FOREWORD ---------- 11

1. THE GENERALIZED PRINCIPLE OF ECONOMIC RATIONALITY ---------- 13
1.1 ALTERNATIVES TO THE HOMO ECONOMICUS PARADIGM ------ 14
1.2 MINIMIZATION OF THE SUBJECTIVE PROBABILITY OF ECONOMIC EXTINCTION ---------- 16
1.3 PARETO DISTRIBUTION OF THE PROBABILITY OF SURVIVAL ---------- 17
1.3.1 FIRST-ORDER PARETO PROBABILITY DISTRIBUTION ---------- 17
1.3.2 SECOND-ORDER PARETO PROBABILITY DISTRIBUTION -------- 19
1.3.3 GENERAL PARETO PROBABILITY DISTRIBUTION ---------- 20

2. MODELLING RISK AND HEDGING AGAINST IT ---------- 23
2.1 PROBABILITY OF SURVIVAL FOR INCOME AS A RANDOM VARIABLE ---------- 26
2.2 FORMULATION OF THE LENINGRAD CASINO PROBLEM -------- 27
2.3 MODEL OF THE ST. PETERSBURG PARADOX ---------- 29

3. MORAL HAZARD AND ADVERSE SELECTION IN THE CONTEXT OF MAXIMIZATION OF THE PROBABILITY OF ECONOMIC SURVIVAL ---------- 37

3.1 PRINCIPAL-AGENT MODEL ---- 38
3.1.1 ADVERSE SELECTION ---- 39
3.1.2 MORAL HAZARD ---- 42
3.2 APPLICATION OF GENERALIZED MICROECONOMICS: MAXIMIZATION OF THE PROBABILITY OF ECONOMIC SURVIVAL ---- 44
3.2.1 THREAT TO THE AGENT DUE TO EXTINCTION OF THE PRINCIPAL ---- 44
3.2.2 ADVERSE SELECTION IN THE CONTEXT OF PROBABILITY OF SURVIVAL ---- 45
3.2.3 MORAL HAZARD IN THE CONTEXT OF PROBABILITY OF SURVIVAL ---- 47
3.2.4 COMPARISON OF THE STANDARD HOMO ECONOMICUS WITH A SURVIVAL-PROBABILITY-MAXIMIZING AGENT ---- 48

4. THE DEMAND FUNCTION IN THE INSURANCE MARKET: COMPARISON OF MAXIMIZATION OF THE PARETO PROBABILITY OF SURVIVAL WITH THE VON NEUMANN–MORGENSTERN EU THEORY AND KAHNEMAN–TVERSKY PROSPECT THEORY ---- 51
4.1 INSURANCE IN THE MODEL OF MAXIMIZATION OF AN AGENT'S PARETO PROBABILITY OF (ECONOMIC) SURVIVAL ---- 51
4.2 INSURANCE DEMAND IN THE VON NEUMANN–MORGENSTERN MODEL OF MAXIMIZATION OF THE EXPECTED UTILITY OF INCOME (EU THEORY) ---- 56
4.3 INSURANCE DEMAND IN THE KAHNEMAN–TVERSKY MODEL (PROSPECT THEORY, PT) ---- 62
4.4 COMPARISON OF THE DEMAND FUNCTIONS OF MODELS A, B, AND C (FROM THE PREVIOUS THREE SECTIONS) ---- 68

5. MODELLING NON-PROFIT INSTITUTIONS: THE UNIVERSITY SUPPLY FUNCTION ---- 73
5.1 ECONOMIC RATIONALITY IN THE NON-PROFIT SECTOR ---- 73
5.2 AN OPTIMIZATION MODEL OF UNIVERSITY BEHAVIOUR ---- 75
5.3 UNIVERSITY SUPPLY FUNCTION ---- 83

6. BEHAVIOUR OF A FIRM IN A CENTRALLY PLANNED ECONOMY— THE HOMO SE ASSECURANS MODEL ---- 87
6.1 SET OF FEASIBLE PRODUCTION SITUATIONS IN A CENTRALLY PLANNED ECONOMY ---- 88
6.2 THE INDEX PLANNING METHOD AND THE CRITERION OF A PRODUCER IN A CENTRALLY PLANNED ECONOMY ---- 89

6.3 MAXIMIZATION OF THE ABSOLUTE RESERVE ---------- 90
6.4 MAXIMIZATION OF THE RELATIVE RESERVE (I.E. MAXIMIZATION OF THE PARETO PROBABILITY OF SURVIVAL IN A CPE) ---------- 93

7. MODEL OF AN ECONOMY WITH WIDESPREAD CORPORATE INSOLVENCY ---------- 97
7.1 THE PROBLEM OF SECONDARY INSOLVENCY ---------- 97
7.2 MODELS OF DECISION-MAKING IN AN ECONOMY WITH WIDESPREAD SECONDARY INSOLVENCY ---------- 99
7.2.1 MODEL A: MINIMAX STRATEGY ---------- 102
7.2.2 MODEL B: MINIMUM EXTINCTION RISK STRATEGY ---------- 104

8. THE PRODUCER'S OPTIMUM UNDER INCREASING RETURNS TO SCALE ---------- 107
8.1 MODEL A: UNIFORM DISTRIBUTIONS OF THE PROBABILITY OF EXTINCTION W.R.T. PRICE ---------- 111
8.2 MODEL B: UNIFORM DISTRIBUTIONS OF THE PROBABILITY OF EXTINCTION W.R.T. PROFITABILITY ---------- 113
8.3 MODEL C: NORMAL DISTRIBUTIONS OF THE PROBABILITY OF EXTINCTION W.R.T. PROFITABILITY ---------- 115

9. MODELS OF MARKET ALLOCATION OF EXTERNALITIES, GENERALIZED COASE THEOREM ---------- 121
9.1 EMISSIONS PERMIT MARKET ---------- 121
9.2 THE COASE THEOREM FOR NEGATIVE EXTERNALITIES ---------- 123
9.2.1 THE COASE THEOREM FOR NEGATIVE EXTERNALITIES: THE CASE OF TWO PRODUCERS ---------- 124
9.2.2 THE GENERALIZED COASE THEOREM FOR NEGATIVE EXTERNALITIES IN THE CONTEXT OF SURVIVAL PROBABILITY MAXIMIZATION ---------- 127
9.2.3 THE COASE THEOREM FOR THE CASE WHERE A PRODUCER HARMS A CONSUMER ---------- 132
9.3 THE COASE THEOREM FOR POSITIVE EXTERNALITIES ---------- 133
9.3.1 THE GENERALIZED COASE THEOREM FOR POSITIVE EXTERNALITIES AND AGENTS MAXIMIZING THEIR OWN SURVIVAL PROBABILITY ---------- 133
9.3.2 SINGLE POSITIVE EXTERNALITY PROVIDER MODEL ---------- 134
9.3.3 MULTIPLE POSITIVE EXTERNALITY PROVIDERS MODEL ---------- 136
9.4 EFFICIENCY OF ACQUISITION AND TRANSFER OF INFORMATION BETWEEN AGENTS THAT DEPEND ON EACH OTHER TO SURVIVE ---------- 138

9.4.1 MODEL A: INFORMATION EFFECT = INFORMATION ACQUISITION AND TRANSFER COST ---------- 139
9.4.2 MODEL B: INFORMATION EFFECT < INFORMATION ACQUISITION AND TRANSFER COST ---------- 142

10. ALTRUISM AND REDISTRIBUTION INCREASING THE PROBABILITY OF SURVIVAL OF INDIVIDUALS ---------- 147
10.1 ALTRUISM AND BELONGING TO THE COMMUNITY ---------- 147
10.2 REDISTRIBUTION ---------- 149
10.2.1 THE SUPPLY SIDE OF REDISTRIBUTION (THE WILLINGNESS TO FORGO PART OF ONE'S PERSONAL PROSPERITY) DERIVED FROM THE SOCIAL NATURE OF INDIVIDUALS' PREFERENCES ---------- 150
10.2.1.1 TAKING INTO ACCOUNT THE INTERESTS OF OTHERS WHEN SUCH ACTION DIRECTLY INCREASES THE PROSPERITY OF THE INDIVIDUAL ("PSEUDO-ALTRUISM") ---------- 151
10.2.1.2 THE UNCALCULATED NEEDED TO DO GOOD (HARD-CORE ALTRUISM) ---------- 151
10.2.1.3 RECIPROCAL ALTRUISM ---------- 152
10.2.1.4 THE URGE OF INDIVIDUALS TO GROUP TOGETHER IN CLUBS ---------- 152
10.2.1.5 MUTUALITY (SOLIDARITY) OF COMMUNITY MEMBERS ---------- 155
10.2.1.6 RESPECT FOR AUTHORITY ---------- 156
10.2.2 THE WILLINGNESS TO REDISTRIBUTE IN FAVOUR OF PUBLIC GOODS (THE ACCEPTABILITY OF TAXATION) ---------- 157
10.2.3 HYPOTHESES REGARDING THE WILLINGNESS TO CONTRIBUTE TO REDISTRIBUTION ---------- 158
10.2.4 THE "DEMAND SIDE" OF REDISTRIBUTION: THE INFORMATION PROBLEM ---------- 160
10.2.5 EFFICIENCY OF REDISTRIBUTION IN RELATION TO THE DONOR'S PREFERENCES ---------- 162
10.3 ALTRUISTIC ALLOCATION MODELS ---------- 167
10.3.1 MODEL OF ABSOLUTE SOLIDARITY ---------- 168
10.3.2 MODEL OF MINIMIZATION OF THE RISK OF SIMULTANEOUS EXTINCTION OF BOTH INDIVIDUALS: CRUEL ALTRUISM ---------- 170
10.4 THE STATE IN THE ROLE OF DONOR ---------- 174
10.5 SOME DEBATABLE PRINCIPLES/RULES OF THE DONOR ACTIVITIES OF THE STATE ---------- 178
10.5.1 RESULT OF NON-TRANSFERABILITY OF A SUBSIDY TO THE NEXT PERIOD—OPTIMAL SUBSIDY TIMING MODEL ---------- 179
10.5.2 PRESCRIBED SUBSIDY USE STRUCTURE ---------- 185

CONCLUSION ---------- 193
REFERENCES ---------- 199
NAME INDEX ---------- 205