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Infrastructure of the digital economy: Some empirical findings with the case of Korea

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Abstract

While different conceptions of the digital economy exist, there is a common ground where discussion on digital economy can be fostered. Taking the notion that digital economy as a continuum from the existing old economy, this paper regards the manufacturing sector of the digital equipment as the digital infrastructure. Upon this, this research attempts to analyze the supply and demand side development patterns of the infrastructure of the digital economy in Korea between 1989 and 2000 with the Bank of Korea's data in order to present the dynamic that brought the growth of digital economy. Research findings show that there has been a unique mechanism in the development of IT sector in Korea, while policy measures have been broadly identical to the promotion of other sectors.

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Keywords: Digital economy; Supply and demand; Infrastructure

1. Introduction

Digital economy is a new key word describing a new facet of our economy as opposed to the existing traditional image of the economy [1,2]. While different conceptions of the digital economy exist, it is fair to discuss the boundary of the digital economy that forms a common ground. First, the term digital

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economy is used to describe both equipment—manufacturing sectors and service sectors that utilize the digital equipment. Second, it is also reasonable to argue that digital economy cannot be conceived as a discontinuity from the existing old economy, composed of manufacturing and service sectors [3].

This paper, with the backdrop, takes a position to understand the digital economy as the economy in which economic transactions are performed with digital technology [4,5], by which position manufacturing sector of digital equipment is regarded as the “infrastructure” that sustains the digital economy from supply side; in comparison, household consumption can be regarded as the component of demand side “infrastructure”. With this conception, this paper attempts to analyze the supply and demand side development patterns of the infrastructure of the digital economy in Korea between 1989 and 2000 with the Bank of Korea’s data in order to present the dynamic that brought the growth of digital economy with an eventual aim to draw some implications.

2. Growth of digital economy in Korea

2.1. Policy measures for installing the digital infrastructure

Among diverse groups in business and academia, it may be a common thinking that there exist separate and distinctive policy measures suited for the IT sector. Against this easily perceived idea, there is no specifically designated policy measure for the sector when one approaches the core mechanisms of policy measures.

As presented in Table 1, policy measures for industrial promotion can be divided into two groups, incentives and regulation, which can be applied to virtually every industrial sector for all governments. Among incentive policies, it is possible to distinguish between policies of monetary incentives and those

Table 1
Tools of industrial policy

Incentive policies

1. Monetary Incentive Policy

- Tax holidays
- Financial incentives (low interest rate, long term credit)
- Demand creation policies
- Social Infrastructure provision

2. Nonmonetary policy

- Vision statement policy
- Competition policy
- Consortium policy

Regulation policies

1. Monetary regulation

- Credit line control
- Tariffs

2. Market entry policy

- Permission
 - Antimonopoly and oligopoly policy (antitrust policy)
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