Chapter 5
AI and the Future of Economic Systems:
Analyzing Technological, Ethical, and Governance Dimensions

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ABSTRACT

This chapter discusses how AI has revolutionized key economy technologies like Generative AI, Large Language Models, and Machine Learning. It evaluates the role of these technologies in increasing efficiency and creativity in business and industries, and in solving evoked ethical issues such as inequality and job loss, and privacy. The chapter also highlights the importance of proper controls to promote fair growth and manage risks effectively, thereby emphasizing the importance of strong governance. It fosters the two-pace combination of economic and data analysis, sociological sensibility, and ethical consideration. Furthermore, the roles of AI in macro and micro economics focusing on citizen engagement and inclusive economy are discussed. Finally, the chapter provides a discussion with focus on the future prospects of AI in the global economy, as well as directions for further research.

1. INTRODUCTION

1.1 Background

AI development has accelerated across the world, revolutionizing economies by changing how businesses, employment, and even societies operate (Vakkuri, V., & Abrahamsson, P. 2018). Artificial intelligence means designing computer systems to possess the ability to attain intelligence in the similar manner as human beings are intelligent (Arsenyan, J., & Piepenbrink, A. 2023). Over the last few years AI has found its place across different industries such as manufacturing, healthcare, finance and retail. AI is introduced into the economy and it is not simply a technological integration, it is a transformational mechanism that has potential to alter macro and micro economics. It is perhaps more important to comprehend the dynamics of the use of AI in economic development entail because of the indications it has on productivity, the labor force, and overall development. Advanced applications based on machine learning, deep learning, natural language processing (NLP), and robotics are quickly transitioning toward being the key enablers of both process automation and decision