

The “New” Economics of ITT and IPRs

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Why the need for an updated conception of ITT?

- Standard North-South technology transfer channels remain important but are becoming more complex:
 - Globalization of production networks;
 - Outsourcing of increasingly information-intensive tasks;
 - Significant internationalization of R&D activities based on comparative advantage, proximity and other market factors.
- These elements suggest greater needs for coordination across activities.
- ITT flows are more dependent on global deployment of knowledge workers and information exchanges.
- Multiple channels of innovation and diffusion.
- “Reverse” flows of knowledge from South to North are becoming prevalent.
- Increasing S&T development by public sectors raises questions about how these activities may be commercialized and transferred.
- All of this suggests that roles of IPRs may need some new thinking.

Traditional concepts of ITT

- What outcomes are required for technological knowledge to be transferred?
- Market-based channels and the extent of ITT
 - Trade in capital goods and intermediates;
 - FDI;
 - Licensing within and across firms; joint ventures;
 - Empirical review: recent data and studies.
- Informal means of ITT
 - Spillovers and learning;
 - Reverse engineering and imitation;
 - Labor turnover;
 - International mobility of knowledge workers;
 - Empirical review: recent data and studies.
- Market failures in ITT and classic policy responses
 - Trade restrictions and investment subsidies or requirements;
 - Policy preferences in licensing regimes;
 - Variable IPRs favoring diffusion and learning;
- Evidence about roles of IPRs in this context: what do patent statistics tell us?

Updated concepts: new markets and innovation models

- Emergence of markets for trading technology
 - Characteristics of such markets;
 - Impacts of IPRs in this development.
- Increasingly complex global production networks
 - Multiple channels of information flows and feedbacks;
 - New theories of outsourcing and task sharing in relation to information flows and coordination;
 - Central role of local supply of professional services;
 - Effects on learning by upstream suppliers, who are increasingly engaging in R&D;
 - Role of downstream complementary assets and products;
 - Impacts of IPRs: importance of property rights, contracts and externalization.
- Rapid growth of innovation in some developing countries and “reverse” technology flows and spillovers.
- Emergence of open-source models of innovation: how does such innovation get transferred across borders and what is the role of IPRs?

Internationalization of R&D

- Basic motivations for increasing globalization across countries and within firms:
 - Complementary skills and endowments;
 - Growth of markets and information flows;
 - Strategic research alliances and innovative licensing across firms may be more efficient than in-house development.
- Evidence on geography and scope
- Increasing South-South orientation of commercial activity.
- Importance for ITT of expanding flows of human resources within/across networks.
- Impacts of IPRs on resulting spillovers and learning opportunities.
- Potential implications for policy regarding openness, IPRs and licensing.
- Legitimate arguments for public supports for ITT.
 - Support for scarce entrepreneurial activity in DCs;
 - Infant-industry arguments.
 - Others

Evolving role of public-sector support for technology and licensing

- Public investments in science and technology:
 - Comparison of industrialized and key developing countries;
 - Activities of international organizations and foundations.
- Commercialization of public R&D as a competitiveness issue:
 - Bayh-Dole and extensions to other countries.
- Emerging means of transferring research results and products to developing countries.
 - The need for public support in innovation, low-cost distribution and ITT of global public goods.
 - Roles of international organizations and public-private arrangements.
 - How important are IPRs in diminishing or supporting such flows?
 - Potential role for research exemptions and other limitations.

Toward global integration of S&T

- Importance of greater global integration of S&T opportunities:
 - Efficiency gains in allocation of public research supports;
 - Improved global research networks;
 - Greater access of developing-country scientists to research results.
- Possible approaches:
 - Enhanced visa opportunities for scientists and students;
 - Ensuring open access and dissemination of research results;
 - Linking research grants to participation by institutions in developing countries;
 - Moving toward a global agreement on access to public research.

Summary and policy suggestions

- What are remaining major barriers to ITT?
- Are these barriers really market failures supporting intervention and what kinds?
- Is there scope for unilateral or regional policy space for developing economies?
- What can developing countries do to maximize potential for inward ITT and local spinoffs/spillovers?
- International policy suggestions for encouraging ITT.
 - Reconsider restrictions on subsidy policies at WTO, etc.
 - Additional public research supports, especially for public goods meeting needs of specific markets;
 - Means to link participation of firms commercializing new technologies emerging from publicly funded research to requirements for deployment in poor countries;
 - Greater integration of scientific opportunities.