

Asia and Europe: Need for Long Term Collaboration

**Naoyuki YOSHINO
Dean & CEO**

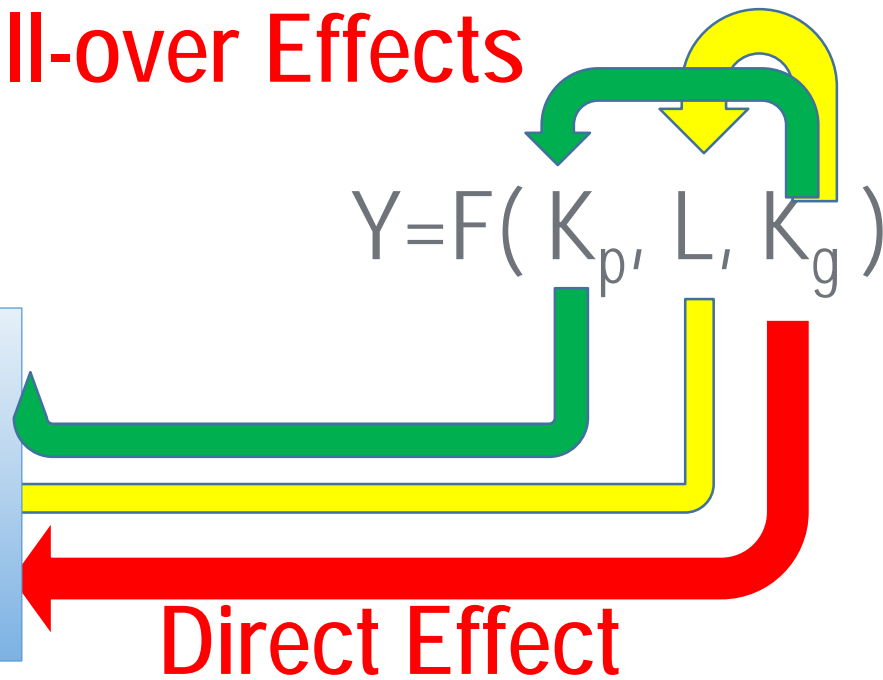
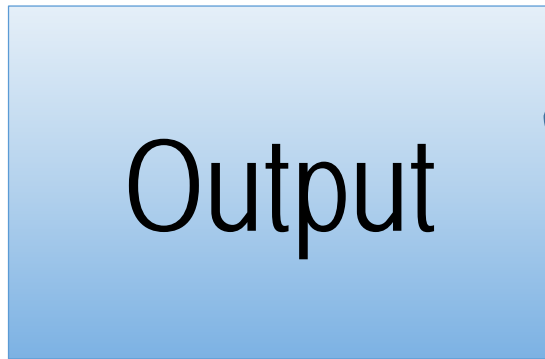
**Asian Development Bank Institute
(ADBI)**

Professor Emeritus of Keio University

Direct Effect and Spill-over Effects

Production Function

$$Y = F(K_p, L, K_g)$$



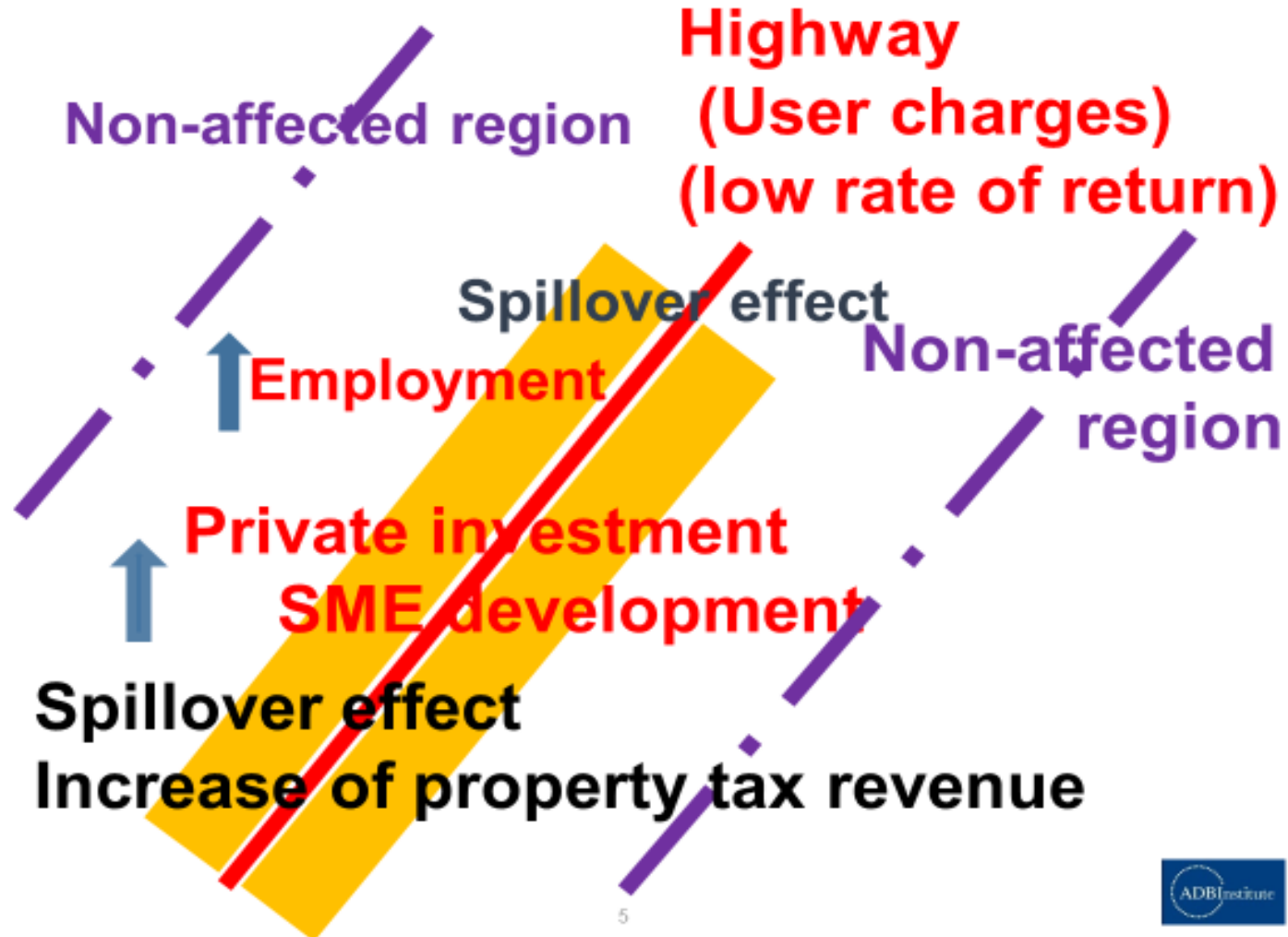
Y = Output,

K_p = Private capital (including SME)

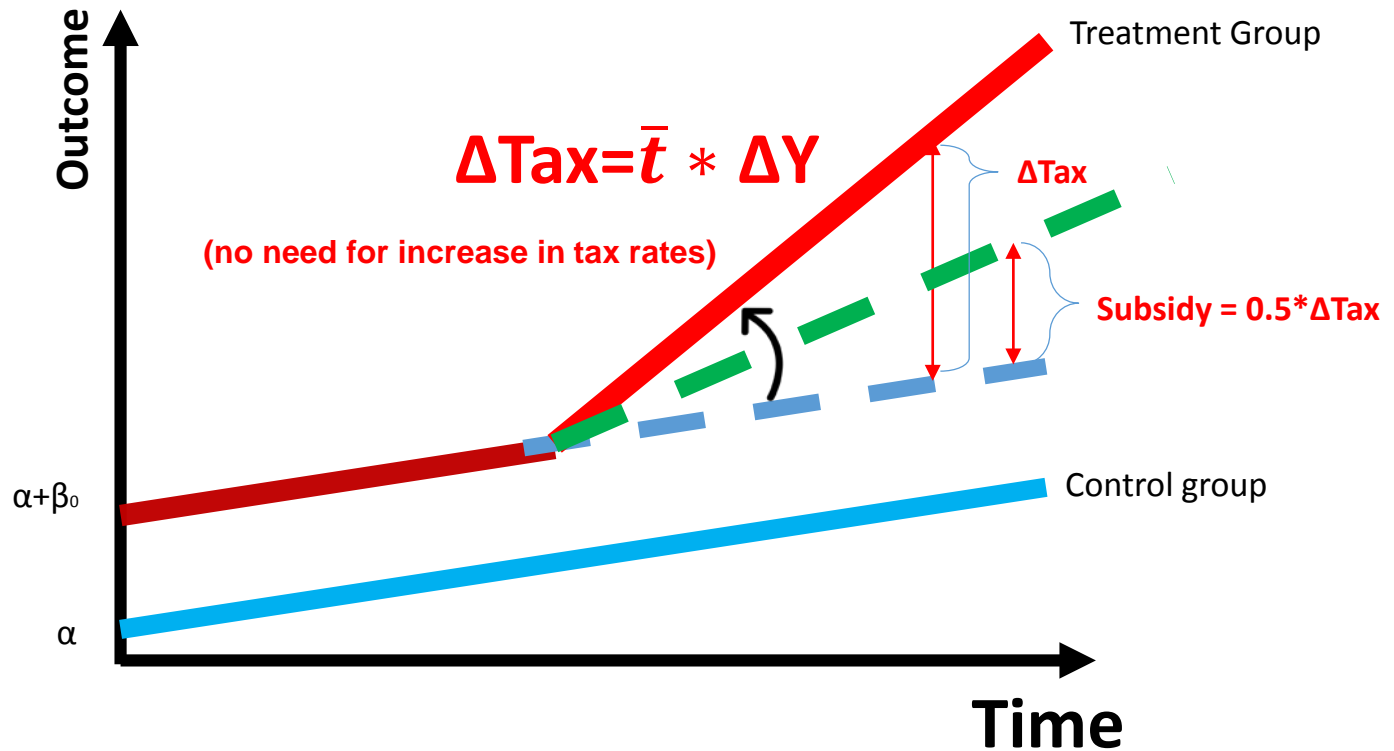
L = Human Capital

K_g = Public capital (infrastructure)

Spillover Effects of Infrastructure Investment



Concept of subsidy based on additional flow of tax revenue due to infrastructure



$$Outcome = \alpha + \beta_0 D_i + \sum_{t=1}^N \beta_0 * D_i * T_t + \epsilon_{i,t}$$

Financing for Infrastructure

Various Private Financial Investors

1, **Banks --- Safer projects**

Brown field (infrastructure)

Invest into operation period

Securitization after certain period of time

Privatized projects by the government

2, **Insurance and Pension funds** (Brown fields)

Long term projects (10 years –20- 30 years)

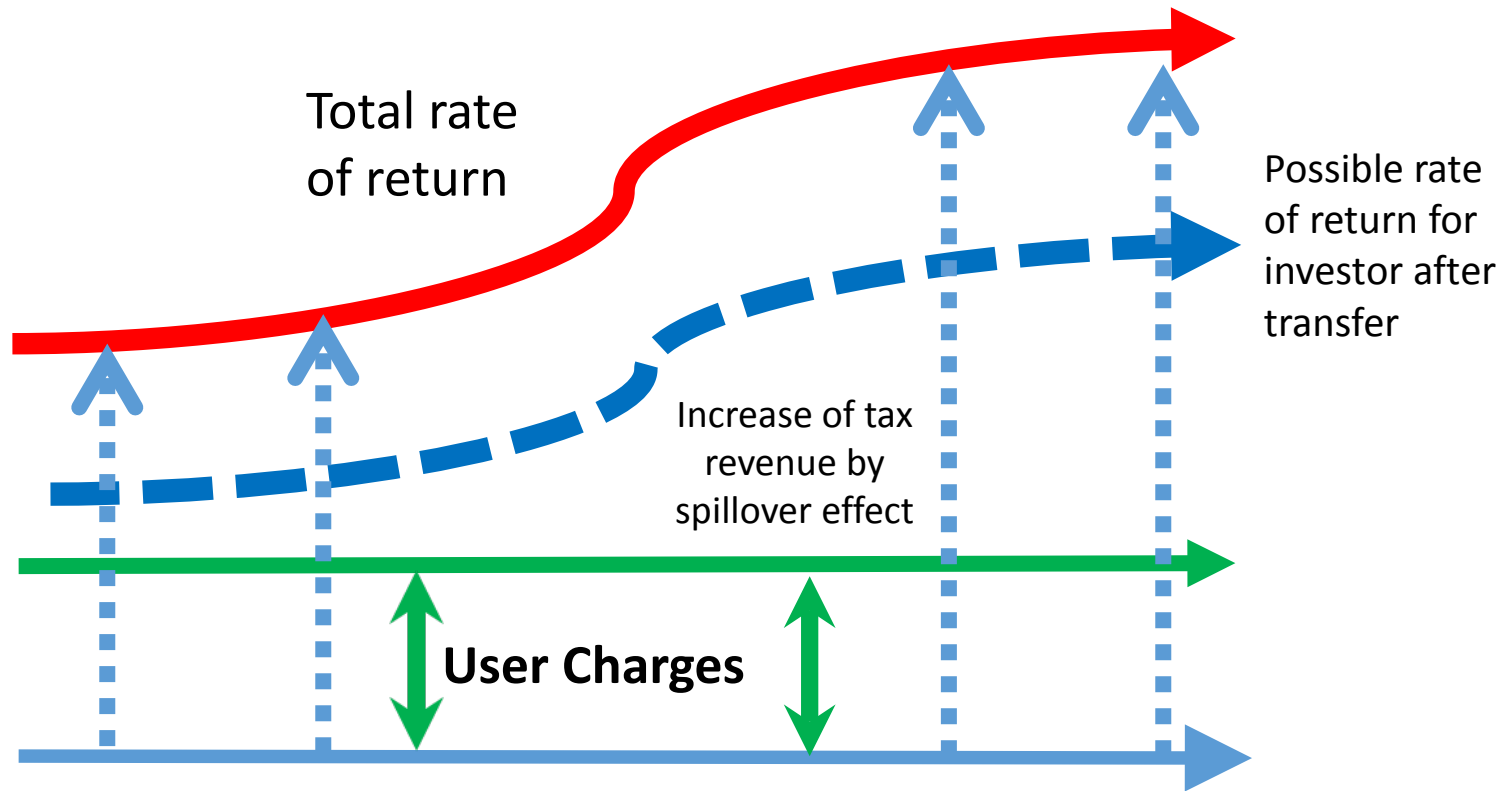
3, **Revenue Bonds (floating interest rate)**

uncertain income streams

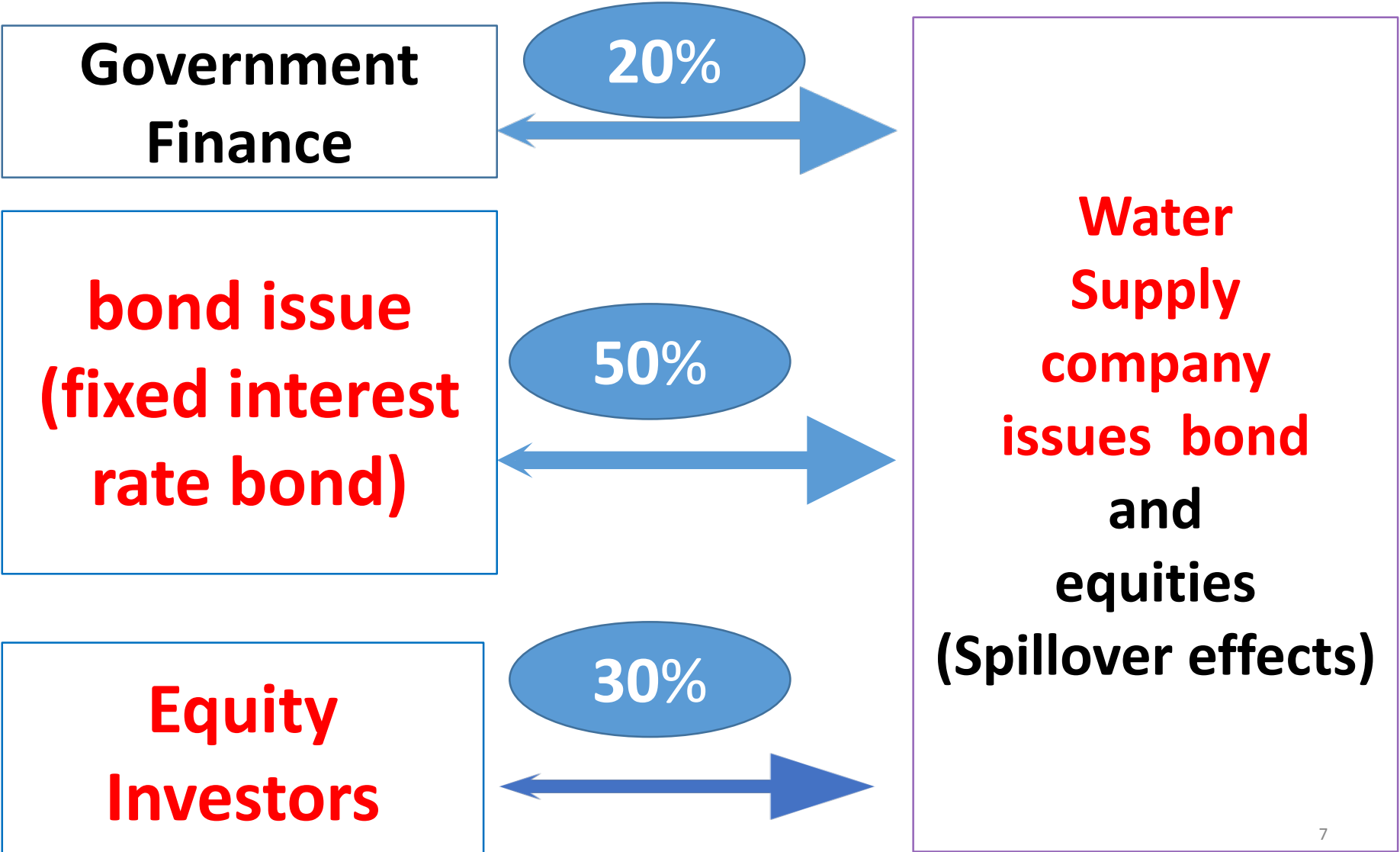
4, **Equity Investments**

Construction period and Green fields

Injection of Increased Tax Revenues to Increase the Rate of Return



Equity and Bond Investment in infrastructure



Macroeconomic Effect of Infrastructure Investment

Spillover Effects Estimated from a Macroeconomic Translog Production Function

	1956-60	1961-65	2001-05	2006-10
Direct effect	0.696	0.737	0.114	0.108
Indirect effect (K_p)	0.452	0.557	0.091	0.085
Indirect effect (L)	1.071	0.973	0.132	0.125
20% returned	0.305	0.306	0.045	0.042
Increment	43.8%	41.5%	39.0%	39.1%

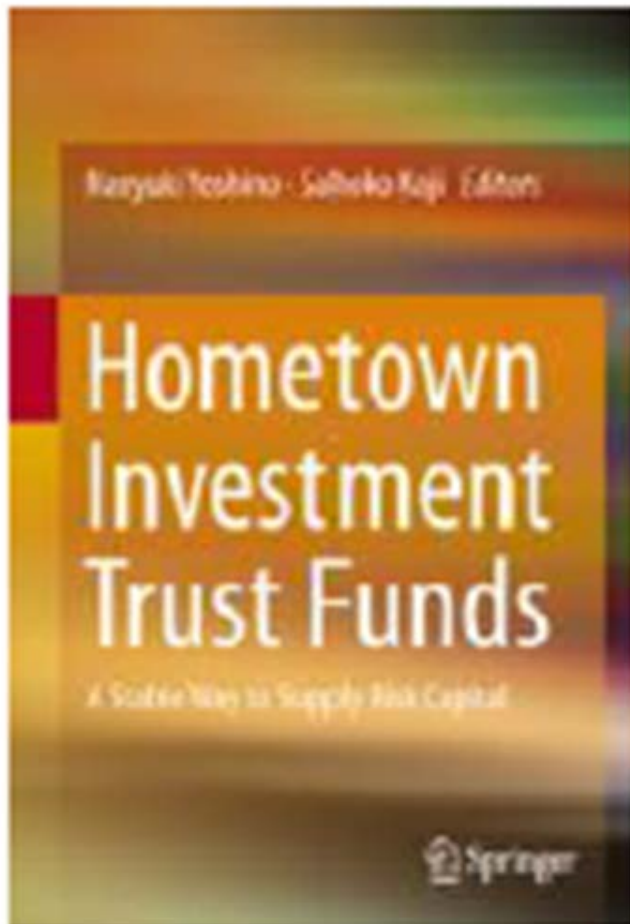
Source: Yoshino and Nakahigashi (2016)

Financing for Start-ups along Roads (Hometown crowd funding)



Possible Solutions

Start up businesses, farmers



Hometown Investment Trust Funds : Springer

A Stable Way to Supply Risk Capital

Yoshino, Naoyuki; Kaji Sahoko (Eds.)
2013,

Japan, Cambodia
Vietnam, Peru, Mongolia

Access to Digital Technology

Infrastructure & Education

Yoshino and Umid Abidhadjaev (2016)

Education

In a study of 44 companies, Professor Yoshino found that education played a significant role in impacting the quantum of the spillover effect. Secondary schools provided basic skills for blue collar workers. Universities provided education for highly skilled workers. Workers' education level impacted businesses' productivity.

Dependent variable: log difference GDP per capita in 1991-2010			
Regression number	REG.1	REG.2	REG.3
Variables	Coef.	Coef.	Coef.
lnY_1991	-0.06 (-0.54)	-0.14 (-1.35)	-0.14 (-1.38)
ln(n+g+d)	-3.09 (-0.59)	-5.75 (-1.23)	-4.36 (-0.77)
ln(Kg)	0.23 (1.17)	0.31 (2.00)	0.53 (3.30)
ln(Sec)			0.00 (0.46)
ln(Kg)xln(Sec)	0.20 (1.59)		
ln(Uni)			0.21 (2.07)
ln(Kg)xln(Uni)		0.24 (2.76)	
Constant	-0.28 (-0.33)	0.56 (0.69)	0.48 (0.57)
Number of observations	44.00	44.00	44.00
R-squared	0.21	0.30	0.30
F-statistic	2.62	4.14	3.29

Payoff table for infrastructure operating entity and investors

	Normal Case	Effort Case
Normal Case	$(50 , r)$ Operating Entity Investors	$(50 , \alpha r)$ Operating Entity Investors
Effort Case	$(100 , r)$ Operating Entity Investors	$(100 , \alpha r)$ Operating Entity Investors

Sovereign Debt and Households' Debt Overhang

156 *Global Business and Economics Review, Vol. 21, No. 2, 2019*

Optimal fiscal policy rule for achieving fiscal sustainability: *the Japanese case*

Naoyuki Yoshino

Asian Development Bank Institute,
Keio University,
Tokyo, Japan
Email: nyoshino@adbi.org

Tetsuro Mizoguchi

Faculty of Economics,
Takasaki City University of Economics,
Gunma, Japan
Email: tmizo@tcue.ac.jp

Farhad Taghizadeh-Hesary*

Keio University,
Tokyo, Japan
Email: farhadth@keio.jp
and
Ministry of Economic Affairs and Finance, Iran
Email: farhadth@gmail.com
*Corresponding author

Asia Can Learn From European Experiences

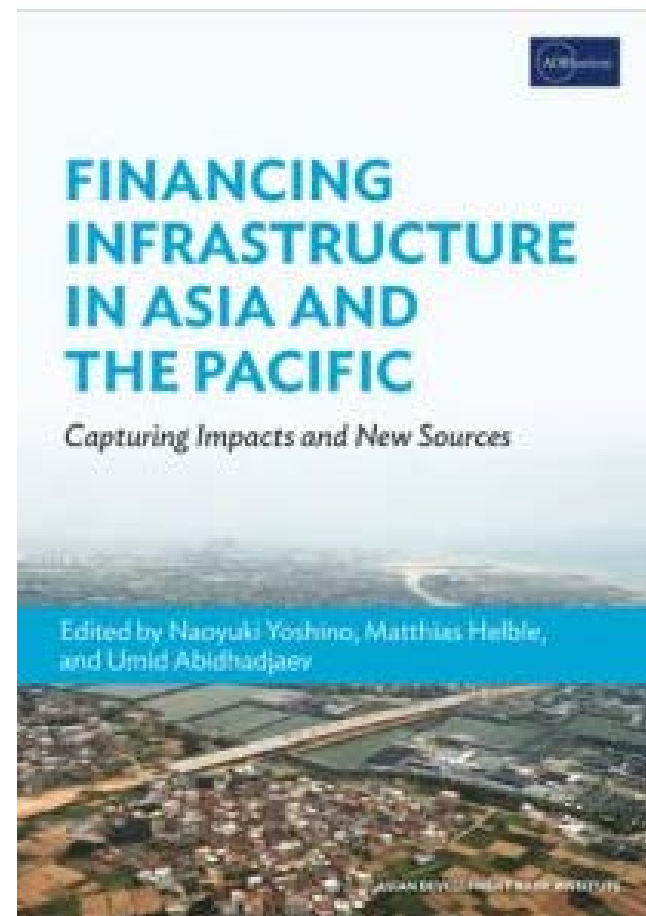
- 1, Infrastructure and Public Capital**
- 2, SME and Startup businesses**
- 3, Human Capital Development**
- 4, SOE reform**
- 5, Sovereign Debt and Households Debt**

Asia can Learn from Europe

Exchanges of knowledge

New Book on Infrastructure

- “FINANCING INFRASTRUCTURE
- IN ASIA AND THE PACIFIC:
- Capturing Impacts and New Sources”
- Edited by Naoyuki Yoshino, Matthias Helble, and Umid Abidhadjaev
 - the latest evidence on the impact of infrastructure investment on economic and social indicators
 - country studies on how infrastructure investment can increase output, taxes, trade and firm productivity
 - innovative modes of infrastructure financing
 - **DOWNLOAD FOR FREE:**
<https://www.adb.org/publications/financing-infrastructure-asia-capturing-impacts-and-new-sources>



Yoshino, Naoyuki and Masaki Nakahigashi (2004) “The Role of Infrastructure in Economic Development”, ICFAI Journal of Managerial Economics, 2, pp. 7-24

Nakahigashi, M and Yoshino, N. (2016) “Changes in Economic Effect of Infrastructure and Financing Method”, Public Policy Review, Vol.12, No.1.

Yoshino, N. and Pontines, Victor (2015) “The Highway-Effect on Public Finance: Case of the STAR Highway in the Phillipines”, GIE | AAA Special Kick-off Edition, GIE Network publishing.

Yoshino, Naoyuki and Victor Pontines (2015) “The Highway Effect on Public Finance: Case of the STAR Highway in the Philippines”, Asian Development Bank Institute (ADB) Working Paper No.549.

Yoshino, Naoyuki and Umid Abidhadjaev (2017), “An impact evaluation of investment in infrastructure: The case of a rail way connection in Uzbekistan”. Journal of Asian Economics, 49, 1-11, 2017

Yoshino, Naoyuki and Umid Abidhadjaev (2017), “Impact of infrastructure on tax revenue: Case study of high-speed train in Japan”, Journal of Infrastructure, Policy and Development, Vol.1, Issue 2.

Yoshino, Naoyuki, Umid Abidhadjaev and Makaki Nakahigashi (2018), “Closing the Asian Infrastructure Gap”, HORIZONZ, Journal of International Relations and Sustainable Development, Issue No.10, Winter 2018.

Yoshino, Naoyuki, Matthias Helble and Umid Abidhadjaev (2018), Financing Infrastructure in Asia and the Pacific: Capturing Impacts and New Sources, Asian Development Bank Institute.