

**The Changing Role of Intellectual Property
in Asia:
National Innovation Policies
of China and India**

Alan Wm. Wolff
Dewey & LeBoeuf LLP
U.S. National Academies STEP Board

National Innovation Policies and IP

- I. Some Basic Facts
- II. The Strands of India's Policies
- III. China's Potential New Direction
- IV. Conclusions: China and India Considered

I. Some Basic Facts

- Per capita GDP in 2007:
 - United States -- \$46,000
 - China -- \$ 5300
 - India -- \$ 2700
- Rate of economic growth in 2006:
 - United States 3.4%
 - China 10.7%
 - India 9.2%

Some Basic Facts - R & D

- U.S. R&D is estimated to have reached \$340 billion in 2006.
- China in 2006 for the first time spent more on R&D than Japan, becoming the world's second highest investor in R&D at an estimated \$136 billion.
- According to the World Bank, India's domestic R&D spending was just \$5.4 billion in 2004 (in Purchasing Power Parity \$ 26.9 billion) -- ranking India ninth in the world

Some Basic Facts – Broadband Access

- The United States has about 41 million connections
- China's broadband access is 30 to 60 times greater than India's -- an estimated 35 million v. 625,000.
- India ranks 31st, with the United States and China, 1st and 2nd respectively.

II. National Innovation Policies and IP - India

The Strands of India's IP Policies – Global Competitiveness and Indian Exceptionalism

- A. India's Objectives – India's Achievements
- B. Indigenous resources and Traditional Knowledge
- C. Remaining issues
- D. World Bank recommendations

National Innovation Policies and IP - India

“To establish an Intellectual Property Rights (IPR) regime which maximises the incentives for the generation and **protection of intellectual property by all types of inventors.**

The regime would also provide a strong, supportive and comprehensive policy environment for speedy and **effective domestic commercialisation of such inventions** so as to be maximal in the public interest.”

Science and Technology Policy, 2003

National Innovation Policies and IP - India

“Thanks largely to the government's determination that the country should **build a strong independent base in science and technology**, India has been able to build up a capacity in a wide range of areas of modern technology, from software engineering to health biotechnology.

And this has placed it in a strong position to engage in the global knowledge economy, rather than remaining on the margins.”

Shri Kapil Sibal

Minister of State for Science and Technology & Ocean Development,
Science and Technology Policy, 2003

National Innovation Policies and IP - India

“Just a few years ago, India was losing a battle to **retain the best and brightest** of its engineers and computer scientists. The lack of an effective copyright law forced those scientists and technicians to emigrate to countries where their hard work could be protected

The Indian parliament finally passed a **copyright law** to protect the hard work and creativity of its computer scientists. **The result: a burgeoning high tech industry** producing some of the world's most advanced software and employing thousands of workers who might otherwise have left India for greener pastures in other parts of the world.”

Alan P. Larson

U.S. Under Secretary of State

Nov. 7, 2002, in Mumbai

National Innovation Policies and IP – India Foreign Companies' R&D

"We take satisfaction from the fact that over 100 global companies have come to India to set up R&D Centres, affirming the intellectual capital of our scientific and engineering community."

Dr. Manmohan Singh
Prime Minister of India
Science and Technology Policy, 2003

National Innovation Policies and IP – India

India's Achievements

- The Indian Services sector accounts for **68.6 %** of the overall average growth in GDP in the last five years between 2002-03 and 2006-07.
- During the first quarter of India's current fiscal year (April through June), **software and services exports grew by nearly 20%**, registering revenues of **US\$8,441** million.
- India's overall software and services industry is estimated to grow by 24-27 % to **US\$49-50 billion** with an exports growth rate of **26-29 %** in the current year.

- India Brand Equity Foundation (IBEF),
(updated J. 24, 2008)

National Innovation Policies and IP – India

Legal Foundations

Amended patent laws effective January 1, 2005:

- Extended patent life from 5-14 years to 20 years;
- Started granting product patents on a range of pharmaceutical, therapeutic and agricultural innovations
- Accepted TRIPS limitations on compulsory licensing
- Permits patents on applied and imbedded software

Carl Dahlman, Mark A. Dutz and Vinod K. Goel

Unleashing India's Innovation

World Bank, 2007

National Innovation Policies and IP – India

“Pharmaceutical companies were the first to realize that in the long run, patents will matter and with pressure from the World Trade Organization (WTO) it was only a matter of *when* a product patents regime would be enforced, not *if*.

- Ranbaxy, Dr. Reddy's Laboratories and Cipla were among the pioneers in R&D projects.
- The basic model was this: In the domestic market, generic versions of drugs under patent using different processes would be used to spearhead growth. In the global market, the U.S. generics market would be the first target with innovator drugs with sales of about \$25 billion set to go off patent.”

Knowledge@Wharton

How R&D is Changing Indian Pharma and Auto Companies

Nov. 21, 2005

National Innovation Policies and IP – India

Innovations

The Tata group of companies unveiled the so-called “one-lakh car” [\$2500] on Thursday January 10th, 2008.

- The Indian auto major TATA Motors has invested substantially to come out with new concepts and design in its much awaited Rs. One Lakh – Car and they are now understood to have sought global patent for the design and technology of the same.
- Bombay House, the seat of the Group’s worldwide empire wants to ensure that the design and technology of the car is fully protected against any imitation in today’s ultra – competitive global auto industry. **Seeking global patents** given their largely international business growth strategy it is considering Africa, Southeast Asia, Eastern Europe and Latin America as key markets.

IPFrontline.com, Dec. 13, 2007

National Innovation Policies and IP – India

Indian Exceptionalism

“To build a new and resurgent India that continues to maintain its strong democratic and spiritual traditions, that remains secure not only militarily but also socially and economically, **it is important to draw on the many unique civilizational qualities that define the inner strength of India; this has been intrinsically based on an integrated and holistic view of nature and of life.**”

The Science and Technology Policy 2003 will be implemented so as to be in harmony with our world view of the larger human family all around. It will ensure that science and technology truly uplifts the Indian people and indeed all of humanity.”

Science and Technology Policy, 2003

National Innovation Policies and IP – India Indigenous Resources and Traditional Knowledge

Indigenous knowledge, based on our long and rich tradition, would be further developed Innovative systems . . . to learn from India's rich heritage of traditional knowledge of the natural resources of land, water and bio-diversity will be strengthened and enlarged.

[T]echnologies that add value to India's indigenous resources and which provide holistic and optimal solutions that are suited to Indian social-cultural-economic ethos will be developed.”

Science and Technology Policy, 2003

National Innovation Policies and IP – India

Traditional Knowledge

“India is in the mission of bringing prosperity and smiles to the one billion plus people of the country particularly uplifting and improving the quality of life of 220 million people who are at present living below poverty line.. . . .

Innovation is the capital through which we can achieve [a] high level of national prosperity index particularly in the rural sector. . . . nurturing innovation through provision of technological support, funding, identification of market, entrepreneurship to produce in a competitive basis to serve the national and international market.

Let us celebrate the success of our rural innovators and convert them as employment generators for rural India.”

Dr. A.P.J. Abdul Kalam

National Innovation Foundation Awards

Feb.12, 2007

National Innovation Policies and IP - India

NIF has identified 65,000 innovative practices which have led to 102 patents including 3 international patents. Now, we are ripe to see that the benefits of innovation reach the community in large number

This will enable creation of at least 10 to 20 enterprises every year in our rural sector based on rural innovation driven projects.

Dr. A.P.J. Abdul Kalam

National Innovation Foundation Awards

Feb. 12, 2007

National Innovation Policies and IP – India

Shodhyatra: Documenting traditional wisdom and indigenous inventions

Ahmedabad, January 5 -- A ... musical instrument made out of a leaf. A foot-pedalled paddy winnowing machine that outperforms the motor-operated one. An asthma care formulation made out of an unheard combination of four distinct herbs. These and many more nuggets of traditional wisdom and daily life innovations were showcased

It was a part of the 20th Shodhyatra of the Society for Research and Initiatives for Sustainable Technologies and Institutions (SRISTI), a city-based NGO. The eight-day yatra saw 140 people from different walks of life traversing 150 km on foot under the leadership of Prof Anil K Gupta of IIMA.

Gupta says, "We select a less developed region for these journeys and try to study the traditional wisdom and indigenous inventions in these places. . . . we ended up documenting over 2000 traditional knowledge practises"

Express India news service,
Jan. 6, 2008

National Innovation Policies and IP -- India

“the major challenge in India is to find innovative solutions that help rural enterprises survive global competition. If innovation leaves out the rural sector, we are leaving most of India out. . . .”

Sri Krishna Joshi,
scientist emeritus
India's National Physical Laboratory,
Conference on inventions and innovations
Delhi, India Oct. 15, 2007

National Innovation Policies and IP – India Indigenous Resources

“Landmark Victory in World’s First Case Against Biopiracy!!

European Patent Office Upholds Decision to Revoke Neem Patent

In a landmark decision today, the European Patent Office upheld a decision to revoke in its entirety a patent on a fungicidal product derived from seeds of the Neem, a tree indigenous to the Indian subcontinent.

The . . . Legal Opposition claimed that the fungicidal properties of the Neem tree had been public knowledge in India for many centuries and that this patent exemplified how international law was being misused to transfer biological wealth from the South into the hands of a few corporations, scientists, and countries of the North. . . . thus bringing to a close this ten-year battle in the world’s first legal challenge to a biopiracy patent.”

International Federation of Organic Agriculture Movements (IFOAM)

Mar. 8, 2005

“Making Access to Genetic Resources Possible”

“In accordance with the requirements of the **Convention on Biological Diversity (CBD)**, national governments are framing policies that regulate access to biodiversity resources and related knowledge within their territorial jurisdiction through appropriate legislation. . . . This will require interacting with a nodal authority in the provider country and deciding on the terms on which access will be granted to bio-resources and protocols to be followed during access and product development phases (ranging from inventories to value-added products).

India has enacted its **National Biodiversity Act (2002)** with clear specifications for access regulations for domestic and foreign researchers and for those accessing biological resources for research or commercial purposes. The National Biodiversity Authority, established in 2004 in Chennai, India implements the Act, along with the State Biodiversity Boards and local Biodiversity Management Committees.”

United Nations University
Institute of Advanced Studies

The National Biodiversity Authority of India

Lists the most important features of the 2002 Act as follows:

- i. **to regulate access to biological resources** of the country with the purpose of securing equitable share in benefits arising out of the use of biological resources; and associated knowledge relating to biological resources;
- ii. to conserve and sustainably use biological diversity;
- iii. to respect and protect knowledge of local communities related to biodiversity;
- iv. **to secure sharing of benefits with local people** as conservers of biological resources and holders of knowledge and information relating to the use of biological resources;
- v. conservation and development of areas of importance from the standpoint of biological diversity by declaring them as biological diversity heritage sites;
- vi. protection and rehabilitation of threatened species;
- vii. involvement of institutions of state governments. . . .

Introduction, National Biodiversity Authority India

India's IP Position in International Fora

“In international fora, India favors permanent rights to genetic materials from the host country. India disfavors providing *exclusive* rights to the originator of the data for an extended period, and evergreen patents.”

Doctors Without Borders Technical Brief, May 2004

National Innovation Policies and IP – IPR Enforcement in India

Copyright enforcement still requires improvement.

- U.S. losses estimated at \$440 million (mainly software).
- Adjudication of cases is extremely slow.

National Trade Estimates, 2007
U.S. Trade Representative

National Innovation Policies and IP – IPR Enforcement in India

NEW DELHI: Microsoft (India) Managing Director Neelam Dhawan on Tuesday said enforcing IPR laws was a "challenge" and that the industry, as per studies, was losing almost 72 per cent of its revenue due to circulation of pirated software - a menace which hasn't been checked due to poor awareness among law-enforcing agencies here.

"There are no Indian success stories of software applications being adopted on a large scale as India has a high piracy rate and therefore Indian companies do not make money." said Dhawan .

Times of India
Jan. 22, 2008

National Innovation Policies and IP – IPR Enforcement in India

These concerns remain do not affect many foreign firms from which there is a continuing major inflow for foreign investment in R&D

“It seems to us that India has a firmer foundation for legal protection than say China - given the British common law for protection of local companies' IP and operations.

The market is in transition from a phase one emerging economy for software consisting of outsourcing/off-shoring of MNC development to phase two which consists of native development, supplying to surrounding countries and then eventually world wide. Selling software in India is a small sliver of the issue. India could become the force of software outside of India.

Evidence of external demand is beginning with the big consulting companies which are Indian. [Their] software solves problems of companies all over the world.

One of the biggest issues we have faced is losing key talent after we train them - not IP leaks of our work. It is very difficult to keep talent. Further, they are no longer that cheap!”

National Innovation Policies and IP – Some Concerns

“Open your labs to us: India to global firms”

“A number of foreign companies have opened their R&D Centres in India and this is expected to further pick up in future in view of the cost advantages that India offers. While this is a very welcome development, there are **hardly any security regulations** about the intellectual property and knowledge related activities of these enterprises. There is ample scope for these activities being misused by other countries if they so wished.

While we do not want to curtail the increased opportunities that such enterprises offer to our youth, **we need to put in sufficient safeguards so that the country’s interests and priorities are not compromised.** This is an area of urgent attention and needs to be addressed adequately.”

“Report of the Steering Committee on Science and Technology for Eleventh Five Year Plan (2007-2012),”
Government of India Planning Commission,
Office of the Principal Scientific Adviser to the Government of India (Dec. 2006)

National Innovation Policies and IP – “India must track impact of foreign R&D investment”

“[NEW DELHI] India attracts major foreign investment in research and development (R&D) but has no system for assessing how this affects the country's technological development, warned an official report

The report . . . urges India to monitor the impacts of this investment, such as the jobs and export revenues it generates.

The government must also assess how effectively the technologies developed by foreign companies are transferred to India's public sector, it adds.

"Individuals employed in the R&D centres may be better off, but it is not clear whether the country as a whole is better off. . . ."

“Chidambaram told SciDev.Net that the motivations of transnational corporations must be in line with India's technological needs. . . .The report urges India to monitor the effects of foreign R&D investment on national development.”

T. V. Padma

“India 'must track impact of foreign R&D investment”

SciDev.Net, Feb. 16, 2006

National Innovation Policies and IP - India

“Some 150 of America's Fortune 500 firms have already outsourced R&D to India, and more foreign companies are coming. But trust babus [clerks] to play spoiler. A think tank chaired by the government's principal scientific advisor has called for cracking the whip on foreign R&D enterprises, citing unspecified security threats.

If anybody should be concerned about security implications of locating R&D activity on Indian soil, it's the foreign governments whose companies are relocating here. They aren't unduly worried, but our bureaucratic gatekeepers — who excel in turgid phraseology — have called for "coherent synergy" between "motivations" of the transnational corporates and the technology needs of India.

Will transnational CEOs now be placed on the psychiatric couch by babus, who will certify that they really, in their heart of hearts, intend to serve Indian technology needs? How are those technology needs to be defined anyway — by another committee of babus?”

National Innovation Policies and IP - India

World Bank Report recommendations --

- Strengthen incentives to commercialize publicly funded R&D
 - Bayh-Dole Act analog recently introduced into parliament
- Improve support infrastructure for IPR
 - Upgrade Indian Patent Offices
 - Create a special court of appeals
 - Enhance the efficiency of contract enforcement
 - Create a policy-oriented IP issue think tank
 - Complete the Traditional Knowledge Digital Library to prevent international patenting of India-based traditional knowledge
 - Consider whether the WTO rules permit a government to share data obtained from branded companies seeking regulatory clearance with generic competitors seeking to launch competing products on exploration of applicable patents
 - Explore establishing a public-private technology acquisition fund to support obtaining patent and other rights to fill gaps in India's knowledge base.

III. China's Objectives



Foreign Direct Investment and Innovation

A key tenet of China's policy has been to welcome foreign investment:

China's absorption of foreign investment is an important part of China's fundamental principle of opening up to the outside world, and an important component of Deng Xiaoping Theory. [It] is one of the great practices of building up socialist economy with Chinese characteristics.

- Ministry of Commerce
June 14, 2004

China's Achievements

China's is a remarkable success story of the last thirty years by many measures --

- Rapid growth of economy – 1st half 2007 -- 11.5%
- Export growth – 1st half 2007 -- 27.6%
- Electronic Information Products – 1st half 2007 – 24.9%%
- High inward foreign direct investment
- High growth in IT sectors
- High growth in PC ownership

China's Inward FDI

“Foreign direct investment has surpassed US\$700 billion since China began accepting overseas' investors money, Commerce Minister Bo Xilai said in March.”

Foreign investment inflows in 2006 were \$60.3 billion.

ShanghaiDaily.com,
May 16, 2007
Embassy of China

China's Innovation Objective

In today's world, the core of each country's competitive strength is intellectual innovation, technological innovation and high-tech industrialization.

- **Jiang Zemin,**

General Secretary of the Communist Party of China Central Committee,
keynote speech National Technological Innovation Conference,
Aug. 23, 1999

China's Innovation Objective

[We] must strengthen the coordination of economic policies and S&T policies, **create a policy environment beneficial to technological innovation,** high-tech development and industrialization.

- **Hu Jintao,**

General-Secretary of the CPC Central Committee,

Nov. 27, 2005

Achieving Indigenous Innovation

11th Five Year Plan:

... China's competitive edge is to a great extent based on cheap labor, cheap water, land resources and expensive environment pollution. [This] will be weakened with the rising price of raw materials and enhancement of environmental protection. Therefore, we must enhance **independent innovation** capability vigorously...

- Ma Kai, Minister,
National Development and Reform Commission,
Mar. 19, 2006

Achieving Indigenous Innovation

Long Term S&T Program:

- Make intensive investment in crucial high technology products
- Use policy tools to promote, favor, and reward indigenous innovative technologies;
- Increase R&D spending to 2.5% of GDP by 2010.
- Engage in key state projects to generate important strategic products and create the environment for innovation through “Guiding Opinions”

- State Council of the People's Republic of China,
Outline of the National Medium-and Long-Term Program on
Scientific and Technological Development (2006-2020)

Foreign Direct Investment and Innovation

11th Five Year Plan for Use of Foreign Investment:

... the overall strategic objective of use of foreign investment in China is to...

... change the emphasis in use of foreign investment from making up the shortage of capital and foreign exchange to introducing advanced technologies...

National Development and Reform Commission,
11th Five Year Plan for Use of Foreign Investment, Nov. 2006

Foreign Direct Investment and Innovation – Integrated Circuits – China’s concerns

11th Five-Year Plan for the Integrated Circuit Industry:

“The restriction [by foreign companies] on transfers of foreign high-end technologies will continue... . Intellectual property rights and patent disputes will worsen. With the penetration of global competition, multinationals use their dominance in technology, marketing, and capital to advance competition based on higher technological levels in intellectual property, and domestic enterprises face pressures from various sides in their development.”

Ministry of Information Industry

Jan. 8, 2008

Government Procurement and Indigenous Innovation

The government shall establish a priority procurement policy for important high-tech equipment and products developed by domestic enterprises with **independent intellectual property**.

[We shall] provide policy support to enterprises purchasing domestic high-tech equipment.

- State Council of the People's Republic of China,
Outline of the National Medium-and Long-Term Program on
Scientific and Technological Development (2006-2020)

Government Procurement and Indigenous Innovation

“Article 5 When a purchaser purchases imported products, it shall adhere to the principle of being good for domestic enterprises’ independent innovation, digestion and absorption of core technology, and shall **purchase, with priority, the products of a supplier that will transfer technology,** offer training services or adopt any other compensation trade measure to the Chinese party.”

Notice of the Ministry of Finance on Printing and Distribution of Administrative Measures for Government Procurement of Imported Products, Dec. 27, 2007

Government Procurement and Indigenous Innovation

Since China has not yet signed the WTO government procurement agreement (GPA), foreign companies are concerned about the procurement policy's potential for discrimination.

- OECD Reviews of Innovation Policy: China Synthesis Report
Aug. 2007

Standards: Accreditation Measures

Interim Administrative Measures for Accreditation of National Indigenous Products:

- products submitted for accreditation shall:
 - ... **have indigenous intellectual property rights** and definite owner ... [and] have the proprietary and access of the intellectual property rights;
 - ... possess a proprietary brand;
 - ... possess state-of-the art innovation;
 - ... [contain] advanced technology [comparable] to the international advanced level among similar products;
 - ... have potential economic benefits and wide market prospect or can substitute for imported merchandise.
- **Accredited ... products shall be given priority in procurement for government and national key projects** ... and related industrialization policies [in order to] support the development of indigenous innovation products.

- Articles 4 and 2, Administrative Measures for Accreditation of National Indigenous Innovation Products, (Interim draft), undated,

Long Term S & T Plan : Key State Projects

- **Core electronic components**,
- high-end software; general chips and basic
- the technology for **manufacturing extremely large integrated circuits**;
- new-generation **broadband** wireless mobile telecommunications;
- high-end **numerical controlled machine tools** and basic manufacturing technology;
- development of large **oil and gas** fields;
- **large nuclear power plants** with advanced pressurized water reactors;
- high-temperature **gas-cooled reactors**;
- control and treatment of pollution in water bodies;
- nurturing of new, **genetically modified biological species**;
- development of important **new drugs**;
- **control and treatment of major contagious diseases** such as AIDS and viral hepatitis;
- **large aircraft**;
- **high-resolution earth observing system**;
- **manned space flights**;
- **lunar exploration projects**; and
- **Technologies useful for both military and civilian sectors and defense technology.**

State Council of the People's Republic of China,
Outline of the National Medium-and Long-Term Program on Scientific and Technological Development (2006-2020),
Feb. 9, 2006

Standards and Indigenous Innovation

[We shall] actively promote the formulation and implementation of technical standards with self-owned intellectual property rights and translate that technological advantage into a marketplace advantage to maximize the benefits of intellectual property rights.

- Shanghai Municipal Government, September 14, 2004.

[We shall] actively take part in the formulation of international standards, and drive the transferring of domestic technological standards to international standards...

State Council of the People's Republic of China,
Outline of the National Medium-and Long-Term Program on Scientific and Technological
Development (2006-2020)

Indigenous Innovation - Government Incentives

Measures to promote the development of a domestic equipment manufacturing industry include:

- Preferential taxation
- Incentives for purchase of Chinese-made machinery
- VAT rebates on imported parts and materials
- Allocation of special funds for technologically advanced products
- Relief of enterprises' "social responsibilities"

- State Council,
Several Opinions on the Revitalization of the Equipment Manufacturing Industry,
June 28, 2006

Semiconductor Manufacturing

Development objectives for the Information Industry under the 11th Five-Year Plan:

... [We will] significantly increase the self-sufficiency ratio to over 70 percent for integrated circuits used for information and national defense security, and to over 30 percent for integrated circuits used in communications and digital household appliances.

- Outline of the 11th Five-Year Plan and Medium-and-Long-Term Plan for 2020 for Science and Technology Development in the Information Industry, Ministry of Information Industry, Aug. 29, 2006

Telecom and consumer electronics - IPR

To **avoid royalties**, the Chinese governments and state-run enterprises have moved aggressively to invest in new standards and technologies. The results are expected to include intellectual property for core technologies, specifications and patents.

Liu Sunray

"China promotes homegrown 'smart' 3G Spec",
Electronic Engineering Times, 11 Aug, 1999

"MPEG LA and patent holders have had **trouble collecting royalties** from China makers of DVD players, which claim the combined fees of \$15 to \$20 per system are too high. That tussle dragged on for years, fanning the flames of discontent in China over its reliance on foreign technology. It also became a catalyst to accelerate local standards development. "

- Mike Clendenin
EE Times May 1, 2007

China's Antimonopoly Law- Basics

- Enacted August 30, 2007
- Becomes effective August 1, 2008
- Governs "monopolistic conduct" --
 - In China
 - Outside of China if it eliminates or restricts competition in China
- "Monopolistic conduct" includes
 - Abuse of a dominant market position by undertakings

Abuse Of A Dominant Market Position

- Selling products at “unfairly high” prices. **Could this apply to licensing fees for IPR that are deemed “too high?”**
- Buying products at “unfairly low” prices
- Selling below cost “without any justification.” Does this mean below average cost, marginal cost, or some other measure of “cost?”
- Refusing to trade with relative parties “without any justification.” **Does this mean the refusal to transfer technology/IPR to Chinese enterprises?**
- Limiting relative trading parties to exclusive deals with the dominant firm or designated parties without any justification. How does this apply to existing distribution arrangements?
- Tie-in sales “without any justification.” **How will this apply to complex IT systems, such as computers sold with installed operating systems and other software?**
- Discriminatory prices or other transaction terms to relative trading partners. Does this apply to differential pricing in different national and regional markets?

Sectors Dominated By State-owned Enterprises

- Apparently exempt from AML prohibitions, subject to oversight by “the State”
- Affected sectors
 - Telecommunications
 - Energy
 - Electricity
 - Financial services
 - Mining and metals
 - Others
- **Concern: AML may alter relative bargaining positions of foreign multinational vendors vis-à-vis SOE customers**
 - Multinationals using size, technological superiority, and other advantages in bargaining with SOEs could confront “abuse of dominance” actions under AML.
 - Would a remedy include forced technology transfer?

Summary Of Concerns Regarding AML

- Debates during enactment suggest an intent to use AML against multinationals with strong IPR positions
- Key terms in AML are not clearly defined
 - “abusing intellectual property rights”
 - “relevant market”
 - “unfairly high prices”
 - “refusing to trade with relative trading parties without any justification”
- Exemptions for SOEs could alter relative positions of multinational vendors vis-à-vis SOEs
- AML may be used to codify and sanction sectoral market restrictions developed by trade associations

Challenges for China, For Foreign Investors

Compulsory Technology Transfer

- Many foreign companies operating in China have faced the forced or compulsory transfer of their proprietary technology. . . . One example lies in the non-payment of royalties.
- Companies inevitably become less forthcoming in sharing their core and cutting-edge technologies, which is surely detrimental to China's development.

Final Conference on the OECD Review of the China National Innovation System and Policy
BIAC, Aug. 27-28, 2007

Is China's Open Door Closing?

2006 FDI numbers posed the first drop in 6 years-- empirical evidence perhaps due to --

- **Tax unification**-- biggest impact on foreign direct investors;
- **New M&A rules** governing foreign investors only to new review mechanism;
- **Re-issuance and commitment to continuing the foreign investment catalogue** approach to FDI, which categorically excludes certain industries from FDI and selectively allows others.
- **Repeal of geographic incentives**-- including export subsidies identified in WTO suit;
- **Expanded state ownership** --SASAC's commitment to fortifying 7 core industries (munitions, power, oil & petrochemicals, telecom, coal, aviation, shipping).
- **Commitment to selective acceptance of FDI**--approach going forward will be selective;
- **Other measures**--proposed use of AML, domestic procurement, etc.

V. Conclusions

IP and Innovation China and India Considered

Determinants of Innovation - FDI

A vital transmission belt of gain or loss of productive activity is the multilateral corporation.

“The primary purpose of corporations is increasing profit.

The primary economic purpose of governments is enhancing GDP.

Those governments whose policies align the objectives of the two will attract the most investment, and will achieve both objectives.”

Ralph Gomery,
Former Chief Scientist, IBM

Linkages between FDI and Innovation

". . . [M]ultinational companies use such criteria as the following in determining where to locate their facilities and jobs:

- Cost of labor (professional and general workforce).
- Availability and cost of capital.
- Availability and quality of research and innovation talent.
- Availability of qualified workforce.
- Taxation.

Factors affecting the location of business— cont'd

- Indirect costs (litigation, employee benefits such as healthcare, pensions, vacations).
- Quality of research universities.
- Convenience of transportation and communication (including language).
- Fraction of national research and development supported by government.
- Legal system (business integrity, property rights, contract sanctity, patent protection).
- Current and potential growth of domestic market.
- Attractiveness as place to live for employees.
- Effectiveness of national economic system."

Rising Above the Gathering Storm, NAS

India and China

India has:

... flourishing entrepreneurship and free enterprise; a strong infrastructure for supporting private enterprise; capital markets that operate with greater efficiency and transparency than, for example, those in China; **an advanced legal system; and an independent judiciary. Property rights are fairly secure, and the protection of private ownership is strong. The rule of law generally prevails.** Corporate governance has also improved dramatically. ...

... other intrinsic advantages, such as macroeconomic stability, a large domestic market, and a large relatively low-cost and skilled workforce. It also has a critical mass of well educated workers in engineering and science, and, unlike China, abundant raw materials.

- Carl Dahlman and Anuja Utz,
India and the Knowledge Economy,
Leveraging Strengths and Opportunities, Overview, 2005

Conditions for Innovation

Tech Transfer = Mode 4*

*the same parking lot

The Changing Role of Intellectual Property

- For China and India
 - Attracting/regulating FDI
 - Fostering indigenous innovation (industrial policy)
- For India
 - Bridging the gap between rich and poor
 - Protecting/enhancing value from traditional knowledge
- Advancing two differing national visions
 - India - democracy, tie to land
 - China – state developmental capitalism

The next chapter is not yet written

- What policy directions will China's and India's bureaucrats take in order to promote innovation?
- Is promotion of "indigenous innovation", implemented in part through restricting multinational corporations a strategy that enhances or curbs innovation?
- What is likely is that in both India and China, policy measures affecting intellectual property will continue to play a central role in their drive to promote innovation.

The next chapter is not yet written

- It is possible that China's door is beginning to close?
- Will India be in a position to take full advantage of its potential?



Thank You

The U.S. National Academies

Board of Science, Technology and Economic Policy (STEP) –

- » the composition of industrialized nations' investment portfolios (plant and equipment, infrastructure, human resources, etc.) and their bearing on productivity growth;
- » the quality and quantity of U.S. investments in "intangible" capital -- education, training, and research and development;
- » the impact of new technologies on firm performance, job creation and destruction, and wage and skill levels; and
- » increased international competition in technology and market development and its challenges for the multilateral trading system and scientific and technical cooperation.

STEP's Committee on Comparative Innovation Policy –

Examines the approaches taken to fostering innovation country-by-country, comparing policies in the context of national economies, their levels of development, and the attitude of their political leaders and peoples.

(Note: The views expressed here are my own, and not those of any organization with which I am affiliated.)

Bibliography

- *India's Changing Innovation System*, National Research Council of the National Academies, 2007.
- *Unleashing India's Innovation*, Mark A. Dutz, Editor, The World Bank, 2007.
- *In Spite of All the Gods*, Edward Luce, 2007.
- *Rising Above the Gathering Storm*, National Academies.