

Table of Contents

Week 1 Introduction to Managerial Economic	6
How is Managerial Economics Useful	6
Evaluating Choice Alternatives	6
Making the Best Decisions	6
Managerial Economics	6
Economic Concepts and Methods	6
Theory of the Firm – The basic model of business	6
Expect Value Maximization	6
Constraints & the Theory of the Firm	6
Limitations of the Theory of the Firm	7
The firm can be views as a series of contractual relationship	7
Profit Measurement	7
Business vs. Economic Profit	7
Variability of Business Profits	7
Profits vary among firms – many firms experience significant economic profits/losses	7
Disequilibrium profit theories	7
Compensatory Profit Theories	7
Role of Profits in the Economy	7
Role of Business in Society	7
Why Firms Exit?	7
Social Responsibility of Business	7
Week 2 Economic Optimization / Demand & Supply	8
Economic Optimization Process	8
Revenue Relations	8
Total Revenue (TR)	8
Demand (D)	8
Marginal Revenue (MR)	8
Revenue Maximization	8
Cost Relations	8
Total Cost (TC)	8
Average Cost (AC)	8
Marginal Cost (MC)	8
Average Costs Minimization	9
Profit Relations	9
Total Profit (π)	9
Marginal Profit (M_{π})	9
Profit Maximization	9
Demand & Supply	10
Basis for Demand	10
Market Demand Function	10
Determinants of Demand	10
Industry vs. Firm Demand	10
Demand Curve	10
Demand curve Determination	10
Relationship between the Demand curve & Demand Function	10
Market Supply Function	10
Determinants of Supply	10
Industry vs. Firm Supply	10

ECF2731 Final Revision

Supply Curve	11
Supply curve Determination.....	11
Relation between Supply Curve & Function.....	11
Market Equilibrium	11
Demand & Supply balance	11
Surplus & Shortage	11
Comparative Statics	11
Change in Equilibrium	11
Comparative Statics	11
Week 3 Production Analysis.....	12
Production Function	12
Production Function	12
Properties of Production Functions	12
Returns to Scale & Returns to a Factor	12
Two Types of Graphs	12
Total, Marginal, and Average Product – Function.....	12
Total Product (TP).....	12
Marginal Product (MP).....	12
Average Product (AP).....	12
Law of Diminishing Returns to a Factor	12
Diminishing Returns to a Factor	12
Input Combination Choice.....	13
Production Isoquant	13
Input Factor Substitution	13
Marginal Rate of Technical Substitution.....	13
Marginal Revenue Product & Optimal Employment.....	14
Marginal Revenue Product (MRP)	14
Optimal Level of a Single Input.....	14
Optimal Combination of Multiple Inputs.....	14
Budget Lines – Isocost curves.....	14
Expansion Path	14
Illustration of Optimal Input Proportions.....	15
Optimal Levels of Multiple Inputs	15
Optimal Employment & Profit Maximization	15
Returns to Scale	15
Output Elasticity & Return to Scale	15
Returns to Scale Estimation	15
Week 4 Cost Analysis	16
Economic & Accounting Costs	16
Historical vs. Current Costs	16
Opportunity Costs.....	16
Role of Time in Costs Analysis	16
Concept of Cost	16
Incremental Cost	16
Sunk Cost.....	16
Short-run & Long-run Costs.....	16
Short-Run Cost Curve	16
SR cost curve Categories	16
SR cost Relations.....	16
SR cost curve & Productivity	17
Long-Run Cost Curve	17

ECF2731 Final Revision

LR Total Cost.....	17
Returns to Scale & Cost Curve.....	17
Economies of Scale	17
Cost Elasticities & Economies of Scale	17
LR Average Cost.....	17
Minimum Efficient Scale (MES)	18
MES.....	18
Competitive Implications of MES.....	18
Transportation Costs & MES	18
Firm Size & Plant Size	18
Multi-plant Economies & Diseconomies of Scale	18
Plant Size & Flexibility.....	18
Figure 8.7 Plainfield Electronic: Single vs. Multi-plant Operation.....	19
Learning Curves	19
Learning curve Concept	19
Strategic Implications.....	19
Economies of Scope.....	19
Economies of Scope Concept	19
Exploiting Scope Economies.....	19
Week 5 Competitive Markets	20
Competitive Environment	20
Market Structure	20
Vital Role of Potential Entrants	20
Factors that Shape the Competitive Environment.....	20
Product Differentiation.....	20
Production Methods.....	20
Entry & Exit Conditions	20
Competitive Market Characteristics	20
Basic Features.....	20
Examples of Competitive Markets.....	20
Profit Maximization in Competitive Markets	20
Profit Maximization Imperative.....	20
Role of Marginal Analysis.....	20
Marginal Cost & Firm Supply	21
Short-Run Firm Supply	21
Long-Run Firm Supply	21
Competitive Market Supply Curve.....	22
Market Structure with A Fixed number of competitors.....	22
Market Structure with Entry & Exit.....	22
Competitive Market Equilibrium	22
Balance of Supply & Demand	22
Normal/stable profit Equilibrium	22
Competitive Market Efficiency	23
Why is it called Perfect Competitive.....	23
Deadweight Loss Problem.....	23
Market Failure.....	23
Structural Problems	23
Incentive Problems	23
Externalities	23
Externalities.....	23
Types of Externalities	23

Week 6 Monopoly (Chapter 12, p447-465)	24
Monopoly Market Characteristics	24
Profit Maximization in Monopoly Markets	24
Price-Output Decisions	24
Competitive producer	24
Monopoly	24
Social Costs of Monopoly	24
Monopoly Underproduction	25
Deadweight Loss from Monopoly	25
Social Benefits of Monopoly	25
Economies of Scale	25
Invention & Innovation	25
Monopoly Regulation	26
Dilemma of Natural Monopoly	26
Utility Price & Profit Regulation	26
Monopsony	27
Buyer Power	27
Week 8-9 Monopolistic Competition & Oligopoly	28
Monopolistic Competition Characteristics	28
Monopolistic Competition Price-Output Decisions	28
Monopolistic Competition Process	28
Short-run Monopoly Equilibrium	28
Long-run High-price/ Low-output Equilibrium	28
Long-run Low-price/ High-output Equilibrium	29
Oligopoly Market Characteristics	30
Cartel & Collusion	30
Overt & Cover Agreement	30
Enforcement Problem	30
Oligopoly Output-Setting Models	30
Cournot Oligopoly	30
Stackelberg Oligopoly	31
Oligopoly Price-Setting Models	31
Bertrand Oligopoly	31
Types of Games	32
Role of Interdependence	32
Strategic Considerations	32
Prisoner's Dilemma	33
Classic Riddle	33
Application	33
Nash Equilibrium	33
Nash Equilibrium Concept	33
Nash Bargaining	33
Infinitely Repeated Games	33
Role of Reputation	33
Product Quality Games	34
Finitely Repeated Games	34
Uncertain Final Period	34
End-of-game Problem	34
First-Mover Advantages	34
Week 11 Risk Analysis	35

ECF2731 Final Revision

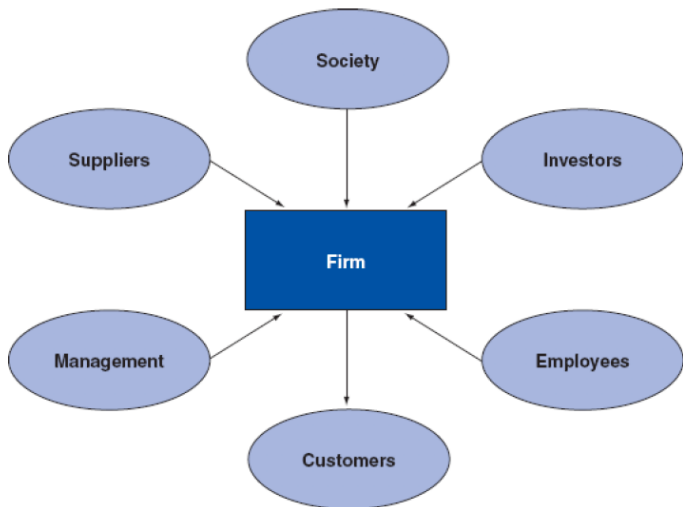
Concepts of Risk & Uncertainty	35
Economic risk & uncertainty	35
General Risk Categories	35
Special Risks of Global Operations.....	36
Probability Concepts	36
Probability Distribution	36
Expected Value	36
Utility Theory & Risk Analysis.....	37
Possible Risk Attitudes	37
Relation Between Money & Its Utility.....	37
Adjusting the Valuation Model for Risk.....	37
Basic Valuation Model	37
Risk-Adjusted Discount Rates	39

ECF2731 Final Revision

Week 1 Introduction to Managerial Economic

How is Managerial Economics Useful	
Evaluating Choice Alternatives	Identify ways to efficiently achieve goals Specify pricing & production strategies Spell out production & marketing rules to maximize profits
Making the Best Decisions	Managerial economics helps meet management objectives efficiently Managerial economics shows the logic of consumer, firm, and government decisions
Managerial Economics	Applies (micro)economics principles to key management decisions Micro- provides a set of tools to understand & analyse human behaviour Managerial eco- applies these tools to managerial decision making
Economic Concepts and Methods	<pre> graph TD A["Management Decision Problems • Product selection, output and pricing • Internet strategy • Organization design • Product development and promotion strategy • Worker hiring and training • Investment and financing"] B["Economic Concepts • Marginal analysis • Theory of consumer demand • Theory of the firm • Industrial organization and firm behavior • Public choice theory"] C["Quantitative Methods • Numerical analysis • Statistical estimation • Forecasting procedures • Game-theory concepts • Optimization techniques • Information systems"] D["Managerial Economics Use of economic concepts and quantitative methods to solve management decision problems"] E["Optimal solutions to management decision problems"] A --> D B --> D C --> D D --> E </pre>
Theory of the Firm – The basic model of business	
Expect Value Maximization	Optimization of profits in light of uncertainty and the time value of money Owner managers maximize short-run profits Primary goal is long-term expected value maximization The value of the firm: the present value of the firm's expected future net cash flow
Constraints & the Theory of the Firm.	• Resource constraints • Social constraints

ECF2731 Final Revision

Limitations of the Theory of the Firm	- Alternative theory adds perspective - Competition forces efficiency - Hostile takeovers threaten inefficient managers
The firm can be views as a series of contractual relationship	 <pre> graph TD Society([Society]) --> Firm[Firm] Suppliers([Suppliers]) --> Firm Investors([Investors]) --> Firm Management([Management]) --> Firm Employees([Employees]) --> Firm Customers([Customers]) --> Firm </pre>
Profit Measurement	
Business vs. Economic Profit	Business (accounting) profit: residual of sales revenue – explicit accounting costs of doing business - Reflects explicit costs & revenue Economic profit: business profit – the implicit costs of capital & any other owner provided inputs - Profit above a risk-adjusting normal return - Considers cash & noncash items
Variability of Business Profits	- Business profits vary widely Profit margin: accounting net income dived by sales Retune on Stockholder's Equity (ROE): accounting net income divided by the book value of total assets – total liabilities
Profits vary among firms – many firms experience significant economic profits/losses	
Disequilibrium profit theories	- Unexpected revenue growth/cost savings Possible explanations of economic profits/losses: Fictional Profit Theory: abnormal profits observed following unanticipated changes in demand or cost conditions Monopoly Profit Theory: above-normal profits caused by barriers to entry that limits competition
Compensatory Profit Theories	- Profits accrue to firms that are better/faster/cheaper than the competition Innovation-Profit Theory: describes above-normal profits that follow successful invention or modernization Compensatory Profit Theory: above-normal rates of return that reward efficiency
Role of Profits in the Economy	- Economic profits play an important role in any market-based economy - Above-normal profit → may signal that the firm/industry should increase output
Role of Business in Society	
Why Firms Exit?	- Businesses help satisfy consumer wants - Businesses contributes to social welfare
Social Responsibility of Business	- Serve customers - Provide employment opportunity - Obey laws & regulations

ECF2731 Final Revision

Week 2 Economic Optimization / Demand & Supply

Economic Optimization Process	Optimal decisions: best decision produces the result most consistent with managerial objectives
	Maximizing the value of the firm - Produce what customers want - Meet customer needs efficiently
	- Simplest version of a firm's goal: profit maximization - Value of the firm is the present value of future profits - Profits = Total Revenue – Total Costs
Revenue Relations	
Total Revenue (TR)	- The amount of combination by quantity and prices - TR is a function of price and quantity $TR = f(P, Q) \rightarrow TR = P \times Q$ - Assume that the demand is downward-sloping $\rightarrow$ must $\downarrow P$ to $\uparrow Q$ sold
Demand (D)	Relationship between quantity demanded and price.
Marginal Revenue (MR)	- The change in TR associated with a 1-unit change in quantity sold (Q). $MR = \frac{\text{Change in TR}}{\text{Change in Q}} = \frac{\delta TR}{\delta Q}$
Revenue Maximization	- Activity level that generates the highest revenue. - TR is maximized when marginal value shifts from positive to negative $\rightarrow MR = 0$
Figure 3. Relationship between Price, Output, Total Revenue and Marginal Revenue	
Cost Relations	
Total Cost (TC)	$TC = FC + VC$ Fixed Cost (FC): do not vary with output Variable Cost (VC): vary with output
Average Cost (AC)	Total cost divided by the number of units produced. $AC = \frac{TC}{Q}$
Marginal Cost (MC).	Change in TC associated with a change in quantity. - Always positive because almost all goods & services entail at least some labour/material... $MC = \frac{\delta TC}{\delta Q}$