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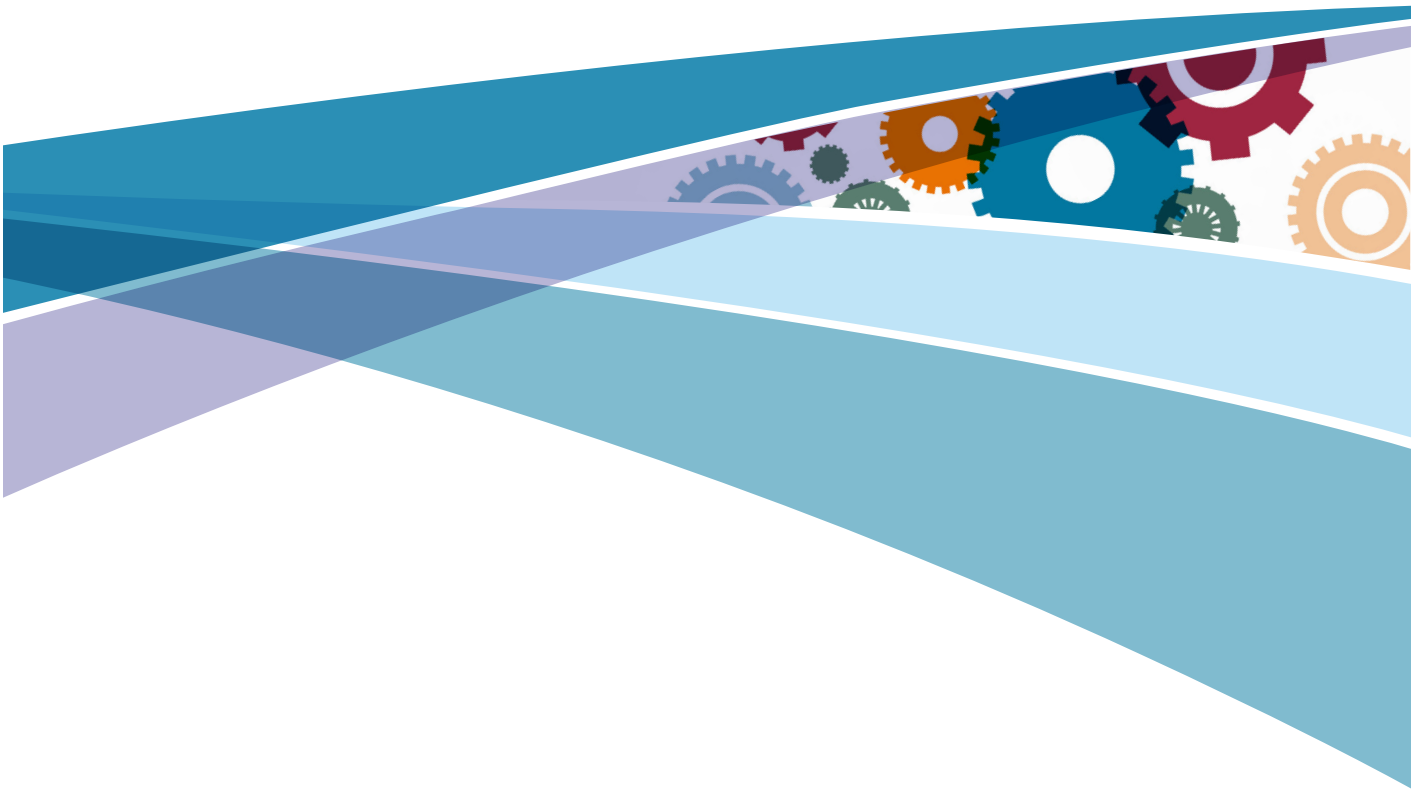
Patent Backlogs, Inventories and Pendency: International Framework – A Methodological Update for UK analysis



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Patent Backlogs, Inventories and Pendency: International Framework – A Methodological Update for UK analysis

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Background

In June 2013 the UK IPO and the USPTO published a working paper examining the measurement and operational consequences of patent backlogs[1]. The paper focussed on an agreed modelling approach of the patent application process across the two offices. This approach acknowledged that in reality the systems are different, but identified common measurements for international comparison of backlogs and pendency, which could be applied in and beyond the UK and the US.

In mid 2014, IP Australia published a backlog and pendency analysis using the same framework[2].

This paper updates the UK analysis in the first joint backlog study. It presents revised and updated data and suggests future developments for patent backlog analysis.

Analysis of UK Patent Backlogs

The 2013 paper identified four core milestones, which structured the patent application process into activities that exist in both the UK and the US patent offices[3]. These milestones are:

- Receipt of a patent application by the office
- Ready for examiner action – the earliest point a patent examiner can begin work on a patent application (search and/or examination)
- Completed first substantive examination
- Disposed in terminal action – the patent application is granted, refused or abandoned

The count of patent applications between these milestones creates three stocks from which the patent backlog can be identified. The three stocks are defined as:

Stock 1 – patent application received and not yet ready for action

Stock 2 – patent application ready for action but not received first substantive examination decision

1 http://www.ipo.gov.uk/ipresearch-uspatlog-201306.pdf

2 http://www.ipaustralia.gov.au/about-us/reports/economics_research_paper01

3 The complete methodology for the International comparison is defined from page 15 onwards of the following report. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/311239/ipresearch-uspatlog-201306.pdf

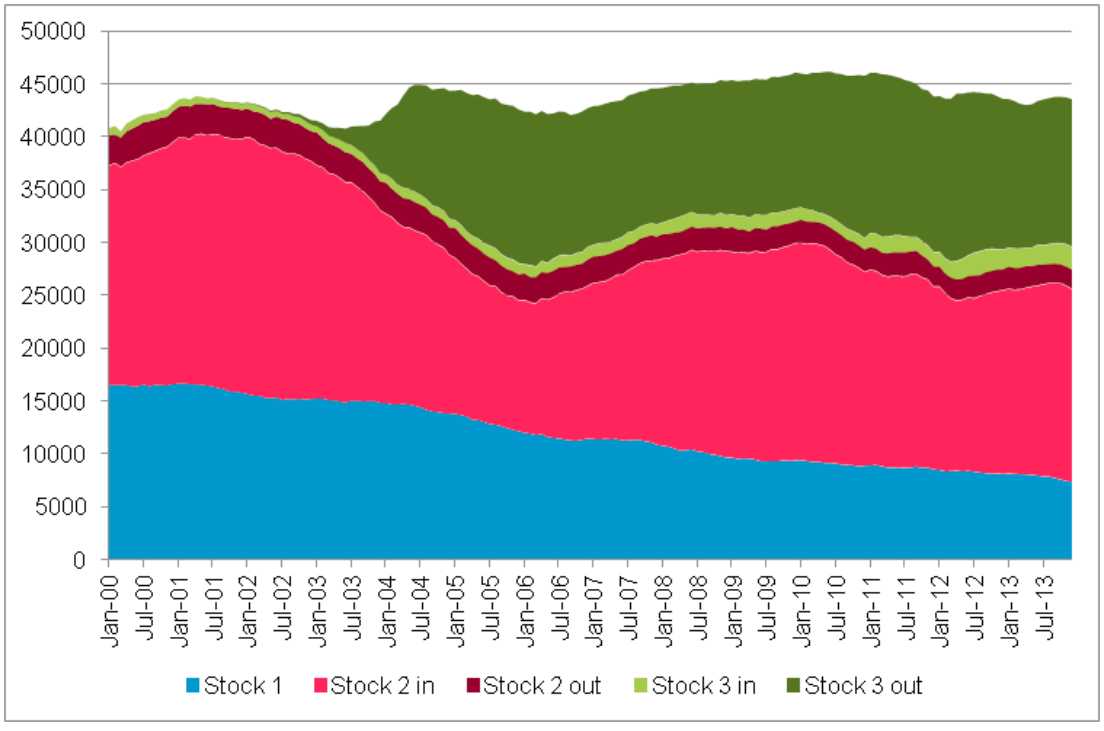
Stock 3 – patent application has received first substantive examination decision but is not yet approved, refused or abandoned

Depending on the patent system, it is possible for a patent application within these stocks to be "in" or "out" of the office. If a patent application is "in" the office it means it is awaiting an examiner to action. A patent application "out" of the office is awaiting input from the applicant before it can proceed.

In the UK analysis we do not differentiate whether a patent is "in" or "out" of the office between receipt and 'ready for action' (stock 1) because this data is not available. The likelihood is that the majority of patent applications in this stock will be awaiting an applicant to file the required forms, so could be considered to be "out" of the office[4]. For stocks 2 and 3 it is possible to determine whether the application is "in" or "out" of the office.

This framework provides a measure of the overall backlog in terms of the five stocks, shown in chart 1; the greater each element of the stock, the greater the contribution to the overall inventory. This framework allows us to consider the stocks in terms of the impact on applicants awaiting a decision, on workload management by the patent office, and on third parties who may be affected by unresolved patents.

Chart 1: UK patent stock 2000-2013



4 Stock 1 "in" would reflect the time take for the UK IPO to record the patent application, which would be expected to take a few days. To enter stock 2 the applicant has to file an application and a request for search. These can be filed separately. The request for search needs to be filed within twelve months of the application. Therefore a patent would be in stock 1 "in" for a few days, but could be in stock 1 "out" for up to a year.

In comparison with the data published in June 2013, two revisions have been made to stock and backlog estimates. These revisions have been driven by an improved definition of stock 2 and stock 3 "out" estimates.

Stock 2

Using a more direct source of data, the distribution of patent applications within stock 2 has been redefined to more accurately reflect those that are "in" and "out" of the office. This revision has resulted in more applications in stock 2 being shown "in" the office, better reflecting the considerable amount of time between when the application is searched and when it is first substantively examined. The majority of stock 2 applications "out" of the office are those where a substantive examination is yet to be requested, with the applicant having six months in which to file said request.

Stock 3

Stock 3 "out" relates to patent applications that have had their first substantive examination but have yet to be granted and are not currently being re-examined. This means that either the applicant is revising the patent to submit for re-examination or the applicant has abandoned or is considering abandoning the patent application. As there is no requirement for the applicant to inform the office of their intentions, stock 3 "out" can form a significant part of the overall backlog.

To ensure that these patents do not remain in the backlog indefinitely they are terminated four and a half years after application[5] if the applicant has not responded to an examination report.

Even with this termination point, the uncertainty surrounding applicants not having to withdraw their applications means stock 3 "out" is overestimated. Until termination, these applications are still live and could result in amendment, but few do (consider stock 3 "in", the number of amendments at a given time, compared to stock 3 "out"). For this reason, stock 3 "out" is not considered by the UK IPO when measuring the backlog.

However this stock of unresolved patents may create market uncertainty as third parties looking to produce or use the same or a similar invention may be deterred from doing so, through fear of future infringement should the patent not be abandoned and subsequently granted. On this basis, in the UK, stock 3 "out" could be considered of interest for purposes other than measuring the backlog.

To help manage resources within the UK IPO, stock 2 "in" is considered to be the most insightful measure as it consists of patent applications that are in the process of or between search and substantive examination by an examiner. Typically if a patent was to reach grant or ultimate refusal it would spend the largest proportion of time within this stock, hence its' importance in measuring backlogs.

Patent backlogs increase if stock 2 "in" either increase (demand side) or take longer to examine (supply side).

5 One year after first examination, if first examination takes longer than three and a half years after priority date.

The Future of Backlogs Analysis

This analysis illustrates that backlogs are measurable through the three stock measures as proposed in the international framework as published in 2013. However, identifying the causes for backlogs is more difficult and may not be consistent across offices, because elements of the stock of applications are affected by different factors.

For the management of the UK IPO's processing of patents, the relevance of stock 1 and stock 3 "out" is limited. Stock 1, for instance, has a considerable volume of applications that never make it to stock 2, which seems the logical starting point for more in depth analysis. Likewise, stock 3 "out" contains applications that the applicant is no longer pursuing, but the UK IPO cannot consider disposed, as there is no mechanism by which this information is captured, thus inflating this stock. However these stocks may represent uncertain claims on markets that affect third parties.

To understand the flow of the backlog a more dynamic method of exploring the relationship between the stocks is required. The UK IPO, in conjunction with analysts at the department of Business, Innovation and Skills developed a dynamic model of the patent application process. This model has been developed further by UK IPO to allow the examination of the wider impacts of changes in the demand for patent applications and the office's ability to process them across each of the defined stocks. Crucially this will allow us to allocate resources dynamically, using scenarios based on developments in innovation (such as technology hotspots) or customer behaviour, for example. This will ensure that resource management is more efficient and flexible, to meet the needs of the UK's innovators.

The UK IPO will publish the findings of this new work in 2015. As with the initial working paper, issues and consequences of patent backlog and pendency will be analysed and discussed.

Conclusion

The UK IPO have revised the methodology of calculating the UK's patent backlog and updated analysis to reflect that of recent developments. These results better inform the UK's position for international discussions about patent backlogs. The revision is an improved definition of the estimates of stock 2 and stock 3 "out".

Our further work has highlighted the importance of treating the International Framework as the beginning and not the end of the road of backlog analysis. The analysis and discussion to date has highlighted the benefit of additional information to provide further insight into backlogs, pendency and the different factors which affect an application at different stages of the patent process. Understanding which of these can be managed and their effect on different users of the patent system, is the next stage of the analysis.

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