Dynamics of Intellectual Capital of Nations

Perspectives on IC as an Economic Driver

Prof. Pirjo Ståhle
Finland Futures Research Centre
Turku School of Economics

World Conference on Intellectual Capital for Communities
- Fourth Edition -

National Intellectual Capital

"applies the principles of intellectual capital measurement and management on a macro-economic level, in such a way that it helps to give direction to future economic development"
(Andriessen and Stam, 2004)

IC community could at best make a significant contribution to the strategic steering of knowledge economies, and act as a support for national foresight.

What are the effects of IC?

- What is the influence that different elements of IC have on economic performance?
- What are the IC components which boost economic growth in distinction from those being only results of a booming economy?
- On what bases can an IC element be counted as a value driver for a nation?

In search of the effects: An experiment

We divided all the countries into three groups (17 in each) by using a weighted average of the IMD infrastructure ranking and the main IC linked indicators in the other sections as the criteria.

1. **Developed economies**

   (high infrastructure and IC)

2. **Transitional economies**

   (elements of both high and low infrastructure and IC)

3. **Developing economies**

   (low infrastructure and IC)

Competitiveness Yearbook IMD 2005, data of 51 countries and 331 indicators.

We analyzed different relations between IC indicators and GNP annual growth, and focused on the differences between

1. **level,**
2. **growth,**
3. **trend**

for both indicators and GNP.

We found different kinds of effects of IC

1. **Sustaining effect (e.g. basic education in developed economies)**

   the present level of the indicator correlates with the present level of GNP annual growth

2. **Boosting effect (e.g. R&D investments in developed economies)**

   the present level of the indicator correlates with the GNP annual growth trend

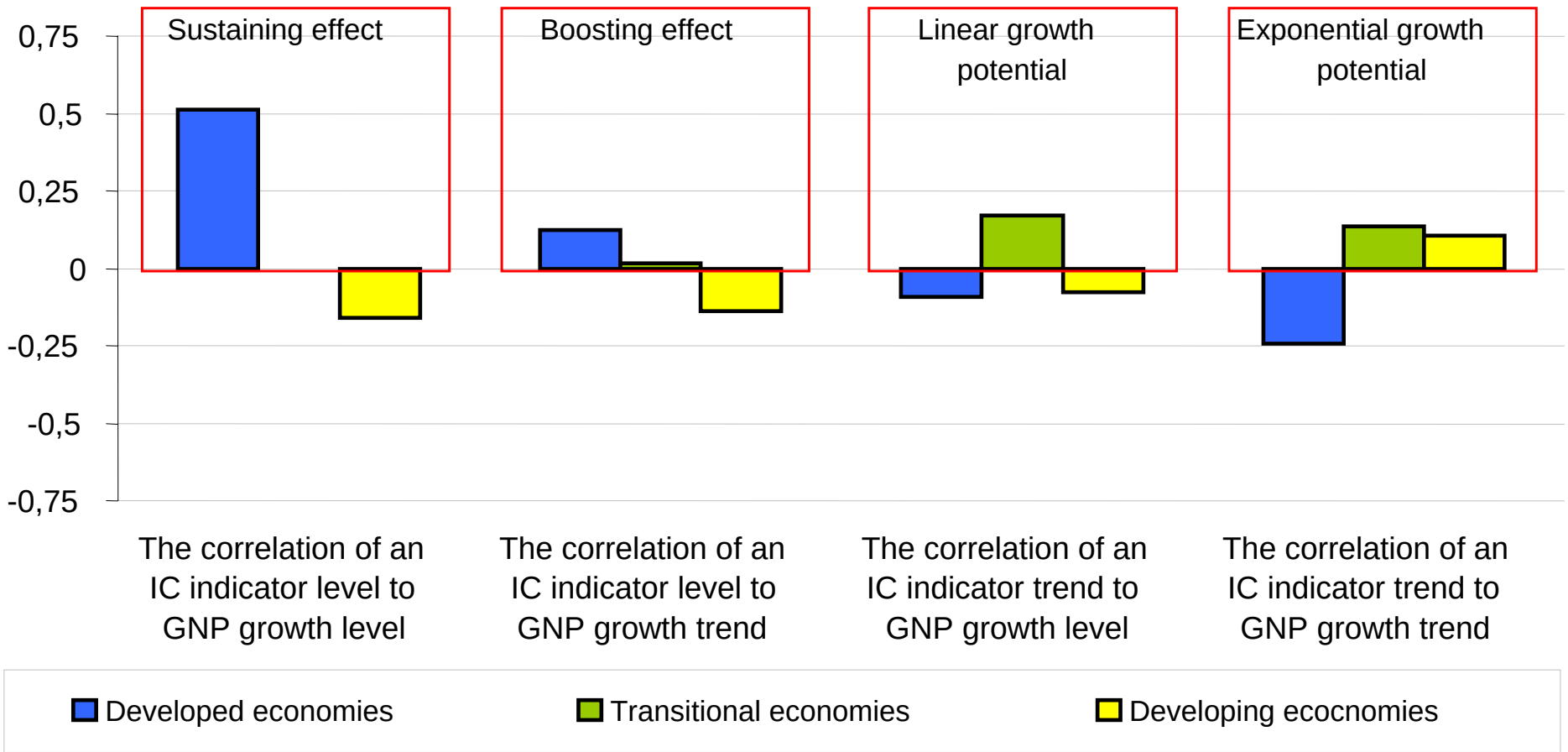
3. **Linear growth potential (e.g. literacy in developing economies)**

   the growth trend of the indicator correlates with the present level of GNP annual growth

4. **Exponential growth potential (e.g. innovations in developed economies)**

   the growth trend of the indicator correlates with the GNP annual growth trend

Computer usage as IC driver



Data is processed using IMD 2005 data of 51 countries and 331 indications

The growth potential caused by this indicator can only be found in Transitional and Developing economies.

Saturation of the effects

The *boosting effect* of IC drivers tend to dry out, i.e. their capability to further advance economical growth or enforce increasing competitiveness may weaken or even vanish over time.

- **For example Inglehart (1997) and Neuhaus (2005) have shown that democracy and trade openness effectively boost economy in certain circumstances. Nations can consequently benefit from the boosting effect on its economy when democracy is introduced (as in present Russia) and developed or market openness introduced and increasingly developed (as in present China).**

IC connected rivers on different stages of economies

Key **Drivers** and Pillars	Economy		
Level Focal frame	1 Developing	2 Transitional	3 Developed
Societal framework	**Basic Democracy**	Basic Democracy **Transparency**	Basic Democracy Transparency **Connectedness**
Business environment	**Regulatory Basis**	Regulatory basis **Entrepreneurship**	Regulatory basis Entrepreneurship **Openness**
Knowledge creation	**Basic education**	Basic education **Knowledge transfer**	Basic education Knowledge transfer **Innovation**
Infrastructure	**Basic infrastructure**	Basic infrastructure **ICT and logistics**	Basic infrastructure ICT and logistics **High-tech / Infra**
Direction for development			

The categories of the main indicators for economic drivers

Focal frame	Key driver	Indicators
Societal framework	1.Basic Democracy	Social engagement, polling activity, gender equality etc.
	2.Transparency	Freedom of press, openness of government etc.
	3.Connectedness	Tourism, intensity of telecom. etc.
Business environment	1.Regulatory basis	Level of bureaucracy, labor market stability etc.
	2.Entrepreneurship	VC availability, SM business intensity etc.
	3.Openness	Trade regulations, Taxation, FDI etc.
Knowledge creation	1.Basic education	Enrolment ratios and High school attainment etc.
	2.Knowledge transfer	Collaboration and networking etc.
	3.Innovation	Patents granted, R&D spenditure etc.
Infrastructure	1.Basic infrastructure	Health care, road density, energy distribution network etc
	2.ICT and logistics	ICT intensity, transportation intensity, energy consumption etc.
	3.High-tech / Infra	Energy consumption trend, introduction of new technologies etc.

Why is it important to identify the real effects?

- **From a strategic point of view it is important to identify those indicators that are strongest linked with economic (or otherwise desired) growth.**

- **If the analysis is made on a national and national specific scale the possibility to identify even *national specific economic IC drivers* becomes eminent.**

- **Transparency of IC effects give politicians more understanding and better evidence to make the right investments in the situation of their country.**