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Future Directions for Research on Well-being Measurement in the Republic of Korea

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- Brief History

1945 Liberation from the Japanese Colonial Rule

1948 The Republic of Korea was established

1950 The land Reform Law was enacted

　　　The Bank of Korea was established

1950-53 Korean War

1955 Joined the IMF and IBRD

　　　BOK Started filing National Accounting System

1961 The Military coup was staged

　　　Economic Planning Board (EPB) was established

　　　OECD was inaugurated

1962 The First Five-Year Economic Development Plan was launched by Park

　　　Government, National Statistical System was established by the Bureau of

　　　Statistics under EPB

1955-2017 Several versions of National Accounting System were adopted by BOK

　　　The latest one: 2008 SNA (System of National Accounts) was adopted in 2014

2. The Transition to Service-based and Knowledge-based Economy

- OECD (2016), Economic Surveys Korea and Korea Productivity Center (2016)
  The Korean economy experienced a rapid adoption of ICT in both ICT-producing industries and ICT-using industries and two financial crises in the year of 1997 and 2007.

- While the growth rate of gross output in service sector has been decelerated more rapidly than that in manufacturing sector, the growth rate of total factor productivity (TFP) has improved from near zero percent during 1996-2010 to 0.56 percent during 2011-2013.

- In particular, the improvement in TFP in distributive service and producer service has been impressive indicating the Korean economy is transforming itself toward a more service-oriented growth and two financial crises have helped such transformation. However, the relative level of TFP in service sector seems still far behind that of United States and Japan.

- The emergence of digital economy and social economy has invited two agenda:
  1) How to measure intangible investments (R&D, IPR etc.)
  2) How to measure economic well-being, environmental accounting, income   and wealth distribution and quality of life

3. Korea: From input-led Growth to Productivity-led Growth

- While the late industrialization of the Korean economy had been a predominantly input-led and manufacturing based catch-up process as documented in Timmer (1999) and Pyo (2001), the economic stagnation after the financial crisis of 1997 with the sharp decrease in fertility rate has turned the Korean economy into ICT-led productivity-based and service-based economy.

- According to the growth accounting result of Fukao, Miyagawa, Pyo and Rhee (2012), the relative contribution of TFP growth (0.2 %) in total value-added growth (9.5 %) of the market economy of Korea was only 2.1 percent during the period of 1980-1995 but it increased to the level of 23 percent during the period of 1995-2007 with the growth rate of value-added (4.8 %) and TFP (1.1 %).

- During this transition, the growth in ICT capital services has played an important role. Fukao, Miyagawa, Pyo and Rhee (2012) have found the growth in ICT capital services in Korea has grown at the annual rate of 0.4 percent during the period of 2000-2007 occupying 16 percent of total capital input growth (2.5 %) and 8.7 percent of total value-added growth (4.6%).

- But the use of ICT capital services has not been expanded to Non-ICT capital intensive manufacturing industries and service industries due to lack of deregulation and competition in these sectors.

4. Growth Accounting and Estimation of Total Factor Productivity

**Table 1 Value-Added Growth Accounting Result: Korean Economy (1996-2013)**

<Growth Rate (%)>

|	Value-Added	Capital	Labor	TFP
Economy-Wide				
96-'04	5.05 (100.0)	3.13 (62.0)	0.99 (19.6)	0.93 (18.3)
05-'13	3.71 (100.0)	2.04 (55.0)	0.29 (7.9)	1.38 (37.2)
96-'13	4.38 (100.0)	2.59 (59.0)	0.64 (14.6)	1.15 (26.3)
Manufacturing				
96-'04	7.22 (100.0)	3.73 (51.7)	-0.20 (-2.8)	3.69 (51.1)
05-'13	5.36 (100.0)	2.77 (51.8)	-0.02 (-0.4)	2.60 (48.6)
96-'13	6.29 (100.0)	3.25 (51.7)	-0.11 (-1.8)	3.15 (50.1)
Service				
96-'04	4.90 (100.0)	3.37 (68.7)	1.87 (38.2)	-0.34 (-6.9)
05-'13	3.43 (100.0)	1.95 (56.8)	0.71 (20.7)	0.77 (22.5)
96-'13	4.16 (100.0)	2.66 (63.8)	1.29 (31.0)	0.21 (5.2)

Figure 1 Cumulative Contribution of Industries to TFP growth (1996-2013):Economy-wide

(1996-2004)
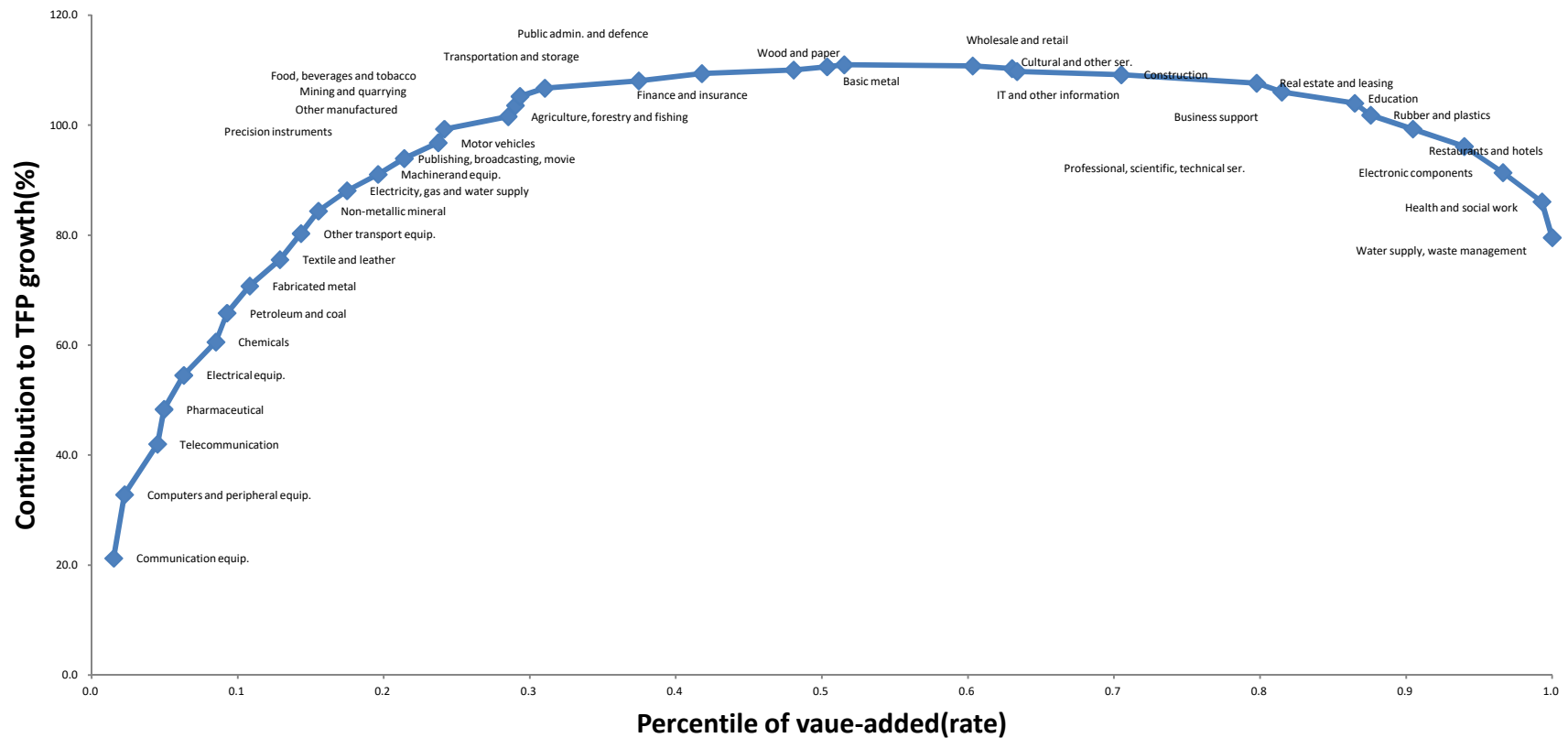
Figure 2 Cumulative Contribution of Industries to TFP growth (1996-2013):Economy-wide

(2005-2013)
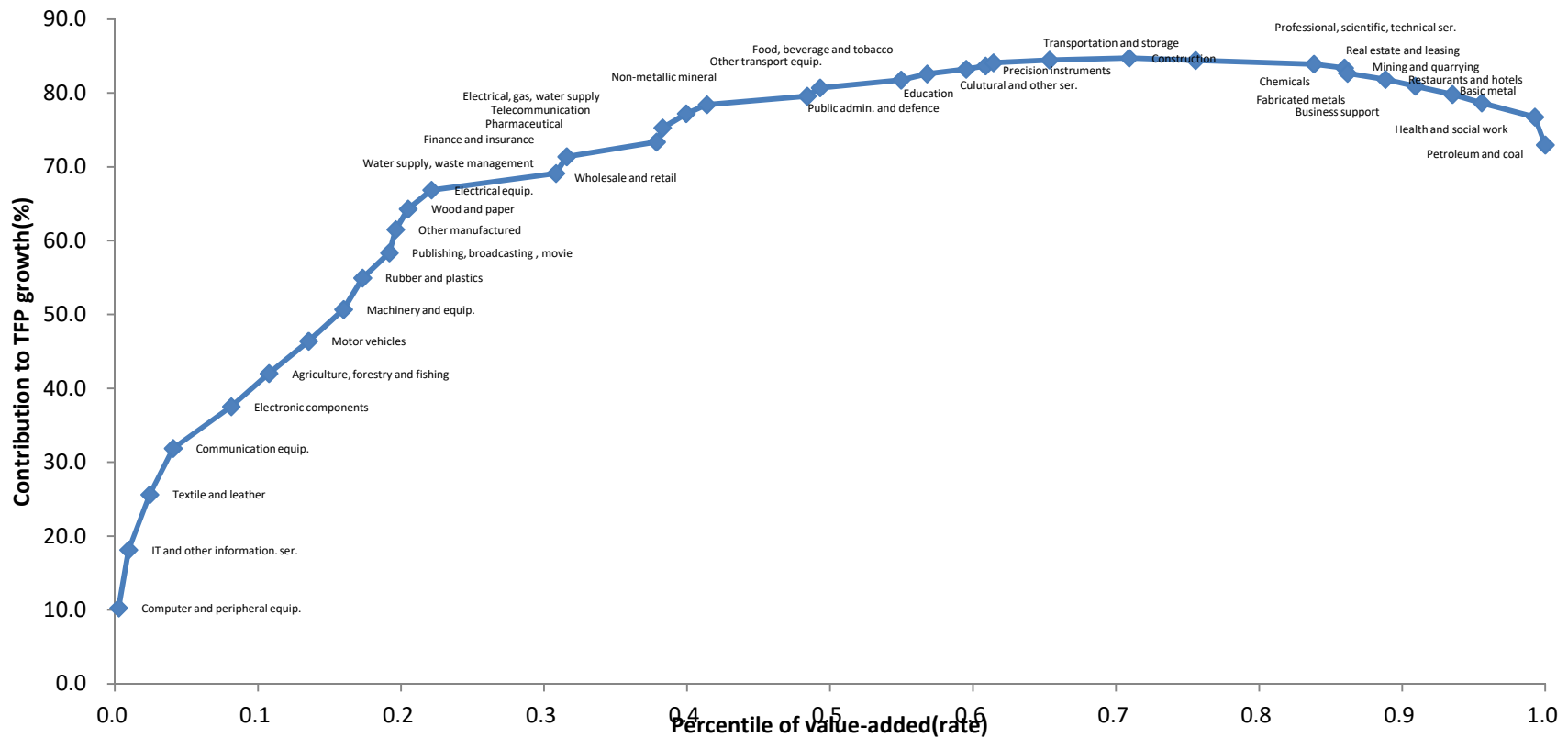
- GDP does not reflect the digital and sharing economies such as social enterprises, well-being and quality of life, environmental accounting and the distribution of income and wealth.

- Strengthening SNA with 5 basic statistics (National Accounts, Input-output Tables, Flow of Funds Tables, Balance of Payments Tables and National Balance Sheet in the age of incoming the Fourth Industrial Revolution is more important than the imputation of well-being

  Improvement in Intangible assets such as R&D, IPR and cultural assets etc. is necessary; Energy, Environment and Household income and assets can be identified in separate satellite accounts

  However, it seems better to adopt SAM (Social Accounting Matrix) to avoid double-counting, omission and other measurement error rather than piece-meal type solutions for each measurement problem encountering

Reference

- Korea Productivity Center, A Comparison of Value-added Total Factor Productivity, Seoul, 2016

- OECD Economic Study of Korea, Paris, 2016

- Pyo Hak K, Chapter 23, Productivity and Economic Development, Lovell, Tatje and Sickles eds, Oxford Handbook of Productivity Analysis, Oxford University Press (2017 forthcoming)