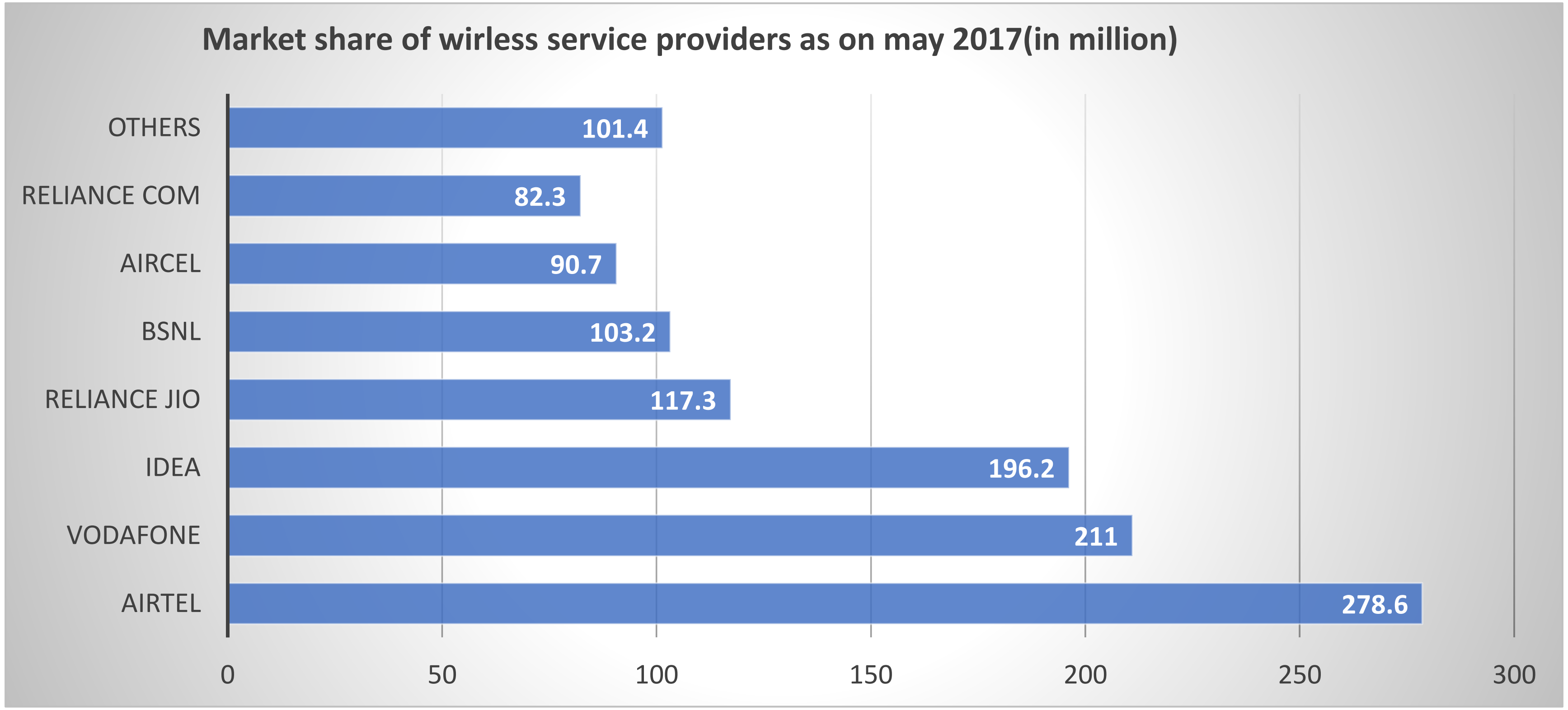
Analysis: More than **11 firms supply long-distance telephone service** in the India. But just **three of those firms** (Airtel India, Vodafone & Idea) account for **61 percent of all calls**. Hence it wouldn't make sense to **categorize** that industry on the basis of only the **number of firms; relative size** is also important.

Case 2

India Telecom Operator Market Share Chart for May 2017

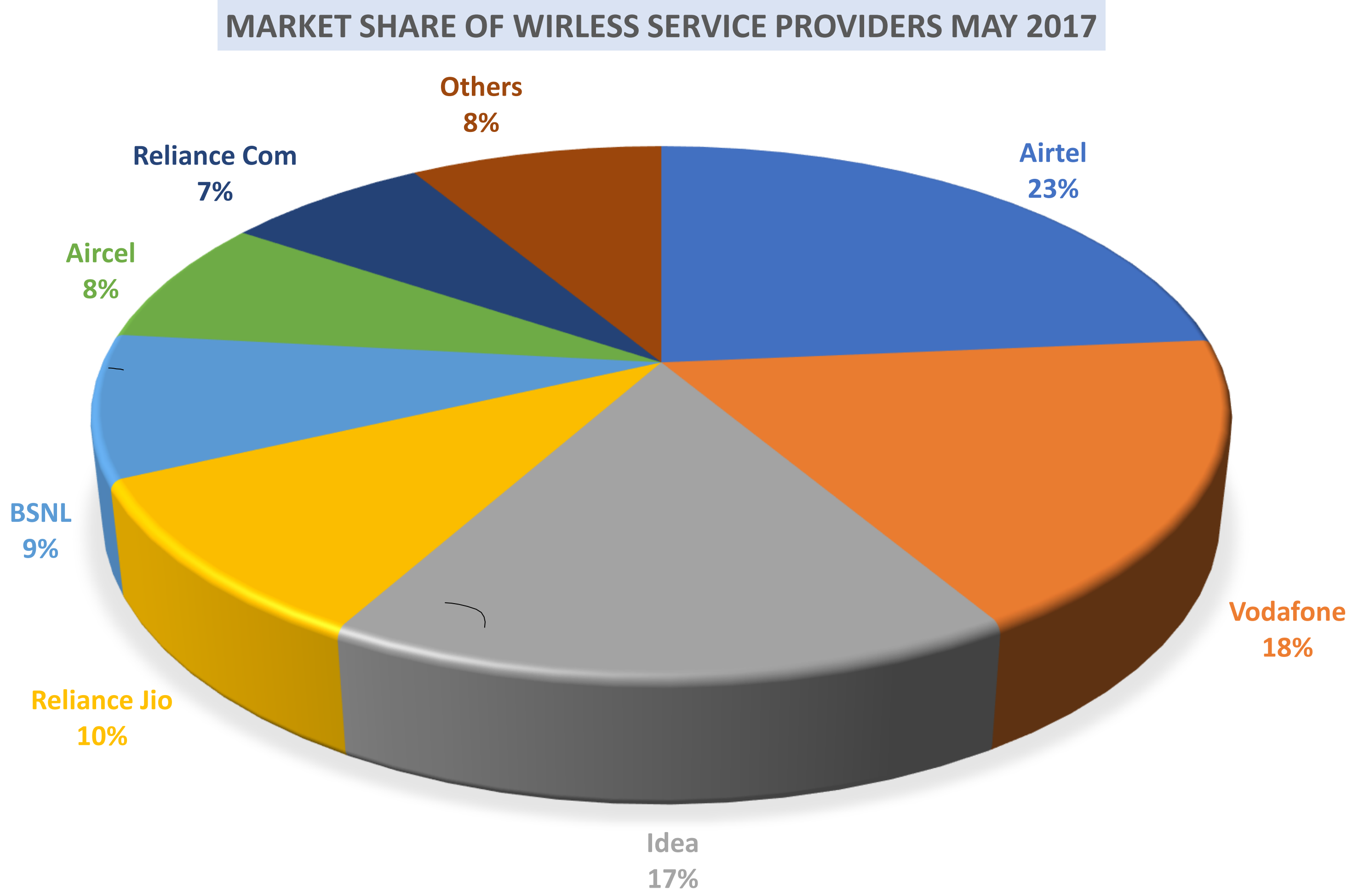
Telecomlead: July 25, 2017

- Market share of India wireless service providers as on May 2017 indicates the recent consolidation.
- Bharti Airtel with 278.6 million mobile subscribers is the largest mobile operator in India. Reliance Jio Infocomm is the fourth largest telecom operator in India with 117.3 million subscribers.
- Vodafone India with 211 million and Idea Cellular with 196.2 million users will become the largest telecom operator when they officially combine their operations in 2018. Airtel will be the second telecom operator.



Case 2

India Telecom Operator Market Share Chart for May 2017



Analysis: Just four top companies captures 68% of market share. Hence, from last two years data Indian Telecom sector has oligopoly market structure.

Case 3

Putting Size in Global Perspective

- The largest firms in the United States are also the dominant forces in global markets. They export products to foreign markets and produce goods abroad for sale there or to import back into the United States. In terms of size alone, these business giants rival most of the world's nations. Walmart's gross sales, for example, would make it the 26th largest "country" in terms of national GDP.
- American corporations aren't the only giants in the global markets. British Petroleum (United Kingdom) and Royal Dutch Shell (The Netherlands) are among the foreign giants that contest global markets.

Rank	Country or Corporation	Sales or GDP	Rank	Country or Corporation	Sales or GDP
1	United States	$16,968	17	Turkey	$821
2	China	8,905	18	The Netherlands	797
3	Japan	5,875	19	Saudi Arabia	755
4	Germany	3,718	20	Switzerland	676
5	France	2,790	21	Sweden	567
6	United Kingdom	2,507	22	Norway	522
7	Brazil	2,343	23	Belgium	506
8	Italy	2,058	24	Poland	499
9	Russia	1,988	25	Nigeria	479
10	India	1,960	26	**Walmart Stores**	476
11	Canada	1,835	27	**Royal Dutch Shell**	459
12	Australia	1,516	28	Iran	448
13	Spain	1,361	29	Austria	412
14	South Korea	1,302	30	**ExxonMobil**	408
15	Mexico	1,216	31	**British Petroleum**	396
16	Indonesia	895	32	Venezuela	382

Case 3

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Sources: World Bank Atlas Method, **data.worldbank.org,** and Fortune's annual ranking of the world's largest corporations, "Global 500." *Fortune* Magazine, July 26, 2014 © Time Inc. Used under license. (2013 data in billions).

ANALYSIS: Firm size is a **determinant of market power**. The size of the largest firms, as **measured by total revenue**, exceeds the **value of total output in most of the world's 193 countries**.

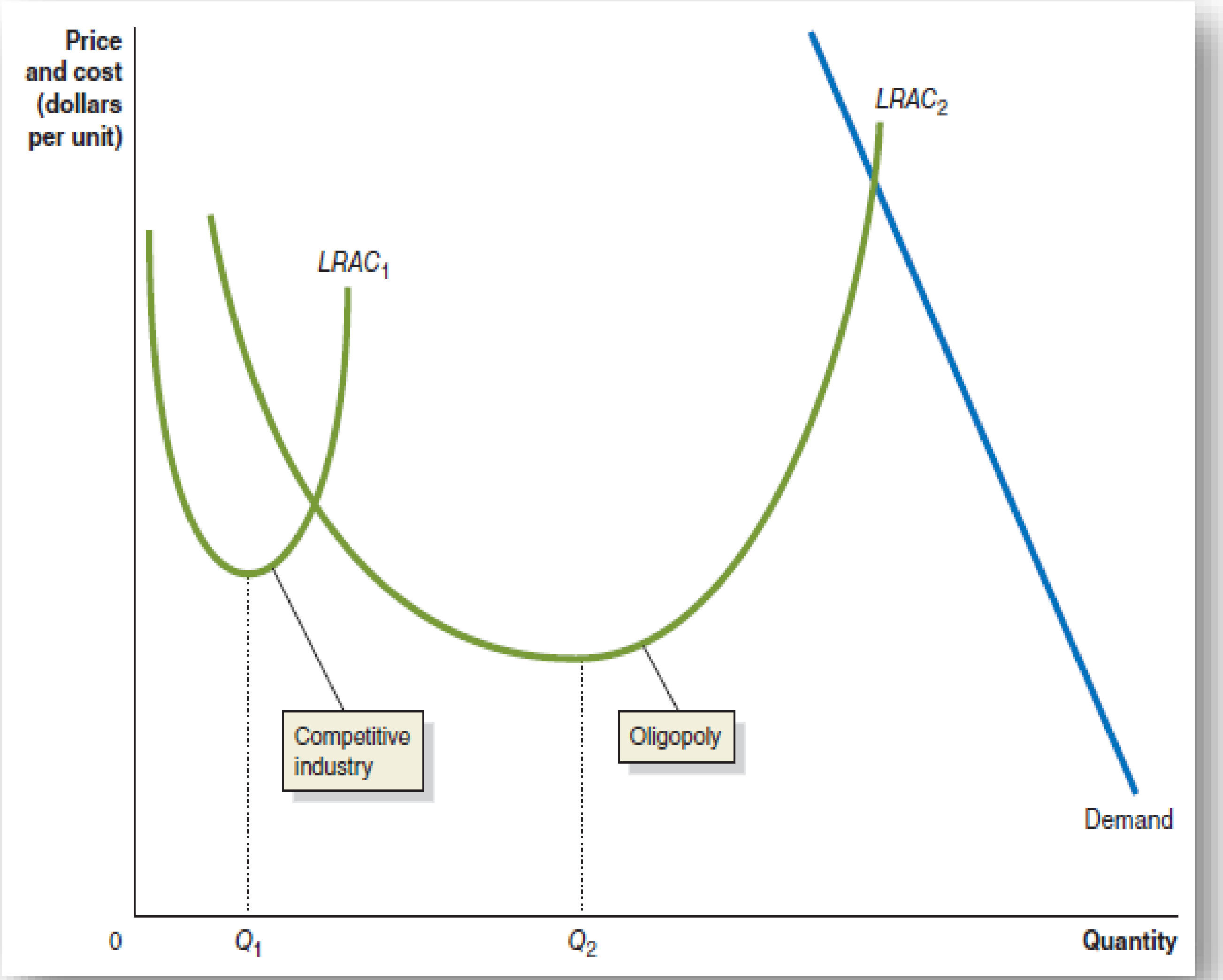
Oligopoly and Barriers to Entry

Barriers to Entry

Why do oligopolies exist? Why aren't there many more firms in the computer industry, the discount department store industry, or the beer industry? Recall that new firms will enter industries where existing firms are earning economic profits. But new firms often have difficulty entering an oligopoly. Anything that keeps new firms from entering an industry in which firms are earning economic profits is called a **barrier to entry.**

Three barriers to entry are;

- Economies of scale,
- Ownership of a key input, and
- Government imposed barriers.



Oligopoly and Barriers to Entry

Economies of Scale: The most important barrier to entry is economies of scale.

- We saw that economies of scale exist when a firm's long-run average costs fall as it increases output. The greater the economies of scale, the smaller the number of firms that will be in the industry. Figure illustrates this point. If economies of scale are relatively unimportant in the industry, the typical firm's long-run average cost curve (LRAC) will reach a minimum at a level of output (in Figure) that is a small fraction of total industry sales. The industry will have room for a large number of firms and will be competitive. If economies of scale are significant, the typical firm will not reach the minimum point on its long-run average cost curve (in Figure) until it has produced a large fraction of industry sales. Then the industry will have room for only a few firms and will be an oligopoly.
- Economies of scale can explain why there is much more competition in the restaurant industry than in the computer industry. **Because very large restaurants do not have lower average costs than smaller restaurants**, the restaurant industry has room for many firms. In contrast, large computer firms such as **Apple have much lower average costs than small computer firms**, partly because **large firms can spread the high fixed costs** of producing computers—including very large research and development costs over a much larger quantity of computers.

Oligopoly and Barriers to Entry

Ownership of a Key Input

- If production of a good requires a particular input, then control of that input can be a barrier to entry. For many years, **the Aluminum Company of America (Alcoa) controlled most of the world's supply of high-quality bauxite, the mineral needed to produce aluminum**. The only way other companies could enter the industry to compete with Alcoa was to recycle aluminum. **The De Beers Company of South Africa** was able to **block competition in the diamond market by controlling the output of most of the world's diamond mines.** Until the 1990s, Ocean Spray had very little competition in the market for fresh and frozen cranberries because it controlled almost the entire supply of cranberries. Even today, the company controls about 80 percent of the cranberry crop.

Oligopoly and Barriers to Entry

Government-Imposed Barriers

- Firms sometimes try to convince the government to impose barriers to entry. Many large firms employ *lobbyists* to convince state legislators and members of Congress to pass laws favorable to the economic interests of the firms. There are **tens of thousands of lobbyists in New Delhi**, alone. **Top lobbyists command annual salaries of $300,000 or more, which indicates the value firms place on their activities**. Examples of government-imposed barriers to **entry are patents, licensing requirements, and barriers to international trade.**

Summary

- In summary, to earn economic profits, all firms would like to charge a price well above average cost, but earning economic profits attracts new firms to enter the industry. Eventually, the increased competition forces price down to average cost, and firms just break even. In an oligopoly, barriers to entry prevent—or at least slow down—entry, which allows firms to earn economic profits over a longer period.

Problem with Oligopoly Analysis

Oligopoly, a market structure in which a **small number of interdependent firms compete**. In **analyzing oligopoly, we cannot rely on the same types of graphs** we used in analyzing perfect competition and monopolistic competition for two reasons.

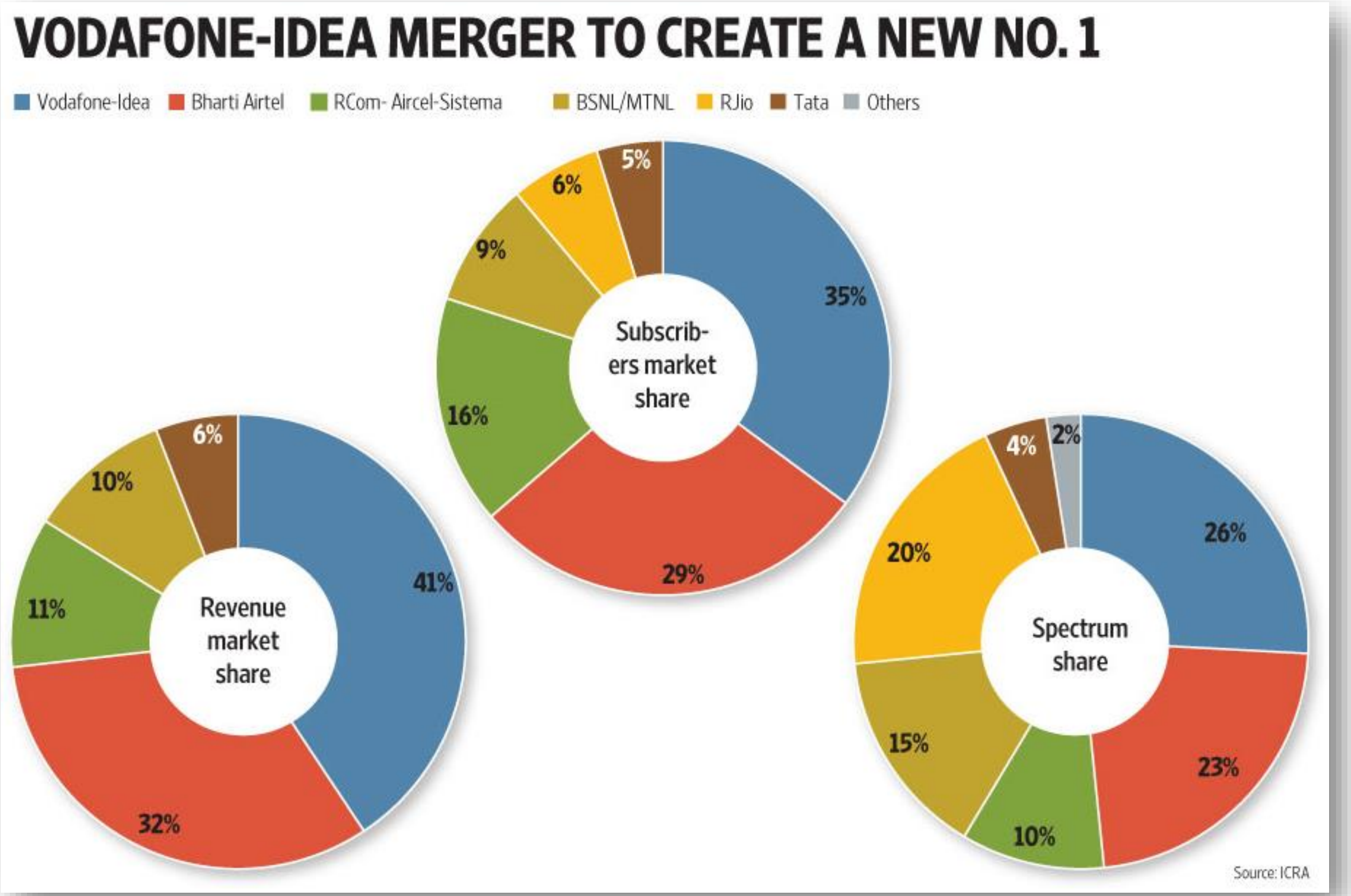
- First, we **need to use economic models** that **allow us to analyze the more complex business strategies of large oligopoly firms**. These **strategies** involve **more than choosing the profit-maximizing price and output.**
- Second, even in determining the profit-maximizing price and output for **an oligopoly firm**, **demand curves and cost curves are not as useful** as in the cases of perfect competition and monopolistic competition. We are able to draw the demand curves for competitive firms by assuming that the prices these firms charge have no effect on the prices other firms in their industries charge. **This assumption is realistic when each firm is small relative to the market**. **It is not** a **realistic assumption**, however, for **firms that are as large relative** to their markets as Microsoft, Apple, or Wal-Mart.

Problem with Oligopoly Analysis

- When **large firms cut their prices**, their **rivals in the industry often but not always respond by also cutting their prices**. Because we don't know for sure **how other firms will respond to a price change**, we don't know the quantity an oligopolist will sell at a particular price. **In other words, it is difficult to know what an oligopolist's demand curve will look like**. As we have seen, a firm's marginal revenue curve depends on its demand curve. If we don't know what **an oligopolist's demand curve looks like, we also don't know what its marginal revenue curve looks like.** Because we don't know marginal revenue, we can't calculate the profit-maximizing level of output and the profit-maximizing price the way we do for competitive firms.
- The **approach we use to analyze competition among oligopolists is called *game theory***. **Game theory can be used to analyze any situation in which groups or individuals interact.** In the context of economic analysis, game theory is the study of the **decisions of firms in industries where the profits of each firm depend on its interactions with other firms**. It has been applied to strategies for nuclear war, for international trade negotiations, and for political campaigns, among many other examples. In this module, we use game theory to analyze the business strategies of large firms.

Case 8

Collusive Oligopoly: Cartel+ Deterring Entry + Bargaining



Case 8

Collusive Oligopoly: Cartel+ Deterring Entry + Bargaining

- In revenue terms, too, the **Vodafone-Idea combine will lead with a 41% revenue marketshare,** followed by **Airtel's 33% (plus Telenor's 2.5%)** and **RCom-Aircel-Sistema's 11%.**
- In rating company ICRA Ltd's view, **intense competition and profitability pressures in the Indian telecom industry have**
  - **made scale a necessary prerequisite,**
  - thereby **spurring consolidation,**
  - which **reduces the number of competing entities**,
  - **adds financial muscle** to face aggressive price competition, and
  - helps meet the **high capex requirements in rolling out data services.**

Case 8

Collusive Oligopoly: Cartel+ Deterring Entry + Bargaining

Medium Term

- In the medium term, **any reduction in competition in the industry remains unlikely** as the large telcos would keep the intensity high.

Long Term

- However, in the long term, this **consolidation is expected to be positive** for the industry as it **would restore some pricing power and give better bargaining (ability) with vendors/suppliers**

Case 8

Collusive Oligopoly: Cartel+ Deterring Entry + Bargaining

Survival

- The industry is likely to be left with **five major telcos**, assuming the mergers are completed—

1. Vodafone-Idea
2. Bharti Airtel-Tikona
3. Jio
4. RCom-Aircel-Sistema and
5. state-run Bharat Sanchar Nigam Ltd–Mahanagar Telephone Nigam Ltd.

- On the other hand, a merger of operations of the telcos would make some tenancies redundant

Bargaining

- **Growth in the scale** of the operators would **improve their pricing power,** giving them the opportunity to **negotiate lower rentals with tower companies,** ICRA analysts say.

Case 9

Indian Low Cost Airlines

- **Low cost airlines are airlines which offer cheap flight tickets.** They are also called **budget airlines**, cheap flights and discount carriers.
- Low Cost Carriers play a very important role in the aviation industry. Low cost airlines are **actually a gift to the travelers, as the passengers can utilize air travel with affordable fares.** It is much beneficial for short haul. Since the introduction of Low Cost Airlines the competition between airlines have increased. So passengers have more options to be selected.
- Low cost airlines **charge extra for priority boarding**, **food and other services** in **order to overcome the revenue loss** of providing cheap flight ticket.
- Low cost airlines usually tend to keep only **a single passenger class in aircrafts.** They usually use single type aircrafts and old model aircrafts. Now a days cost effective and fuel efficient model aircrafts are available such as Boeing 737, Airbus A 320.

Case 9

Indian Low Cost Airlines

Air travelling become more popular among commons due to the availability of cheap flight ticket. As the fares are low passengers cannot reserve a particular seat as per their choice before boarding. If the passenger required to get a particular seat like window seat or aisle seat, he has to board in advance. Early reservations will get more discounted fares, and fares will increase when the seats get filled. These are certain common features of low cost airlines. The first low cost airline of India is Deccan airways, started its operation in the year 1993.

ANALYSIS: If rivals match price cuts but **not price increases**, the **demand curve confronting an oligopolist will be kinked**. Prices will increase only when all firms agree to raise them at the same time.

Case 10

Coke and Pepsi May Call Off Pricing Battle

ATLANTA—A brief but **bitter pricing war within the soft drink industry** might be drawing to a **close—all because no one wants to be blamed for having fired the first shot.**

Coca-Cola

- Coca-Cola Enterprises Inc., Coca-Cola Co.'s biggest bottler, said in a recent memorandum to executives that it will "**attempt to increase prices**" after July 4 amid **concern that heavy price discounting in most of the industry is squeezing profit margins**.

PepsiCo

- The memo is a response to statements made to analysts last week by top PepsiCo Inc. executives. Pepsi, of Purchase, New York, said **"irrational"** pricing in much of the **soft drink industry might temporarily squeeze domestic profits, and it laid the blame for the price cuts at Coke's door**.

- Indeed, industry analysts in the wake **of Pepsi's statements expressed concern that profit margins for Pepsi and Coke bottlers may erode as a result of cutthroat pricing. . . .**

Case 10

Coke and Pepsi May Call Off Pricing Battle

Coca-Cola

- In the June 5 memo, Summerfield K. Johnston Jr. and Henry A. Schimberg, the chief executive and the president of Coca-Cola Enterprises, respectively, said the bottler's plan is to **"succeed based on superior marketing programs and execution rather than the short-term approach of buying share through price discounting.** . . . We have absolutely no motivation to decrease prices except in response to a competitive initiative." **—Nikhil Deogun**

• Source: *The Wall Street Journal,* June 12, 1997, p. A3. Used with permission of Dow Jones & Company, Inc.

ANALYSIS: Price discounting can destroy oligopoly profits. When it occurs, **rival oligopolists seek to end it as quickly as possible.**