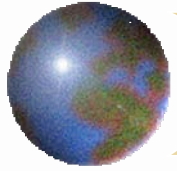


# *The Productive Potential of Software Patents ?*

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## *Aim of Presentation*

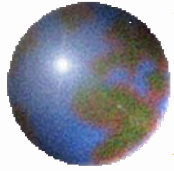
To unleash the productive potential of the software revolution for business and society we need to rethink:

- ✚ The rules of the game (patent law)
- ✚ The play of the game (interaction between firms and individuals in the competitive game of commercial exploitation of technological software inventions when they are protected by patents)

For purpose of policy, we need to distinguish

- ✚ the ‘institutional environment’: the ‘rules of the game’ (patent law at the level of the state) and
- ✚ the ‘governing institutions’ : the ‘play of the game’ (i.e. the nature of interaction between individual, firms and organizations at the sector level).

They are usually mixed up in policy making.

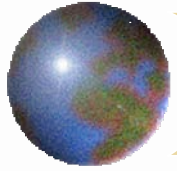


## *The Rules of The Game: The Institutional Environment*

The rules of the game set by patent systems affect the design of IPRs law.

Design issues include:

- length of patent protection obtained - - type of knowledge protected - - scope of knowledge protected - - licensing law (e.g. opportunity to block competition or should we opt for compulsory licensing) - - costs and procedures of obtaining and holding a right - - type and costs of the remedies available for infringement - - etc.
- The design of patent law setting rules depends on what we want from the patent system (i.e. rationales and objectives)



## *The economic rationales for IPRs (i.e. the IPR policy goals): An introduction to belief systems in the 'law and economics' mainstream literature*

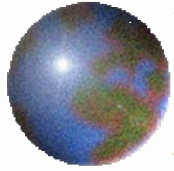
Patents signal prospect for reward, which:

- stimulates incentives to invest in invention and innovation
- stimulates innovation-based competition
- stimulate the direction of technological development towards useful inventions (i.e. those people want)

Patents facilitate trade in ideas and knowledge spillover (i.e. market facilitator for commercial exploitation)

Patents protect entrepreneurial talent for industrial development (i.e. industry facilitator for sustainable development)

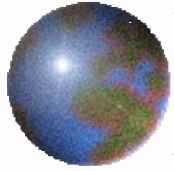
Natural rights and moral rationales: The natural right to claim the intellectual property and the moral right to compensation and reward.



## *Stakeholders and belief scheme at the level of the institutional environment: I.e. the ‘rules of the game’.*

Who are the stakeholders in the evolution of IPR regimes, and how do they interact and what are their interests and roles?

Form of governance	Dominant stakeholder	Stakeholder objectives	Role of IPR in strategic approaches	Expected outcomes
IPR regime	Government	Investment, invention and innovation activities	IPRs to stimulate economic incentives	Economic growth and social welfare
		Increased competition and market development	IPRs to ‘protect of entrepreneurial talent’	Economic growth and social welfare
		Knowledge trade and spillover	IPRs to organize science, technology and creativity	Economic growth and social welfare
	IPR offices per se (e.g. EPO)	Processing IPRs applications. Granting and maintaining IPRs	IPRs sustain the importance of the IPR office	IPRs generate income
	IPR agents / IPR lawyers working in IPR offices and IPR agencies	Job, salaries and careers	IPRs sustain the importance of the IPR agents / IPR lawyers working in IPR offices and IPR agencies	Maximize personal welfare
Consumers	Maximize access to, and minimize price on, products and services	Value from IPR regime is not obvious as it might increases a cost on the production system and thereby increases price	Maximize personal welfare	



## *Problems with belief scheme*

- The interaction of (micro) participants in the patent regime may not maximise the social and economic welfare at the (macro) level of nations and the state.
- Also, a patent regime at (macro) level of the state may not guarantee welfare for each (micro) participants within the system.

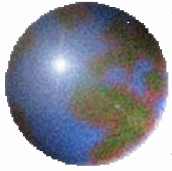


Patent rationales (based upon mainly theoretical logic) are problematic as they:

- *assume* that all inventors (individuals or firms) are autonomous rational profit-maximizing agents, and that
- the aggregate of their behaviour maximise their own as well as social welfare.

The arguments do not take into account the effects of:

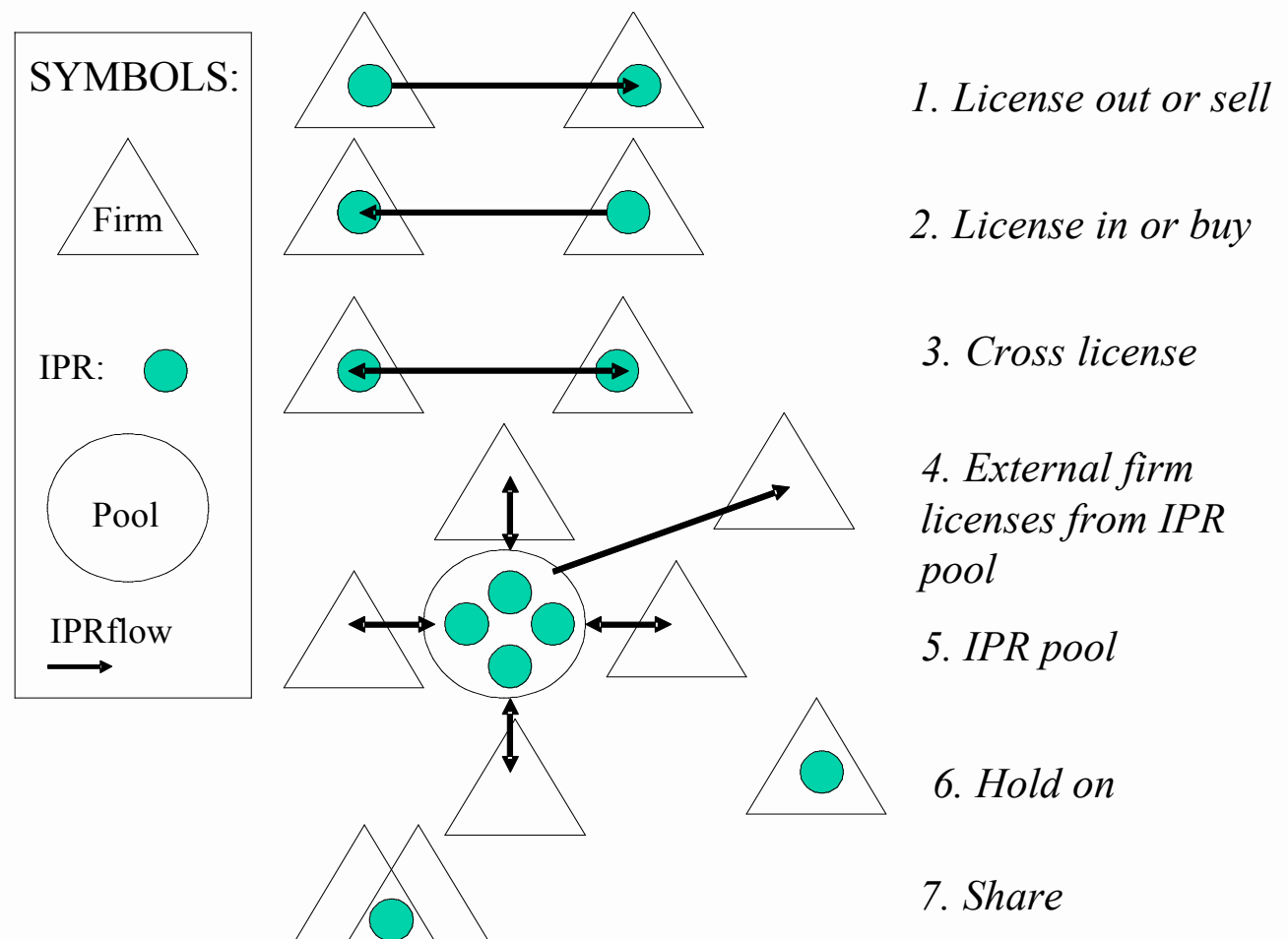
- technological inter-dependence,
- strategic interaction and collaboration in competitive markets,
- the specific nature of productive knowledge,
- power-relationships in bargaining situations,
- the opportunity costs of using the IPR system as a political instrument.

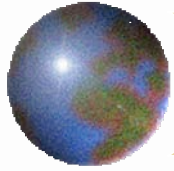


## *The 'play of the game': Institutions of patent governance*

The nature of the interaction between the players can be termed 'the play of the game'.

Each interaction is formed within a certain structure of contracts.



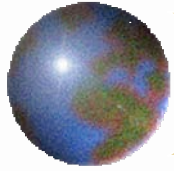


**Stakeholders at the level of patent governance: I.e. the play of the game**

Who are the stakeholders in IPR systems, and how do they interact and what are their interests and roles?

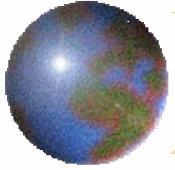


Form of governance	Dominant stakeholders	Stakeholder objectives	Role of IPR approaches in achievement of expected IPR outcomes
Sell and buy	Seller and buyer	Short term contractual market relationship	<ul style="list-style-type: none"> <li>• Seller: Maximise on off income</li> <li>• Buyer: Access to ownership of productive knowledge, market power, venture capital, income from subsequent licensing agreements, or other</li> </ul>
Licence out and in	Licensor and licensee	Longer -term contractual market relationship	<ul style="list-style-type: none"> <li>• Licensor: Control on markets and maximise income from licensing agreements.</li> <li>• Licensee: Access to a broader knowledge base</li> </ul>
Cross licence	The firms engaging in a cross licensing agreement. All firms can be considered as both licensor and licensee.	Longer -term exclusive contractual non-market relationship	<ul style="list-style-type: none"> <li>• Increased access to productive knowledge on a royalty free bases.</li> <li>• Cost cutting making the engaged firms price competitive.</li> <li>• Setting territories (i.e. market power) through exclusive cross -licensing agreements.</li> <li>• To enable an agreement or evolution on common standards .</li> </ul>
IPR Pool	The firms engaging in an IPR pool. All firms can be considered as both licensor and licensee.	Longer -term non-exclusive contractual non-market relationship	<ul style="list-style-type: none"> <li>• Increased access to productive knowledge on a royalty free bases.</li> <li>• Cost cutting making the engaged firms price competitive.</li> <li>• To enable an evolution or evolution of common standards.</li> </ul>
External Firm Licenses from IPR Pool	Licensor (the IPR pool) and licensee	Longer -term contractual market relationship	<ul style="list-style-type: none"> <li>• Licensor: Control on markets and maximise income from licensing agreements.</li> <li>• Licensee: Access to a broader knowledge base</li> </ul>



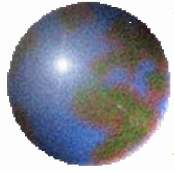
*Stakeholders  
in the 'play  
of the game'  
and their  
(conflicts of)  
interests  
(continued..)*

<b>Form of governance</b>	<b>Dominant stakeholders</b>	<b>Stakeholder objectives</b>	<b>Role of IPR approaches in achievement of expected IPR outcomes</b>
Hold On	The IPR owner.	Market prevention.	<ul style="list-style-type: none"> <li>Exclusively use its own invention (setting territories), or prevention of other to use an invention.</li> </ul>
Share	The IPR share -holders.	Non-market share holding relationship.	<ul style="list-style-type: none"> <li>The IPRs which are shareholder -based can enter all sorts of IPR arrangements for value creation, as identified above.</li> </ul>
Any of the above IPR systems	Lawyers, directly engaged in the contractual processes	Job, salaries and careers	<ul style="list-style-type: none"> <li>IPRs sustain the importance of the IPR lawyers.</li> <li>Maximize personal welfare</li> </ul>
Any of the above IPR systems	Employees involved with IPR	Job, salaries and careers	<ul style="list-style-type: none"> <li>IPRs sustain the importance of employees involved with IPR .</li> <li>Maximize personal welfare</li> </ul>
Any of the above IPR systems	The individual and firms who have been excluded from above IPR systems	To gain control over the use of IPRs	<ul style="list-style-type: none"> <li>No value from various of the IPR systems are recognized.</li> </ul>

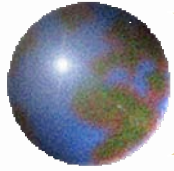


## *Conclusions: Productive patent governance*

- ❖ The ‘institutional IPRs environment (the rules of the game)’ and the ‘IPRs governing institutions (the play of the game)’, as well as their interaction, have implications for the social and economic effects of IPRs system, at the levels of individuals, firms, sectors, countries and civilizations
- ❖ A clear distinction between the ‘institutional IPRs environment’ and ‘IPRs governing institutions’ is useful when designing policy fostering the new economy:
  - ❖ they have different objectives and require very different type of regulation.
  - ❖ it requires complex collective action by means of government intervention to change the ‘rules of the game’ (i.e. the law) whereas it requires less complex individual action between the players to change the ‘play of the game’. It is here industry bodies can make a difference.



- ✚ Conclusions regarding the ‘rules of the game’ (patent law):
  - ✚ Government need to rethink patent policy if the system does not perform in relation to its objectives
  
- ✚ Conclusions regarding the ‘play of the game’ (patent governing institutions):
  - ✚ Which principle should we opt for?: (I) few firms get large share of a small pie or (II) many firms get a small share of large pie.
  
- ✚ We need to achieve a productive governance structures: This is better for society and also firms in the long run.
  
- ✚ Industry can make a difference themselves: Determinants of patent governance performance:
  - ✚ Ability to enforce cooperation (less opportunities to block or in some cases even no patents).
  - ✚ Ability to resolve conflicts of interest
  - ✚ Ability to secure agreement regarding distributional shares
  - ✚ Ability to prevent the abuse of power when there are asymmetries



## *Stakeholders' Interests Prioritised by the Rules*

Awareness:

Interaction between the 'rules of the game' and the 'play of the game'

- The 'rule of the game' (i.e. design of patent law) influence quality of the relationships among the patent stakeholders in the 'play of the game', with respect to how their interests are prioritised.
- This might have some influence on the *ability* to fully exploit the productive potential of the software revolution for business and society.