

The Limits To Certainty

Facing Risks
in the New Service Economy

by

ORIO GIARINI

and

WALTER R. STAHEL

*PROGRES, Programme of Research on the Economics of Services,
Geneva, Switzerland*



KLUWER ACADEMIC PUBLISHERS
DORDRECHT / BOSTON / LONDON

Table of Contents

Acknowledgements	vii
Preface by Ilya Prigogine	ix
Foreword by Alexander King	xv
List of Figures	xvii
Chapter 1: Introduction	1
1.1. In Search of Progress: From “The Limits to Growth” To “The Limits to Certainty”	1
1.2. Three Major Issues in Reconstructing an Image of the Future	2
1.3. Uncertainty: the Condition to Make a Future	5
Notes Chapter 1	6
Chapter 2. The New Battleground for Risk-Taking: the Service Economy	7
2.1. The Legacy of the Industrial Revolution	7
2.1.1. Leaving Heaven for a World of Scarcity	7
2.1.2. Producing Tools and Goods to Increase the Wealth of Nations	7
2.1.3. The Monetization Process of the Economy: Developing Capitalism	10
2.1.4. The Utopia of Certainty	12
2.2. The Limits of the Industrial Revolution	15
2.2.1. Production Is not in Isolation From the Non-Monetarized World	15
2.2.2. Production Is Increasingly More Dependent on “Non-Productive” Service Activities	17
2.2.3. The Pace of Discoveries and Innovations Against the Diminishing Returns of Production Factors: the Long Cycles	19
2.2.4. The End of the Megacycle of the Industrial Revolution	23
2.2.5. The New Dimensions of Risk and Uncertainty	25
2.3. The “Service” Economy	27
2.3.1. The Growth of Services in the Production of Wealth	27
2.3.2. The Growth of Industrialization Within the Service or Tertiary Sector	30
2.3.3. The Horizontal Integration of All Productive Activities: the End of the Theory of the Three Sectors of Economic Activity and the Limits of Engel’s Law	31
2.3.4. From the Value of Products to the Value of Systems	33
2.3.5. Systems Operation: Complexity and Vulnerability	34
2.3.6. The Notion of Risk in the Industrial Revolution and in the Service Economy – Moral Hazards and Incentives	37
2.3.7. Tradability and Homogeneity of Services	41
2.3.8. Material and Immaterial Values in the Service Economy – the Value of Education	43

2.4.	Value and Time in the Service Economy: the Notion of Utilization	45
2.4.1.	The Cycle From Raw Materials to Products to Waste	45
2.4.2.	The Utilization Period	47
2.4.3.	Utilization-oriented Innovation – Some Examples	52
2.4.4.	Waste, Obsolescence and Fashion	55
*2.4.5.	Coping With Time Duration and Uncertainty	58
2.5.	The Social Strategy in the Service Economy	63
2.5.1.	Employment and Productive Occupation	63
2.5.2.	The New Risk Takers in Work: Women, the Younger and the Elder	68
2.5.3.	Negative Income Tax and Social Allocations	75
2.5.4.	The “Four Pillar” Strategy for the Elder	77
2.5.5.	Selling Security or Means to Face Risks and Uncertainties	80
	Notes Chapter 2	84
Chapter 3.	Producing the Wealth of Nations; The Risk-Takers and the Supply-side of the Economy. The Dynamics of Disequilibrium	87
3.1.	Producing	87
3.1.1.	Life as an Activity in Production	87
3.1.2.	The Conditions of Supply: Uncertainty and Risk	88
3.1.3.	Risk and Responsibility	91
3.1.4.	The Supply in Classical Economics	93
3.1.5.	The Prosumer, the Services Supply (Externalizing Processes, Self Services, Spin-Offs)	94
3.2.	Cycles in Production	95
3.2.1.	Crises and Deflation in the Industrial Revolution	95
3.2.2.	The Great Expansion of the Industrial Revolution and the Role of Demand	97
3.2.3.	The New Supply Bottlenecks of the 70’s and Inflation: Quantitative and Qualitative Rigidities	100
3.3.	The Role of Demand	102
3.3.1.	Supply and Demand in a Static “Perfect” Equilibrium	102
3.3.2.	Demand as a Selection Mechanism	104
3.4.	Equilibrium vs Non-Equilibrium	105
3.4.1.	Economics Between Certainty and Uncertainty, Between Static and Real Time: the Reference to the Paradigm of Natural Science	105
3.4.2.	From Newton to Prigogine: Equilibrium as a Goal or “Attractor” in a Far-From-Equilibrium System	108

3.5.	Accounting for Value in the Service Economy	111
3.5.1.	Measuring Value in the Industrial Revolution: the Monetarized Flow	111
3.5.2.	Old and New Shortcomings: Wealth and Riches, the Paradox of Relative Prices, the Deducted Values. The Non-Accounted Values	114
3.5.3.	The “Bath-tub” System: Measuring Results Through Indicators	116
3.6.	The Problem of Demarcation in Economics	118
3.6.1.	Opening Up the Boundaries of Economics: Beyond Production (Services), Beyond Time (Uncertainty, Risk), Beyond Monetization (the Environment); Complexity and Uncertainty	118
3.6.2.	Restructuring New Boundaries for Action	120
3.6.3.	The Role of the Market System	120
	Notes Chapter 3	123
Chapter 4.	At the Roots of Uncertainty	126
4.1.	Risk, Uncertainty and the Individual	126
4.1.1.	The Perception of Risk	126
4.1.2.	The Certainty of Misery / the Misery of Certainty (Nihilism)	132
4.2.	A Dialogue: Founding the Secretariat for Uncertainty	135
	Centre for Reflection on Uncertainty – Draft Declaration	139
	Notes Chapter 4	141
	Bibliography	142
	Index	146