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BA Economics Honours | Semester 1 | Calicut University

Microeconomics Foundations

Course Code: ECO1MN105 • Module 4

Module IV: Market Structure

Market structure refers to the organizational and competitive characteristics of a market, including the number of participating buyers and sellers, the degree of product differentiation, the presence of barriers to entry and exit, and the pricing power wielded by individual enterprises. Microeconomics categorizes markets into four foundational paradigms along a competitive continuum.

Unit 18: Perfect Competition

Perfect competition is a theoretical benchmark representing the highest degree of market contestability. It rests on five strict assumptions:

1. **Atomistic Market (Large Number of Buyers and Sellers):** Each individual firm produces an infinitesimally small fraction of aggregate industry output, meaning no single seller can influence the market price. The firm is a pure **Price Taker** facing an infinitely elastic (horizontal) demand curve: $P = AR = MR$.
2. **Homogeneous Product:** Products offered by all firms are perfect substitutes in the eyes of consumers.
3. **Perfect Factor Mobility (Free Entry and Exit):** No legal, technological, or financial barriers prevent new firms from entering the industry during profitable periods, or existing firms from leaving during loss-making periods.
4. **Perfect Information:** All buyers and sellers possess complete knowledge of prices, production costs, and technological processes.
5. **Zero Transaction Costs:** Commercial transactions occur frictionless without transport or search costs.

Short-Run and Long-Run Competitive Equilibrium

- **Short-Run Equilibrium:** The competitive firm maximizes profit by producing output where $MR = MC$ (with MC cutting MR from below). The firm can earn supernormal profits ($P > ATC$), normal profits ($P = ATC$), or incur losses ($P < ATC$). If price drops below average variable cost ($P < AVC$), the firm minimizes losses by immediate **shutdown**.
- **Long-Run Equilibrium:** Free entry and exit eliminate economic profits and losses. Supernormal profits attract new entrants, expanding market supply and driving down market price until all firms earn strictly **zero economic profit (normal profit)**:

  Long-Run Competitive Condition

  $$P = MR = LMC = minLAC$$

  Where: Competitive equilibrium requires price to equal marginal cost and minimum average cost ($P = MR = LMC = LAC$), yielding zero economic profit for all marginal firms.

  Perfect competition achieves both **Allocative Efficiency** ($P = MC$, maximizing consumer plus producer surplus) and **Productive Efficiency** ($P = minLAC$, producing at the lowest possible cost per unit).

Unit 19: Monopoly

A monopoly is a market structure characterized by a **single seller** producing a unique commodity for which there are no close substitutes, shielded by insurmountable **barriers to entry** (legal patents, government franchises, control of strategic raw materials, or technological *natural monopoly* arising from massive economies of scale where LAC continuously declines, such as municipal water networks).

Because the monopolist is the entire industry, it faces the market's downward-sloping demand curve (AR curve). To sell an additional unit of output, the monopolist must lower the price on all units sold; consequently, the **Marginal Revenue curve lies strictly below the Average Revenue curve ($MR < AR = P$)**. The monopolist maximizes profit where $MR = MC$, setting a price $P_m > MC$. This price markup causes **Deadweight Loss**—a net loss of social welfare compared to competitive markets.

Price Discrimination

Price discrimination occurs when a monopolist sells the identical good to different consumers at different prices for reasons unrelated to cost differences. Pigou classified price discrimination into three degrees:

- **First-Degree (Perfect) Price Discrimination:** The seller charges each individual consumer the maximum reservation price they are willing to pay, extracting 100% of consumer surplus into monopoly profit.
- **Second-Degree Price Discrimination (Non-linear Pricing):** Charging different prices based on the volume or quantity consumed (block tariffs, utility quantity discounts).
- **Third-Degree Price Discrimination:** Charging different prices to different consumer market segments separated by observable attributes (e.g., student and senior citizen discounts on railways). The profit-maximizing rule requires setting higher prices in market segments with more inelastic demand ($P_1/P_2 = \frac{1-1/e_2}{1-1/e_1}$).

Unit 20: Monopolistic Competition and Oligopoly

- **Monopolistic Competition (Chamberlin / Robinson):** Combines elements of competition and monopoly: a large number of independent firms selling **differentiated products** (brand names, packaging, advertising) with free entry and exit. In the long run, free entry forces firms to a tangency equilibrium with zero economic profit, but because the firm faces a downward-sloping demand curve, equilibrium occurs on the downward-sloping segment of the LAC curve, resulting in **Excess Capacity** (the firm produces less than the socially optimal output that minimizes average cost).
- **Oligopoly:** A market dominated by a few large, mutually interdependent firms (e.g., automobile manufacturing, commercial aviation, telecommunications). The hallmark of oligopoly is **strategic interdependence**: each firm's optimal pricing and output decision depends heavily on how rival firms will react. Prominent models include:
  - *Cournot Duopoly Model:* Each firm chooses its output quantity simultaneously, assuming rival output remains fixed.
  - *Sweezy's Kinked Demand Curve Model:* Explains empirical **price rigidity** in oligopolies by assuming asymmetric rival responses: rivals will follow a price cut (making demand inelastic below the kink), but will ignore a price increase (making demand highly elastic above the kink).

Market Structure	Number of Sellers	Product Differentiation	Barriers to Entry	Long-Run Economic Profit	Pricing Power
Perfect Competition	Very Large (Atomistic)	Homogeneous (Identical)	Completely Free (Zero)	Zero (Normal Profit)	None ($P = MR = MC$)
Monopolistic Competition	Many	Differentiated Products	Low / Free Entry	Zero (Excess Capacity)	Limited ($P > MC$)
Oligopoly	Few Dominant Firms	Homogeneous or Differentiated	High Barriers	Can be Substantial	High (Strategic Pricing)
Monopoly	Single Seller	Unique (No Close Substitutes)	Insurmountable	Substantial ($P > MC$)	Price Maker / Monopoly Power

Advanced Theoretical Formulations and Empirical Frameworks (Analytical Division 1)

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Empirical Methodology, Identification Strategies, and Econometric Estimation

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Consider the structural estimation of policy impacts across decentralized economic agents. When evaluating macroeconomic interventions or microeconomic regulatory changes, parameters estimated from observational datasets must account for expectations formation and structural parameter stability in accordance with the Lucas Critique. Consequently, contemporary applied economics bridges micro-foundations with aggregate macroeconomic phenomena through dynamic stochastic general equilibrium (DSGE) modeling and micro-econometric panel estimations.

Comparative Institutional Analysis, Market Failures, and Policy Governance

Economic outcomes are fundamentally mediated by institutional architectures, legal property rights regimes, and regulatory governance. In emerging market economies such as India, market imperfections—including asymmetric information, transaction costs, infrastructural bottlenecks, and credit constraints—often necessitate nuanced policy interventions that differ substantially from textbook laissez-faire predictions.

Analytical Dimension	Orthodox / Classical Perspective	Heterodox / Institutional Framework	Empirical Policy Manifestations in India
Market Efficiency	Markets clear instantaneously; price mechanism allocates resources optimally without systemic friction.	Markets are prone to structural failures, information asymmetry, and coordination coordination failures.	Targeted regulatory oversight, public investment in infrastructure, and social safety nets.
Behavioral Motivation	Hyper-rational agents maximizing expected utility with complete cognitive computational capacity.	Bounded rationality, behavioral heuristics, loss aversion, and institutional anchoring effects.	Choice architecture, behavioral nudges (NITI Aayog initiatives), and consumer financial protection mandates.
State Intervention	State role restricted to core public goods, contract enforcement, and national defense (minimalist state).	State acts as developmental catalyst, risk-absorber of last resort, and promoter of equitable distribution.	Strategic industrial policy (PLI schemes), counter-cyclical fiscal intervention, and universal public services.
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Comprehensive Empirical Analysis: The Kerala Model and Sub-National Development

In the context of the Indian economy and sub-national development paradigms, the Kerala Model of Development provides a seminal empirical case study illustrating the complex trade-offs between social development and economic growth. Characterized by high physical quality of life indicators—including near-universal adult literacy, high life expectancy, and low infant mortality rates comparable to advanced Western economies—achieved despite historically modest per capita state domestic product, Kerala demonstrates the transformative power of public social expenditure, agrarian land reforms, and decentralized local governance (Panchayati Raj institutions).

However, contemporary economic analysis also highlights structural challenges confronting this development paradigm: high educated unemployment, fiscal constraints stemming from escalating public debt servicing and pension obligations, and heavy reliance on external remittance inflows from migrant workers in the Persian Gulf. Sustaining this high-welfare equilibrium necessitates transitioning toward a knowledge-driven economy, incentivizing high-tech manufacturing, and mobilizing sustainable sub-national fiscal resources.

Policy Synthesis and Analytical Evaluation

Policy formulation in dynamic economic environments must therefore synthesize foundational deductive reasoning with robust inductive empirical inquiry. Economists must continuously evaluate the balance between market incentives and regulatory governance, ensuring that institutional frameworks promote both productive efficiency and distributive social justice.

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