

SPECIAL THEME

HOW PCT ACCESSION AFFECTS PATENT FILINGS

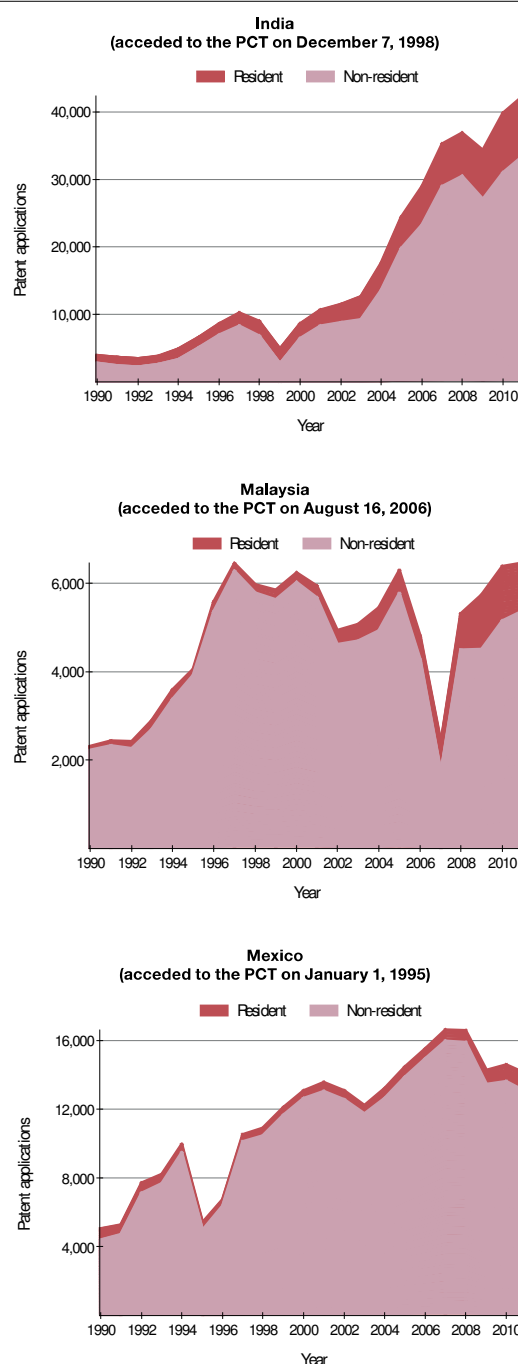
This special theme explores the effects of accession to the PCT system on patent filings at the acceding country's patent office and on filings abroad by that country's residents. It uses the experience of countries that have joined the PCT since the early 1990s.

In a nutshell, the patent office of an acceding country experiences a sharp drop in non-resident filings in the first 18 months after accession. After this period, PCT national phase entries will lead to a recovery of non-resident filings. In addition, patent offices will then receive the vast majority of non-resident filings via the PCT system; resident applicants, in turn, will similarly file a growing number of applications abroad via the PCT system.

The transition phase affects filings at virtually all offices

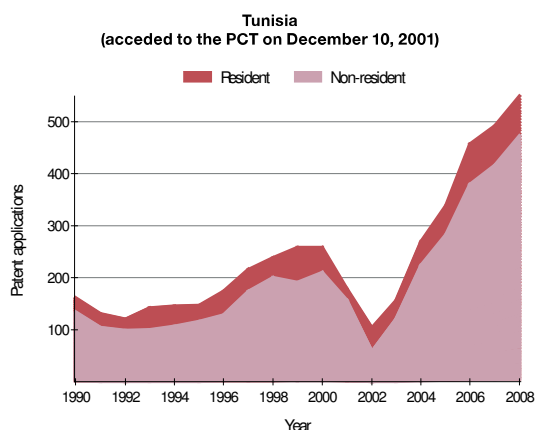
For the year in which a country accedes to the PCT, the number of applications filed at its office typically falls precipitously for a limited period of 18 months – referred to as the “transition phase”.¹⁴ In particular, many non-resident applicants take advantage of the extra 18 months afforded by the international phase of the PCT system before deciding whether to pursue a patent application at the national office in question.¹⁵

Figure 1: Trend in patent filings at selected offices



¹⁴ WIPO collects patent filing data from offices on a yearly basis. Therefore, depending on the accession date, the 18-month transition phase can affect patent statistics over three years. For example, Egypt became a PCT member in September 2003. Its transition phase thus affected its patent statistics over three reporting years, which were 2003, 2004 and 2005.

¹⁵ If the international application does not claim the priority of an earlier filed application, applicants can take advantage of at least 30 months afforded by the international phase of the PCT system.



Source: WIPO Statistics Database, March 2013

The depth and length of the transition phase varies widely from one office to another (see Figure 1). For example, filings at the offices of Malaysia and Tunisia in the year following PCT accession were, respectively, 62% and 60% lower than in the year prior to accession. The decline was even sharper for the offices of Peru (-80%), Chile (-73%) and Thailand (-71%) all of which became PCT members in 2009 – coincidentally, at the peak of the recent economic crisis. The exception was the State Intellectual Property Office of the People's Republic of China (SIPO), at which filings remained comparatively stable decreasing by only 5% during the same time span.

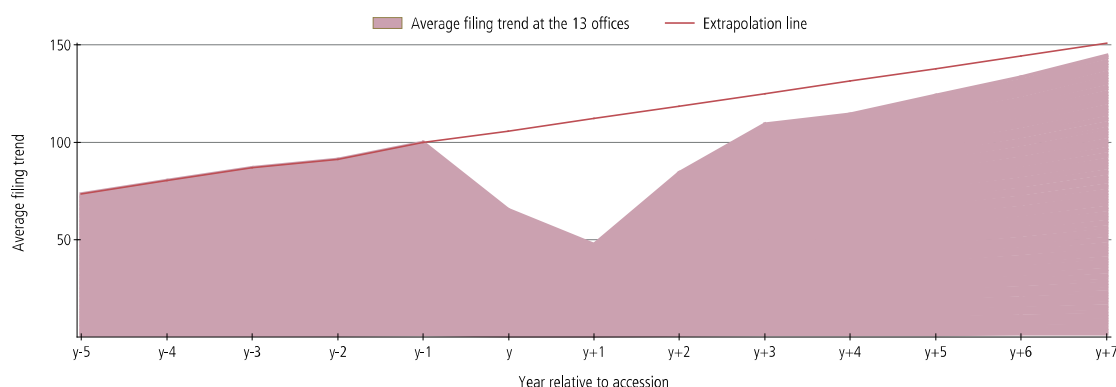
Offices receive up to half of filings less during transition phase

We can compute the average size of the transitory decline using the experience of 13 countries that joined the PCT system between 1990 and 2010, and for which there are sufficient patent filing data – namely, Canada, Chile, Colombia, Egypt, India, Israel, Malaysia, Mexico, Peru, Philippines, Thailand, Tunisia and Turkey.¹⁶ Each country's filing trend is converted into an index with a base value of 100 for the year preceding PCT accession (year "y-1"), and the average index value is calculated across all 13 countries. This average trend is compared to a hypothetical "non-PCT accession" filing trend, which simply extrapolates the growth during the five years prior to accession to the accession year and all subsequent years. Figure 2 shows the resulting trend lines.

Several insights emerge from an analysis of these trends. First, on average, filings decline by about one-half (53%) from the year prior to accession to the year following accession. Subsequently, application volumes recover. However, while growth resumes at a similar pace as in the hypothetical non-PCT scenario, total filing volumes remain somewhat below the non-PCT trend line even seven years after accession.

To better understand the dynamics at work, it is useful to look separately at the filing trends for non-resident versus resident applications.

¹⁶ The following periods were used: Canada (1989 to 1995), Chile (2008 to 2011), Colombia (2000 to 2006), Egypt (2002 to 2008), India (1997 to 2003), Israel (1995 to 2001), Malaysia (2005 to 2011), Mexico (1994 to 2000), Peru (2008 to 2011), Philippines (2000 to 2006), Thailand (2008 to 2011), Tunisia (2000 to 2006) and Turkey (1995 to 1999, the year preceding its accession to the European Patent Convention). China was excluded from the analysis as it is, arguably, a special case. SIPO experienced rapid filing growth in the course of PCT accession and beyond; while PCT membership further supported this growth, it is likely that other factors played a more important role. The inclusion of China could therefore have clouded the effects of PCT accession.

Figure 2: Average filing trends (y-1=100)

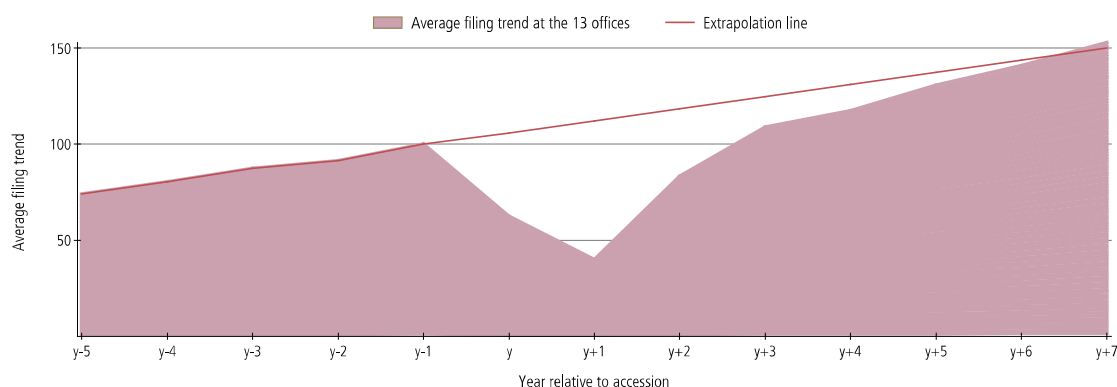
Note: year preceding PCT accession (y-1):100; y: year the country acceded to the PCT; Average filing trend at the 13 offices: average index value of Canada (1989 to 1995), Chile (2008 to 2011), Colombia (2000 to 2006), Egypt (2002 to 2008), India (1997 to 2003), Israel (1995 to 2001), Malaysia (2005 to 2011), Mexico (1994 to 2000), Peru (2008 to 2011), Philippines (2000 to 2006), Thailand (2008 to 2011), Tunisia (2000 to 2006) and Turkey (1995 to 1999). Extrapolation line: extrapolation of the growth during the five years prior to accession to the accession year and all subsequent years.

Source: WIPO Statistics Database, March 2013

Soon after accession, non-resident filings pick up quickly but not completely

Figure 3 focuses on non-resident filings, similarly showing the sharp filing decline during the transition phase. Looking only at non-resident filings, the peak-to-trough decline is even more pronounced (60%). Once the transition phase comes to an end, filings do not immediately resume at the hypothetical “non-PCT” level. This is most likely due to a “filtering effect” of the PCT whereby not all of the PCT applications that are likely to have “substituted for” direct non-resident filings enter the national phase at the office of the new PCT member – or, indeed, at any office. For a substantial proportion of PCT filings, applicants choose not to proceed to the national phase, either because of the information provided in the international search report or because new information on the commercial potential of the underlying invention becomes available during the 18-month international phase.

For the 13 countries underlying the trends in Figure 3, non-resident filings surpass the hypothetical non-PCT trend in the seventh year after accession. This could be due to the increased attractiveness of the new member countries as a destination under the PCT, which eventually dominates the filtering effect described above. However, it is important to note that the average trends shown in Figure 3 are specific to the 13 countries included in the analysis. The strength and timing of the effects associated with PCT accession will invariably depend on a variety of factors, such as the size of the domestic market and the national and global business cycle.

Figure 3: Average non-resident filing trends (y-1=100)

Note: year preceding PCT accession (y-1):100; y: year the country acceded to the PCT; Average non-resident trend at the 13 offices: average index value of Canada (1989 to 1995), Chile (2008 to 2011), Colombia (2000 to 2006), Egypt (2002 to 2008), India (1997 to 2003), Israel (1995 to 2001), Malaysia (2005 to 2011), Mexico (1994 to 2000), Peru (2008 to 2011), Philippines (2000 to 2006), Thailand (2008 to 2011), Tunisia (2000 to 2006) and Turkey (1995 to 1999). Extrapolation line: extrapolation of the growth during the five years prior to accession to the accession year and all subsequent years.

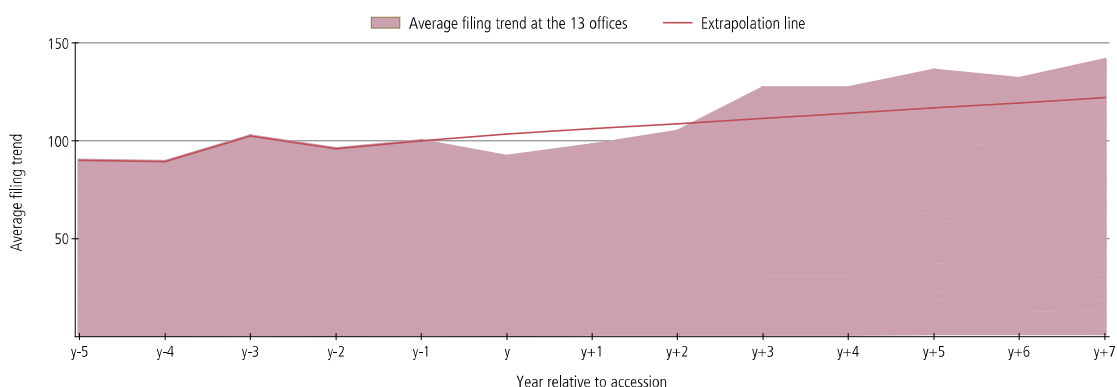
Source: WIPO Statistics Database, March 2013

PCT accession affects part of resident filings

Figure 4 depicts the equivalent trends for resident filings. As one would expect, PCT accession does not have the same dramatic effect on the filing trend. For resident applicants mainly seeking patent protection in their home jurisdiction, PCT accession has little relevance. However, there appears to be a small filing decline during the accession year and in the year after accession relative to the year prior to accession. This transitory decline is

observed in 8 of the 13 acceding countries and may well be unrelated to PCT accession. Alternatively, it could be that some resident applicants who first file at an office abroad and only later enter the home jurisdiction take advantage of the 18-month international phase, in a way similar to non-resident applicants.

Following the transition phase, growth in resident filings seems to occur faster than the hypothetical non-PCT filing growth. Again, this may be unrelated to PCT accession.

Figure 4: Average resident filing trends (y-1=100)

Note: year preceding PCT accession (y-1):100; y: year the country acceded to the PCT; Average resident trend at the 13 offices: average index value of Canada (1989 to 1995), Chile (2008 to 2011), Colombia (2000 to 2006), Egypt (2002 to 2008), India (1997 to 2003), Israel (1995 to 2001), Malaysia (2005 to 2011), Mexico (1994 to 2000), Peru (2008 to 2011), Philippines (2000 to 2006), Thailand (2008 to 2011), Tunisia (2000 to 2006) and Turkey (1995 to 1999). Extrapolation line: extrapolation of the growth during the five years prior to accession to the accession year and all subsequent years.

Source: WIPO Statistics Database, March 2013

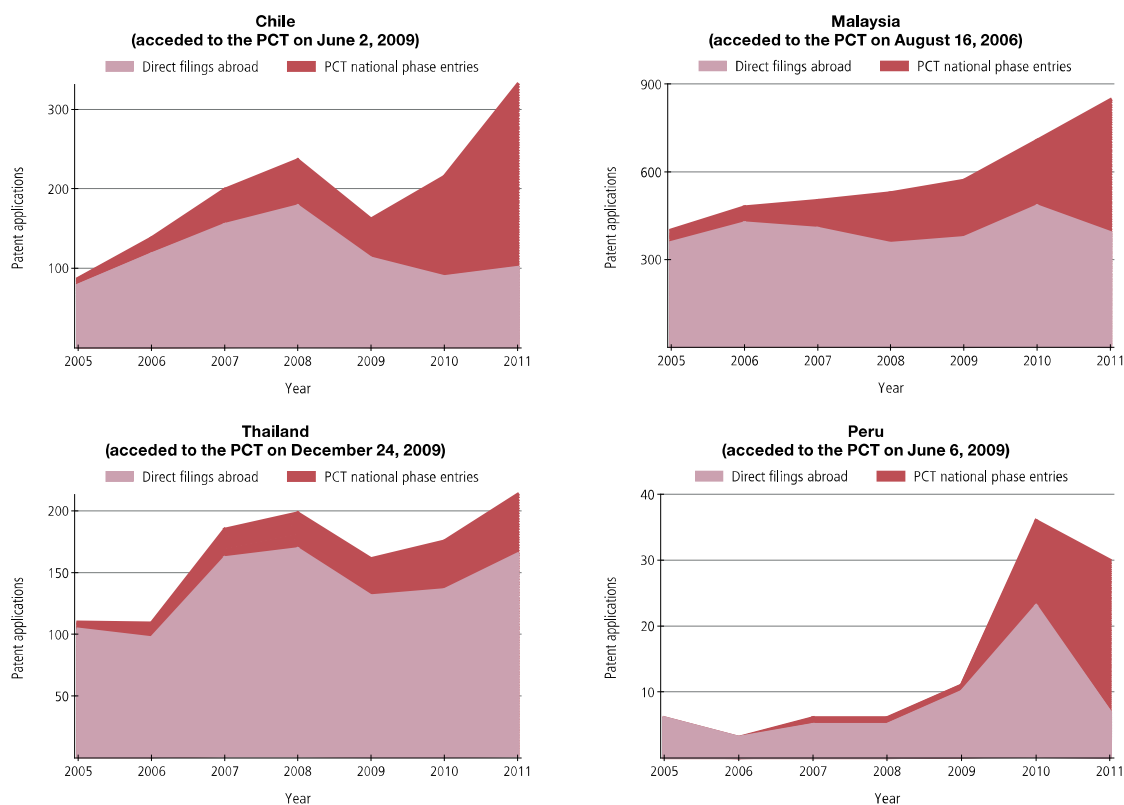
However, it may well be that PCT membership prompts more resident applicants who first file abroad to enter the national phase in their home jurisdiction. Similarly, it could be that PCT membership leads resident applicants who previously did not seek patent protection in their home jurisdiction to first file at home before entering other jurisdictions through the PCT system.

Share of filings abroad using the PCT increases

To what extent do residents of new member countries take advantage of the PCT system? Figure 5 shows filings abroad for residents from four of the acceding countries for which sufficient data were available. It divides applications into direct filings (“Paris route”) and PCT national phase entries, thus providing insights into the relative importance of the two routes in applicants’ foreign filing strategies.

Prior to accession, residents of the countries in question could only use the PCT system if a co-applicant resided in a PCT member state or an applicant was a national of a PCT member state. However, this situation was exceptional and, accordingly, the PCT only accounted for a small share of total filings abroad. In particular, in the year prior to accession, the share of direct filings abroad for the four origins varied from 75% for Chilean applicants to 90% for applicants from Malaysia. However, in 2011, only applicants from Thailand relied mainly on the direct route (77%). By contrast, applicants from Malaysia, Chile and Peru filed, respectively, 54%, 69% and 77% of their filings abroad using the PCT route. The PCT share in filings abroad for these three origins was above the average 2011 share of 47% for all middle-income countries (see A.7.4).

Figure 5: Trend in patent filings abroad by filing route and selected origins



Note: Data may be incomplete.

Source: WIPO Statistics Database, March 2013

Table 1: PCT applications filed by selected origins

Country of Origin	Date of accession	International Filing Year									
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Angola	December 27, 2007	0	0	0	0	0	0	0	1	0	0
Bahrain	March 18, 2007	2	0	0	0	0	3	1	1	0	2
Chile	June 2, 2009	9	6	9	12	17	27	54	88	118	118
Comoros	April 3, 2005	0	0	0	0	0	0	0	0	0	0
El Salvador	August 17, 2006	0	0	0	0	0	3	3	0	1	0
Guatemala	October 14, 2006	0	0	1	0	1	14	2	2	0	1
Honduras	June 20, 2006	0	0	1	0	0	3	1	0	0	0
Lao People's Democratic Republic	June 14, 2006	0	0	0	0	0	0	0	7	5	9
Libya	September 15, 2005	0	0	0	0	0	1	4	1	0	0
Malaysia	August 16, 2006	31	45	34	61	110	208	224	350	263	292
Malta	March 1, 2007	5	3	11	17	16	25	32	21	19	18
Montenegro	June 3, 2006	0	0	0	2	0	0	0	0	2	0
Nigeria	May 8, 2005	0	0	2	1	1	0	1	2	5	11
Peru	June 6, 2009	2	0	0	1	1	2	10	7	6	11
Sao Tome and Principe	July 3, 2008	0	0	0	0	0	0	0	0	0	0
Thailand	December 24, 2009	9	12	10	11	6	17	20	72	67	60

Note: The figures given for PCT applications filed in 2012 are WIPO estimates.

Source: WIPO Statistics Database, March 2013

Diverse use of the PCT system

Between 2005 and 2010, 16 countries joined the PCT, of which 13 were middle-income countries, two were high-income countries (Bahrain and Malta) and one was a low-income country (Comoros). Table 1 shows the number of PCT applications filed by applicants from these countries from 2003 to 2012.

For three countries – Chile, Malaysia and Thailand – PCT accession prompted a notable increase in the number of filings under the system. These are three upper middle-income economies with considerable innovative capacity. For most other countries, PCT accession did not have the same visible effect. The limited use of the PCT system in these cases is likely to reflect the less developed state of their economies and innovation systems, as well as the availability of regional filing systems that serve the international filing needs of resident applicants.

Conclusion

The impact of a country's accession to the PCT mainly consists of a transitory filing decline at the national patent office, followed by a recovery that eventually catches up with the pre-accession trend. However, due

to non-resident applicants "filtering" applications during the PCT international phase, non-resident filing volumes can be below the pre-accession trend for several years following accession.

The transition phase develops quite differently according to the office concerned and its environment. SIPO, which was the fastest-growing office from the 1990s onwards, saw a decrease of 5% between the year following its accession (1995) and the year preceding it (1993). By contrast, the office of Thailand, which became a PCT member in 2009 when patent filings worldwide saw a major downturn, registered a fall of 71% in filings between the year following its accession (2010) and the year preceding it (2008). According to the experience of the 13 offices of new member countries, overall filings declined, on average, by one-half during the transition phase.

Soon after a country has joined the PCT, its applicants usually file most of their filings abroad using the PCT system. Accordingly, the number of PCT international applications has increased for most countries that have joined the PCT, even if filing volumes have in most cases remained modest.