

Capitolo 8

Intellectual Property Rights

Alireza Naghavi

Creation of Knowledge 1

- **Intellectual creations have characteristic of public goods.**
- **Consumed by many economic agents at zero or very low marginal costs.**
- **Cost of reproduction of intellectual creation only fraction of production cost.**
- **Although pricing at marginal cost maximizes consumer welfare from static perspective, it lowers incentives to invest in creating new intellectual work.**
- **By granting temporary exclusive rights, IPRs allows property holders to price their products above marginal cost and to recoup initial investment.**
- **Trademark and geographical indication: incentives in investment in quality by reducing asymmetry of information between producers and consumers regarding the quality of product**

Creation of Knowledge 2

- **Patents more important in some industries, i.e. pharmaceuticals. Investment to develop, test, market new drug around \$200million. But once developed, easily imitated unless legally protected by patents.**
- **Stronger patent protection in South could stimulate research in North on issues of special concern for South such as AIDS drugs. But evidence limited**
- **Strong patent protection may restrict innovation process when firms seek patents to possess legal tool to deter entry of competitors**

Diffusion of Knowledge

- **IPR protection may raise range of internationally traded goods & services, may thus stimulate development of technological capabilities in South.**
- **Without stronger protection, firms reluctant to make foreign direct investment (FDI) in stages of production that involve significant technology transfer, that can easily leak to competitors.**
- **Direct technology transfer through licensing agreement another channel of international knowledge diffusion. Firms may be reluctant to license technology to unrelated firms in countries with weak IPR protection.**

Market Structure and Prices 1

- **Increased protection of IPRs gives monopolistic market power to right holders. Firms might be expected to reduce sales or output, supporting higher monopolistic prices for goods.**
- **In a developing economy that imports technologies, rents may be transferred from consumers to foreign suppliers, and may be sent abroad.**
- **Most controversial aspect of TRIPS is introduction of patents for pharmaceutical products.**

Market Structure and Prices 2

- **India abolished pharmaceutical product patent since 1970 and developed a highly competitive pharmaceutical sector with low drug prices. Introduction of patents was expected to considerably raise prices if uncontrolled.**
- **Also with copyrights, price for computer programs would also be much higher for legitimate programs as counterfeit programs disappear, hence price impact on computer users potentially severe.**

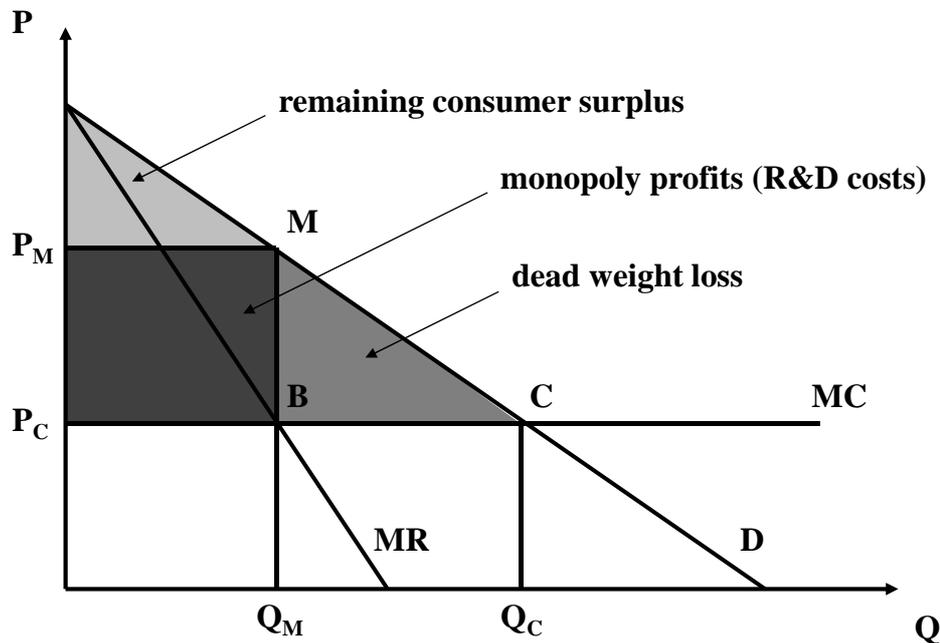
A Model of IPR 1

- **Trade-off illustrated in figure. Linear demand and marginal revenue for a product that has been invented and may be supplied to the market at constant marginal costs. Once product is available, ex-post optimality requires that it sell for a marginal cost at point C, generating consumer benefits in area APcC. However, solution at C, which would emerge in competitive market in which all firms could costlessly imitate the product and sell a close substitute, generates no rents with which to cover costs of original R&D. thus no investment, product undeveloped, entire consumer benefit disappears.**

A Model of IPR 2

- **Alternative solution: create monopoly in good through IPR, i.e. patent. Firms now offer product at point M, earning monopoly rents of area PmPcBM. These rents represent transfer from consumers to inventors and are the return on original investment in product development. Economy suffers a deadweight loss of area MBC in comparison with competitive (unattainable!) solution at point C. Compared to having no innovation, society achieves a net gain of remaining consumer surplus plus monopoly profits, less R&D costs**

A Model of IPR Figure



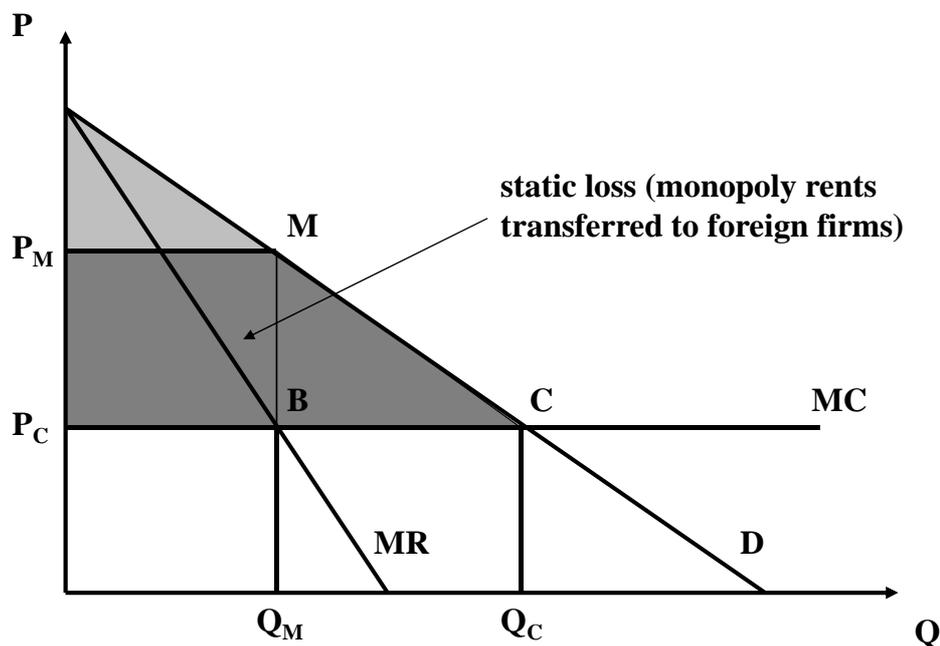
IPR in an Open Economy 1

- For a country that imports or produces an imitative product or technology at the competitive price, a decision to award protection transfers monopoly rents to foreign firms
- country suffers a static loss of area $P_M P_C C M$ from worsened terms of trade. It also reduces output by local firms that the right holder has not authorized.
- If country too small, for such transfer to induce foreign firms to spend more on R&D of products for the local demands, there is a straight welfare loss.
 → explains the resistance to stronger IPRs in many developing countries

IPR in an Open Economy 2

- **Technology-importing countries may prefer weak IPRs also to allow uncompensated imitation of foreign products & technologies. Limiting IPRs may provide inexpensive international technology transfer through imitation → justification for refusing to grant patents**
- **So countries that import goods and technologies that may be subject to IPR count several costs of protection.**
 1. **higher prices of imports**
 2. **potential competitive abuses in the exploitation of IPRs**
 3. **employment losses in the imitative & copying industries**
 4. **restricted access to international technologies**

IPR in an Open Economy Figure



IPR in an Open Economy 3

- **But IPR protection does generate domestic benefits: more domestic innovation (depends on market size and domestic technological capacities). Also through trade, FDI, licensing.**
- **Inventors market their products and technologies globally. Differential standards may be consequential because IP accounts for a substantially growing share of international trade and investment. Great pressure to expand the global reach of standards traditionally set in North.**
- **1995 TRIPS (Trade Related Aspects of Intellectual Property Rights) by the WTO (World Trade Organization) sets global IPR standards**

IPR and Health Revisited

- **IPR not for delivering profits, except if delivers better long-run healthcare**
- **HIV/AIDS is main issue: in both North and South, so research in North may produce treatments also appropriate for South. Expect that promise of strong IPR in North would act as major incentive for investment in R&D.**
- **Appropriate treatment exists, but access depends on affordability and availability. Cost a big concern in South as most poor people pay for own drugs, no state provision like the insurance schemes in North.**
- **Minimum annual cost of ARV therapies even at discounted or generic price exceeds annual health expenditure per capita in South (\$200 vs. \$23). So w/o extra funding for medicine treatment unaffordable even at cheapest generic price. Fewer than 5% of those who need get ARV treatment.**

IPR and Market Policy: Parallel Import 1

- **When product under IPR protection, which is put on market by authorized firm in foreign country (subsidiary or foreign licensee), is exported to a country in which same product is also sold by an authorized local firm (IPR title holder).**
- **The problem is prevented if IP owner is allowed to segment markets**
- **EU allows protected products to flow freely across EU, but entitles IPR holders to prevent parallel import from non-EU countries. TRIPS has no rules regarding this.**

IPR and Market Policy: Parallel Import 2

- **From viewpoint of the Southern consumer, parallel trading increases competition and drives down price. So it could offset potential price increase associated with IPR protection.**
- **At the same time, if universally adopted, limits ability of IP owner to discriminate prices across countries or regions. As prices already lower in low income countries, threat of parallel trading may lead IP holders to raise prices in South or not to serve it at all to protect higher prices in North.**

Inward FDI and Stage of Development 1

- **Least developed countries attract no FDI due to extremely low productivity, education, skills, underdeveloped infrastructure, closed to trade, poor government regulations that encourage corruption.**
- **As they develop and per capita rises multinationals find these economies attractive locations for vertical FDI for labor-intensive assembly operations. Expands until real wages rise sufficiently that economies lose their competitive advantage in assembly production (FDI rises wages itself).**

Inward FDI and Stage of Development 2

- **As vertical FDI falls off, horizontal FDI tends to move in because such countries achieve income levels that make them attractive markets for producing high quality goods, even local R&D.**
- **IPRs take on increasing importance as investments become more horizontal in nature. Countries moving up the FDI cycle find a growing economic interest in adopting stronger IPRs, an interest congruent with their own expanding abilities to develop new products and technologies.**

IPR and Mode of Entry

- **What matters to firm is if investment raises expected profits. IPRs affects firm's perception that it will be able to earn higher return on its protected knowledge assets through foreign investment.**
- **Firm's choices is to**
 - 1. export**
 - 2. FDI**
 - 3. licensing**

1. Export

- **When transport costs and tariffs low in comparison to costs of FDI and licensing. Volume of exports depends on strength of local IPRs.**
- **Market expansion effect: Strong IPRs provide protection for exporting firms against local copying of the product, suggesting that they would increase the market size facing exporters and induce them to sell more (strongest in large markets with significant technical capabilities for imitation).**
- **Monopoly effect: Firms enjoy greater market power, allowing them to charge higher prices. Usually overstated in reality and is more important in countries with smaller markets and limited technological abilities.**

2. FDI

- **Factor critical that induces horizontal FDI in advance technology is the knowledge basis of firm's advantage.**
- **IPRs should take on different levels of importance in different sectors with respect to encouraging FDI**
- **FDI in low technology goods and services (textile and apparel, electronic assembly, distribution) depends little on IPR, more on input cost and market opportunities (also those with a product or technology costly to imitate).**
- **Firms with products and technologies that can be easily copied such as pharmaceuticals, chemicals, and software, are more concerned with ability of local IPR system to deter imitation. Especially firms considering investing in local R&D facility pay much attention to IPRs.**

3. Licensing

- **Licensing is seen as insecure relative to investment in the high-tech sectors in countries with weak IPRs: shows importance of IPRs. Firms more likely to internalize through FDI rather than licensing with complex technology and when technology transfer through licensing costly (low IPRs).**
- **As IPRs improve, licensing costs fall as it is easier to discipline licensees against appropriation of technology and against misuse of trademark. So we would expect to see licensing displace FDI as IPRs are strengthened.**