

Innovation, Creativity, and Intellectual Property Rights

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Qu'est ce que c'est IPR?

Intellectual Property Rights

- ① Patents
- ② Copyrights
- ③ Trademarks
- ④ Other
 - Geographical Indications
 - Industrial Designs
 - Utility models
 - More

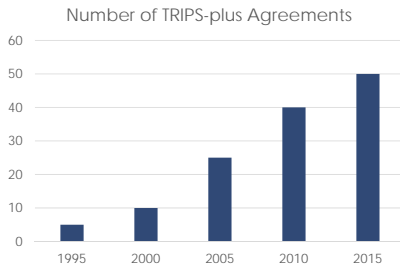
Major Issues

- ① Impact of IPRs on Industries, Markets, Productivity Growth & Economic Development
- ② Costs and Benefits; Distribution between North & South

Global Reforms

... especially since 1995

- World Trade Organization, *Agreement on Trade-Related Aspects of Intellectual Property Rights*, TRIPS
- World Intellectual Property Organization (WIPO), *Copyright Treaty* and *Performances and Phonograms Treaty*, and *Patent Law Treaty*
- Multiple Regional Free Trade Agreements (TRIPS-plus):



Source: DESTA Database

Exclusive rights \implies higher prices, reduced quantities in markets affected.

... In exchange:

- ① Innovation in the 'North'
- ② Innovation in the 'South'
- ③ Technological Transfers
 - Trade
 - Foreign Direct Investment, FDI
 - Licensing
 - Joint Ventures

Evidence

- ④ Innovation in the 'North' \implies Weak
- ② Innovation in the 'South' \implies Ambiguous
- ③ Technological Transfers \implies Significant

Feedback on Northern Incentives to Innovate

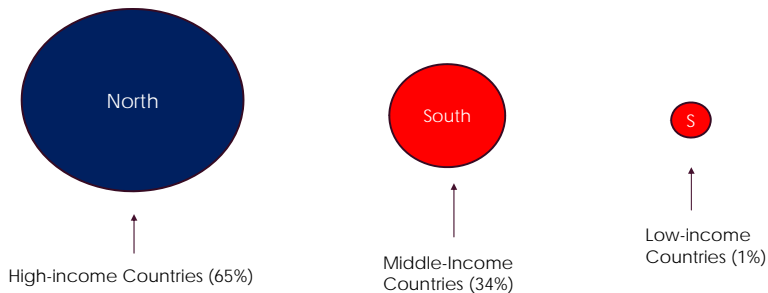
Theory assumes:



Stronger IPRs reduce imitation risk in South, expanding *effective* market size for firms in North, thereby increasing their incentives to innovate.

Feedback on Northern Incentives to Innovate

In reality:



Source: Calculated from World Bank WDI, 2015

Innovation: Output Side

U.S. Patent Grants and Rank. TOP 10 Foreign Countries					
	Grants 2015	2015	2005	1985	1970
Japan	52409	1	1	1	3
Korea, Rep.	17924	2	4	23	42
Germany	16549	3	2	2	1
Taiwan	11690	4	3	16	72
China	8116	5	17	56	39
Canada	6802	6	6	5	6
France	6565	7	7	4	4
UK	6417	8	5	3	2
Israel	3628	9	12	15	20
India	3355	10	18	36	28
Share of:					
Upper Mid-Inc, excl. China		1.21%	0.83%	0.72%	1.18%
Lower Mid-Inc, excl. India		0.14%	0.11%	0.05%	0.18%
Low Income Countries		0.002%	0.001%	0.003%	0.012%

Source: <http://www.uspto.gov/web/offices/ac/ido/oeip/taf/reports.htm>

Innovation: Input Side

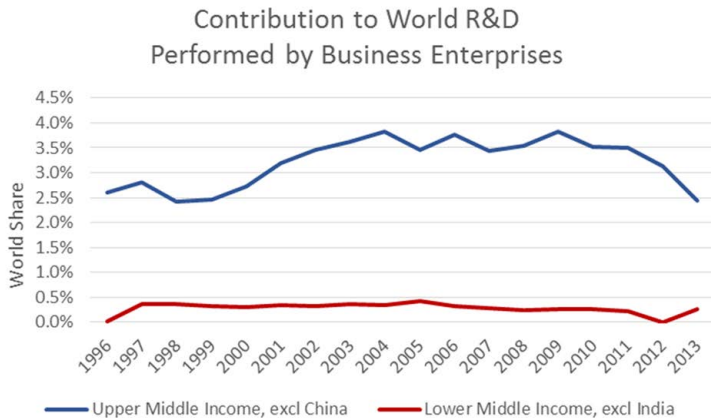
TOP 10 Countries,
R&D Performed by Business Enterprises

World Share 2011-2013

1	USA	31.2%
2	China	22.4%
3	Japan	12.1%
4	Germany	6.4%
5	Korea	5.4%
6	France	3.4%
7	U.K.	2.7%
8	India	1.8%
9	Russia	1.7%
10	Canada	1.4%

Source: UNESCO Statistics

Innovation: Input Side



Source: UNESCO

Technology Transfer

Ratio of Licensing Receipts to Licensing Payments

	2003	2006	2009	2012
Korea, Rep.	0.37	0.44	0.45	0.41
China	0.03	0.03	0.04	0.06
India	0.04	0.07	0.10	0.08
South Africa	0.04	0.04	0.03	0.03
Brazil	0.09	0.09	0.17	0.14
Russian Fed.	0.24	0.15	0.10	0.09
United States	2.95	3.34	3.14	2.96
Japan	1.12	1.30	1.29	1.60
Germany	0.84	0.75	1.01	1.10
France	1.67	1.88	1.57	1.46
United Kingdom	1.28	1.52	1.64	1.39
Other High Income	0.43	0.50	0.52	0.54
Other Upper Middle	0.11	0.09	0.16	0.10
Other Lower Middle	0.20	0.12	0.07	0.06
Low Income Countries	1.14	0.11	0.15	1.05

Source: UNCTAD

Copyright Industries

... also a leading source of international technology transfer

U.S. multinational companies:

	FDI Stock (Non-Bank)		Licensing Receipts	
	2006	2015	2006	2015
Billions (real 2005 dollars)	1011	1376	81	104
Share of Manufacturing	0.42	0.38	0.39	0.37
Share of Copyright Industries	0.10	0.11	0.45	0.47
Percent in non-G6 countries	47%	69%	46%	66%

G6 countries are: Canada, France, Germany, Italy, Japan, and the UK

Manufacturing licensing is measured by the licensing of *Industrial Processes*

Source: U.S. Bureau of Economic Analysis, www.bea.gov

Copyright Industries

U.S. multinational companies:

Technology Transfer Within-Sector Rank		
Sector	FDI Stock	Arms-Length Licensing
Newspaper, Periodicals, Books ...	7	4
Software Publishers	1	1
Motion Pictures & Video Industries	6	2
Sound Recording	8	6
Radio, TV, and Cable Networks	3	3
Internet, Data Processing	5	7
Telecommunications	2	5
Other Information	4	8

Sample period: 1994-2011.

West Africa

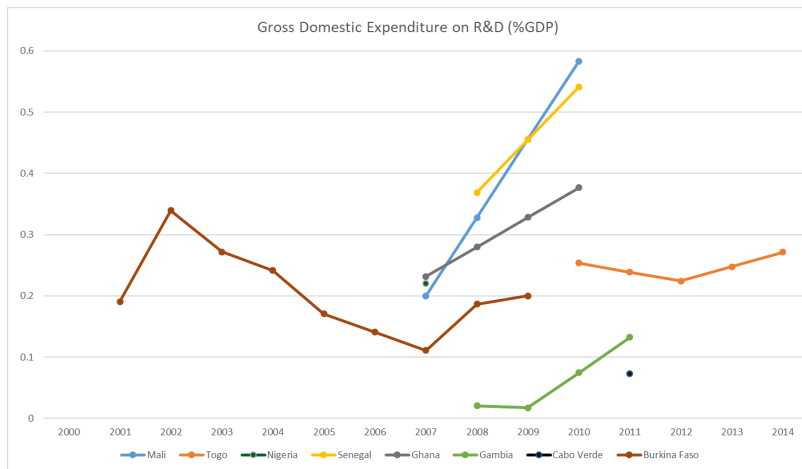
Tech Transfer via FDI				
FDI Stock (%GDP)	Inward		Outward	
	1996-2000	2011-2015	1996-2000	2011-2015
Benin	3.58	14.68	0.99	1.52
Burkina Faso	2.55	11.43	0.36	1.89
Côte d'Ivoire	17.49	25.49	0.21	0.40
Ghana	11.78	49.58		0.41
Guinea	4.28	23.88	0.16	1.30
Guinea-Bissau	8.22	10.89		0.64
Mali	9.28	22.22	0.37	0.39
Mauritania	7.24	93.36	0.29	0.92
Niger	11.71	61.86	3.76	1.48
Nigeria	36.19	16.52	6.54	1.77
Senegal	8.87	19.04	1.37	2.54
Togo	14.75	35.32	0.66	38.70

West Africa

Tech Transfer via Licensing				
	Inward		Outward	
	2003-2005	2010-2012	2003-2005	2010-2012
Benin	2.27	2.85	0.101	0.002
Burkina Faso	4.59	0.11	0.584	0.443
Cabo Verde	0.14	0.21	0.085	0.001
Côte d'Ivoire	16.01	17.22	0.191	
Guinea	0.73	0.97	0.325	
Mali	0.96	1.99	0.190	0.229
Nigeria	65.43	222.08		
Senegal	5.57	5.76	0.004	1.196
Sierra Leone	0.09	0.36	0.641	1.080
Togo	2.04	1.63	0.007	0.012

(Millions of real 2009 U.S. \$)

West Africa



Source: UNESCO.org

Some Explanatory Factors

- ① Complementary Factors
 - “Quality of Institutions”
- ② Threshold Effects
 - Absorptive Capacities, Indigenous Technological Capacities
- ③ Gradualism vs. ‘Big Push’
 - Baby Steps: Utility Models
- ④ Stage-Dependent IPRs
 - Differentiated IP standards, appropriate to nature of innovation and industrial mix
- ⑤ Flexibilities, Limitations & Exceptions, in the Developing World
 - Fair Use, Fair Dealing, Working Requirements, Farmer’s Privilege
- ⑥ Pro-Competitive Business Environment
 - Open trade orientation
- ⑦ Costs of Acquiring and Defending IPRs
 - Onerous and prohibitive for SMEs and developing country inventors/creators
- ⑧ Compliance with TRIPS Article 66.2
 - More substantive tech transfers and commitments thereto

Takeaway Points

- ❑ Mixed Progress since Global IPR Reforms
- ❑ Some Tech Transfers to Developing World occurring
- ❑ Innovation in Developing World needs spurring, not necessarily with IPRs alone
- ❑ Differentiated IP Standards and Flexibilities conducive
- ❑ Global North has IP obligations too
- ❑ Manufacturing & Information Industries are sources of tech transfer, innovation, and creativity