



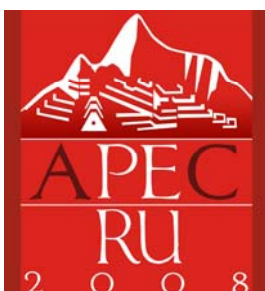
**Asia-Pacific  
Economic Cooperation**

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## **The knowledge based society in Asia and Latin America**

Purpose: Information  
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Chair: Christopher Findlay, Head, School of Economics, University of Adelaide, Australia.

### THE SOCIETY OF THE KNOWLEDGE IN ASIA AND LATINAMERICA

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#### Abstract:

The Society of Knowledge constitutes a paradigm recognized by academics of Asian and Latin-American economies. It constitutes a way of interpreting and reconstructing the path of thought, the institutions, science, and technology, the latter with which we deal with in the present work.

Key Words: Innovation, Technology, Globalisation, Services, Information, Society of the Knowledge, Investigation and Development, APEC.

The ex-president of South Korea Kim Dae-jung said "In the industrial age of the 20th century, the dominant inputs in the production were tangible: the capital, work, and natural resources." "In the measure in which we advance towards a new century, the intangible inputs are increased, as is the information, the knowledge and culture, which are the new resources provided with great potential to reach development."

Authors of other schools of thought have indicated the distinctive theoretical elements from the phenomenon: "It is a question of a new phase of development of capitalism whose principal characteristic is to make knowledge one's most important productive strength, for that which is proposed as capitalism of the knowledge".

"A phase of development of capitalism is constituted when a technological revolution is translated into a new productive base and a new form of production, which brings the emergence of new products, services, and branches of activity, which become the sectors that tend to articulate to the rest of the economic activity and to stir its growth into action.

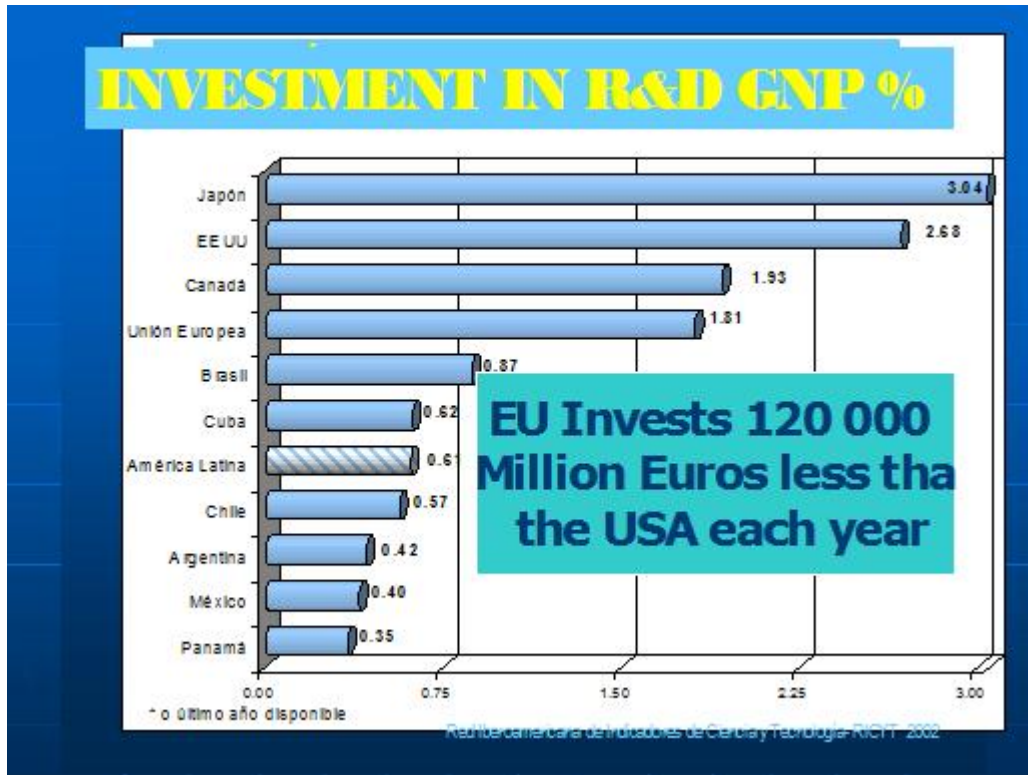
However, this process cannot function if the transformations in process in the economy do not accompany changes in the organization and solution of conflicts between the classes and social groups, as well as in the ideology and culture understood as a way of life.

But in what degree or measure do Asians and Latin Americans join the above mentioned type of society? A response comes from the International organisms, who have constructed indicators capable of realizing the situation. Complements the previous one, a second proposal that utilizes the assets of Intellectual Property, especially the system of patents as a measure of incorporation to the Society of Knowledge. Abandoning the global point of view, the proposal of the National and Local Systems and Locations of Innovation, it visualizes from below, the different routes and

modalities in which economies chosen from Asia and Latin America work in order to adapt to the new society.

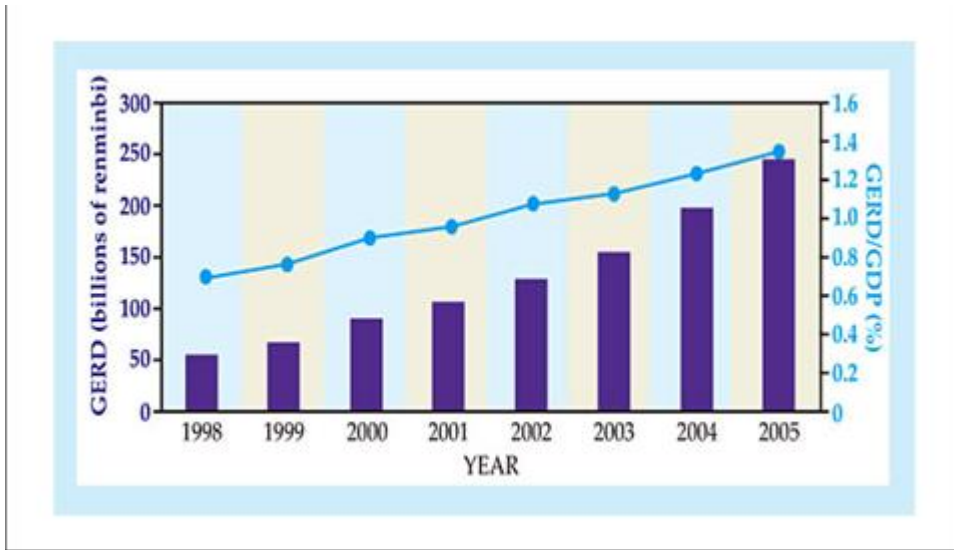
An explanation came from the International Organisms as the World Bank and the International Monetary Fund, which elaborated indicators such as the following:

**Graph 1. Investment in R&D GNP %**



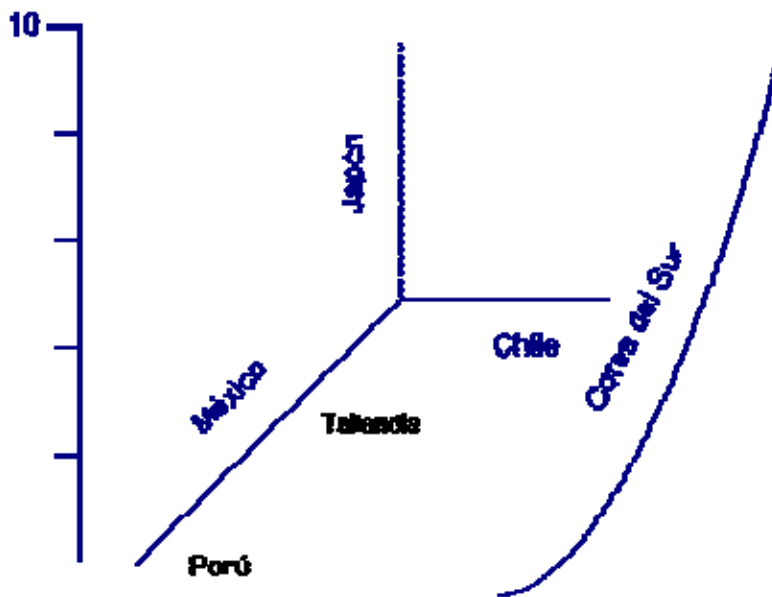
The graph represents how Latin America invests only 0.6 % of the GDP in research and development, whereas the European Union invests 1.81 %, the United States of America 2.68, Japan makes the largest investments, 3.04 of the GDP. For example there it is cited that in Peru the expense was 0.2 % of the GDP, in Mexico 0.4 %, in Chile 0.8 %, while in South Korea it was 2.67 %. Little information exists on the particular case of the Popular Republic China, although one recognizes the enormous effort that is made by investment subject in R%D.

**Graph 2. RPCH, Gross Investment in R&D 1998- 2005.**



To conclude, we can easily see that the investment on R&D is far greater in Asian economies than Latin American economies, and the gap will continue to broaden. We must acknowledge also that Latin Americans economies are struggling with problems related to poverty and social cost. Low economic growth is reflected in the cut on R&D funds for science and technology. In the case of the peoples republic of China the opposite happens, and the growth of the GNP is mirrored by the R&D funds.

**Graph 3. Compared Economic growth in Selected Economies, members of APEC, 2005.**



In terms of Public Policies we find out that the differences between both regions are:

- The relation between public and private sector.
- The degree of geographical centralization
- The need of State interventionism
- In Latin American the public policies are general and abstract.
- In those senses Asia economies has more links connecting government and enterprises than in Latin America. Centralized decisions are frequently used in Latin American case.
- Finally the degree of “landing” and policies execution are more in Asia than in Latin America.

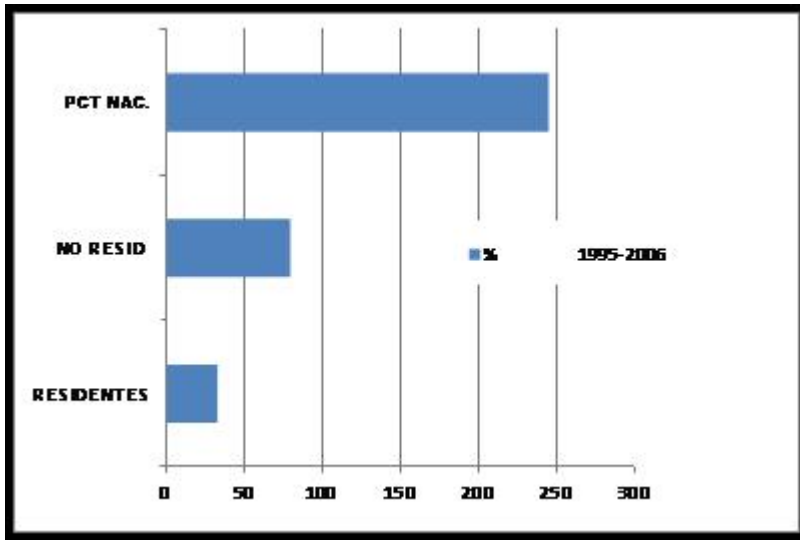
Patents are included in the Society of Knowledge, as well as an indicator of the scientific activity in its applied and commercialized form, not in its pure or basic form. In effect, since 1883 when the Agreement of Paris was formed, in the beginning of the industrial society, the system of patents grew from the European niche until covering the whole planet in 1995 with the signing of the agreement TRIPS (Trade Related Aspects of Intellectual Property Rights) one of the constituents of the World Organization of Trade WTO. The logic contained in the System of Patents is concordant with the new society which awards protection and market value to the intangible goods, human capital the invention such as the motor of the societies.

The system is a record and territorial authorization that the national states grant to the inventors in order to obtain economic benefits derived from its creativity for a term of 20 years. When the lapse ends, the invention becomes of the public domain. When we leave the laws to the crude realities we encounter that the Patent System shows that the scientific inventions surge for doing business, a way to obtain earnings in the global market.

The logic contained in the Patents System agrees with the KBS since it confers protection and market value to the intangible goods, the human capital and the invention with the aim to favour the technological innovation and also the consumers.

The forms more accepted to measure patents development are: a) the number of patents registered by residents, b) the registered by non residents, c) the patents registered using the Patents Convention Treaty (PCT) mechanism d) the number of patents registered in the offices of the United States of America and the European Union.

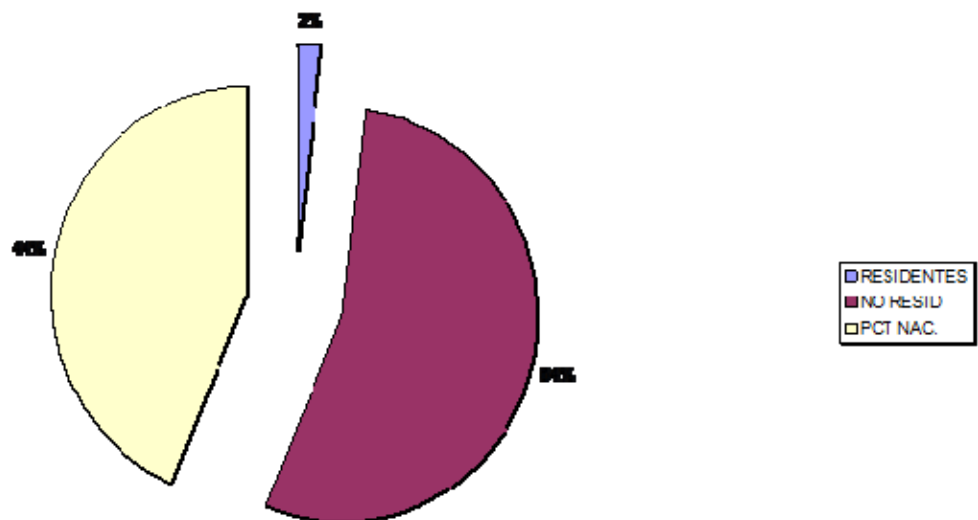
**Graph 4. Rate of growth of the patent registered by category, in the APEC region 1995 – 2006.**



Source: World Intellectual Property Organization WIPO.

While the number of requests grows, as much by the PCT mechanism and also by the request made for non residents, the requests of the residents fall in the smaller economies. Nevertheless, the phenomenon of the decrease is very intense in the Latin American economies.

**Graph 5. Rate of growth of patents requested by residents in Latin America 2006**



In situations of recent allegiance to the system of patents as it is the case of the RPCH from his enter the World Organization of Commerce 8WTO9, the following thing is stated:

**Cuadro 1. Requests Of National Patents In China And Growth 1995 - 2005**

TIPO DE PATENTE	2000	2001	2002	2003	2004	2005	CRECIMIENTO 2000-05	CRECIMIENTO 1995-2005
<b>RESIDENTES</b>	25431	30038	39806	56769	65786	93485	267.6	<b>833.82</b>
<b>NO RESID</b>	42117	33412	40426	48548	64598	79842	89.6	<b>818.99</b>
<b>PCT NAC.</b>	15801	19231	22657	23354	32689	40133	154.0	<b>9317.21</b>
<b>Total</b>	<b>83349</b>	<b>82681</b>	<b>102889</b>	<b>128671</b>	<b>163073</b>	<b>213460</b>	<b>156.1</b>	<b>1041.56</b>

Fuente: wipo.

The Chinese national inventions have had great growth in combination with the increase of mechanism PCT. This combination is opposite to the dominant tendency in APEC. Nevertheless, it results in the technological autonomy of China. In China's case, they are a discussion of the of its little observance towards the rights of Intellectual Property and therefore the use of an incorrect way towards the Society of the Knowledge, nevertheless the Chinese government has taken in very serious concerns the application of the TRIPS agreement.

**Cuadro 2. Observance of the rights of intellectual property in People's Republic of China 2004-2006**

	2004	2005	2006
Patents			
Number of differences	1.455	1.597	1.270
Number of resolutions	1.215	ND	973
Copyright			
Number of differences	9.691	9.644	10.559
Number of resolutions	ND	9.380	10.344
Trademark			
Number of differences	51.851	49.412	50.534
Customs, DPI cases	1.051	1.210	2.475
Value (million of \$EE.UU.)	11,2	13,3	27,2

Source: WIPO..

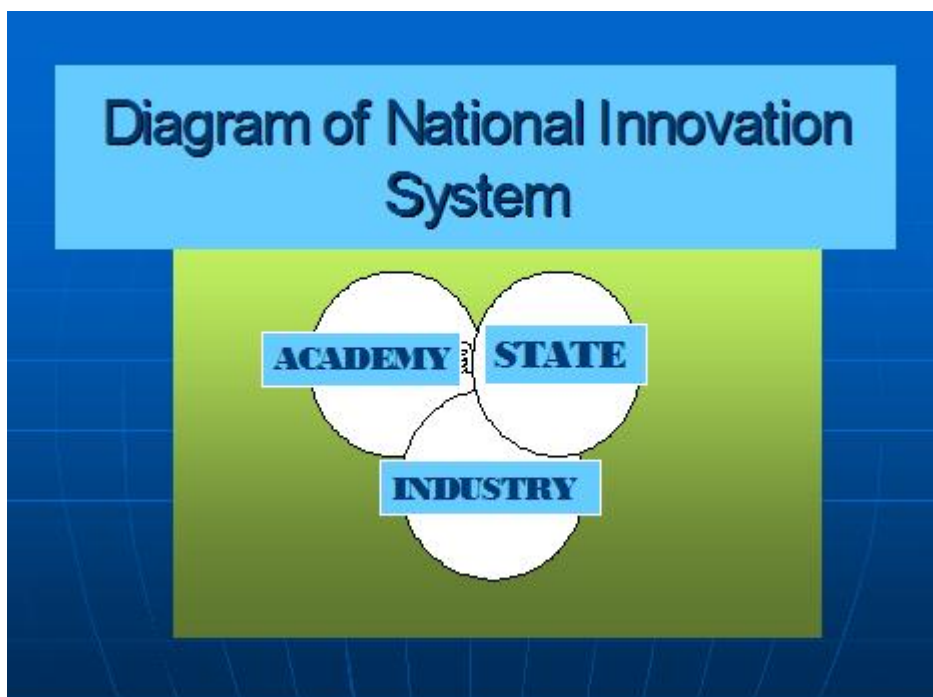
In addition, The APEC has recognized the Intellectual Property role like one of the keys for the entrance to the Society of the Knowledge. In this sense see the "APEC for Principles Technology Choice Pathfinder", especially in Annex Not 5.

"Intellectual property (IP) has emerged as a critical component of trade, economic growth and sustained development across the Asia-Pacific region and around the world.

Protecting IP rights (IPR) and increasing awareness and understanding of “IPR systems” (this relates to creation, protection, enforcement and commercialization of IP) are key to promoting investment, spurring innovation, and generating beneficial economic returns”.

These analyses revealed important information about why Latin America does not incorporate the Society of Knowledge, however they revealed only part of the truth since the level of analysis was global and was presented to the nation-states as the most important actors in the scientific and technological development. The analysis that departed from the local actors detected the importance of the National Systems and places of Innovation and therefore complemented the previous explanations.

In other words, from the point of view of the KBS, the macro-analyses must be complemented with the micro-analyses, understanding by such the institutions, the organizations, the social practices, the game of the social agents. In this sense we are using the concept of National and Local Innovation Systems.



The S.N.I. is a set of companies, universities, public laboratories and other firms (such as the companies of capital risk) as well as the public policies destined to promote science, technology and innovation in a country which is tied by financial, technological, personal and regulatory branches. In the 80's the reflection about relations between science, technology, and production spread and became more profound with important contributions such as the esteemed National System of Innovation.

I have detained in this point to emphasize that in APEC's level it is necessary to explore the local systems of innovation and to establish forms of cooperation among those regions and localities where compatible levels are found as route to integrate the whole region to the Society of Knowledge. As in subjects of innovation it is desirable to work in networks, joint ventures, clusters, at this point the PYMES have the opportunity to take advantage of ones size and flexibility as a competitive advantage.

General Conclusion: We used in our analysis two types of variables, macro variables as the national indicators in R+D, innovation public policies and the system of patents and micro variables, as the national and local systems of innovation. In this approach we discovered that Asia and Latin America both look to get up on the Society of the Knowledge but taking different ways. The Asian economies seem worried about the middle term future. On the contrary, lower economic growth of Latin American economies predisposes them to fight against the poverty.

The public policies of Asia contemplate external markets; increase the roll of private sector, spurs new branches and new products. In Latin America public policies depend on the national states, are conceived like intentions more than as concrete actions. The technology produced in Latin America is in reduction as it shows the case of patents asked for by nationals, whereas in Asia the foreign and national requested are combined.

Finally, the local innovation system is more successfully in Asia as shown by the relations between University-Enterprise and Government.

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