



Economic implications of global patent backlogs

Presentation by
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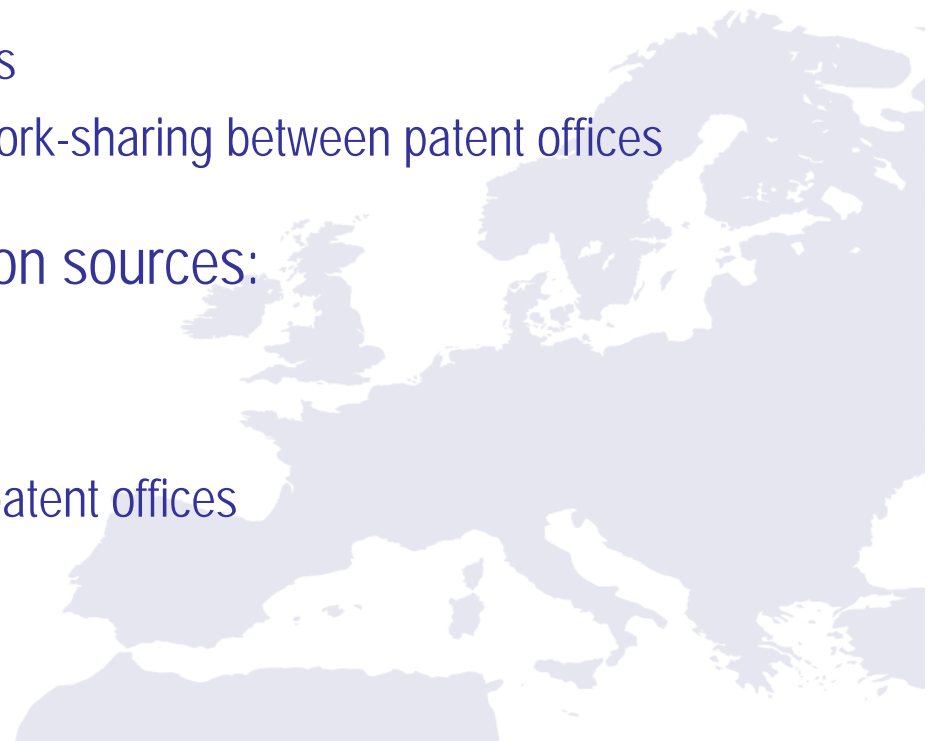
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Overview of the study



- ❑ London Economics was commissioned in November 2008 to assess the economic implications of growing patent backlogs worldwide
- ❑ This involved several strands of research:
 - analysing the current level and trends in patent backlogs
 - understanding the drivers of backlogs
 - identifying and estimating the economic costs
 - considering the potential impact of greater work-sharing between patent offices
- ❑ The study drew on a number of information sources:
 - Publicly available patent data and PATSTAT
 - Academic and policy literature
 - A series of interviews with experts at major patent offices



Trends in patent backlogs



- ❑ Backlogs are often discussed, but difficult to define in practice
 - Applications have increased substantially over the past twenty years but so have patent offices' examination capacity
 - Need to account for both in measuring backlogs
- ❑ Our analysis shows significant increases in backlogs at major patent offices
 - Growth of between 28% and 58% between 2000-2007 at the Trilateral offices
 - Patent pendency in these offices grew from an average of just over 2 years to more than 3 years over the same period
- ❑ Growth in backlogs has been driven largely by growth in applications, but other factors may also have contributed, including strategic firm behaviour
- ❑ 'Globalisation' of patent applications has played a major role
 - We estimate that around a third of applications are submitted at multiple patent offices

Effects of patent backlogs



- ❑ Patent backlogs can impose wider economic costs beyond their direct effects on patent offices
- ❑ Backlogs increase the time applicants need to wait to receive a granted patent i.e. 'pendency';
- ❑ Higher pendency:
 - Reduces the value of patents for 'valid' applications,
 - May incentivise strategic behaviour regarding 'non-patentable' applications
 - May affect either the incentive to innovate and/or utilise the patent system
 - Creates uncertainty over the scope of patent rights and may distort decisions over R&D investment
 - Confers temporary 'monopoly power' to non-patentable applications for longer periods

Economic costs of patent backlogs

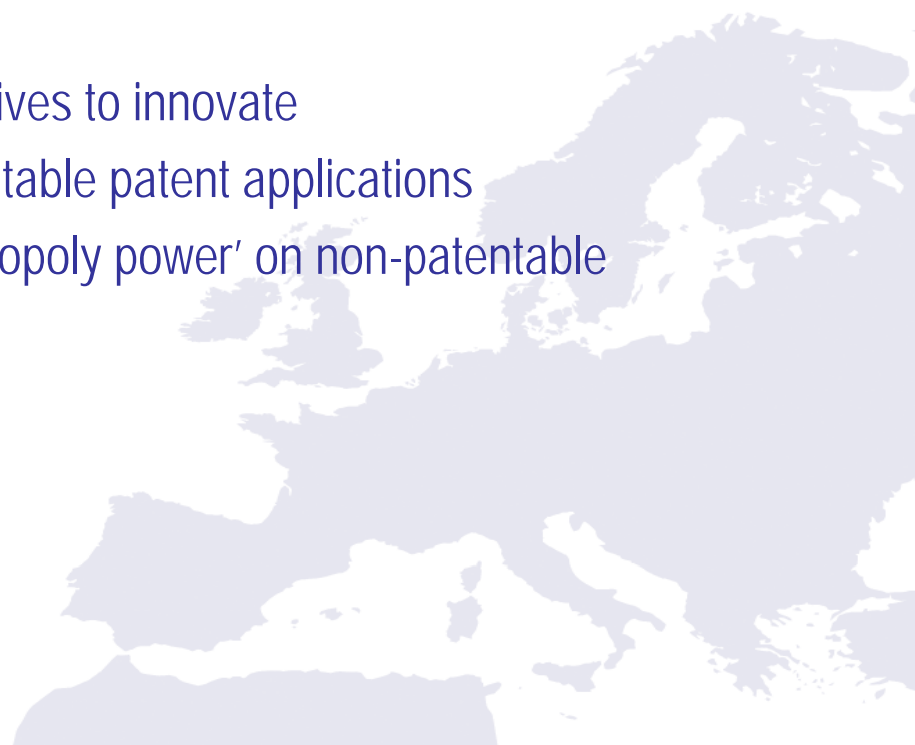


- ❑ Backlogs may reduce the patent system's ability to promote innovation
 - Longer pendency may deter innovation as inventors feel less able to rely on patent protection
 - So far effect on most patent applicants appears to have been limited
 - Particularly problematic for applicants in industries with short product lives and lacking alternative forms of IP protection
 - Uncertainty over scope of patent rights to be granted may delay R&D in productive areas
- ❑ Delays in patent grant may attract additional non-patentable applications
 - Longer pendency periods increase the value of a pending patent application
 - This may encourage applicants to submit more applications they don't expect to be granted
 - Lower patent quality may have a similar effect by increasing the probability of grant
 - These additional applications are a non-productive use of resources
- ❑ Delays confer temporary 'monopoly power' to non-patentable applications
 - Longer pendency grants monopoly power for a longer period
 - Potential competitors may be deterred until outcome of patent application is known

Estimated costs of patent backlogs



- ❑ Under current patenting trends, our model predicts an average increase in pendency of slightly more than one year, over the next five years
- ❑ An additional year of pendency is estimated to impose costs of £7.6 billion per annum, including:
 - Cost of £6.0 billion due to reduction in incentives to innovate
 - Cost of £0.4 billion from additional non-patentable patent applications
 - Cost of £1.2 billion resulting from some 'monopoly power' on non-patentable applications



Estimating the cost



1) Cost of reduced incentives to innovate

- Reduction in patent value has consequent effect on number of applications
- Only a small proportion of potential applicants will be affected
- Applications in high tech fields, made by small companies and used for licensing / commercial purpose
- This implied between 5% and 9% of applications are affected
- Estimated cost of £6.0 billion per annum
- Estimation excludes impact of “uncertainty” which may be the most important driver of reduced innovation



Estimating the cost (cont.)



2) Costs of additional non-patentable applications

- Increase in value of pending patent may lead to greater numbers of strategic applications
- Costs of these applications include process fees, translation costs, and the costs of legal advisers and patent attorneys
- Estimated cost of £0.4 billion per annum

3) Cost of 'monopoly power' on non-patentable applications

- Pending patent right provides ability to charge higher prices
- Adjustment to account for lower value of pending compared to granted patents
- This increases profits with non-patentable applications but imposes a deadweight loss
- Estimated cost of £1.2 billion per annum (based on price mark-up of 20%)



Summary



- ❑ Patent backlogs are growing, and are likely to increase further
 - Our estimates suggest pendency times could increase by more than a year over the next five years
- ❑ Backlogs can impose significant economic costs through several channels
 - Delays in patent grant and associated uncertainty reduce the incentives for innovation the patent system is designed to provide
 - Long pendency times encourage strategic applications and grant non-warranted temporary monopoly rights for longer
 - The cost of an additional year of pendency is estimated at £7.6 billion per annum
- ❑ Sharing of examination work across patent offices has the potential to significantly reduce workload levels
 - A 25% reduction in work-load associated with duplicate applications could lead to a 9-month reduction in pendency over the next five years