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IPR and standards

Interoperability, governance and cooperation

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Background

- strong growth of applications and registrations of intellectual property rights (IPRs) driven by policies and strategic motives to patent (e. g. Blind et al 2006, 2009)
- IPR institutions awarding IPRs in new fields like software (e. g. Blind et al. 2005)
- quality discussion regarding IPRs (patent thickets, patent trolls etc.)
- Increasing focus on standardisation and standards by policy makers and companies due to increasing need for interoperability
- further differentiation and fragmentation of standardisation landscape e. g. due shorter technology life cycles and globalisation
- coordination problems between standardisation bodies, e.g. standard battles
- increasing interactions between IPR and standards

Economic Rationales of IPR Regimes

- **incentive function** by awarding a (temporary) monopoly in order to foster investment in R&D
- **disclosure function** by requiring the disclosure of the protected content in order to foster diffusion of (technological) know how
- **coordination function** by requiring the disclosure of the protected content and by awarding a (temporary) monopoly in order to avoid duplication of research efforts and to foster licensing and sequential innovation
- however, costs of IPR regimes caused by permanent monopolies, patent thickets, patent races and patent information overflows

Economic Effects of Standards

Type of Standard	Positive Effects	Negative Effects
Compatibility / Interface	<ul style="list-style-type: none"> •Network externalities •Avoiding lock-ins •Increased variety of systems products 	<ul style="list-style-type: none"> •Monopoly
Minimum Quality/ Safety	<ul style="list-style-type: none"> •Correction for adverse selection •Reduced transaction costs •Correction for negative externalities 	<ul style="list-style-type: none"> •Regulatory capture •‘Raising rival’s costs’
Variety Reduction	<ul style="list-style-type: none"> •Economies of scale •Building focus and critical mass 	<ul style="list-style-type: none"> •Reduced choice •Market concentration
Information	<ul style="list-style-type: none"> •Facilitates trade •Reduced transaction costs 	<ul style="list-style-type: none"> •Regulatory capture

Economic Benefits of Standards for Innovation

- **Incentive function**
 - Leveraging temporary monopoly of IPR integrated in standards
 - incentive for investment in R&D complementary to a platform standard
 - pooling of IPR into standards reduces transaction costs for implementers
 - realisation of economies of scale (variety reduction) and positive network externalities
- **Diffusion function**
 - freer use of protected technologies (depending on the licensing regime)
 - diffusion already during the standardisation process and eventually with the publication of standards
- **Coordination function**
 - significant restriction of parallel developments of standards
 - allowing transition from old to new technologies
 - reducing inefficiencies of too rapid transitions to new technologies

Economic Costs of Standards for Innovation

- **Incentive function**
 - establishing a monopoly due to the combination of IPR and standard-based network externalities
 - lock-in in inferior (old) standards
 - inefficiencies due to standard wars
- **Disclosure function**
 - standard thickets due...
 - to fragmentation of the standardisation landscape
 - increased interrelation between standards
- **Coordination function**
 - inefficient parallel standards
 - lock-in in inferior standards (excessive inertia)

Possible Conflicts between IPRs and Standards

- influence of patenting strategies on standardisation (Blind 2008), e.g. blocking of standardisation processes by withholding essential IPR
- “Forcing out patents” by launching standardisation projects
- unintended infringement of unknown IPRs related to standards
- strategic ex post disclosure of IPR after completion of standardisation processes (similar to submarine patents)
- problems with Fair Reasonable and Non-Discriminatory (FRAND) licensing of IPR implemented in standards (Blind et al. 2002)
- accumulation of licensing fees for IPRs by different owners
- Patent backlog at international patent offices causes frictions for standardisation

Policy Challenges

- IPR strategies (and policies) have an increasing influence on standardisation activities
 - this requires: better coordination between IPR and standardisation policies
 - Status quo: in general different institutions with still low level of coordination
- Locus and function: three-level-structure both in IPR regimes and standardisation generates further intertwined cross relations
- Integration of formal and informal standardisation
 - differences in IPR regimes (e. g. regarding the regulatory framework, public procurement (Blind 2008b) etc.)

Solutions

- assure a high level of quality of IPRs (especially patents)
 - reduces the risk of conflicts arising from low quality IPRs (e.g. trivial patents)
- stronger collaboration between IPR institutions and standardisation bodies
- promote a world-wide harmonisation of national IPR regimes
 - decrease the likelihood of conflicts caused by cross-border application of technical standards
- improve the transparency and accessibility of IPR material
 - Decrease cost of monitoring of IPR in standards (esp. for SMEs)
- transparent and shared guidelines for licensing of IPRs integrated in standards
- coordinate, but do not harmonise IPR and licensing rules of formal standardisation bodies with those of standardisation consortia

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谢谢

Thank you