



Chapter 6

A Policy Simulation Experiment on Innovations and OpenAI–Driven Labour Force–Growth Nexus: OpenAI Capabilities Through Patent and IT Exports


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ABSTRACT

The hypothesis that advancement in Artificial intelligence can enhance the quality of labour and consequently its contribution to multifactor productivity and economic growth has continued to attract attention in recent times. However, not much empirical evidence is available in the literature to support this hypothesis considering

DOI: 10.4018/979-8-3693-1198-1.ch006

current economic realities. This study investigates the impact of AI-driven labor on economic growth in Switzerland. Data from 1960-2022 is used to analyze the relationship between labor and growth. Dynamic ARDL simulation is employed for policy simulation and prediction. The findings suggest that the short-term implementation of OpenAI may cause economic shocks, but a strategic approach can lead to long-term benefits. The study emphasizes the importance of investing in human capital through education and training programs. It also recommends a proactive and balanced approach to harness the potential benefits of AI while addressing its challenges.

1. INTRODUCTION

The advent of technology has spurred a paradigm shift in how things are done globally. It has affected every facet of human life. A major aspect of technology that has made much impact is Artificial Intelligence (AI). The AI system has been defined by the OECD (2019) as

“...a machine-based system that is capable of influencing the environment by producing an output (predictions, recommendations, or decisions) for a given set of objectives. It uses machine and/or human-based data and inputs to (i) perceive real and/or virtual environments; (ii) abstract these perceptions into models through analysis in an automated manner (e.g., with machine learning), or manually; and (iii) use model inference to formulate options for outcomes. AI systems are designed to operate with varying levels of autonomy”.

Essentially, AI is structured to perform tasks which only humans could perform such as problem solving and reasoning. AI has been found to have the potential to assist humans, both in completing their cognitive tasks as well as automating tasks which have been identified as difficult to do for humans.

The introduction of Artificial Intelligence has been greeted with much enthusiasm on the possible positive and negative effects that the introduction holds for the future of work and how this will affect growth in the overall analysis. It is trite to say that it is agreed that the advancements in AI have proven to be superior to human cognitive capacities (Somer, 2018). They have proven to excel in the performance of tasks at the human level in areas including, but not limited to, speech recognition, visual image recognition, fault detection in humans and even automobiles, translation, product packaging, driving, and bodyguarding. For example, Somer (2018) referred to a situation in 2016 when a Google program defeated the world's best Go master and another in 2017 when AlphaZero, an AI-powered program, defeated the world's

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