

Patent Prosecution Highway: Data Analysis on Offices of Earlier Examination

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Patent Prosecution Highway (PPH) on patenttivirastojen kahdenvälinen yhteistyösopimus tutkimustyöstä, mikä tarjoaa patentinhakijalle mahdollisuuden pyytää nopeutettua tutkimusta toisessa virastossa, jos ensimmäisen hakemuksen tutkinut virasto on todennut patenttivaatimukset patentoitaviksi. Julkisesti saatavat PPH-tilastot vahvistavat PPH-järjestelmän nopeamman luonteen, mutta tilastot sisältävät ainoastaan toisen viraston tuloksiin perustuvaa tietoa. Sen selvittämiseksi, onko ensimmäisen viraston valinnalla vaikutusta onnistumisen todennäköisyyteen tietyssä toisessa virastossa, toteutetaan data-analyysi 60:stä Yhdysvaltojen patenti- ja tavaramerkkivirastolle jätetystä anonymisoidusta PPH-hakemuksesta. Vertaileva data-analyysi rajoittuu kolmeen ensimmäiseen virastoon: Suomen patenti- ja rekisterihallitukseen, Euroopan patenttivirastoon ja Yhdistyneen kuningaskunnan teollisoikeuksien virastoon.

Abstract

The Patent Prosecution Highway (PPH) is a bilateral agreement of examination cooperation between two patent authorities that allows an applicant to request accelerated examination at the office of later examination if the office of earlier examination has found the patent claims patentable. There are PPH statistics publicly available that verify the faster nature of the PPH system. However, the published statistics include data based only on the results of the office of later examination. In order to find out whether the selection of the office of earlier examination has any impact on the probability of success at a certain office of later examination, a data analysis of 60 anonymized PPH applications filed with the USPTO is conducted. The scope of the comparative data analysis is limited to three offices of earlier examination: the Finnish Patent and Registration Office, the European Patent Office, and the United Kingdom Intellectual Property Office.

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1. Introduction

The Patent Prosecution Highway (PPH) is a program providing an alternative avenue for applicants with intentions to obtain patents around the world and to build a global patent portfolio quickly. Permitting applicants to submit a positive opinion from one patent office to another allows to reutilize work already available and consequently expedites patent prosecution. In other words, an element of trust is established between the partner offices by agreeing and aligning on the quality and standards of examination. There is a good number of PPH statistics publicly available that provide proof of the quicker and more efficient nature of the system. The published statistics, however, include data based only on the results of the office of later examination. This raises a question whether the selection of the office of earlier examination has any impact on the probability of success at a certain second office. Since such statistical data is not published, the aim of this paper is to conduct a data analysis in order to find out whether there are possible differences in PPH results depending on the first office.

For this purpose, a US patent law firm with over 20 years of experience in the field¹ has provided the author with a dataset of 60 anonymized PPH applications filed with the USPTO. Selecting the USPTO as the office of later examination is evident, not only for the considerable number of PPH requests yearly² but also for holding a key role in the current PPH system as one of the “founding fathers” of the fast-track examination. The scope of the data analysis is also limited to three different offices of earlier examination: the Finnish Patent and Registration Office (PRH), the European Patent Office (EPO) and the United Kingdom Intellectual Property Office (UKIPO).

¹ Thanks to Mr. Geza C. Ziegler Jr., a patent attorney at Ziegler IP Law Group, for kindly providing all the data needed for this study.

² In 2022, there were 6991 PPH applications in total filed at the USPTO. See more: Japan Patent Office 2023, *Number of PPH Requests*, PPH Portal, viewed 28 July 2023. <https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fwww.jpo.go.jp%2F%2Ftoppage%2Fph-portal%2Fdata%2Frequests.xlsx&wdOrigin=BROWSELINK>

Analyzing the dataset allows, firstly, to compare the results to the published statistics to acquire an indication on the quality of the dataset and, secondly, to compare the results between the three offices of earlier examination to better understand whether there are any differences in grant rate, first action allowance rate, average pendency from filing to allowance, or number of office actions. The reasons for each abandoned application in the dataset are also assessed.

In addition to discovering whether the choice of the office of earlier examination matters pursuant to the dataset, another interesting aspect to consider is if such information – no matter what the outcome – has any value for an applicant from the viewpoint of patenting strategy.

2. Patent Prosecution Highway

2.1 What Is the Patent Prosecution Highway?

The Patent Prosecution Highway is a bilateral agreement of examination cooperation between two patent authorities that allows the applicant to request accelerated examination of their application at a second office (Office of Later Examination (OLE) or Office of Second Filing (OSF)) if the first office (Office of Earlier Examination (OEE) or Office of First Filing (OFF)) has found the patent claims allowable/patentable. The aim of the PPH is to provide a fast alternative to obtain a patent by filing a second application corresponding a first application with any of the offices participating in the PPH program. Since the launch of the first PPH pilot between the Japan Patent Office (JPO) and the United States Patent and Trademark Office (USPTO) in 2006, the network of patent authorities implementing the PPH has increased to 55 offices.

As an example, the Finnish PRH has PPH programs with a number of other patent offices and is one of the offices participating in Global PPH. This means that a fast-track examination can be requested at a second PPH office on the basis of a Finnish patent application, if PRH has found allowable claims in the application, and vice versa. The PPH request does not normally cost anything.³ After the PPH request has been accepted, the second office will speed up the examination process of the corresponding application. However, as all patent authorities are independent in their decision-making, the opinion of the first office is not binding on the second office. For example, the searches and examinations at the PRH are based on Finnish patent legislation and the office's processing guidelines.

³ The Korean Intellectual Property Office (KIPO) being an exception with charging a handling fee.

2.1.1 PPH MOTTAINAI

Along with the normal bilateral PPH, eight offices⁴ agreed in 2011 to put in place another type of PPH to ease the PPH requirements: the Patent Prosecution Highway MOTTAINAI (PPH MOTTAINAI). It is a program that makes the PPH available for applications with allowable/patentable claims regardless of the OFF. In practice, the PPH MOTTAINAI is applicable in two cases: when the examination results from the OSF come out earlier, and when the earliest application is filed with a third office that is other than the OEE and the OLE. Since the normal PPH requires the examination results of the OFF, both applicants and offices had expressed their feelings towards wasted examination results coming out from the OSF earlier than from the OFF. In Japanese language, the word “MOTTAINAI” means “to feel sorry that something still usable is wasted or something valuable is not properly used”.⁵ Since the start of the PPH MOTTAINAI program, the number of implementing offices has expanded.

2.1.2 PCT-PPH

The Patent Cooperation Treaty–Patent Prosecution Highway (PCT-PPH) arrangement allows the applicant to request PPH based on PCT work products, including the written opinions of the International Searching Authority (WO/ISA) and the International Preliminary Examining Authority (WO/IPEA), as well as the International Preliminary Examination Report (IPER). The PCT-PPH system speeds up the process significantly since the applicant can request PPH as soon as a PCT application enters the national phase, instead of having to wait for the national office action as required with a PCT application in normal PPH.

2.1.3 Global PPH

The Global Patent Prosecution Highway (Global PPH or GPPH) is a

⁴ JPO (Japan), CIPO (Canada), IP Australia (Australia), PRH (Finland), ROSPATENT (Russia), SPTO (Spain), UKIPO (UK), and USPTO (USA).

⁵ Japan Patent Office 2023, *PPH MOTTAINAI*, PPH Portal, viewed 24 July 2023. <https://www.jpo.go.jp/e/toppage/pph-portal/pph-mottainai.html>

plurilateral PPH pilot program that covers three types of PPH: normal PPH, the PPH MOTTAINAI, and the PCT-PPH. The Global PPH pilot was launched among 17 participating offices in 2014 to improve user convenience and to make the fast-track examination more accessible by standardizing office-specific requirements. As of 2020, 27 offices⁶ have participated in the program and the JPO currently serves as the Secretariat of the Global PPH. In addition to the list of participating offices⁷, the framework of the Global PPH system includes Global PPH Pilot Criteria⁸ and Global PPH Principles⁹ to provide a uniform system for applicants.

2.1.4 IP5 PPH

In 2014, the five largest intellectual property offices in the world (IP5)¹⁰ started an IP5 PPH pilot program that allowed normal PPH, PPH MOTTAINAI, and PCT-PPH among the five offices. As a result, a model common PPH request form was developed as well as instructions regarding the common structure and the differences in some sections of the forms adopted by the IP5 were provided. The IP5 offices also provided clarifications on IP5 PPH requirements to help users understand practical requirements at each office and to enhance transparency of the program.

2.2 Requirements for Filing a PPH Request

To participate in the PPH program, the following requirements must be met: Firstly, there must be a PPH agreement in place between the two patent authorities. Secondly, the application to the OLE must be linked with the application to the OEE, that is, the OLE application must have the same earliest date as the OEE application, i.e., by claiming priority or having the

⁶ APO (Austria), CIPO (Canada), DKPTO (Denmark), DPMA (Germany), EPA (Estonia), HIPO (Hungary), ILPO (Israel), INAPI (Chile), INDECOPI (Peru), INPI (Portugal), IP Australia (Australia), IPONZ (New Zealand), IPOS (Singapore), ISIPO (Iceland), JPO (Japan), KIPO (South Korea), NIPO (Norway), NPI (Nordic), PPO (Poland), PRH (Finland), PRV (Sweden), ROSPATENT (Russia), SIC (Colombia), SPTO (Spain), UKIPO (UK), USPTO (USA), and VPI (Visegard).

⁷ Japan Patent Office 2023, *Annex A - Global Patent Prosecution Highway System Participating Offices*, PPH Portal, viewed 24 July 2023. https://www.jpo.go.jp/e/toppage/pph-portal/globalpph/annex_a.pdf

⁸ Japan Patent Office 2023, *Annex B- Global PPH Pilot Criteria*, PPH Portal, viewed 24 July 2023. https://www.jpo.go.jp/e/toppage/pph-portal/globalpph/annex_b.pdf

⁹ Japan Patent Office 2023, *Annex C - Global PPH Principles*, PPH Portal, viewed 24 July 2023. https://www.jpo.go.jp/e/toppage/pph-portal/globalpph/annex_c.pdf

¹⁰ JPO (Japan), CNIPA (China), EPO (Europe), KIPO (South Korea), and USPTO (USA).

same filing date. Thirdly, the OEE application must have at least one claim that has been found patentable/allowable by the OEE. Lastly, all the claims in an OLE application must correspond to the allowable claims of the OEE application.

The PPH request can be filed at any time during the application procedure. However, each patent office follows its own practices concerning the latest possible filing date, which is normally before the office has begun its examination. As an example, a PPH request concerning an application under processing at the PRH can be filed before the PRH has issued its final decision. Regarding corrections to the PPH request, most offices allow complementing the request at least once whereas some offices do not accept any corrections. As an example, complementing the request to the PRH is allowed as many times as is necessary. Therefore, the instructions of the respective patent office should always be checked.

2.3 Pros and Cons of the PPH

The PPH holds many benefits to both the applicants and the patent offices. Such fast-track examination facilitates a quicker and more efficient processing of a patent application than standard examination, allowing the applicants to reach the final disposition of their patent application faster. Hence, the PPH is a potential alternative for applicants with intentions to obtain patents around the world and to build a global portfolio quickly. Also, the PPH applications have been granted at higher rates than non-PPH applications, thus taking advantage of the program increases the likelihood that the applicant's application will be allowed. Besides saving time and leveraging higher grant rates, the PPH is normally cost-efficient for the applicant as the PPH request is free of charge for office fees (attorney fees typically incurred however) and the number of office actions issued during the procedure tends to decrease. Particularly the decrease in the number of negative office actions issued for PPH applications has resulted in lower filing costs.

Furthermore, having accelerated examination procedures in place among

participating patent offices reduces workload of the patent examiners and improves examination quality. Information exchange between the two offices results in less overlapping search and examination since the second office can re-use the search and examination information collected by the first office. Consequently, the patent quality tends to improve as the second office can refer to the search results and examination methods of the first office. Therefore, the different PPH arrangements have also been referred to as work-sharing initiatives.¹¹

Despite of its many benefits, the PPH system has also received some criticism among professionals in the field. Firstly, recognizing the right situation for requesting an accelerated examination can be challenging; “if the request does not lead to straightforward grant, office actions are going to issue sooner and more frequently [...], and this may mean that the client incurs significant patent prosecution costs close together rather than spread out”.¹² Secondly, the one challenge repeated frequently is the “sufficient correspondence” standard that is claimed to “severely” limit amendment opportunities.¹³ It has been pointed out that “[t]he restrictive nature of permissible claim amendments is perhaps the most significant factor to consider in deciding whether to file a PPH program request”¹⁴. In a similar manner, a situation where the applicant wants to claim a broader patent in a different jurisdiction is seen as a shortcoming of the PPH since it hinders the ability to broaden the scope of the claims.¹⁵

Lastly, another aspect also worth mentioning is the statements made on the record by applicants during the prosecution of their patent applications since, in some jurisdictions, such statements can be applied by a court to limit the

¹¹ World Intellectual Property Organization 2023, *PCT-Patent Prosecution Highway Program (PCT-PPH and Global PPH)*, WIPO, viewed 24 July 2023. https://www.wipo.int/pct/en/filing/pct_pph.html

¹² Kapil Agashi 2021, *How to Make the Most of the Patent Prosecution Highway*, Greaves Brewster LLP, viewed 26 July 2023. <https://greavesbrewster.co.uk/how-to-make-the-most-of-the-patent-prosecution-highway/>

¹³ Kate Gaudry 2019, *The PPH Program at the USPTO: Favorable Stats Don't Alleviate Big Risks*, IPWatchdog, viewed 24 July 2023. <https://ipwatchdog.com/2019/10/30/pph-program-uspto-favorable-stats-dont-alleviate-big-risks/id=115477/>

¹⁴ Natalie D. Kadievitch and Krithiga Ganesan 2016, *Patent Prosecution Highway: Is It the Promised Expressway or Is It a Roadblock?*, Fredrikson, viewed 24 July 2023. <https://www.fredlaw.com/alert-patent-prosecution-highway-is-it-the-promised-expressway-or-is-it-a-roadblock>

¹⁵ Patrick Wingrove 2019, *Prosecution highway drives filing efficiencies but hinders claim flexibility*, Managing IP, viewed 24 July 2023. <https://www.managingip.com/article/2a5bqtj8ume32ixf11cle/prosecution-highway-drives-filing-efficiencies-but-hinders-claim-flexibility>

enforceability of the patent against infringers; “the need to certify that the claims in the OLE are not broader than the allowed claims in the OEE can potentially place statements on the record that may later be unhelpful to the patent owner”.¹⁶

¹⁶ HLK IP 2023, *The Patent Prosecution Highway (PPH) System*, HLK IP, viewed 24 July 2023. <https://www.hlk-ip.com/knowledge-hub/the-patent-prosecution-highway-pph-system/>

3. Patent Prosecution Highway in the USPTO

3.1 Participation of the USPTO in the PPH

In 2002, the USPTO released a report entitled “The 21st Century Strategic Plan” to steer the organization’s focus on high quality, productivity and responsiveness in order to support a market-driven intellectual property system. One of the action plans was to share search results with other patent offices to reduce duplication of efforts and decrease workload. Consequently, a year later the USPTO, the EPO and the JPO participated in search exchange projects to demonstrate that there was a potential benefit in exploiting the search results of the first office to reduce workload and improve quality in the second office. As a result, the USPTO and the JPO established the framework of the PPH and the first PPH pilot commenced in 2006.¹⁷ Thus, the USPTO’s role in the current PPH system is deep-rooted as one of the first offices paving the way for a fast-track examination of applications.

Today, the USPTO is a participant in both the Global PPH program and the IP5 PPH program. Furthermore, the USPTO launched new pilots in 2014 – formulated under the Global PPH and IP5 PPH auspices – to replace the forms and procedures unique to each bilateral PPH program with one request form and common rules for all participating countries.¹⁸ It is also worth noting that, due to the events unfolding in Ukraine since February 2022, the USPTO no longer grants requests to participate in the Global PPH when such requests are based on work performed by the Russian Federal Service for Intellectual Property (Rospatent). In addition, the USPTO has removed the special status

¹⁷ John W. Dudas 2006, *Patent Prosecution Highway Pilot Program between the United States Patent and Trademark Office and the Japan Patent Office*, USPTO, viewed 25 July 2023.

<https://www.uspto.gov/web/offices/com/sol/og/2006/week24/patpilt.htm>

¹⁸ United States Patent and Trademark Office 2023, *Patent Prosecution Highway (PPH) - Fast Track Examination of Applications*, USPTO, viewed 25 July 2023.

<https://www.uspto.gov/patents/basics/international-protection/patent-prosecution-highway-pph-fast-track>

granted to pending applications based on work performed by Rospatent and returned such applications to the regular processing and examination queue, meaning that they will no longer be treated as Global PPH applications at the USPTO. This decision has been effective as of March 11, 2022.¹⁹

3.2 Processing a PPH Request at the USPTO

A patent application is eligible for PPH at the USPTO if the applicant has received an indication of allowability for at least one claim in a related application from a partnering PPH office, the USPTO application shares a common earliest priority date with the related application, all claims in the USPTO application sufficiently correspond to the allowable claims in the related application, and the examination has not begun on the USPTO application. Nonetheless, provisional applications, plant applications, design applications, reissue applications, reexamination proceedings, and applications subject to a secrecy order are not eligible for the PPH program. Moreover, the allowed claims of a utility model or an innovation patent cannot form the basis for requesting PPH in the USPTO as they are not typically required to meet the same patentability standards nor subjected to substantive examination.²⁰

According to the USPTO, the processing time for deciding a PPH request depends on several factors, such as the application volume and the staff availability to process the requests. The recent statistics state that the average processing time of a PPH request is approximately 1,5 months from the filing date to the initial decision.²¹ Once the application is recognized as eligible for the PPH, a substantive examination is conducted according to the US patent law and guidelines in the same way as non-PPH applications. Although there is no guarantee that the examination result of the USPTO will match the examination result of the first office, the PPH applications in general enjoy

¹⁹ United States Patent and Trademark Office 2022, *USPTO statement on engagement with Russia, the Eurasian Patent Organization, and Belarus*, USPTO, viewed 25 July 2023. <https://www.uspto.gov/about-us/news-updates/uspto-statement-engagement-russia-and-eurasian-patent-organization>

²⁰ With one exception: Korean utility models. United States Patent and Trademark Office 2009, *Notice Regarding Full Implementation of Patent Prosecution Highway Program between the United States Patent and Trademark Office and the Korean Intellectual Property Office*, USPTO, viewed 25 July 2023. <https://www.uspto.gov/web/offices/com/sol/og/2009/week08/TOC.htm#ref14>

²¹ United States Patent and Trademark Office 2023, *Advancement of examination petitions*, USPTO, viewed 25 July 2023. <https://www.uspto.gov/patents/apply/petitions/timeline/advancement-examination-petitions#PTE>

higher allowance rates and fewer office actions per disposal. The USPTO affirms further that once the PPH request is granted, the examination of the application is conducted with 2 to 3 months provided the application has completed all its pre-exam processing and is ready for substantive examination.²²

The statistics on allowance rates, number of office actions, and processing times are assessed next.

3.3 Statistics on the PPH Examination at the USPTO

The USPTO publishes statistics data on PPH results yearly, and the latest publication includes statistics from 2022.²³ The data is divided into two PPH regions: those with less than 100 petitions filed and those with at least 100 petitions filed. The USPTO is one of the offices in the latter group.²⁴ According to the latest statistics, the first action allowance rate in the “> 100” group was 30,8%²⁵ and the average pendency from petition to first action was 144,0 days. The grant rate in the “> 100” group was 88,3%.²⁶ Interestingly, comparing the 2022 results to previous years, both the first action allowance rate and the grant rate in the “> 100” group have increased whereas the average pendency has decreased.²⁷

Furthermore, the JPO collects PPH statistical data yearly and publishes the

²² United States Patent and Trademark Office 2023, *Patent Prosecution Highway Frequently Asked Questions*, USPTO, viewed 25 July 2023. <https://www.uspto.gov/sites/default/files/documents/FAQs-for-PPH-revised-05032023.pdf>

²³ United States Patent and Trademark Office 2022, *FY 2022 PPH STATISTICS DATA*, USPTO, viewed 25 July 2023. <https://www.uspto.gov/sites/default/files/documents/PPHQuarterlyStatisticsDataFY2021.pdf>

²⁴ The other regions in the “> 100” group are: Canadian Intellectual Property (CIPO), China National Intellectual Property Administration (CNIPA), European Patent Office (EPO), Japan Patent Office (JPO), Korean Intellectual Property Office (KIPO), and United Kingdom Intellectual Property Office (UKIPO).

²⁵ With 5667 all first actions and 1745 allowed first actions.

²⁶ With 5489 allowed applications and 725 abandoned applications.

²⁷ In 2019, the first action allowance rate in the “> 100” group was 27,6% with 6561 all first actions and 1781 allowed first actions, the average pendency from petition to first action was 221,5 days, and the grant rate was 84,4% with 5038 allowed applications and 933 abandoned applications. See more: United States Patent and Trademark Office 2019, *PPH STATISTICS DATA*, USPTO, viewed 25 July 2023.

<https://www.uspto.gov/sites/default/files/documents/PPH%20Quarterly%20Statistics%20Data%20-%20January%202020.pdf>

In 2018, the first action allowance rate in the “> 100” group was 24,71% with 6134 all first actions and 1516 allowed first actions, the average pendency from petition to first action was 220,01 days, and the grant rate was 84,4% with 5100 allowed applications and 943 abandoned applications. See more: United States Patent and Trademark Office 2018, *PPH STATISTICS DATA*, USPTO, viewed 25 July 2023.

https://www.uspto.gov/sites/default/files/documents/PPH%20Quarterly%20Statistics%20Data_Year%202018.pdf

results on a PPH Portal²⁸, including the first action allowance rate, the average pendency, and the grant rate per patent office. According to the statistics from January to December 2022, the first action allowance rate²⁹ in the USPTO was 31,2% with national PPH and PCT-PPH applications. The average pendency from request to first action³⁰ was 4,7 months, that is, approximately 143,1 days. The grant rate³¹ in the USPTO was 88,9% for national PPH and PCT-PPH applications. Based on the sole USPTO results from 2022, the data correlates well with the corresponding results of the “> 100” group, although the USPTO slightly exceeds in all three categories.

Table 1 Comparison of the 2022 PPH results between the “> 100 group” and the USPTO

	The “> 100” group, including the USPTO	The USPTO
First action allowance rate	30,8%	31,2%
Average pendency from request to first action	144,0 days	143,1 days
Grant rate	88,3%	88,9%

It is also worth noting that, in 2022, the average pendency from request to final decision³² in the USPTO was 14,6 months, that is, approximately 444,4 days. The average number of office actions³³, on the other hand, was 2,7 for national PPH and PCT-PPH applications. Hence, the statistics published in the PPH Portal reveal – as illustrated in the table below – that the fast-track examination of the PPH system indeed facilitates a quicker and more efficient processing of a patent application than standard examination, allowing the applicants to reach the final disposition of their patent application faster.

Table 2 Comparison of the 2022 USPTO results between the PPH applications and all applications

²⁸ Japan Patent Office 2023, *Statistics*, PPH Portal, viewed 25 July 2023. <https://www.jpo.go.jp/e/toppage/pph-portal/statistics.html>

²⁹ $(\text{First action allowance rate}) / ((\text{Number of decisions to grant a patent}) + (\text{Number of decisions of refusal}) + (\text{Number of withdrawals and abandonments after first action}))$.

³⁰ Average pendency in months from PPH request to first action for applications for which first action is issued during the relevant one-year period.

³¹ $(\text{Number of decisions to grant a patent}) / ((\text{Number of decisions to grant a patent}) + (\text{Number of decisions of refusal}) + (\text{Number of withdrawals and abandonments after first action}))$.

³² Average pendency in months from PPH request to final decision for applications for which final decision is issued during the relevant one-year period.

³³ $(\text{Total number of office actions for applications for which final decision is issued during the relevant one-year period}) / (\text{Number of applications for which final decision is issued during the relevant one-year period})$. Final decisions and appeal decisions are not included in the total number of office actions.

Patent Prosecution Highway in the USPTO

	PPH applications	All applications
First action allowance rate	31,2%	15,1%
Average pendency from request to first action	143,1 days	N/A
Grant rate	88,9%	81,2%
Average pendency from request to final decision	444,4 days	N/A
Average number of office actions	2,7	2,9

4. Insights on the Patent Prosecution Highway Success in the USPTO

4.1 Data Analysis of Individual PPH Applications

As described in the previous chapter, there is a good number of PPH statistics publicly available that provide some proof of the faster nature of the system compared to a standard examination. Such statistics make it rather easy for the applicant to weigh whether exploiting the PPH route with a particular second office would be a beneficial option in view of their patenting strategy. However, the published statistics do not separate the results on the basis of the office of earlier examination. Hence, data relating to possible differences in PPH results depending on the first office seems to be missing altogether. This imposes a set of questions on the possible impact of the first office to allowance rate, pendency, and grant rate at the second office. Does the selection of the first office matter when it comes to the probability of succeeding in the fast-track examination? Finding out the answer requires analyzing a number of PPH applications from different offices of earlier examination but filed with the same office of later examination.

The subject of the analysis is a dataset of 60 anonymized PPH applications filed with the USPTO. The dataset consists of applications from 8 different offices of earlier examination within the time period of 2014-2022. The filing date and grant date of each PPH request are included together with the application status, the number of office actions, and the date of the notice of allowance. In addition to the numerical data, the dataset also includes a reason for each abandoned PPH application. Although the dataset is moderate in size, the author feels that limiting the scope of the data analysis is necessary. Therefore, the analysis will mainly focus on PPH applications with the PRH, the EPO or the UKIPO as the office of earlier examination. Analyzing the cases of each first office in the context of allowance rate, pendency, and grant

rate enables to compare and reveal possible differences between the offices.

The aim of the data analysis of individual PPH applications is to better understand whether the selection of the office of earlier examination impacts on the probability of success at the USPTO and, consequently, whether such information has any value for the applicant from the viewpoint of patenting strategy.

4.2 Comparison to the Published Statistics

For the purpose of comparing the dataset to the publicly available statistics, all 60 applications are assessed in order to have a larger scale for the analysis. Comparing the results of the full dataset to the published statistics before limiting the scope to particular offices of earlier examination will essentially unfold the quality of the data; the less the results differ from the published statistics, the better the suitability for such comparative analysis. All results are calculated following the same equations as used for the results in the PPH Portal. However, it should be kept in mind that the recent published statistics are from 2022 whereas the dataset depicts a timeframe of 2014-2022. Therefore, all comparisons are only indicative.

4.2.1 Grant Rate

The dataset consists of 45 applications with the status of “issued”, whereas 5 applications in total are “abandoned”, and 10 applications are “pending”. Accordingly, the grant rate of the dataset is 90%.³⁴ Although slightly higher, the result is still in line with the corresponding statistics, with only 1,1-1,7% inaccuracy.

Table 3 Comparison of the grant rate between the “> 100 group”, the USPTO and the dataset

The “> 100” group, including the USPTO	The USPTO	The dataset
88,3%	88,9%	90%

³⁴ $(\text{Number of issued cases}) / ((\text{Number of issued cases}) + (\text{Number of abandoned cases}))$

4.2.2 First Action Allowance Rate

The dataset includes 12 cases with the status of “issued” in which the number of office actions is 0, thus such cases have been determined to be eligible for a patent upon first review. Accordingly, the first action allowance rate of the dataset is only 24%³⁵, which is much lower than the corresponding statistics. However, the rate is not too far off for the purpose of the data analysis.

Table 4 Comparison of the first action allowance rate between the “> 100 group”, the USPTO and the dataset

The “> 100” group, including the USPTO	The USPTO	The dataset
30,8%	31,2%	24,0%

4.2.3 Average Pendency from Filing to Allowance

Attachment 1 encloses a table of the 45 issued cases of the dataset, including their filing date, date of grant for the PPH request, date of allowance, as well as pendency in days from filing to PPH grant and from filing to allowance. Accordingly, the average pendency from filing to allowance is 397,1 days³⁶. This result aligns well with the corresponding statistic on the PPH Portal, with the remainder of 47 days.

Table 5 Comparison of the average pendency between the USPTO and the dataset

The USPTO	The dataset
From request to final decision: 444,1 days	From filing to allowance: 397,1 days

Furthermore, the average pendency from filing to grant of the PPH request is 77,4 days³⁷, that is, 2,5 months. As stated in the previous chapter, the average processing time of a PPH request at the USPTO is approximately 1,5 months from the filing date to the initial decision, which is not far off from the dataset result.

³⁵ (Number of issued cases with 0 office actions)/((Number of issued cases)+(Number of abandoned cases)

³⁶ (Total number of days from filing to allowance of issued cases)/(Number of issued cases)

³⁷ (Total number of days from filing to PPH grant of issued cases)/(Number of issued cases)

4.2.4 Number of Office Actions

Attachment 1 also encloses the number of office actions for each case with the status of “issued”. Accordingly, the average number of office actions is 1,3³⁸, which is less than half of the number on the PPH Portal.

Table 6 Comparison of the number of office actions between the USPTO and the dataset

The USPTO	The dataset
2,7	1,3

Although only indicative, the comparison of the dataset results to the published statistics shows that, firstly, the quality of the data seems to be moderately good and, secondly, the dataset should be suitable for a comparative analysis of the offices of earlier examination. Hence, the applications filed at the PRH, the EPO and the UKIPO will be analyzed next.

4.3 Comparison Between the Different OEEs

Focusing the dataset analysis to only three offices of earlier examination – the PRH, the EPO, and the UKIPO – will narrow the number of cases down to 42 applications. The aim of the comparative analysis is to examine whether the selection of the first office impacts the probability of success at the USPTO and, consequently, whether such information has any value for the applicant from the viewpoint of patenting strategy. All results are calculated following the same equations as used in the previous subchapter. However, taking into account the dataset’s timeframe of 2014-2022 and the fact that there is variation in the number of applications per first office, all comparisons are only indicative.

4.3.1 Grant Rate

The dataset comprises of 23 applications with the PRH as the OEE, in which 16 applications have the status “issued”, 1 application is “abandoned”, and 6

³⁸ (Total number of office actions for issued cases)/(Number of issued cases)

applications are “pending”. Accordingly, the grant rate is 94,1%.³⁹

The dataset comprises of 14 applications with the EPO as the OEE, in which 12 applications are “issued” and 2 applications are “pending”. Accordingly, the grant rate is 100,0%.⁴⁰

The dataset comprises of 5 applications with the UKIPO as the OEE, in which 3 applications are “issued” and 2 applications are “abandoned”. Accordingly, the grant rate is only 60,0%.⁴¹

Table 7 Comparison of the grant rate between the PRH, the EPO and the UKIPO

The PRH	The EPO	The UKIPO
94,1%	100,0%	60,0%

4.3.2 First Action Allowance Rate

Considering issued applications that have the PRH as the OEE, the dataset includes 6 cases in which the number of office actions is 0, thus such cases have been determined to be eligible for a patent upon first review. Accordingly, the first action allowance rate of the dataset is 35,3%.⁴²

Considering issued applications that have the EPO as the OEE, the dataset includes only 1 case in which the number of office actions is 0. Accordingly, the first action allowance rate of the dataset is as low as 8,3%.⁴³

Considering issued applications that have the UKIPO as the OEE, the dataset includes only 1 case in which the number of office actions is 0. Accordingly, the first action allowance rate of the dataset is 25%.⁴⁴

Table 8 Comparison of the first action allowance rate between the PRH, the EPO and the UKIPO

³⁹ $(\text{Number of issued PRH cases}) / ((\text{Number of issued PRH cases}) + (\text{Number of abandoned PRH cases}))$

⁴⁰ $(\text{Number of issued EPO cases}) / ((\text{Number of issued EPO cases}))$

⁴¹ $(\text{Number of issued UKIPO cases}) / ((\text{Number of issued UKIPO cases}) + (\text{Number of abandoned UKIPO cases}))$

⁴² $(\text{Number of issued PRH cases with 0 office actions}) / ((\text{Number of issued PRH cases}) + (\text{Number of abandoned PRH cases}))$

⁴³ $(\text{Number of issued EPO cases with 0 office actions}) / ((\text{Number of issued EPO cases}))$

⁴⁴ $(\text{Number of issued UKIPO cases with 0 office actions}) / ((\text{Number of issued UKIPO cases}) + (\text{Number of abandoned UKIPO cases}))$

The PRH	The EPO	The UKIPO
35,3%	8,3%	25,0%

4.3.3 Average Pendency from Filing to Allowance

Attachment 1 encloses a table of all the issued cases in the dataset. Taking into account only the applications with the PRH as the OEE⁴⁵, the average pendency from filing to allowance is 403,1 days⁴⁶. The average pendency from filing to grant of the PPH request is 80,5 days⁴⁷, that is, 2,6 months.

Taking into account only the applications with the EPO as the OEE⁴⁸, the average pendency from filing to allowance is 385,7 days⁴⁹. The average pendency from filing to grant of the PPH request is 71,7 days⁵⁰, that is, 2,4 months.

Taking into account only the applications with the UKIPO as the OEE⁵¹, the average pendency from filing to allowance is 482,7 days⁵². The average pendency from filing to grant of the PPH request is 100,5 days⁵³, that is, 3,3 months.

Table 9 Comparison of the average pendency between the PRH, the EPO and the UKIPO

	The PRH	The EPO	The UKIPO
From filing to allowance	403,1 days	385,7 days	482,7 days
From filing to PPH request grant	80,5 days	71,7 days	100,5 days

4.3.4 Number of Office Actions

Attachment 1 also encloses the number of office actions for each issued application. Accordingly, the average number of office actions is 1 in cases

⁴⁵ Cases # 25-40.

⁴⁶ (Total number of days from filing to allowance of issued PRH cases)/(Number of issued cases)

⁴⁷ (Total number of days from filing to PPH grant of issued PRH cases)/(Number of issued cases)

⁴⁸ Cases # 13-24.

⁴⁹ (Total number of days from filing to allowance of issued EPO cases)/(Number of issued cases)

⁵⁰ (Total number of days from filing to PPH grant of issued EPO cases)/(Number of issued cases)

⁵¹ Cases # 43-45.

⁵² (Total number of days from filing to allowance of issued UKIPO cases)/(Number of issued cases)

⁵³ (Total number of days from filing to PPH grant of issued UKIPO cases)/(Number of issued cases)

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with PRH as the OEE⁵⁴, whereas the average number of office actions is 1,5 with the EPO⁵⁵, and 1 with the UKIPO⁵⁶.

Table 10 Comparison of the number of office actions between the PRH, the EPO and the UKIPO

The PRH	The EPO	The UKIPO
1	1,5	1

4.4 Reasons for Unsuccessful PPH at the USPTO

In addition to numerical data, the dataset includes a reason for each abandoned PPH application. There are 5 cases in total from 3 different offices of earlier examination: 1 from the PRH, 2 from the UKIPO and 2 from the Danish Patent and Trademark Office (DKPTO). Interestingly, the reasons and circumstances behind the unsuccessful PPH applications vary considerably.

For the case with the PRH as the first office, the examiner cited new prior art which was not part of the PPH petition.

For the first case with the UKIPO as the first office, the examiner used references submitted as part of the PPH petition to reject the claims under anticipation and obviousness, along with a statutory subject matter rejection. Consequently, the applicant decided not to respond to the non-final office action. For the second case, the examiner dismissed the PPH petition due to a formality issue. Although the formality issue was easily correctable, the first office action issued 2 weeks after the dismissal came out. Thus, since the prosecution had started, the PPH petition was moot. Furthermore, the office action cited prior art references, two new and one cited in the PPH request, rejecting obviousness. The applicant was able to successfully argue that the references were not relevant, and the case was allowed without any further claim amendments.

For the first case with the DKPTO as the first office, the examiner applied a statutory subject matter rejection, which could not be overcome. Otherwise,

⁵⁴ (Total number of office actions for issued PRH cases)/(Number of issued PRH cases)

⁵⁵ (Total number of office actions for issued EPO cases)/(Number of issued EPO cases)

⁵⁶ (Total number of office actions for issued UKIPO cases)/(Number of issued UKIPO cases)

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the claims were indicated as allowable over the prior art. For the second case, the examiner issued a restriction requirement, citing the prior art submitted as part of the PPH petition. Although no office action was ever issued, the examiner commented further in the restriction requirement that the claims did not recite a technical feature that distinguished over the cited references. Consequently, the applicant decided not to pursue the application and the restriction requirement was not responded to.

5. Conclusion

The PPH provides a fast alternative to obtain a patent with any of the offices participating in the PPH program. Such accelerated examination facilitates a quicker and more efficient processing of a patent application than standard examination, allowing the applicants to reach the final disposition of their patent application faster. There is a good number of PPH statistics publicly available that provide some proof of the quicker nature of the system. The published statistics, however, separate the results only on the basis of the second office of examination. Hence, in order to find out whether there are possible differences in PPH results depending on the first office, an analysis of a dataset of 60 anonymized PPH applications filed with the USPTO was conducted. The scope of the data analysis was limited to applications with the PRH, the EPO and the UKIPO as the office of earlier examination. The aim was to better understand whether the selection of the first office impacts on the probability of success at the USPTO and, consequently, whether such information has any value for the applicant from the viewpoint of patenting strategy.

Despite the dataset in its entirety appeared to be promising at first, some unavoidable issues surfaced when it came to comparing the three different offices of earlier examination. Firstly, the deviation in the number of applications for each patent office clearly distorts the results and, unfortunately, can make the comparison rather unreliable. An example is the two opposites of grant rate: 100,0% with 14 applications from the EPO in contrast to 60,0% with 5 applications from the UKIPO. Another example is the remarkably low first action allowance rate of 8,3% for applications from the EPO. Therefore, it is evident that the larger the set of cases for each patent office is, the more reliable the outcome of the comparison will be. For instance, the set of 5 cases from the UKIPO is too limited in size for the results to reflect reality. In fact, the author is under the impression that the PPH route between the UKIPO and the USPTO works exceptionally smoothly. The

results of the dataset, however, paint a different picture. Lastly, all results based on the dataset were only indicative from the very beginning due to the lengthy timeframe of the applications.

Regardless of the above issues, the author believes that the data analysis is not in vain when it comes to the comparison of the PRH and the EPO. Although the total number of cases from the PRH is a bit greater than from the EPO, the difference between the issued and abandoned cases per office is only 5 cases. Therefore, the comparison is seemingly more feasible from the point of view of examining whether the selection of the first office impacts the probability of success at the USPTO. As seen in the table below, the results are very even and there is no clear choice between the two patent offices. Surely, based on the grant rate and average pendency, the processing of a PPH application at the USPTO might be slightly quicker and more efficient when the EPO is the first office but the differences in results are minor. On the other hand, based on the first action allowance rate and number of office actions, the odds are in favor when the PRH is the first office. While the outcome is almost a tie between the PRH and the EPO, knowing that it is highly likely that the probability of PPH success at the USPTO is practically the same between the two as the first office must have some value for the applicant and their patenting strategy.

Table 11 Comparison of all results between the PRH and the EPO

	The PRH	The EPO
Grant rate	94,1%	100,0%
First action allowance rate	35,3%	8,3%
Average pendency from filing to allowance	403,1 days	385,7 days
Average pendency from filing to PPH request grant	80,5 days	71,7 days
Number of office actions	1	1,5

Attachment 1

Dataset – Cases with the status of “issued”

#	Filing date	PPH grant date	Allowance date	Pendency from filing to allowance (in days)	Pendency from filing to PPH grant (in days)	Number of office actions
1	27.5.2020	25.6.2020	9.11.2021	531	29	2
2	27.5.2020	29.6.2020	5.2.2021	254	33	1
3	4.6.2021	29.7.2021	16.9.2021	104	55	0
4	10.3.2014	6.5.2014	9.11.2016	975	57	3
5	24.3.2014	27.7.2014	15.10.2015	570	125	2
6	24.3.2014	23.5.2014	15.1.2015	297	60	3
7	24.3.2014	17.7.2014	21.1.2015	303	115	1
8	16.6.2016	N/A	21.6.2017	370	N/A	1
9	13.6.2016	27.7.2016	5.5.2017	326	44	0
10	27.12.2016	27.6.2017	25.7.2018	575	182	2
11	10.3.2017	22.6.2017	5.4.2018	391	104	0
12	8.7.2021	15.9.2021	1.3.2022	236	69	1
13	6.6.2014	24.9.2014	15.9.2015	466	110	1
14	16.9.2016	23.1.2017	13.6.2018	635	129	2
15	22.12.2016	8.2.2017	4.8.2017	225	48	0
16	17.3.2017	15.5.2017	2.11.2018	595	59	2
17	17.3.2017	14.4.2017	30.1.2019	684	28	3
18	15.2.2020	8.4.2020	19.3.2021	398	53	3
19	3.2.2020	25.3.2020	5.2.2021	368	51	1
20	1.10.2020	29.10.2020	11.3.2021	161	28	1
21	8.10.2021	19.1.2021	4.6.2022	239	N/A	1
22	2.7.2019	17.9.2019	5.3.2020	247	77	2
23	22.6.2017	11.8.2017	21.3.2018	272	50	1
24	4.3.2019	7.8.2019	5.2.2020	338	156	1
25	21.11.2018	14.2.2019	4.11.2019	348	85	0
26	16.6.2014	11.9.2014	17.8.2015	427	87	1
27	20.7.2015	9.6.2016	9.12.2016	508	325	1
28	4.3.2016	N/A	18.4.2018	775	N/A	1
29	23.11.2016	17.2.2017	25.2.2019	824	86	4
30	24.3.2017	N/A	26.3.2019	732	N/A	3
31	15.3.2017	14.4.2017	2.8.2017	140	30	0
32	27.6.2017	N/A	4.6.2018	342	N/A	0

33	21.12.2017	1.2.2018	14.12.2018	358	42	1
34	4.4.2018	N/A	6.2.2019	308	N/A	1
35	7.12.2020	29.1.2021	17.12.2021	375	53	1
36	2.6.2021	27.7.2021	25.1.2022	237	55	0
37	26.10.2021	22.12.2021	6.4.2022	162	57	0
38	26.2.2019	21.5.2019	26.8.2019	181	84	1
39	22.10.2019	10.12.2019	6.7.2021	623	49	2
40	7.5.2020	20.5.2020	24.8.2020	109	13	0
41	31.12.2017	22.2.2018	24.9.2018	267	53	1
42	13.5.2022	13.7.2022	7.10.2022	147	61	0
43	6.1.2015	22.5.2015	10.5.2016	490	136	2
44	21.3.2018	25.5.2018	24.1.2019	309	65	1
45	13.3.2020	N/A	22.12.2021	649	N/A	0

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