Variety of National Innovation Systems (NIS) and Alternative Pathways to Growth beyond the Middle-Income Stage: Balanced, Imbalanced, Catching-up, and Trapped NIS

Keun Lee
Professor of Economics
Seoul National University

Abstract
This study uses the US patent data of 32 economies to measure, classify, and analyze the evolution and performance of their respective national innovation systems (NIS), with a focus on those economies that sustained economic growth beyond the middle-income stage. The NIS is defined in terms of five variables, namely, knowledge localization, technological diversification, cycle time of technologies, originality, and decentralization. The cluster analysis identifies five major NIS clusters that are either balanced or imbalanced. This study then identifies two pathways to achieve sustained catch-up toward the high-income status, which are confirmed by growth equation regressions. One pathway has been identified for four economies of Ireland, Spain, Hong Kong, and Singapore, which all belong to the balanced and mixed NIS, thus achieving "balanced catch-up." The other pathway has been identified for Korea and Taiwan, which created imbalanced and catching-up clusters, and is joined recently by China. In contrast to these two groups, we have also identified the trapped NIS consisting of those economies perceived to be stuck in the middle-income trap, such as Brazil, Argentina, Chile, Mexico, South Africa, Malaysia, and Thailand. The imbalanced and catching-up NIS in East Asia is characterized by short cycle time of technologies (CTT), low originality, as well as high localization, and diversification, compared with the trapped NIS with the exactly opposite attributes. In comparison, the balanced and catching-up group is characterized by all of these NIS variables that are balanced at intermediate values.
Value Chains in East Asia after COVID-19

Yasuyuki Todo
Professor of Economics
Waseda University

Abstract
Because of the spread of COVID-19 and associated lockdowns of economies, the entire world has experienced a huge slump in production. The negative economic effect of COVID-19 has been magnified because of disruptions of global supply chains. In this presentation, I will discuss how international supply/value chains, particularly those in East Asia, should be modified in the post COVID-19 period for economic growth and resilience.
Inter-Provincial Migration and Economic Growth

Huang, Zongye
Associate Professor, International School of Economics and Management
Capital University of Economics and Business

Abstract
Because of the hukou system in China, the number of migrating workers without local hukou status becomes a popular proxy of labor movements, which significantly underestimates both the size and quality of inter-provincial migration. Based on the publicly available 2000 and 2010 census data, we develop a theoretic model to estimate the moving costs across provinces. Our results show that migrating worker on average loses 46% of utility in 2000 and 2010. We conduct a series of counterfactual analyses, we find that the reallocation of workers accounts for about 7% to 8% increase of per capita GDP during the decade. Moreover, promoting hukou reform and improving transportation infrastructure encourage workers to move into several prosperous provinces in the east, whereas regional economic convergence can alleviate these challenges.
Estimating the effect of wage on Chinese provincial FDI inflow by a partially linear model

Hou, Lei
Assistant Research Fellow, Institute of World Economics and Politics
Chinese Academy of Social Sciences

Abstract
Although FDI theory expects locations with lower wage to attract more FDI, empirical results are rather mixed. Considering the potential dependency of wage effects on labor quality, we propose a partially linear panel data model to investigate the wage effect on FDI location choices. Using China macroeconomic province-level data from 1993 to 2018, our main finding is that the marginal effect of wage is generally a decreasing function of labor quality. It implies that, facing low labor quality, FDI firms prefer locations with high wage to ensure high labor quality; while facing high labor quality, concerns for low labor costs dominate. Besides, we also find that the marginal effect of labor quality on FDI generally diminishes as wage increases, suggesting that, when the wage level is low, labor quality would attract more FDI than it would do when wage is high.
Challenges to Regional Integration in Northeast Asia and Policy Cooperation in Digital Era

Chul Chung
Senior Research Fellow
Korea Institute for International Economic Policy (KIEP)

Abstract
Uncertainty and other factors were dragging down the global economy and world trade even before the Covid-19 pandemic. Now the pandemic together with heightened tension between China and the United States adds more uncertainties to the global economy. It is not all about dark clouds gathering over the global economy, however. At the same time, the digital economy is evolving and making progress at even faster rate thanks to the pandemic and recent development of digital technology. Consequently, untag services prosper and entrepreneurs and consumers are enthusiastic about adopting digital technology in their businesses and ways of living.

Several questions arise from these changes in the global economy in the context of regional integration in Northeast Asia. What are challenges and implications of these changes for regional integration in Northeast Asia? How do we take these changes into account in finding a way forward of currently sluggish regional integration? What are effective and realistic policy prescriptions for regional integration in Northeast Asia? My presentation will address these issues from the perspective of regional trade agreements together with trade costs associated with rules of origin (ROO) and economic (and some financial) cooperation in the region.
Investment Restrictions and Fund Performance

Hong, Xin
Associate Professor, School of Economics
Zhejiang University

Abstract
We examine the effect of investment restrictions on mutual fund performance. Utilizing a unique panel of mutual fund contract changes, we explore several ways these changes affect a fund, including: performance, funding risk, and managerial contracting. We find that the general shift towards fewer restrictions has provided little benefit to mutual funds. Specifically, neither performance nor flow increased and we observe no changes in risk on average. We do find, however, an increased likelihood of management turnover when restrictions are removed. We conclude that contract restrictions do not explain the general underperformance of mutual funds and investment restrictions are not binding.
Extreme Returns and Intensity of Trading

Lin, Wei
Associate professor, School of International Trade and Economics
University of International Business and Economics

Abstract:
Asymmetric information models of market microstructure claim that variables like trading intensity are proxies for latent information on the value of financial assets. We consider the interval-valued time series (ITS) of low/high returns and explore the relationship between these extreme returns and the intensity of trading. We assume that the returns (or prices) are generated by a latent process with some unknown conditional density. At each period of time, from this density, we have some random draws (trades) and the lowest and highest returns are the realized extreme observations of the latent process over the sample of draws. In this context, we propose a semiparametric model of extreme returns that exploits the results provided by extreme value theory. If properly centered and standardized extremes have well defined limiting distributions, the conditional mean of extreme returns is a nonlinear function of the conditional moments of the latent process and of the conditional intensity of the process that governs the number of draws. We implement a two-step estimation procedure. First, we estimate parametrically the regressors that will enter into the nonlinear function, and in a second step, we estimate nonparametrically the conditional mean of extreme returns as a function of the generated regressors. Unlike current models for ITS, the proposed semiparametric model is robust to misspecification of the conditional density of the latent process. We fit several nonlinear and linear models to the 5-min and 1-min low/high returns to seven major banks and technology stocks, and find that the nonlinear specification is superior to the current linear models and that the conditional volatility of the latent process and the conditional intensity of the trading process are major drivers of the dynamics of extreme returns.
Financial Openness and Economic Growth: Directional Heterogeneity and Threshold Effect

Chao Chen  
Anhui Normal University  
532633858@qq.com

Yoonbai Kim  
University of Kentucky and Liaoning University  
ykim01@uky.edu

Abstract

One perennial unresolved issue in international finance is the effect of international financial integration on economic growth. Recent studies have shown that the effects depend on a wide variety of factors including the level of economic and financial development, the type of financial flows (debt or equity), the direction of flows (inflows or outflows), the reverse causality, and the time-varying nature of the relationship. Ever increasing occurrence of excessive capital flows and sudden stops muddies the relationship further.

In this paper, we focus on the two factors: reverse causality and nonlinearity. To resolve the issue, we implement an empirical model that embodies the threshold effect where the threshold is defined in terms of overall financial development, and directional heterogeneity, whereby capital inflows and outflows are allowed to exert different effects. The results indicate that developed and slowly developing economies are likely to benefit from capital outflows for higher investment incomes while emerging economies with growth rate higher than 5.7 percent can digest the negative effect of financial openness and take advantage of capital inflows. The results are robust to changes in variable definition, model specification and data selection.

Keywords  Financial openness, Economic growth, Direction heterogeneity, Threshold effect

JEL Classification: F4, F6