Intellectual Property Rights: Genesis, Benefits, importance

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INTRODUCTION

1. “Why” IP – Conceptual basis.
2. Link between IP & Economic Growth
3. Patents and the I-4 Pathway.
4. China Vs. India
5. Differences from other Property Rights
6. International Treaties
7. Conclusion

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Justifying IP by Robert P. Merges.

- **Conceptual foundation**

(i) Traditional **utilitarian** formulation – Rewards to creators to encourage creation and disclosure. Social loss is the marginal increase in cost – IP Policies strike right balance (The efficiency argument).

(ii) The **non-removal** principle. IP Meant for preserving and maximizing the public domain.

(iii) Principle of **Proportionality** – a property right commensurate with the magnitude of contribution (e.g. a small change would not justify a strong long term protection.

(iv) **Dignity** Principle (Individual's moral rights)

(v) IP seen as **Property** (Locke, Kant, John Rawls)

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Link between IPRs & Long Term Growth

- Strong IPRs create incentive for increased R&D.
- Enable technology creation and thereafter transfer.
- Technology transfer creates skill acquisition, education, job creation and wage growth.
- Incentive for Foreign Direct Investment, leading to economic infrastructure.
- Technology may be manufacturing or even new management and production techniques, packing, transportation, warehousing and testing knowhow.

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Fire in the Belly

- The creative domain (Inventors, Authors, Artists, etc.) - follow a predictable pattern.
- Initial enthusiasm or fire in the belly will not stop at creation.
- But if infringement or copying happens – there is an expectation for justice.
- If unable to stop the wrong – deep frustration.
- The fire is doused.

But in a jurisdiction with impoverished IP content balance lies on the side of strong protection.

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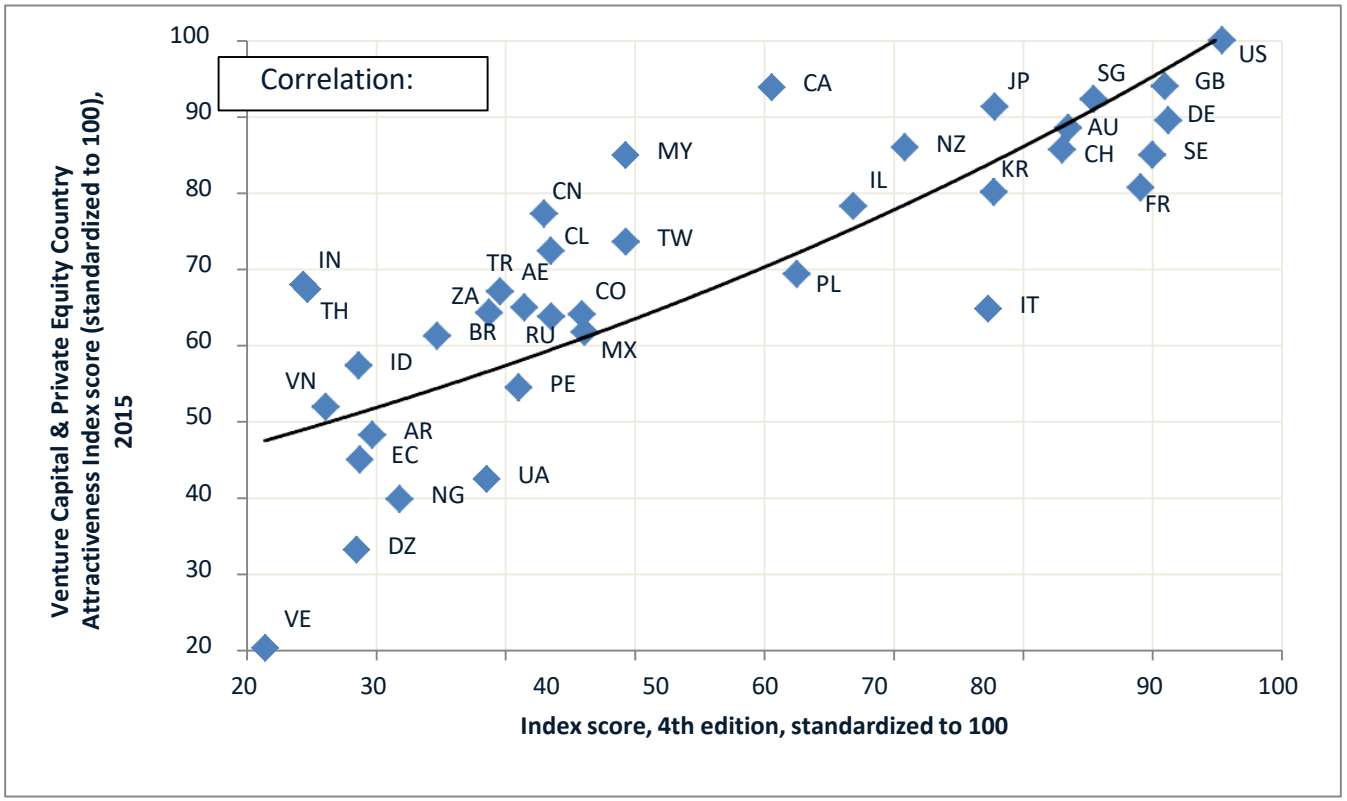
A healthy IP environment increases economies' ability to access venture capital

Figure I: Association between IP Protection and Access to Finance



Source: GIPC, IESE Business School/Groh et al (2015)
Legend: AE – UAE, AR – Argentina, AU – Australia, BR – Brazil, CA – Canada, CH – Switzerland, CL – Chile, CN – China, CO – Colombia, DE – Germany, DZ – Algeria, EC – Ecuador, FR – France, GB – United Kingdom, ID – Indonesia, IL – Israel, IN – India, IT – Italy, JP – Japan, KR – South Korea, MX – Mexico, MY – Malaysia, NG – Nigeria, NZ – New Zealand, PE – Peru, PL – Poland, RU – Russia, SE – Sweden, SG, Singapore, TH – Thailand, TR – Turkey, TW – Taiwan, UA – Ukraine, US – United States, VE – Venezuela, VN – Vietnam, ZA – South Africa

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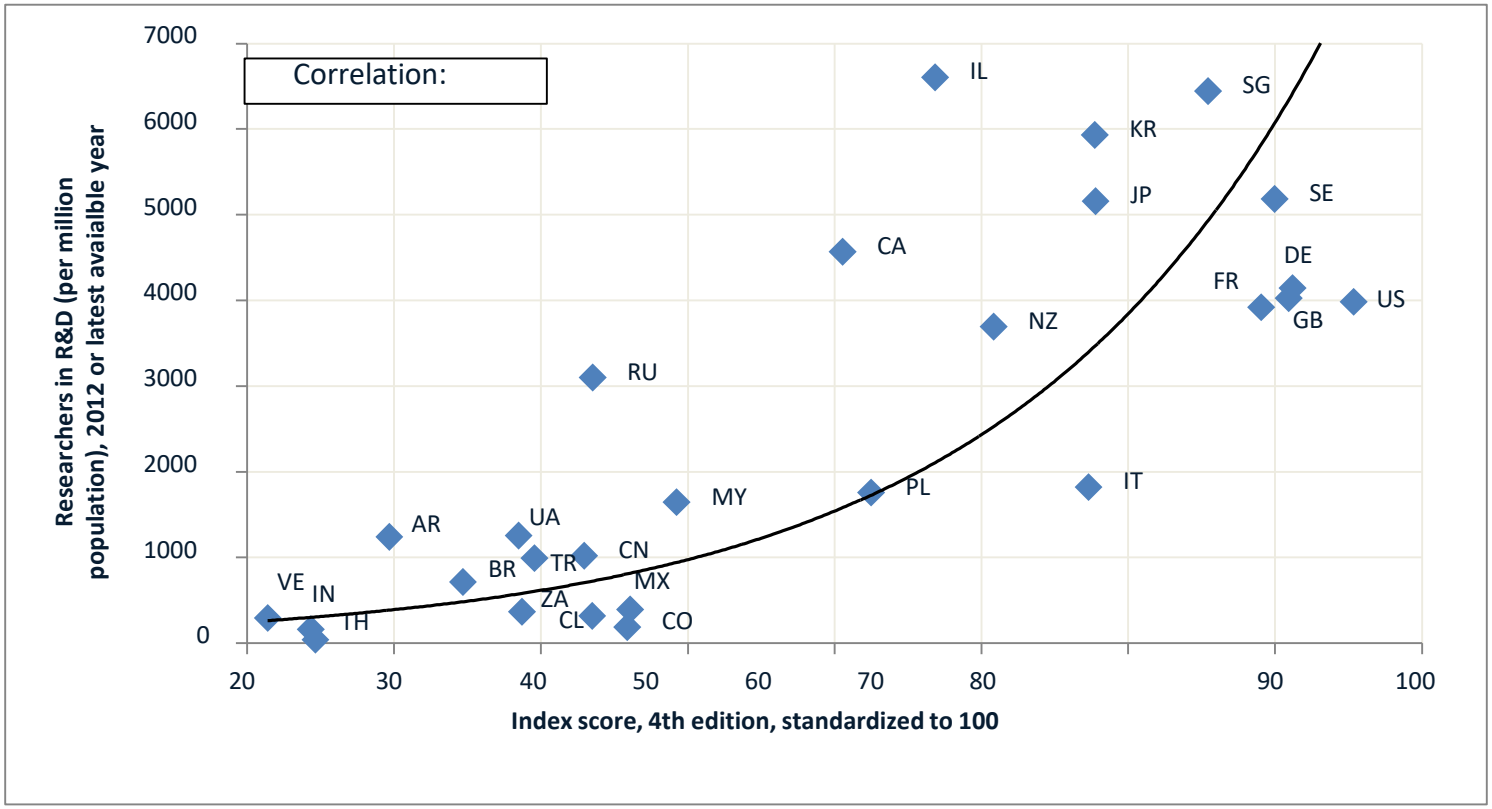
Robust IP protection encourages development of human capital

Figure II: Association between IP Protection and Number of Researchers in R&D



Source: GIPC, World Bank

Legend: AR – Argentina, BR – Brazil, CA – Canada, CL – Chile, CN – China, CO – Colombia, DE – Germany, FR – France, GB – United Kingdom, IL – Israel, IN – India, IT – Italy, JP – Japan, KR – South Korea, MX – Mexico, MY – Malaysia, NZ – New Zealand, PL – Poland, RU – Russia, SE – Sweden, SG, Singapore, TH – Thailand, TR – Turkey, UA – Ukraine, US – United States, VE – Venezuela, ZA – South Africa

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A supportive IP environment promotes an advanced technology market

Figure IV: Association between IP Protection and Access to the Latest Technologies

Source: GIPC, World Economic Forum/Executive Opinion Survey
Legend: AE – UAE, AR – Argentina, AU – Australia, BR – Brazil, CA – Canada, CH – Switzerland, CL – Chile, CN – China, CO – Colombia, DE – Germany, DZ – Algeria, EC – Ecuador, FR – France, GB – United Kingdom, ID – Indonesia, IL – Israel, IN – India, IT – Italy, JP – Japan, KR – South Korea, MX – Mexico, MY – Malaysia, NG – Nigeria, NZ – New Zealand, PE – Peru, PL – Poland, RU – Russia, SE – Sweden, SG, Singapore, TH – Thailand, TR – Turkey, TW – Taiwan, UA – Ukraine, US – United States, VE – Venezuela, VN – Vietnam, ZA – South Africa

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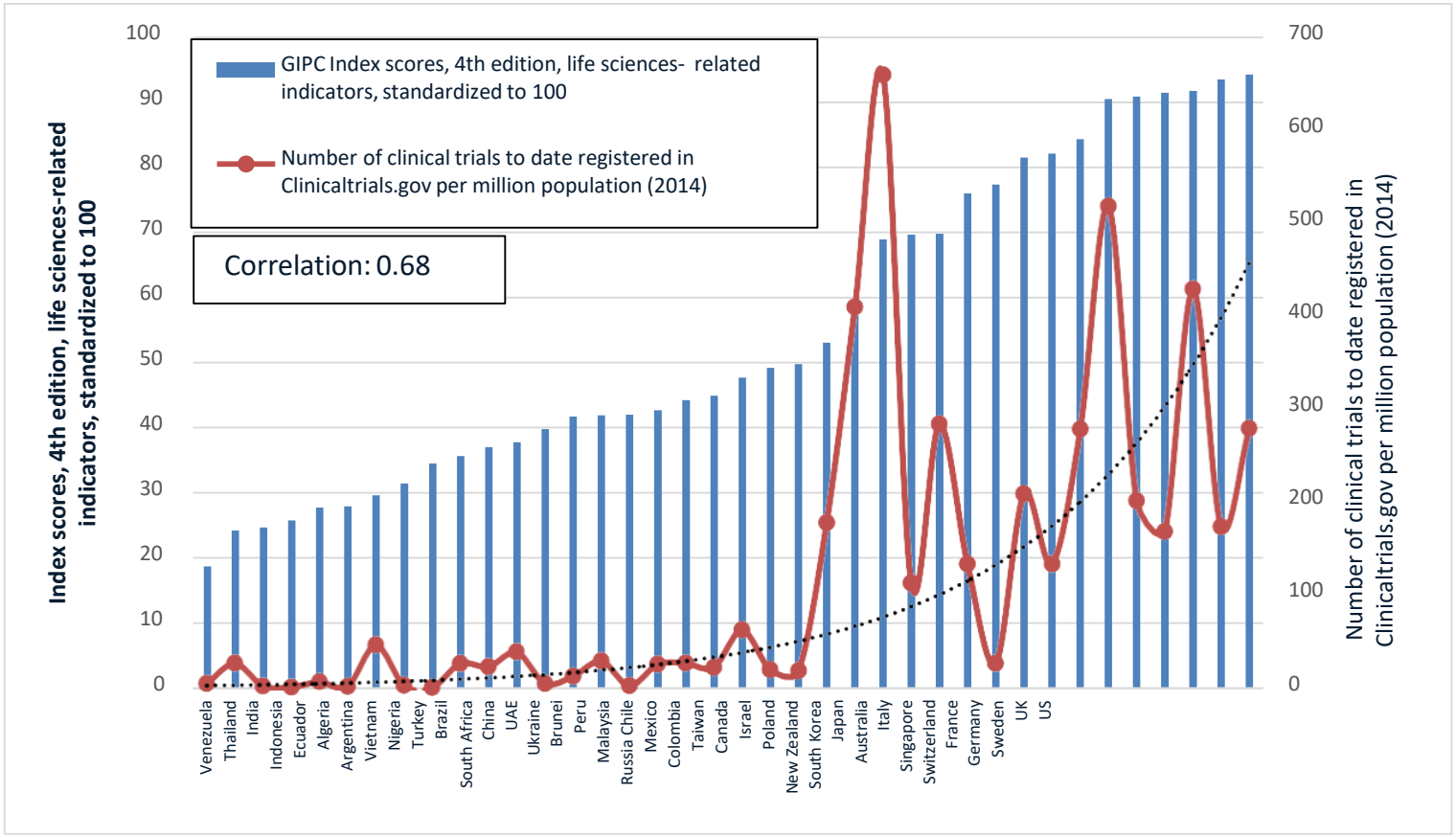
IP rights lead to biomedical foreign direct investment

Figure V: Association between IP Protection and FDI: Case Study of the Life Sciences in Terms of Clinical Trial Activity



Source: GIPC, Clinicaltrials.gov

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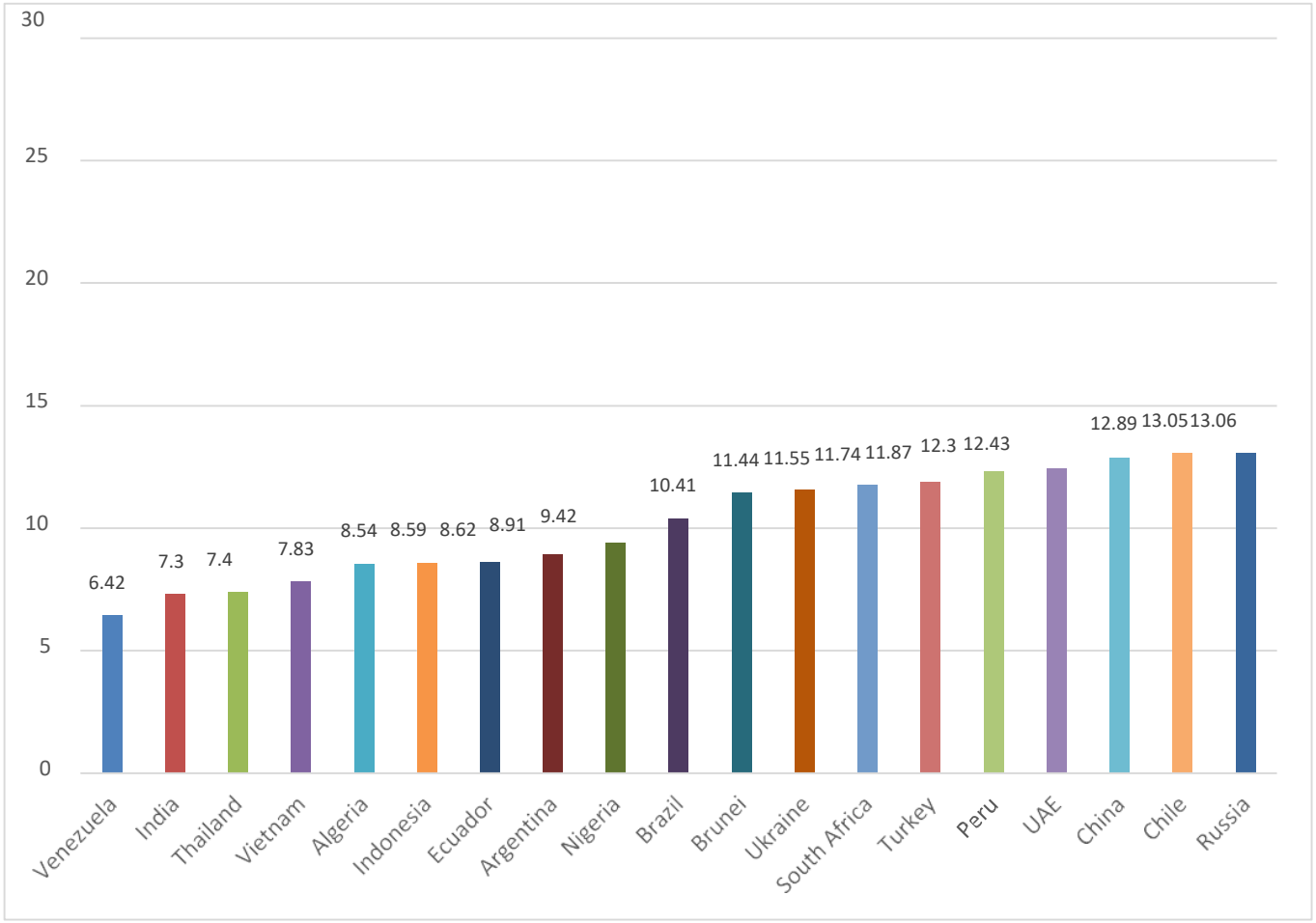
Figure V: Overall Economy Scores, Bottom Half



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Patents are unquestionably an Incentive for Invention, Investment and Innovation.

An incentive to invent is any mechanism, monetary or non-monetary, applied to induce development of ideas, which can be used in combinations of new and existing knowledge and resources. Such incentives are needed to address a number of challenges. The process of converting innovation inputs to outputs is often cumbersome and expensive. Moreover, there is high uncertainty about the outco[illegible] as th[illegible] potential revenues to start flo[illegible] The [illegible] newly created ideas, knowledge and inventions suffers from the following market failures:

(i) The production of inventions has a public good nature because of which markets may not provide the right incentives for it to be produced;

(ii) The creation of knowledge and eventually bringing it to the market can require substantial investment costs, both fixed and variable and (iii) The uncertainty underlying the newly created intellectual property embodied in the good. This is the commercial uncertainty of the consumer adopting the inventive good in the market. The inventor faces this uncertainty in addition to the ex-ante technological risk [illegible] per se generally cannot provide [illegible] granted by governments to inventors.

- Joseph Schumpeter

Next came the patent laws. These began in England in 1624, and in this country with the adoption of our Constitution. Before then any man [might] instantly use what another man had invented, so that the inventor had no special advantage from his own invention. The patent system changed this, secured to the inventor for a limited time exclusive use of his inventions, and thereby added the fuel of interest to the fire of genius in the discovery and production o[illegible]nd [illegible] things.

— Abraham Lincoln

Monopoly is more rewarding for the purpose of economic growth compared to the competitive market

- Joseph Schumpeter

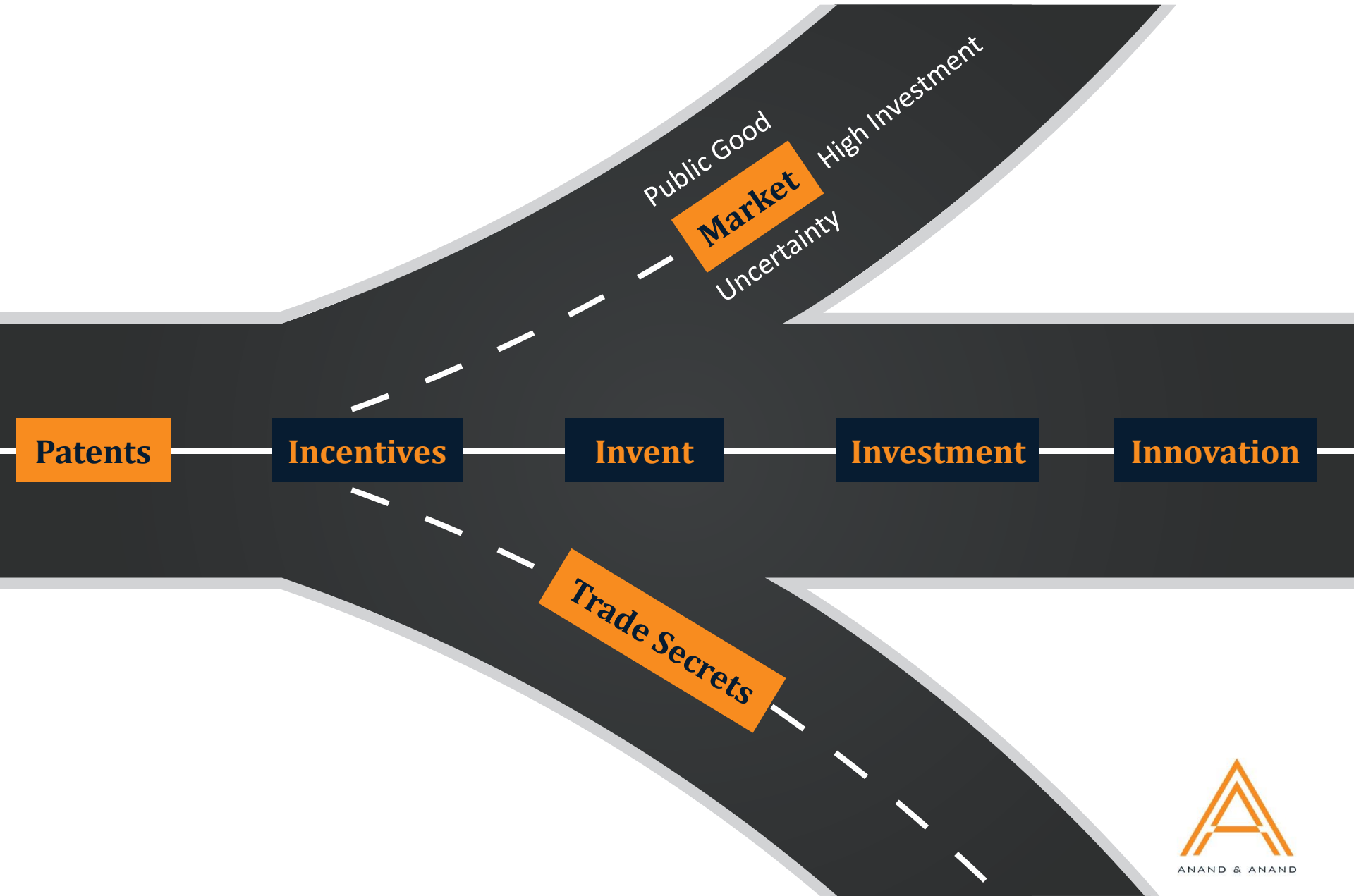
By undermining patents, by encouraging inventors not to file patents, by it making harder for small inventors to get and enforce their patents, and by adding uncertainty to the entire United States patent system, the AIA punishes innovation and rewards the status quo.

–Brett Trout

The utilitarian theory considers patents as an incentive — a policy instrument used by society for encouraging inventions. Patents are a response to the public good nature of knowledge, which makes imitation easier than invention. They are one of the instruments of innovation policy along with grants, prizes, subsidies, universities, and public laboratories.

- Dominique Guellec

The I-4 Pathway



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Economic Performance per Employee

	Wages (In $)	Sales (In $)	Value Added (In $)	Exports (In $)	R&D Spending (In $)	Capital Spending (In $)
IP Intensive	59,041	485,678	218,373	91,607	27,839	15,078
Non-IP-Intensive	37,202	235,438	115,239	27,369	2,164	6,831
Difference	21,839	250,240	103,134	64,238	25,676	8,246
(Times)	1.6	2.1	1.9	3.4	12.9	2.2

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- Asia largest inventor till 1000 AD

- 1000 AD to 1300 AD, Europe changed due to :

- (a) Climate
- (b) Small countries
- (c) Fierce fighting
- (d) Ownership of land and hence psychological independence;
- (e) Agricultural reforms (water mills; two field to three field crop rotation)
- (f) Specialization in agricultural services of training
- (g) Money system
- (h) Scientific and industrial revolution
- (i) Capitalism

- Around 1250 AD, East and West were more or less balanced

- From 1400 to 2000 AD, Europe dominated

- China was top inventor then and now but earlier no patents

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QUALITY vs. QUANTITY

- Normal Rule – **Quality stumps Quantity -** But size does matter.
- 2 Great Players don't make a Cricket Team.
- Minimum Quantity or Number to create an Impact.
- India 45,000 per year – 7th Highest; after US, China, Korea, Japan, EPO, Germany… yet not good enough!
- Country of 1.3 Billion – Correct Comparison with China
- Why is China so high and India low?

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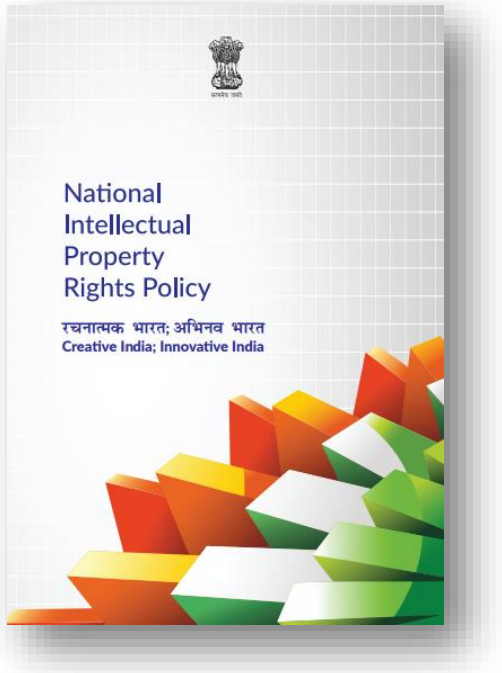
CHINA vs. INDIA - Policy

- National IPR Policy
- Start-up Policies ("MSME")
  - 50% Discount on Filing
  - Technical Assistance in Filing
  - Examination Out of Turn
- China's Declared Target – 2 million by 2015
- Indian Policy – No Target



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CHINA vs. INDIA - Research & Education

- **STEM Education very low (7/1000)**

- **Spending on R&D as % of the GDP**

Year	China	India
1996	0.57	0.63
2014	2.05	0.85
1996-2014	**300% ↑**	**33% ↑**

- **Actual expenditure on R&D in billion US$**

China	India
367.7	63.8

- **China spends 576% more on R&D**

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CHINA vs. INDIA - Numbers

- **No. of patent applications**

China	India
1,101,864	45,600

- **Percentage of domestic applications**

China	India
87%	27%

- **Percentage of Grants**

China	India
32%	13.9%

- **No. of Applicants**

China	India
137,000 (approx.)	15,300

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CHINA vs. INDIA - Infrastructure

- **Patent Offices**

China	India
7	4

- **Patent Examiners**

China	India
9000 (targeted by 2015)	750 (targeted)

- **Patents Agents**

China	India
10,000 (targeted by 2015)	1500

- **Patent Information Data Centers**

China	India
1 National, 5 Regional, 47 Local	Online

- **Model IP Cities**

China	India
10	-

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CHINA vs. INDIA - Law

- No utility model patents in India
- Higher standard of patentability - Section 3(d), Section 3(k), Section 8, Form 27
- Unlike China, Indian law provides for pre-grant, post-grant and revocation of patents
- No patent linkage in India

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CHINA vs. INDIA - Corporate Examples

- **Number of Enterprises**

China	India
77 million	37.27 million

- **Highest Domestic Filer**

China	India
6111 (State Grid Corp. of China)	337 (Indian Institute of Technology)

- **Highest Foreign Filer (Qualcomm)**

China	India
2442	1214

- **Highest Domestic Filer (Non-government)**

China	India
3516 (ZTE)	169 (TCS)

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Expected Effects - IP Culture

- Generation of IP Culture - At the State, Corporate and Individual Level – People learning to play the game.
- Larger Portfolios
- Improvement of Quality of Patents
- Greater participation in International Standard Setting
- Increased Cross-licensing, Joint Venture and other collaborative activity
- Licensing-in of technologies to fill important gaps (eg Korea)
- Greater number of court cases, hence precedents and refinement (US, UK and India SC figures for patents; only 2 final decrees)

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Intangible vs tangible property

- Cost of generating ideas – nil (more people …more ideas)
- Cost of protecting ideas through Copyright law , trademark law or Design law – nil due to **Berne Convention** or negligible
- Cost for Patents – small and if wider coverage sought…can be deferred ..thanks to **Paris convention** and **PCT**
- **Benefit of IP :** Shabeer Bhatia and Hotmail;
- Thomas Fogarty, juvenile delinquent – balloon Catheter for removing blood clots (joining Latex and Vinyl)
- Edison and GE,
- Starbucks ..little coffee shop in Seattle

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The Right Balance

- Incentives Vs. Access
- Creators and Owners Vs. Consumers and Users
- Individual Vs. Collective Benefit
- Rights Vs. Obligations
- Private Vs. Public Rights

- **In a nation impoverished of Protected IP content, the balance is towards strong protection**

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