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BA Economics Honours | Semester V | Calicut University

Human Capital and Economic Development

Course Code: ECO5EJ306 • Module 1

Module I: Introduction to Human Capital

Human capital embodies the accumulated stock of knowledge, technical competencies, cognitive capabilities, and physical health embodied in an individual that augments productive labor efficiency in economic production. Pioneered by Theodore Schultz, Gary Becker, and Jacob Mincer, human capital theory positions human beings not merely as physical labor units, but as productive capital assets requiring purposeful investment.

Unit 1 & 2: Human Capital and Economic Development

Human capital accumulation drives economic development through three distinct channels:

- **Worker Productivity Channel:** Formal education and vocational training impart cognitive problem-solving skills, technological literacy, and workplace adaptability, raising labor productivity.
- **Technological Innovation Channel:** Advanced scientific, engineering, and managerial education drives domestic R&D, patent creation, and technology adoption from global frontiers.
- **Social Externalities Channel:** Education and health investments generate widespread positive spillovers: improved maternal and child health, lower fertility rates, environmental consciousness, and stronger democratic governance.

Unit 3, 4 & 5: Measurement of Human Development and Structural Challenges

- **Human Development Index (HDI - Mahbub ul Haq & Amartya Sen):** Geometric mean of three normalized dimensional indices:

  $$HDI = (I_{Health} \times I_{Education} \times I_{Income})^{1/3}$$

  1. *Health:* Life Expectancy at birth.
  2. *Education:* Mean Years of Schooling (for adults ≥ 25) and Expected Years of Schooling (for school-age children).
  3. *Standard of Living:* GNI per capita in constant 2017 PPP dollars (logarithmic scale).

- **Problems of Human Capital Formation in India:**
  - *Learning Deficits:* ASER surveys highlight severe foundational literacy and numeracy shortfalls among primary school children.
  - *Brain Drain:* Emigration of elite STEM graduates, physicians, and engineers to Western economies, draining public educational subsidies.
  - *Credentialism and Skill Mismatches:* Rapid expansion of tertiary degree holders without industry-aligned technical and cognitive competencies.

Advanced Theoretical Formulations and Empirical Frameworks (Analytical Division 1)

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Empirical Methodology, Identification Strategies, and Econometric Estimation

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Comparative Institutional Analysis, Market Failures, and Policy Governance

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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.
Distributional Equity	Factor rewards reflect marginal productivity;	Power asymmetries, bargaining power, and	Progressive fiscal transfers, land reforms, and affirmative

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	distribution is secondary to allocative efficiency.	historical wealth accumulation shape distribution.	human capital investments.
Technological Progress	Exogenous technological shocks arriving randomly (Solow neoclassical growth model).	Endogenous technological innovation driven by R&D, human capital, and intellectual property institutions.	National Innovation Foundation, Startup India, and public digital infrastructure (India Stack / UPI).

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

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