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# Signalling Value of IPR Announcements

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# Classical View of Patents

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- **Theoretically**, patents confer appropriability by granting legal monopoly of an invention for a limited time to the patentee in return for a public disclosure (e.g. Levin, 1986)
  - Inventors give up information to the public domain (at a loss to them) in exchange for exclusive rights (compensation)
    - private value of the patent is framed in exclusivity terms.
  - **Empirically**, extensive research shows that patents rarely confer perfect appropriability
    - many can be ‘invented around’; fail legal challenges; difficult to enforce, imitation occurs, knowledge spill-over exits, etc.
  - If patents are an ineffective means of appropriation in many industries, why do firms still use them?
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# 1. Extended View of Patent Value

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- Beyond establishing property rights over a specific invention, patents themselves contain a lot of other useful information (Lerner, 2000)
  - **Patent counts** are a useful to **measure R&D performance**; proxy for innovativeness; the more times a patent is cited more valuable it is/perceived to be (Griliches, 1990)
  - **Patent citations** can be used to **track knowledge flows** between organizations (Hendersen et al, 1993; Jaffe & Trajtenberg, 1998); track the link between innovations and organizations
  - **Patents used strategically** to gain advantage in inter-firm negotiations and litigation or obtain access to foreign markets where licensing to a host-country firm is a condition of entry (Levin, 1986).
- Others...

# Patent Impact

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- Private/ Public...
- Economic / Societal / Cultural...
- Firm performance (Bloom & Van Reenen, 2002)
  - Productivity
    - Long term measure: patents have slower, less clear effect
  - Market Value
    - Short-term, Forward look measure: disclosure of patent feeds into market valuations almost immediately

## 2. Extended View of Patent Value

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### ■ Patents as **Options**

- Patents create a legal asset which grant the owner (patentee), the right, but not the obligation, to invest further resource to commercially exploit the invention
  - This allows for optimal **choice of timing** of commercialisation (e.g. Pakes (1986))
  - Provides firms with the **option to delay** commercialisation or **option to abandon** altogether (Schwartz, 2004; Baecker, 2006)
  - ‘Sleeping’ or unexploited patents previously seen as anti-competitive devices can be seen as firms trying to optimising timing of decision and strategic/forward looking behaviour.
- Conceptualisation coincides with growing importance of financial markets

# Why disclose more than you need to?

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- Under the classical view of patents, inventors should be loath to give up any extra information than absolutely necessary.
- However inventors often choose to disclose information via patents even when appropriability gains are unclear.
- **Why?**
- Similar question to: why do companies choose to *disclose* information about themselves above and beyond what is regulatorily required?

# Voluntary Disclosure Debate

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## **Negative impacts of releasing private information to the public**

- Disadvantages of releasing sensitive information to competitors (e.g. Heil & Robertson, 1991)
- False announcements used to deter competitors from entry (e.g. Bayus, Jain, Rao, 2001)
- Low quality firms mimicking high quality firms degrades the marketplace (Akerlof, 1970; Welch, 1989; Hertzendorf, 1993)
- Disclosure policies can (negatively) affect competition and/or amplify financial market inefficiencies (Boot & Thakor, 2001; Admati & Pfleiderer, 2000; Lang and Lundholm, 1996).

## **Positive theories of information disclosure:**

- Releasing public information reduces the incentives to acquire private information (saving real resources)
- Improves risk sharing and reduces cost of capital (Diamond, 1985; Botosan, 1997; Healy, Hutton & Palepu, 1999)

# Real Value of Announcements

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Strategic Announcements can provide real benefits for management (Dempster, 2006)

- They influence investor perceptions
  - Affect expectations about PV of future growth and opportunities
  - Allow managers to communicate with the external marketplace
  - Allow the signalling of intangible sources of competitiveness
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- Growing recognition that some announcements are not simply disclosures of specific ‘facts’ but have inherent **strategic value**
  - *But how can we disentangle the value their contribution?*

# 3. Extended View of Patent Value

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- Patents as **Signals**
  - Patents provide firms with a mechanism to signal information about themselves that would be more expensive to convey by other means
  - Patents can publicise information
  - Resolve information asymmetries between inventors and investors (Long, 2002)
- Signal are valuable because they are **costly**
  - Disclosure of information to competitors / knowledge spillovers
  - Mis-representation penalties and reputation damage

# Why Signal?

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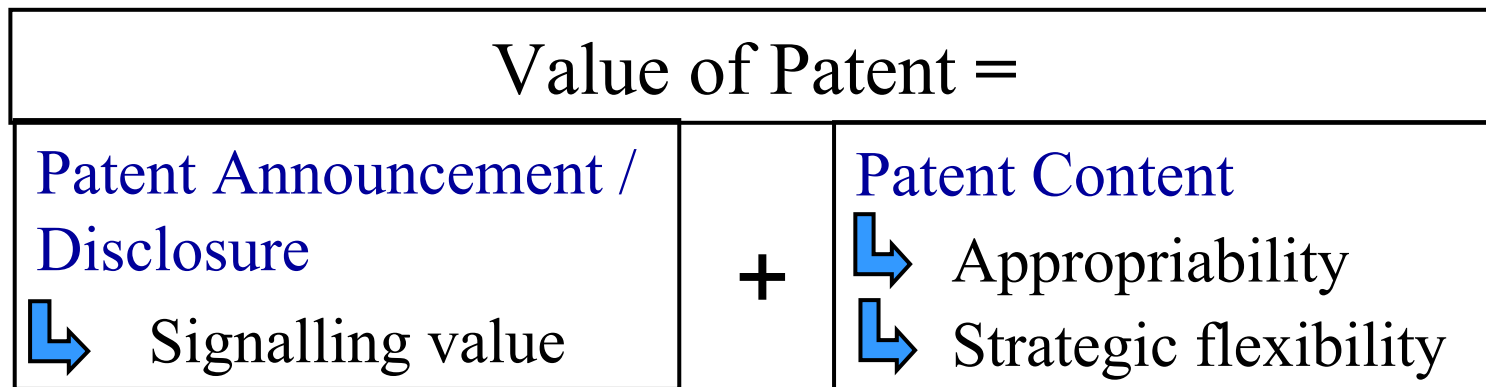
- High uncertainty and standard sources of information unreliable
  - High information asymmetry between firms and observers/investor; cannot easily distinguish between low and high quality firms
  - Incentive for high quality firms send credible signals which are costly to generate and therefore difficult to mimic by low quality firms
  - Signalling becomes increasingly important exactly in cases ‘...when performance criteria are obscured... Indeed, when the intrinsic quality of the decision is exceptionally difficult to assess, the signaling process may itself affect the quality’ [Feldman and March, 1981;179]
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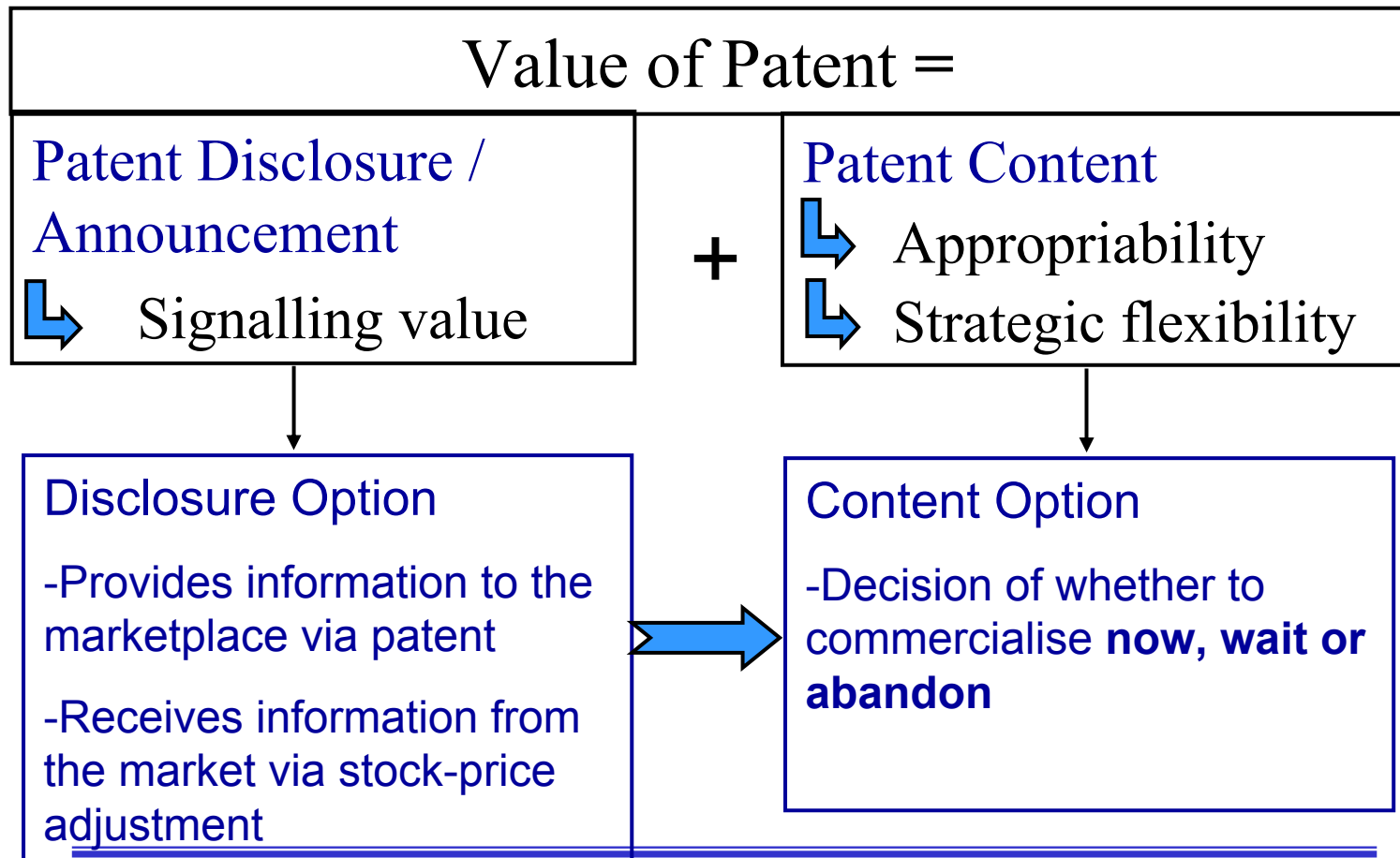
# Decoupling sources of Patent Value

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- What is the relationship between the different components patent value?



# Decoupling Disclosure and Content



# Comparable Cases

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- Under conditions of high uncertainty, high information asymmetry, etc.,
  - Firms announce **new ventures** as a signal of competencies and capabilities & wait for market reaction (Dempster, *EMJ*, 2006)
  - Emerging market firms announce foreign **IPO's** in order to signal credibility to international markets (ongoing work)
- The value of signalling outweighs costs of information disclosure

# Research Aims & Contributions

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- Introduce a **theory of corporate strategic announcements – as options**
- Conceptualising patents as signalling options, provides framework for valuing the contribution of disclosure and corporate communication.
- Centrally position the study of corporate information release as an integral and *valuable* part of firm's competencies contributing to strategic flexibility
- Highlight directions for future development of quantitative techniques for real-life applications using real options methods