

Leonid Grinin • Andrey Korotayev
Arno Tausch

Economic Cycles, Crises, and the Global Periphery

With a foreword by William R. Thompson



Contents

1	Introduction. Cyclical and World-Systemic Aspects of Economic Reality with Respect to Contemporary Crisis.....	1
	Origins of Modern Economic Cyclicality.....	1
	The System of Economic Cycles	5
	Kondratieff Waves	5
	Juglar Cycle	5
	About This Book and Its Structure	11
2	Kondratieff Waves in the World System Perspective	23
	Long Waves in the World Economic Dynamics	24
	How Real are Kondratieff Waves? Discussions and Empirical Evidence.....	29
	Kondratieff Waves in the Post-World War II GDP Data.....	30
	Kondratieff Waves in the Pre-1945/50 World GDP Data	33
	Kondratieff Waves in the Pre-1870 World GDP Dynamics	39
	Kondratieff Waves in the World Technological Innovation Dynamics....	42
	World System Effects and K-Wave Dynamics	44
	Change of K-Wave Phases Against the Background of the World System Core–Periphery Interaction	46
	Core and Periphery	46
	First Wave: The Late 1780s/Early 1790s–1844/1851	47
	Phase A: The Late 1780s/Early 1790s–1810/1817	47
	Phase B (Downswing): 1810/1817–1844/1851	47
	Second Wave: 1844/1851–1890/1896	48
	Phase A: 1844/1851–1870/1875	48
	Phase B: 1870/1875–1890/1896	48
	Third Wave: 1890/1896–1945	48
	Phase A: 1890/1896–1914/1928	48
	Phase B: 1914/1928–1939/1950	49
	Fourth Wave: 1939/1950–1984/1991.....	49
	Phase A: 1939/1950–1968/1974	49

Phase B: 1968/1974–1984/1991	49
Fifth Wave: 1984/1991–the 2020s(?).....	49
Phase A: 1984/1991–2006/2008	49
Phase B: 2006/2008–the 2020s(?)	50
Possible Causes of the Expansion.....	50
During Upswings the Resource Movement Balance Tended to be in Favor of the Core	51
3 Interaction Between Kondratieff Waves and Juglar Cycles	55
Introductory Notes	55
The Phases of Medium-Term Juglar Cycles (J-Cycles).....	62
On the Importance of Further Research on the Theory of J-Cycles	65
Correlation Between K-Waves and J-Cycles	68
Preliminary Discussion	68
Juglar Cycles as Structural Elements of the K-Waves	76
How Many J-Cycles Are There per a K-Wave Phase?	
An Analysis of Empirical Data	76
Verbal Model of K-Waves.....	84
General Outline	84
Notes on Dynamics	85
The Main Principles for the Development of the K-Wave Model.....	87
Phase Alteration in the K-Wave Model.....	87
Relationships between K-Waves and J-Cycles	88
K-Waves and J-Cycle Clusters.....	88
On the Correlation Between J-Cycles and K-Wave Phases	90
General Causes and Mechanisms of Economic Cycles	91
Mechanism of Influence of J-Cycles on the Temporal Rhythm of K-Wave Alteration	92
Emergence and Resolution of Societal Structural Crisis within A- and B-Clusters of J-Cycles.....	92
Additional Notes	96
An Example of More Active Social Activities During K-Wave B-Phases in Comparison with K-Wave A-Phases.....	96
Social Innovations as a Factor of K-Wave Interphase Transitions at the Level of Individual Societies, the Level of Intersocietal Interactions, and the World System Level	97
What Limits the Length of the K-Wave A-Phases?	99
Exhaustion of Growth Factors	100
Excessive Business Optimism About the Prospects for Growth and the Revaluation of Assets	102
The Long Depression Pause Emerging Within Border J-Cycles and the Change of Development Strategy	102
The World System Dimension	104
Modernization and World-System Socioeconomic Crises.....	104
World-System Crises and Obstacles for the Emergence of the World-System Innovations. World-System Innovations and Their Delays	104

How Does the K-Wave Synchronicity in the World System Emerge?	106
General Characteristics of K-Wave Evolution, Factors, Mechanisms, and Indicators.....	107
How and Why Do the Main K-Wave Dynamics Indicators Change?	107
4 From Kondratieff Cycles to Akamatsu Waves? A New Center-Periphery Perspective on Long Cycles.....	111
Preliminary Remarks	111
Background	113
From Kondratieff Waves to Akamatsu “Flying Geese” Model	114
Arrighi’s Center-Periphery Model	121
The Analysis of Economic Disasters and the Analysis of Economic Convergence	128
New Evidence on Economic Cycles in 31 Countries of the World System, the Discovery of the Akamatsu Cycle and the Relationship of the Akamatsu Perspective with Long-Run Tendencies of Inequality	129
The Global Maps of Convergence During World Depressions	137
Conclusions.....	139
5 Kondratieff Waves and Technological Revolutions	143
Production Principles, Production Revolutions and K-Waves.....	143
Structural Model of Production Revolutions	144
The Structure of the Production Principle	147
The Cybernetic Revolution, Scientific-Cybernetic Production Principle, the Fourth, Fifth and Sixth K-Waves	150
The Cybernetic Revolution	150
Peculiarities of the Fourth K-Wave in Connection with the Beginning of the Cybernetic Revolution	153
The Fifth K-Wave and the Delay of the New Wave of Innovations	154
Characteristics of the Cybernetic Revolution	156
What Are Self-Regulating Systems and Why Are They So Important?	156
Medicine as a Sphere of the Initial Technological Breakthrough and the Emergence of MANBRIC-technology Complex	158
6 Afterword: New Kondratieff Wave and Forthcoming Global Social Transformation.....	161
Problems of Population Ageing and Their Possible Solutions	163
Global Population Ageing and the Sixth Technological Paradigm.....	167
The Crisis and the Characteristics of the Financial System.....	169
Pensioners and Pension Funds	171
Reflections on a Possible Global Pension System	173
Changing Global Order and the World System Reconfiguration.....	176
Once Again about the Sixth K-wave and Cybernetic Revolution	178
There Is Another Scenario	179
The End of the Cybernetic Revolution and Possible Disappearance of K-Waves	179

Appendix A: Biographies of Nikolay Kondratieff and Kaname Akamatsu	181
Appendix B: The Results of Spectral Analysis and Application of Other Statistical Approaches to the Study of Cycles with Different Lengths.....	191
References.....	233
Index.....	261