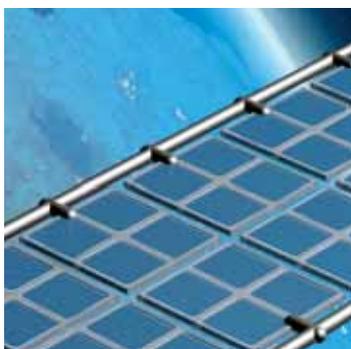


WORLD INTELLECTUAL PROPERTY INDICATORS



2010



WORLD INTELLECTUAL PROPERTY INDICATORS

2010 Edition



FOREWORD

The world economy is recovering from the steepest economic downturn since the Great Depression of the 1930s. In such a situation, companies' strategies and public policies towards innovation and intellectual property (IP) rights are central to promoting sustained economic growth and a confident approach to the future.

At the same time, the IP system is continuously changing. New technologies and business models are emerging, challenging established policies and practices. New and growing threats to the environment and human welfare have surfaced, throwing the spotlight on technologies which may offer at least partial solutions.

For firms, policymakers, and the public at large to better understand these changes and their implications for the IP system, a sound empirical base is required. World Intellectual Property Indicators, WIPO's annual report on trends in the use of IP rights, seeks to contribute to this base and support evidence-based decision-making.

As with the first edition in 2009, this year's report offers a comprehensive overview of the current utilization worldwide of different forms of IP rights – patents, utility models, trademarks, and industrial designs. This edition also expands on last year's reporting in several areas. Notably, it presents statistics on microorganisms for the first time, and introduces a variety of new patent-based indicators (for example, academic patents by field of technology, trends in internationalization, and trends in patent applications for selected fields of technology).

An entirely new "special theme" feature offers an analytical background on the impact of the economic crisis and recovery on innovation. In addition to analyzing IP filing trends for 2009, it describes the historical relationship between IP filings and the business cycle. It also looks at innovative behavior more broadly and presents evidence on how some of the largest companies have adjusted their research and development (R&D) expenditures during the crisis.

The post-crisis innovation landscape will invariably look different from that of a decade ago. Some trends that were already visible before the crisis and that are documented in this report will persist. Firms will increasingly practice innovation more openly, resulting in greater collaboration between enterprises and across countries. As the center of gravity of the world economy shifts, new centers of innovation will continue to emerge – particularly in middle-income countries. Other trends may be more difficult to predict. Whatever form they may take, they will be assessed and analyzed in future editions of World Intellectual Property Indicators.

I would like to thank our Member States and national and regional IP offices for sharing their annual statistics with WIPO and I look forward to our continued cooperation.



Francis GURRY
Director General

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HIGHLIGHTS

CRISIS & INNOVATION

The global financial crisis has affected companies' innovative activity. Falling revenues and reduced cash flows, diminished access to credit and increased economic uncertainty have led companies to adjust their innovation strategies. Many countries saw a slowdown of growth in research & development (R&D) expenditure in 2008. Preliminary 2009 data assembled for this report point towards a drop in R&D expenditure, though with substantial company-by-company variation.

While growth in IP filings started to slow before the onset of the crisis, the economic downturn has intensified this slowdown and, in many cases, prompted a decline in filings. The available IP application data for 2009 show non-resident filings to be, on average, more negatively affected by the crisis, suggesting a greater short-term focus on home markets. There are, however, several exceptions to this trend, notably patent filings in the United States of America (US), which saw a fall in resident filings but an increase in non-resident filings in 2009.

The onset of economic recovery will likely prompt a rebound in IP filings. Indeed, preliminary data for the first six months of 2010 point to renewed growth of Patent Cooperation Treaty (PCT) applications. While the strength of the recovery remains uncertain, there will likely be a continuing geographic shift of innovative activity towards middle-income countries, especially East Asia and India.

PATENTS & UTILITY MODELS

Economic downturn accelerates the slowdown in patent applications worldwide...

In the early phase of the global financial crisis, patent applications worldwide grew by 2.6% in 2008, albeit a slower rate than in previous years. Approximately 1.91 million patent applications were filed across the world in 2008, consisting of 1.1 million resident applications and 0.8 million non-resident applications.

A further downward trend in patent applications is expected in 2009. The available data for eight large patent offices show a 2.7% decrease in patent applications in 2009. As these offices account for around 80% of the world total, a worldwide drop in patent applications is likely in 2009 and would constitute the first decline since 2002.

...and brings about the first ever decline in PCT applications...

At the height of the economic crisis in 2009, applications filed through the Patent Cooperation Treaty (PCT) dropped by 4.5%, the first drop since the inception of the PCT System. This drop was preceded by declining growth rates starting in 2005.

...notwithstanding substantial heterogeneity in patenting activity across countries

There is considerable variation across countries in the impact of the economic downturn on patent application activity. The growth rate of applications worldwide slowed in 2008, largely due to zero growth in applications filed in the US and a drop in applications in Japan (-1.3%), the Republic of Korea (-1.1%) and the United Kingdom (-6.5%). However, applications filed in China grew substantially (+18.2%), preventing applications worldwide from reaching zero growth in 2008.

Data by origin of the applicant show US residents filed 4.1% fewer applications across the world in 2008 compared to 2007. In contrast, residents of China filed 26.7% more applications in 2008.

Patent applications in offices of middle-income and low-income economies seemed to be less affected by the early phase of the global economic downturn. At the majority of these offices, the number of applications saw considerable growth in 2008. For example, applications in Belize, Peru, Romania and Turkey recorded double-digit growth. In the majority of middle-income and low-income economies, non-resident applicants accounted for the largest share of total applications.

The available 2009 data show a substantial drop in applications in a number of offices compared to 2008. For example, patent applications at the European Patent Office (EPO) declined by 7.9% in 2009, which constitutes the first drop in the number of applications since 2002. The 10.8% decline in application numbers at the Japan Patent Office (JPO) is the largest in recent history.

In 2009, PCT applications filed by residents of the US (-10.8%), Germany (-11.3%), Canada (-11.8%) and Sweden (-13.4%) experienced sharper than average declines. Despite the challenging economic conditions, residents of China (+29.1%), Japan (+3.6%), the Netherlands (+2.4%), and the Republic of Korea (+1.9%) filed more PCT applications in 2009 than in 2008. Indeed, continued growth in PCT filings in the case of Japan and the Republic of Korea took place against the backdrop of falling resident applications at the JPO and the Korean Intellectual Property Office (KIPO), respectively.

Income group data show patent activity to be more concentrated than GDP

The share of high-income economies in total patent applications (74.1%) is 15.4 percentage points higher than their gross domestic product (GDP) share (58.7%). Resident applications accounted for 57.4% of the total number in high-income economies. In contrast, only a fifth of all applications in low-income economies were resident applications.

Slowdown in patent grants worldwide

The growth in total patents granted has slowed from its peak of 19.5% in 2006 to 0.6% in 2008. The total number granted stood at around 777,600 in 2008, consisting of 425,000 resident grants and 352,600 non-resident grants.

The substantial fall (-32.5%) in patents issued by the KIPO accounted for a considerable portion of the slowdown in the growth of patents granted worldwide in 2008. In contrast, the State Intellectual Property Office of the People's Republic of China (SIPO) issued 37.9% more patents in 2008 than in 2007.

For the first time, the United States Patent and Trademark Office (USPTO) granted a higher share of patents to non-resident applicants compared to resident applicants.

Utility Model activity continues to grow

Worldwide numbers of utility model (UM) applications (313,000) and grants (238,000) grew by 15.3% and 12.2%, respectively, in 2008. The majority (around 96%) of UM applications were filed by and granted to resident applicants.

The considerable growth in UM activity despite the challenging economic conditions can be explained by the fact that China, which was less affected by the economic downturn, accounted for the majority of all UM activity. UM applications at the SIPO increased by 24.4% in 2008, compared to 2007. In contrast, applications in Germany, Japan and the Republic of Korea decreased by 5.6%, 8.4% and 17.4%, respectively.

The available 2009 data for the top three offices show that UM applications in China and Germany grew by 37.8% and 1.4%, respectively, while in the Republic of Korea applications dropped by 2.1%.

Considerable growth in PCT applications for energy-related technologies

The number of PCT applications filed in four energy-related technology fields – fuel cells, solar, wind and geothermal energy – increased from 584 applications in 2000 to 3,424 applications in 2009. Solar energy-related PCT applications accounted for around 60% of this total increase.

Applicants from Japan filed the largest number of PCT applications in the fields of solar energy and fuel cell technology, while applicants from the US accounted for the largest share worldwide of PCT applications for wind energy technologies.

North East Asian countries file the highest number of patents per GDP

The Republic of Korea, Japan and China were the three top ranked countries in terms of resident patents-to-GDP ratio and resident patents-to-R&D ratio. In 2008, residents of the Republic of Korea and Japan filed, respectively, 103 and 82 patents per billion GDP. The Republic of Korea was the only country with more than 100 patents per billion GDP. Middle-income economies – such as Azerbaijan, Chile and Turkey – have a resident patents-to-GDP ratio similar to that of Greece, Singapore and Spain, which are high-income economies.

An estimated 6.7 million patents in force across the world

Compared to 2007, the number of patents in force in 2008 increased by 5.3%. Approximately 28% of the estimated 6.7 million patents in force worldwide (based on data from 88 patent offices) were granted in the US. There has been substantial growth in recent years in the number of patents in force in China and the Republic of Korea, reflecting a shift in patent activity towards North East Asian countries.

As for the source of patents in force, residents of Japan (1.85 million) and the US (1.35 million) owned around 48% of the patents in force in 2008.

A substantial level of pending patent applications

In 2008, the total number of potentially pending applications across the world stood at 5.94 million, representing a 0.2% increase over 2007. This world total is an estimate based on pending application data for 71 patent offices, which include the top 20 offices except those of China, India, Singapore and South Africa.

The total number of pending applications undergoing examination across the world is estimated at 3.45 million. This is based on data from 39 patent offices, which include the top 15 offices except for China, India, Italy, Singapore and South Africa.

In 2008, pending applications undergoing examination at the USPTO stood at around 1.25 million, a 6% increase over 2007. Despite a 2.3% drop, the number of pending applications undergoing examination at the JPO stood at around 0.87 million in 2008. In addition, around 1.5 million patent applications were awaiting a request for examination at the JPO for the same year.

There was considerable growth in the number of pending applications undergoing examination at the patent offices of Chile, Mexico, the Republic of Korea, the Russian Federation and New Zealand between 2007 and 2008.

In absolute terms, many medium-sized patent offices across the world have low numbers of pending applications, but some of these offices show a high ratio of total pending applications to annual applications.

TRADEMARKS

Global economic downturn hits trademark applications...

The growth in trademark applications worldwide started to slow in 2006. The global economic downturn accelerated this decline and, in 2008, total trademark applications worldwide fell by 0.9%.

An estimated 3.30 million trademark applications were filed across the world in 2008, consisting of around 2.33 million resident applications and approximately 0.97 million non-resident applications.

...including Madrid registrations

International trademark registrations via the Madrid System decreased by 12.3% in 2009, representing the first decrease in applications since 2002-03. Compared to resident trademark applications filed with national IP offices, international registrations via the Madrid System declined at a faster rate in the majority of countries. The 12.3% drop in 2009 is primarily due to a fall in applications from residents of France, Germany and the US.

Majority of the top 20 IP offices see a drop in the number of trademark applications

In 2008, 14 of the top 20 IP offices saw a drop in trademark application numbers. The IP offices of Japan (-16.6%), Spain (-13.3%) and the United Kingdom (-11.8%) saw the largest decreases in applications received in 2008 compared to 2007. In contrast, the IP offices of many middle-income economies – e.g., Brazil, India and Thailand – experienced growth in application numbers over the same period.

At the top three IP offices – China, the Republic of Korea and the US – the decrease in resident applications accounted for the overall decrease in applications, as non-resident applications actually grew between 2007 and 2008.

The available 2009 data for a few IP offices provide a mixed picture. A few offices, such as China (+20.8%) and France (+8.1%) saw substantial growth in applications in 2009 compared to 2008. In contrast, Germany and Japan experienced, respectively, a 7.7% and 7.2% drop in applications. For the US, data for the calendar year are not available, but fiscal year data show a drop (-11.7%) in the number of applications from October 2008 to September 2009.

China accounts for around 90% of the worldwide increase in trademark registrations

The total number of trademark registrations across the world grew by 7% in 2008, which is slightly above the growth rate of the previous year. In 2008, approximately 2.37 million trademarks were registered across the world. A substantial increase in the numbers of registrations issued in China (+56.8% growth) is the main source of this increase. The increase in trademark registrations in China is partly due to the 300 additional trademark examination assistants recruited to reduce the number of pending applications.

The majority of the top 20 IP offices saw an increase in trademark registrations in 2008 compared to 2007. Registrations issued by the IP offices of the United Kingdom, the Russian Federation and the European Union's Office for Harmonization in the Internal Market (OHIM) grew by 23.6%, 21.7% and 20.1%, respectively, in 2008.

Chile heads the trademark applications per GDP list

Chile is the only country with more than 100 resident trademark applications per billion GDP in 2008. The Republic of Korea (87), Bulgaria (82) and China (81) also exhibited a high resident applications to GDP ratio.

An estimated 14.8 million trademarks in force across the world

Based on data from 59 IP offices, an estimated 14.8 million trademarks were in force in 2008. Japan accounted for the largest number of trademarks in force (1.7 million), despite a drop from the previous year. The US, with 1.4 million, and France, with 1.1 million, were the only two other countries with more than 1 million trademarks in force. Most countries saw an increase in the number of trademarks in force in 2008 compared to 2004.

The distribution of trademarks in force is less concentrated than for patents. The top three destinations accounted for 28.4% of all trademarks in force in 2008, whereas this share was around 56% for patents.

INDUSTRIAL DESIGNS

Fifteen consecutive years of growth in industrial design applications

For the fifteenth consecutive year, industrial design applications showed year-on-year growth. The total number of industrial design applications filed across the world stood at around 656,000 in 2008, representing a 5.7% increase over 2007. The substantial growth in the number of applications in China (+17.0%) is the main source of this worldwide growth.

The total number of industrial design applications consisted of 550,300 (84%) resident and 105,700 (16%) non-resident applications. Resident applications grew by 7.8% in 2008 over the previous year, while non-resident applications dropped by 4.2%.

Applications for international registrations filed through the Hague System grew by 10.4% in 2009.

The majority of the top 20 IP offices saw growth in the number of applications in 2008

The majority of the top 20 IP offices recorded growth in the number of applications received in 2008 compared to 2007. However, in most cases, growth rates were below the annual growth rates for 2004-07. In 2008, industrial design applications in Brazil, France, Germany and the United Kingdom decreased by 49.1%, 29.9%, 13.2% and 14.4%, respectively, compared to 2007.

The available 2009 data for nine IP offices show a drop in industrial design applications for all offices, except China and Hong Kong (SAR), China. The IP offices of the Philippines (-36.3%), Malaysia (-13.9%), the OHIM (-9.5%), Mexico (-7.9%) and the US (-7.1%) saw considerable declines in the numbers of applications received in 2009 compared to 2008. In contrast, applications in China grew by 12.3% over the same period.

China accounts for the largest share of total industrial design activity

The IP office of China received around 312,900 industrial design applications, which amounts to nearly half (48%) of the world total and of which resident applications accounted for around 95%. The IP office receiving the next highest number of applications – OHIM – accounted for only 12% of the world total.

France holds the largest number of industrial designs in force, but is expected to be surpassed by China in 2009

France accounted for the largest number of designs in force in 2008, with around 400,000. However, China – with double-digit growth in the numbers of industrial designs in force – is expected to surpass France in 2009.

DATA DESCRIPTION

DATA SOURCES

The intellectual property (IP) data published in this report are taken from the WIPO Statistics Database, which is primarily based on WIPO's Annual IP Survey (see below) and data compiled by WIPO for the processing of international applications/registrations filed through the PCT System, the Madrid System and the Hague System. Data are available for download from WIPO's web page: www.wipo.int/ipstats/en.

Patent family and technology data are based on the WIPO Statistics Database and the PATSTAT database of the EPO. The April 2010 edition of the PATSTAT database was used for this publication.

GDP data were obtained from the World Development Indicators Database, which is maintained by the World Bank. R&D expenditure data were obtained from the United Nations Educational, Scientific and Cultural Organization (UNESCO).

Data on opposition, re-examination and invalidation procedures were obtained from annual reports of patent offices.

WIPO'S ANNUAL IP DATA SURVEY

WIPO collects IP data from IP offices around the world through its annual questionnaires. The data supplied therein by national and regional offices on a voluntary basis are entered into the WIPO Statistics Database. A continuing effort is made to improve the quality and availability of IP statistics and to obtain data for as many offices and countries as possible. The annual IP questionnaires can be viewed at: www.wipo.int/ipstats/en/data_collection/questionnaire/.

ESTIMATION PROCEDURE FOR WORLD TOTAL

The world total for applications and grants (or registrations) for patents, utility models (UM), trademarks and industrial designs are WIPO estimates. Data are not available for all countries for every year. Missing data are estimated using methods such as linear extrapolation, average of adjacent data points and by applying shares of resident/non-resident data from the previous year. The estimation method used depends on the year and country or office in question.

Data are available for the majority of the larger IP offices. Only a small share of the world total is estimated. For example, the 2008 estimated world total for patent applications is based on 110 offices. Data are available for 80 patent offices, which account for 97.4% of the estimated world total. Application data are estimated for 30 offices. Data for other offices (beyond the 110 offices) are not included in the world estimate, as they have not reported any data to WIPO in the recent past. As for trademark application data, statistics for 105 offices are available that, in turn, represent 90% of the estimated world total. Trademark application data are estimated for 55 offices. Again, offices that have not reported any data to WIPO in the recent past are not included in the world estimate.

INTERNATIONAL COMPARABILITY OF INDICATORS

Every effort is made to compile IP statistics based on the same definitions and to ensure international comparability. The data are collected from IP offices using WIPO's harmonized annual IP questionnaires. However, one has to keep in mind that national laws and regulations for filing IP applications or for issuing IP rights, as well as statistical reporting practices may differ across jurisdictions.

Please note that due to the continual updating of data and the revision of historical statistics, data provided in this report may differ from previously published figures and the data available on WIPO's web pages.

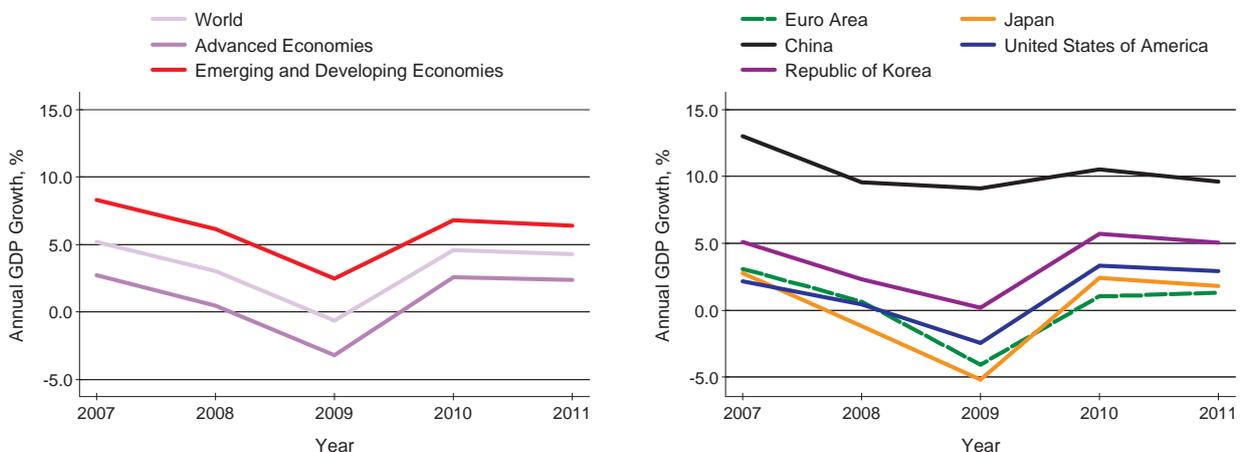
SPECIAL THEME: THE IMPACT OF THE ECONOMIC CRISIS AND RECOVERY ON INNOVATION

The recent economic crisis will be remembered for its historic magnitude – in terms of the contraction of both global world output and international trade. While economic recovery has set in, the crisis has invariably affected patent, trademark and industrial design filing activity and is likely to have a lingering effect in 2010 and 2011. At the same time, the impact of the crisis on the IP system has not been uniform across countries, reflecting the heterogeneous economic effects of the crisis and other factors.

The economic crisis and signs of recovery

The International Monetary Fund (IMF) estimates global economic output to have shrunk by 0.6% in 2009 (see Figure 1).

Figure 1: Gross domestic product growth rate (%)



Note: 2010 and 2011 data are IMF projections. "Advanced economies", and "emerging and developing economies" aggregate as a defined by the IMF.

Source: WIPO, based on data from the IMF, July 2010

Such a decline in world output – i.e., a decrease in the growth of world output from a historic peak of 5.2% in 2007 – had not been measured since the 1930s. The recession triggered by the burst of the "dot-com" crisis in 2001, for instance, led to a decline in the growth of global output from 4.8% in 2000 to 2.3% in 2001. The 12% decline in global trade in 2009 also represented the steepest fall in five decades.¹

Yet, the crisis has struck different economies in different ways, and these differences are important to bear in mind when assessing the effects of the crisis on IP filings. Looking at the largest users of the IP system, "advanced economies" saw actual declines in output in 2009 (on average -3.2%) which were most pronounced for European countries (for example, around -5% for Germany and the United Kingdom) and for Japan (around -5%). The decline in the US (-2.4%) was more moderate. Among the large "advanced economies", only Australia (+1.3%) and the Republic of Korea (+0.2%) experienced an increase in economic activity.

On average, "emerging economies" were affected to a lesser extent. Their output grew in 2009, albeit at a much slower speed compared to previous years (on average 2.5% in 2009 compared to 6.1% in 2008 and 8.3% in 2007). This was mainly due to continued growth in developing Asia (notably China, India and Indonesia), but also growth in Africa that compensated for declines elsewhere.

So far, global economic recovery is taking place earlier and is more energetic than was initially expected. Proactive government policies – in the form of support to the financial sector and expansionary monetary and fiscal policies – helped to prevent a downward economic spiral. Most economies are now firmly on a path towards recovery. Indeed, since the beginning of 2010, the IMF and the Organisation for Economic Co-operation and

¹ World Trade Organization (WTO), International Trade Statistics, www.wto.org/english/news_e/pr598_e.htm.

Development (OECD) have revised their growth estimates upwards.² At the same time, the sustainability and strength of the recovery remain uncertain, and unemployment remains stubbornly high in most high-income economies.

Notwithstanding these uncertainties, the post-crisis world economy is likely to see faster growth in low and middle-income economies, thereby further re-balancing global output, especially towards Asian economies. The IMF predicts that world output will rise by 4.6% in 2010 and at a similar rate (+4.3%) in 2011 (see Figure 1), with slower growth in “advanced economies” (+2.6% in 2010) compared to “emerging and developing economies” (+6.8% in 2010) and, especially, China (+10.5%), India (+9.4%), Brazil (+7.1%) and other fast-growing Asian economies.

The impact of the crisis on innovation

Innovation – broadly defined as the creation of new products, processes, marketing and organizational innovations – is hard to measure due to its inherent complexity and the limited data available. Notwithstanding these difficulties, it is useful to analyze how R&D activities and IP filings have evolved in the context of the recent economic crisis.

To the extent that investments in innovation such as R&D are long term in nature, short-term fluctuations in the business cycle should only have a limited impact on investment in innovation. However, in the context of an economic downturn, R&D investments and the introduction of new products or processes decline due to reduced cash flows, decreased demand for new products/processes and increased business uncertainty, including uncertainty concerning the size of the future market. Firms also face greater difficulties in tapping external sources of funding to support their R&D investments.

Historically, measures of innovative efforts, such as business R&D expenditure, and patent and trademark applications have correlated positively with GDP. In particular, the growth rate of these three measures slowed markedly in high-income economies during the economic downturns of the early 1990s and the early 2000s.³ R&D also significantly declined during and after the financial crisis in the Republic of Korea in 1998.

Over the past quarter of a century, gross domestic expenditure on R&D (so-called GERD, which stands for total public and private R&D) has moved with the business cycle in OECD economies (OECD, see footnote 3), which account for the bulk of worldwide R&D. In the largest high-income economies such as the US and Japan, R&D expenditure growth is positively associated with GDP growth, and the two tend to move together. In other high-income economies such as Spain and Poland, R&D expenditure trends react even more strongly to changes in GDP, leading, for instance, to more pronounced declines in R&D than in output during downturns – sometimes two to three times greater.

R&D expenditure in high-income economies also appears to rise and fall in reaction to GDP fluctuations with a certain lag, i.e., R&D expenditure falls later than GDP itself and takes longer to recover. This lag can partly be explained by R&D projects being longer-term in nature and firms opting to maintain existing projects involving sunk investments, while cutting back on new ones leading therefore to later falls in R&D spending.

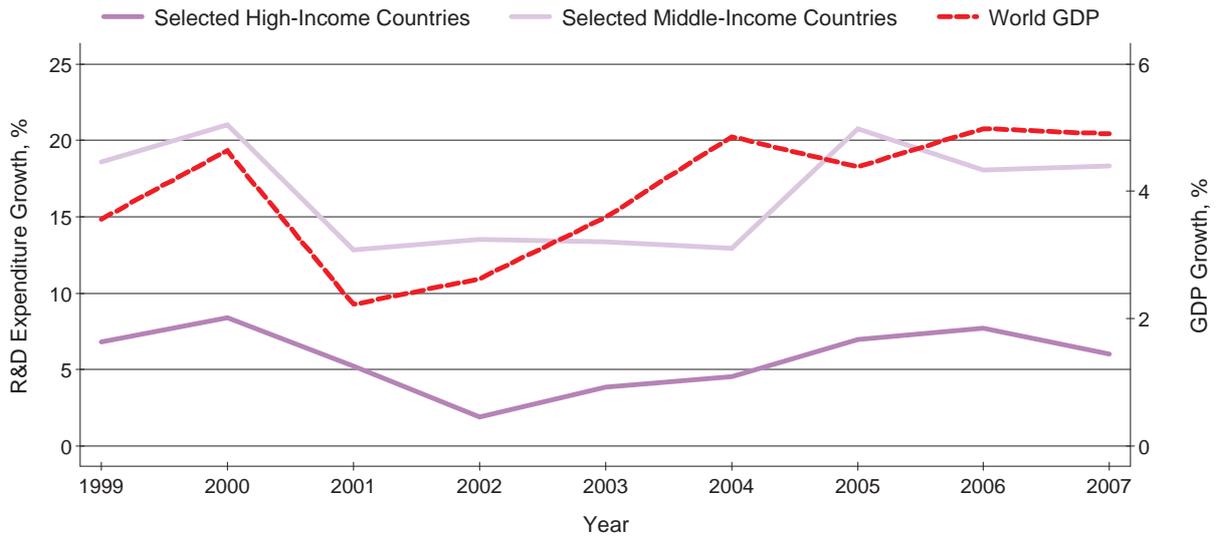
Figure 2 illustrates the evolution of R&D in a few high-income as well as emerging middle-income economies during the “dot-com” crisis of 2001. R&D expenditure growth declined as economic output fell from 4.6% yearly growth in 2000, to 2.2% in 2001 and 2.6% in 2002, before recovering to pre-crisis levels in 2004.⁴

² IMF World Economic Outlook 2010 (July revision) and OECD Economic Outlook (June 2010).

³ WIPO (2010), PCT Yearly Review 2009, Geneva: World Intellectual Property Organization and OECD (2009), Policy responses to the economic crisis: Investing in innovation for long-term growth, Paris: Organisation for Economic Co-operation and Development. *OECD Science, Technology and Industry Scoreboard 2009*.

⁴ Total R&D expenditure (GERD) as percentage of GDP for OECD countries decreased from 2001 onwards, only to recover to original pre-crisis highs after 2005. (Source: *OECD Main Science and Technology Indicators*).

Figure 2: R&D expenditure growth rate (%)

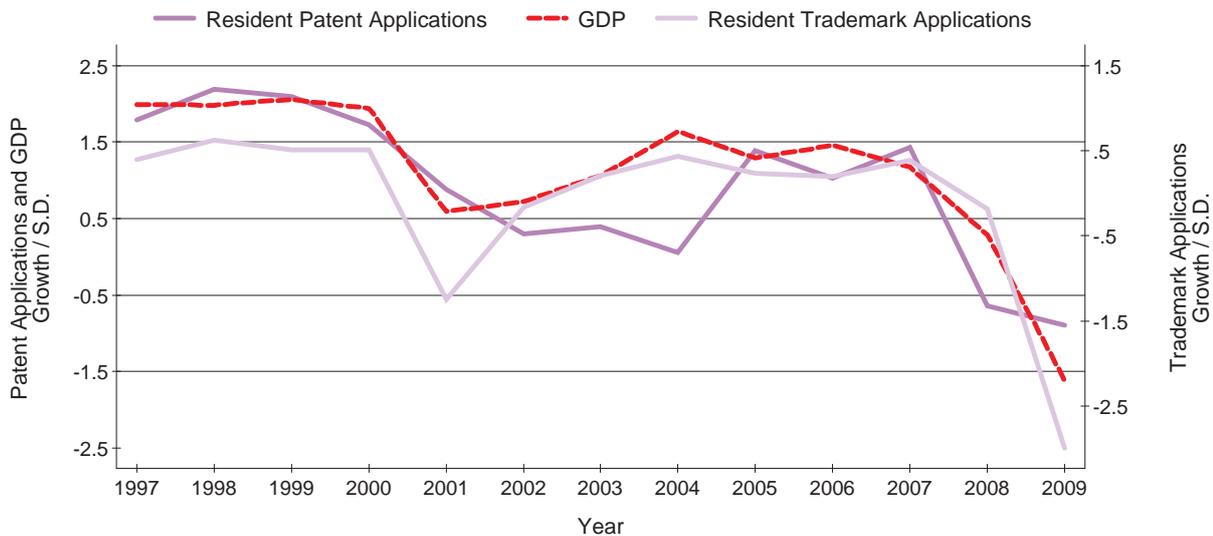


Note: Data on gross domestic expenditure on R&D are in purchasing power parity US dollars. Selected high-income economies (Canada, France, Germany, Japan, Republic of Korea, the United Kingdom and the US) and selected middle-income economies (Argentina, Brazil, China, India and the Russian Federation). Brazil's data for 1998, 1999 and 2007 are unavailable and are an estimate.

Source: WIPO, based on data from the UNESCO Institute for Statistics and the World Bank, June 2010

Changes in GDP and in patent and trademark applications also show a positive correlation for the group of high-income economies responsible for the majority of IP filings (Figure 3).

Figure 3: Gross domestic product, patent applications and trademark application growth rates (%)



Note: GDP and patent and trademark application growth rates are divided by their respective standard deviations. The graph is based on data for Germany, France, United Kingdom and the US. The correlations may be different for countries not included in the graph.

Source: WIPO, based on data from the WIPO Statistics Database and the World Bank, June 2010

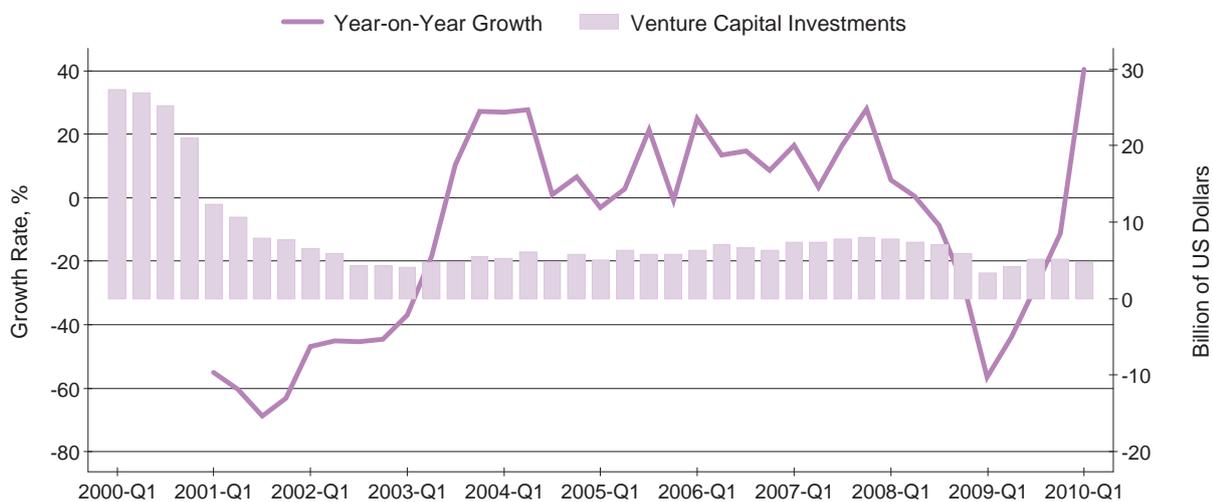
Interestingly, the economic downturn in 2001 led to a more pronounced and more rapid decline in trademark applications but a very quick recovery, whereas the growth in numbers of patent applications dropped less sharply but took longer to rebound. The important cuts in R&D expenditure during the 2001 crisis and the steep falls in available finance for innovation could be at the root of the prolonged drop in patent applications.

In assessing the effects of the current economic downturn, it is important to recognize that this was a major financial crisis with devastating effects on revenues and on access to the capital market. This effect could be stronger for those entering the market or smaller firms than for large profitable companies with substantial stocks of net cash. However, the depth of the crisis has also had an impact on the ability of large firms to finance

ongoing activities, notably in the automotive and construction sectors, but also industries that heavily depend on exports. Financing for innovation - venture capital (VC), initial public offerings or the investment of corporate funds directly in external start-up companies – has historically been more limited during economic downturns. Credit constraints on R&D investments tend to be particularly pro-cyclical in firms facing tighter capital supply constraints; in particular small and medium-sized enterprises (SMEs)⁵.

The available data on VC investments show a significant decline in the level of funds invested and the corresponding number of deals. VC in the US – the largest source of VC – made up for USD 12.6 billion in 2009 (down 55% from USD 28 billion in 2008), marking the lowest level of investment since 1997. European VC investment fell by 44% from 2008 to EUR 3.8 billion in 2009.⁶ While the size of the decline is significant, it is not comparable to the magnitude of the VC boom and bust cycle at the start of the decade which was much more significant. The second half of 2009 brought a turnaround in VC investment in the US and in Europe, although growth from the last quarter of 2009 to 2010 slowed again. In the first quarter of 2010, on-average estimates for global VC show a 13% increase over the previous year.⁷ The available data for India (+130%) and China (+54%) also show high growth rates from the fourth quarter of 2009 to the first quarter of 2010, albeit at comparatively small levels.

Figure 4: US venture capital investments: all industries (volume and yearly growth rate)



Source: WIPO, based on data from PricewaterhouseCoopers/National Venture Capital Association, June 2010

Despite this turnaround, over the last years anecdotal evidence is pointing to a shift towards later-stage (lower-risk) investing, at the expense of early stage (seed) investment⁸. There is also greater emphasis on early exit strategies, which are complicated by the fact that lately Initial Public Offerings (IPO) – as one possible exit strategy – are rare. This shift is putting an additional strain on entrepreneurship.

Mixed but largely negative impact of the crisis on R&D

The full impact of the economic crisis on aggregate R&D spending can only be fully evaluated once complete data on private and public R&D become available. The data currently available can, however, be used to make an initial assessment of impact of the crisis on R&D expenditure.

R&D expenditure and the crisis in 2008

For 2008, data on gross domestic expenditure on R&D are primarily available for a number of high-income and for a few select middle-income economies (Figure 5).⁹ Apart from a decline in absolute terms in gross domestic expenditure on R&D for the Czech Republic, Canada and the Russian Federation, provisional data show that the

⁵ Aghion, P., Askénazy, P., Berman, N. Cette, N. and L. Eymard (2008), Credit constraints and the cyclicity of R&D investment: Evidence from France, Banque de France, Notes d'Études et de Recherche, n° 193, 2008.

⁶ Data obtained from the European Private Equity & Venture Capital Association (EVCA).

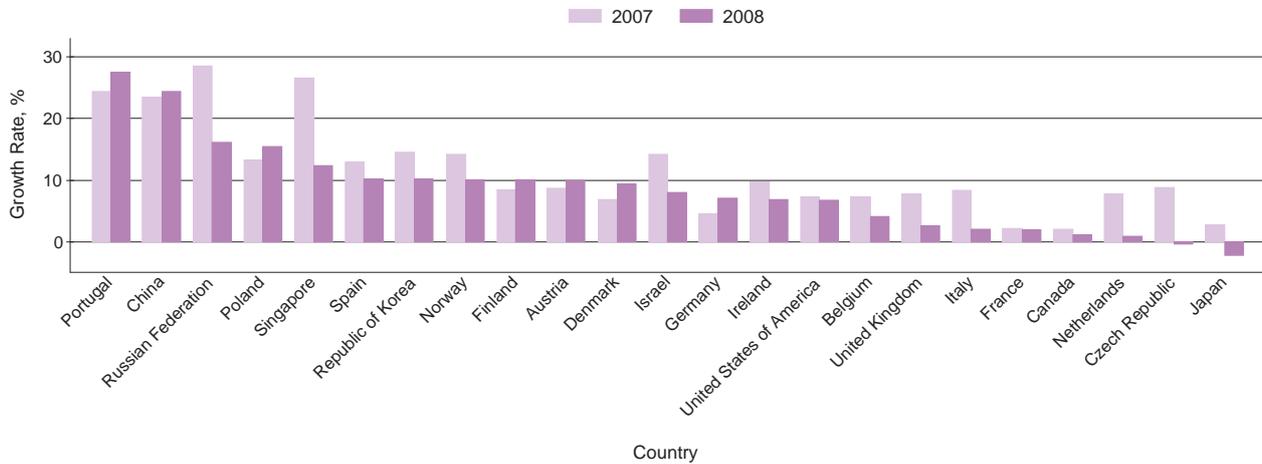
⁷ Dow Jones Venture Source, Q1 2010 Global Venture Financing Report, 29 April 2010.

⁸ US National Venture Capital Association, NVCA Venture View Survey, 16 December 2009.

⁹ Out of the roughly 215 territories/countries reporting GERD data to the UNESCO Institute for Statistics, figures are only available for about 60 countries for 2007.

majority of countries continued to experience growth in total R&D from 2007 to 2008. However, except for a few countries (e.g., China, Austria and Germany) most countries saw a slowdown in year-on-year growth in R&D expenditure. The slowdown was particularly pronounced for Singapore, Israel, Spain, Italy, France and Japan (in order of appearance in Figure 5).

Figure 5: Real R&D expenditure growth rate (%)



Note: R&D data refer to gross domestic expenditure on R&D.

Source: WIPO, based on data from the OECD, June 2010

Figures for business R&D as reported in aggregate official figures (business expenditure on R&D, or BERD) or company filings confirm this trend and show that, on average, R&D expenditure mostly rose in 2008 but at a slower rate than in previous years. In 2008, business sector R&D expenditure of some countries with the largest business R&D expenditure¹⁰ slowed from a slightly higher than 7% growth in the years from 2005 to 2006 and 2006 to 2007, to 4.9% in 2008.

R&D expenditure and the crisis in 2009

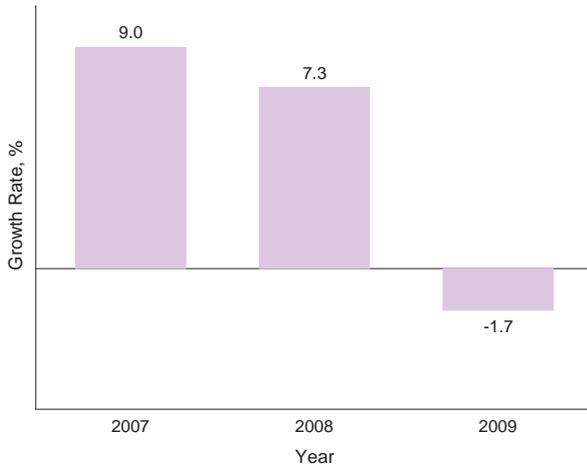
Data based on SEC filings show a small decline in year-on-year growth from 2007 to 2008, but an actual decrease in R&D expenditure occurred between 2008 and 2009 (-1.7%) (Figure 6).¹¹ These averages hide the fact that some firms have substantially increased their R&D expenditure. Similar data for firms that report quarterly R&D expenditure confirm the absolute decline in R&D expenditure in the first half of 2009 and a return to positive growth as of the fourth quarter of 2009 (Figure 6). As revenues fell more steeply than R&D expenditure in most of 2009, R&D intensity increased. When, later, renewed revenue growth outpaced the growth in R&D expenditure, on average R&D intensity fell again.

¹⁰ All OECD high-income economies (31 countries) plus Argentina, China, Israel, the Russian Federation, Singapore and South Africa. Data for India are not available. (Source: *OECD Main Science and Technology Indicators*).

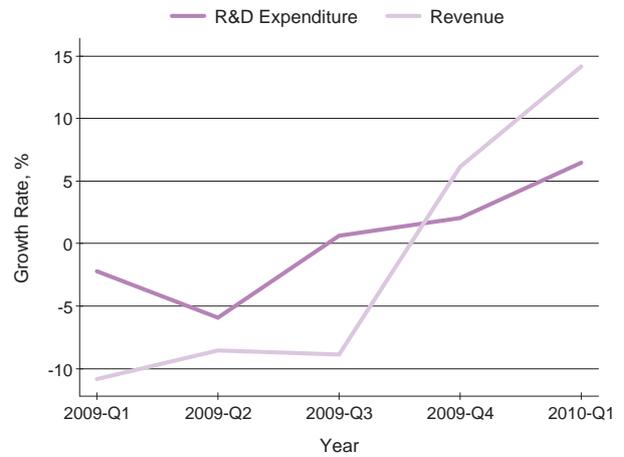
¹¹ Extracted from SEC filings, the sample includes more than 2,500 firms that report R&D expenditure on a yearly basis and about 2,000 firms that report R&D expenditure on a quarterly basis. This is about a third of the total number of firms for which electronic SEC filings are available. Some of the firms missing may not conduct R&D or their R&D expenditure might not be considered central to company activities.

Figure 6: R&D expenditure based on company filings at the US Stock Exchange

R&D expenditure yearly growth rate (%)



Revenue and R&D expenditure quarterly growth rate (%)



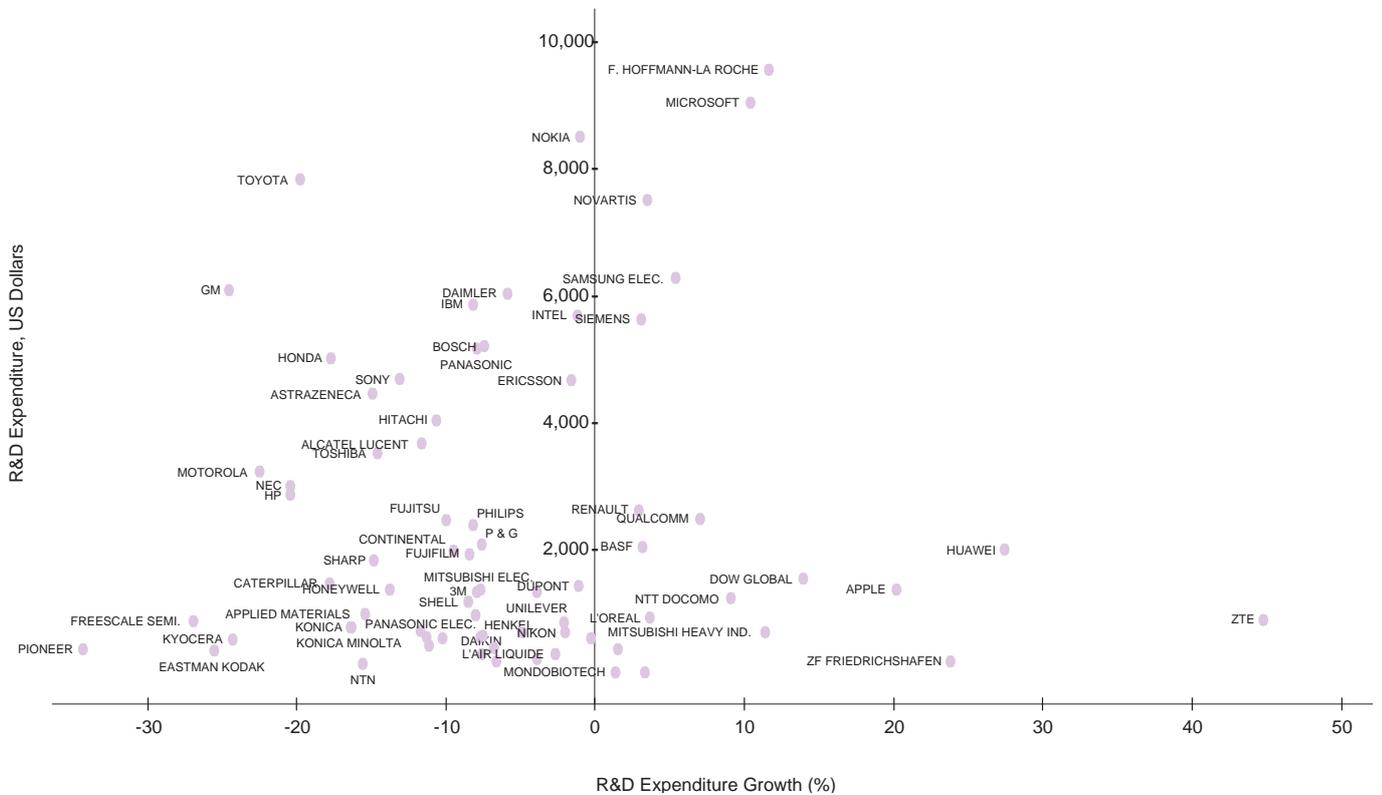
Note: The graph is based on data for 2,450 firms across all sectors.

Note: The graph is based on data for 2,000 firms across all sectors, shows year-on-year growth rates between identical quarters (e.g., Q1 2010 versus Q1 2009).

Source: WIPO, based on company filings at the US Securities and Exchange Commission or annual reports

Many of the top PCT applicants (for example, Toyota, Nokia, Roche, Novartis, Microsoft and General Motors) are also the top R&D spenders worldwide. A systematic analysis of the available data for the top 100 firms in terms of PCT applications (see A.5.2) shows that, on average, yearly R&D expenditure decreased between 2008 and 2009.

Figure 7: R&D expenditure of top 100 PCT applicants (2008-09/10 growth rate and 2009 volume)



Note: The graph contains around 80 of the top 100 PCT applicants. Companies report their financial results according to different fiscal years (see footnote 12). Abbreviations used: P&G (Procter and Gamble), HP (Hewlett-Packard), FREESCALE SEMI (Freescale Semiconductor), GM (General Motors).

Source: WIPO, based on company filings at the US Securities and Exchange Commission or annual reports

The five firms in the sample reporting annual data from September / October 2008 to September / October 2009 experienced a fall in R&D expenditures by 3.3%.¹² On average, firms in the sample reporting annual data for the full year 2009 (43 firms) showed a smaller decline in R&D expenditures (-1.7% year-on-year). The other (largely Japanese firms) that recently reported their annual figures (following the fiscal year March 2009 to March 2010, or June 2009 to June 2010) experienced a significant decrease in R&D expenditures (-16%) which may be explained by the fact that Japan's economy was particularly affected by the crisis.

These averages hide the substantial company-by-company variations that can be seen in Figure 7, above, with some firms substantially increasing and some decreasing R&D expenditure.¹³ Among the top 20 R&D spenders in the sample, only a few firms saw substantial growth in R&D expenditure – in a decreasing order of R&D growth – Hoffmann-la-Roche (11.6%, pharmaceuticals), Microsoft (10.4%, software), Samsung (5.4%, information technology), Novartis (3.5%, pharmaceuticals), and Siemens (3.1%, electrical engineering). The other firms in this top 20 group all experienced a – sometimes substantial – decline in R&D spending.

Overall, the decline in R&D spending among all the firms in this sample was particularly pronounced for automotive companies reflecting their cash flow problems, notably General Motors (-24.5%), Toyota (-19.8%), Honda (-17.7%), Daimler (-5.9%) and major automotive suppliers such as Bosch (-7.4) and Continental (-9.5%) – with the exception of Renault (+2.9%) and the automotive supplier ZF Friedrichshafen (+23.8%). Construction-related firms such as Caterpillar (-17.8%) have also cut back on R&D expenditure in light of the revenue falls in that sector, as have consumer product firms such as Procter & Gamble (-7.6%) and Unilever (-3.9%) but not L'Oréal (+3.7%).

Moreover, the majority of information technology (IT) or related firms in this sample cut their R&D expenditure substantially over the reporting periods – for example, Pioneer (-34.3%), Freescale Semiconductor (-26.9%), Motorola (-22.5%), Hewlett-Packard (-20.4%), NEC (-20.4%), Sharp (-14.8%), Philipps (-8.2), Toshiba (-14.6%), and Sony (-13%). However, a few ICT firms have substantially increased their R&D expenditures, most notably Chinese firms such as ZTE (+44.8%) and Huawei (+27.4%), but also firms such as Apple (+20.2%), Microsoft and Samsung (as mentioned above), NTT Docomo (+9.1%). In the pharmaceutical sector, firms showed either R&D increases or stable budgets – Hoffmann-La Roche and Novartis (see above) – reflecting a lesser impact of the economic downturn on the pharmaceutical industry and possibly more longer-term R&D-projects and thus greater resilience to spontaneous cuts.

While these data offer insights into the behavior of large firms, the impact on smaller firms more generally or firms from middle-income economies (except for a few in China or India, for example) is currently not documented. The effects on entrepreneurship and firm entry are also still unknown.

As part of their stimulus packages, most governments of high-income economies, as well as a select number of fast-growing middle-income economies, have pledged to avoid cutbacks in science and R&D or to even increase spending. Through these measures, governments are formulating and adhering to R&D spending targets (including increases in R&D funding, measures for specific research areas and investment in R&D infrastructure), stimulating private R&D investment (including through R&D tax credits and public procurement), implementing measures for SMEs and policies promoting R&D employment as well as skills preservation and development (e.g., to prevent the unemployment of young researchers and loss of skills).¹⁴

This had repercussions on government budget appropriations for R&D in 2008 and/or 2009 in high-income economies, which have continued to increase, sometimes significantly (in constant terms and at purchasing power parity rates (PPP)), in countries such as Australia, Austria, the Czech Republic, Portugal and the US. That said, public sector R&D expenditure only makes up for 30%, on average, of total expenditures in high-income economies.

¹² Among the top 100 PCT filers, data are available for 80 firms, of which three firms report for the fiscal year ending in June 2009, five firms for the fiscal year ending in September or October 2009, 43 firms report for the fiscal year ending in December 2009 and 29 firms report for the fiscal year ending in March or April 2010. The group averages in terms of expenditure growth involve conversion of R&D expenditures into United States Dollars, and are thus influenced by exchange rate movements.

¹³ The reporting periods of individual firms vary, and company-to-company comparisons are not recommended when this is the case.

¹⁴ OECD (2009), fn. 3.

Governments of middle-income economies, such as China and India, have also continued to devote an increasing amount and share of public expenditure to R&D, included as a part of fiscal stimulus programs (OECD, see footnote 3). The falls in private R&D registered in high-income economies, coupled with private and public R&D spending increases in middle-income economies, are expected to lead to an acceleration of the geographic shift of R&D activity to fast-growing middle-income economies. China, for instance, is likely to overtake Japan soon in terms of gross domestic R&D expenditure, at PPP rates.

There is no linear relationship between R&D expenditure and patent filing activity or innovation. Not all R&D leads to new products or processes as defined above. In the sample of top 100 PCT applicants and their R&D expenditure, there is a positive and significant correlation between R&D investment and PCT applications across the top PCT applicants; however, R&D expenditure explains less than 10% of the variation in patent applications. In other words, a certain number of firms with relatively low R&D expenditure still file a large number of patents. Patent filing intensity is influenced by a large number of factors, including the level of R&D (in particular business R&D), the number of researchers, their scientific publications, the design of the patent system, institutional incentives to patent, and education and science and technology policies more broadly.

Short-run changes in R&D expenditure appear to affect same-year and – to a lesser extent - future patent applications. The economic literature has demonstrated the former, but it is divided as to the existence and the exact length of the lag between R&D and patent filing.¹⁵ Accordingly, a decline in R&D expenditure coincides with declines in IP filings in the same year, and potentially with declines in subsequent years. Decreased R&D expenditure today, or in the aftermath of the economic downturn, might mean fewer patent applications in subsequent years. Firms not having engaged in new R&D projects during the crisis might lead to reduced patentable research output in the future and a drop in IP filings, well after recovery has set in.

It is also important to keep in mind that reductions or a streamlining of R&D expenditure in times of crisis does not have to affect research output or innovation, if efficiency improvements are made and less promising projects discontinued. In research-intensive firms, the crisis may have led to a review of R&D projects and patents in order to identify and keep only those which appear to be most central to the business strategy.

Finally, in times of crisis and tighter budgets, firms may be looking for new ways to improve efficiency and to innovate outside of formal R&D undertakings. Past economic crises have also coincided with the rise of new firms and new business models. These trends may not be captured by data on R&D or patenting activity.

The effect of the economic downturn on patent applications in 2008 and 2009

Most countries experienced a slowdown in the growth of patent applications in 2008 and an actual decrease in the numbers of patent applications filed in 2009. These tendencies apply to national and regional patent applications as well as PCT applications. However, like adjustments in R&D expenditure, the patent-filing response to the crisis has been uneven across countries.

In times of economic downturn, reduced business confidence and a fall in cash flows may prompt firms to file for fewer patents. Firms may opt for patent filings and renewals that focus on core technologies. Anecdotal evidence concerning the current downturn suggests that company-wide budget cuts, which also affected IP departments, were behind the effort to streamline existing IP portfolios. However, there is no systematic effect across industries and companies. Similar to R&D expenditure, some firms have continued to increase patent application activity.

¹⁵ In some of the economic literature, it is asserted that R&D has an immediate (contemporaneous) effect on patents and, other findings in the economic literature show a lagged effect – with some empirical papers finding evidence for both. See Pakes, A. and Z. Griliches (1984), *Patents and R&D at the firm level: A First Look*, Chicago: University of Chicago Press; Stoneman, P. (1983), *Patents and R&D: Searching for a lag structure*, *Proceedings of the Conference on Quantitative Studies of R&D in Industry*, Paris and Hall, B.H., Z. Griliches, and J.A. Hausman (1986), *Patent and R&D: Is there a lag?*, *International Economic Review*, 27 (2), June 1986 and Gurmu S. and F. Perez-Sebastian (2008), *Patents, R&D and Lag Effects: Evidence from Flexible Methods for Count Panel Data on Manufacturing Firms*, *Empirical Economics*, Volume 35, Number 3, 507-526.

One would expect patent applications by small firms to be especially affected by the economic downturn. On the one hand, decreased access to capital might mean that smaller firms are less able to finance patent applications, including applications in multiple countries. On the other hand, there are reasons for small firms to be relatively resilient during downturns in terms of patent applications. Patents might be critical to a small firm's ability to attract venture and other capital, as well as to secure its relative position and growth vis-à-vis large companies. There are no systematic data available that would allow an analysis of how smaller firms have fared relative to larger ones. The little available evidence at hand for France, for example, shows that large aggregate drops are often caused by a drop in applications of a few large rather than small companies. These differing effects according to firm size merit more investigation at the national level.

A slowdown in patent applications since the mid 2000s and a (likely) decline in 2009 due to the economic crisis

Both national and PCT data show that growth in numbers of patent applications started to slow before the onset of the economic downturn (see Figure 8).

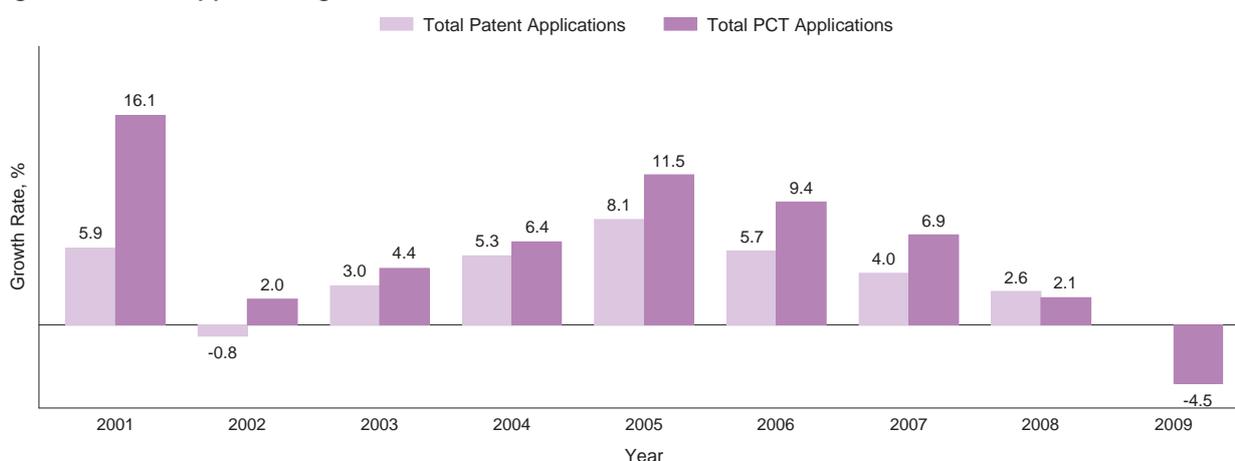
This slowdown started in 2005 and followed the strong surge in patenting over the previous decade that was only interrupted by the dot-com crisis. The latter led to actual declines in national and regional patents filed worldwide in 2002 and to a substantial decline in the growth in numbers of PCT applications.

This deceleration in growth can be seen in aggregate figures for national and PCT applications (Figure 8), but also on a country-by-country basis for some of the largest offices, although it is not consistent across all countries (Table 1 and Figure 9). Some countries, such as Japan, actually experienced consistent decrease in national patents applications since 2005 (Figure 9).

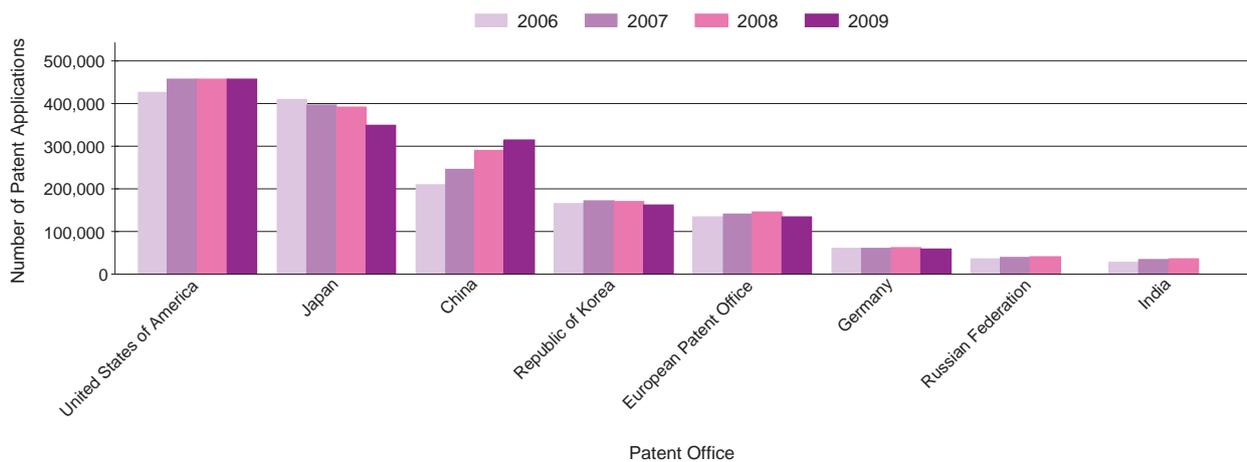
In the US, the slowdown in applications was felt after 2006, with a drop in growth rates from 9% in 2006 to 7.1% in 2007 and a drop to zero growth between 2007 and 2008 and 2008 and 2009 (Table 1).

Similarly, the Republic of Korea experienced a rapid decline in growth rates after 2005 (from 14.8% in 2005 to 3.3% in 2006). Even for China and India, year-on-year growth rates mostly declined from 2005 onwards, although remaining at comparatively high levels (Table 1). The European Patent Office (EPO) and the patent office of Germany are the exceptions, with stable growth rates after 2004 before the drop in 2009.

Figure 8: Patent application growth rate (%)



Source: WIPO Statistics Database, June 2010

Figure 9: Patent applications by patent office: selected offices

Source: WIPO Statistics Database, June 2010

However, 2008 saw the greatest slowdown in national and regional patent applications since the dot-com crisis (2.6% compared to 4% in the previous year). The slowdown was largely due to zero growth in the US and a drop in the number of applications filed in Japan and the Republic of Korea. The substantial growth in numbers of applications filed in China (18.2%) prevented applications worldwide from reaching zero growth in 2008.

The 2008 slowdown was followed by an actual drop in patent applications at most top offices in 2009 (in order of the size of decline: Japan, the EPO, the Republic of Korea, Germany, the United Kingdom and France), except for the US, which saw zero growth, and China, which saw a substantial growth of 8.5% (albeit lower than in previous years). Taken together, the total number of patent applications filed at the eight major patent offices in 2009 declined by 2.7% from the previous year. Given that these top eight offices account for 80% of global patent applications, an actual global decline in patent applications in 2009 appears likely and would constitute the first drop in applications since 2002.

Table 1: Patent application growth rate by patent office (%): selected offices

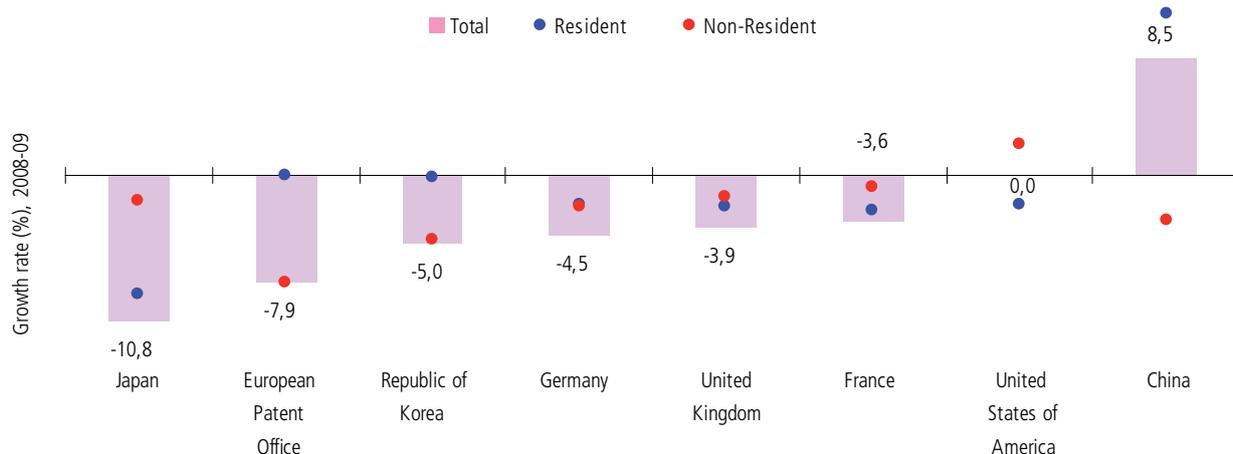
Patent Office	Panel A: Total					Panel B: Resident					Panel C: Non-Resident				
	2005	2006	2007	2008	2009	2005	2006	2007	2008	2009	2005	2006	2007	2008	2009
China	32.9	21.4	16.5	18.2	8.5	42.1	30.8	25.1	27.1	17.7	23.6	10.4	4.4	3.4	-10.3
European Patent Office	4.1	5.1	4.1	3.8	-7.9						4.1	5.1	4.1	3.8	-7.9
France	-0.1	-0.2	-0.8	-2.4	-3.6	0.7	1.4	1.3	0.1	-3.0	-3.7	-7.7	-12.2	-17.8	-7.8
Germany	1.7	0.6	0.7	2.3	-4.5	-0.2	-0.7	-0.3	2.9	-2.8	9.9	6.1	4.5	0.3	-11.0
Japan	0.9	-4.3	-3.0	-1.3	-10.8	-0.1	-5.7	-3.9	-1.0	-10.5	8.1	4.2	1.9	-3.0	-12.8
Republic of Korea	14.8	3.3	3.8	-1.1	-5.0	16.1	2.7	2.6	-1.2	-0.2	11.1	5.1	7.5	-0.6	-19.0
United Kingdom	-6.6	-8.0	-2.9	-6.5	-3.9	-7.0	-2.0	-0.6	-4.9	-3.3	-5.8	-18.7	-7.7	-10.1	-5.5
United States of America	9.5	9.0	7.1	0.0	0.0	9.7	6.7	8.8	-4.0	-4.4	9.2	11.7	5.2	4.6	4.4

Note: Patent applications filed at the EPO are considered non-resident applications.

Source: WIPO Statistics Database, June 2010

To better understand the drops in national patent applications, it is helpful to look at the relative contributions of resident and non-resident applications (Figure 10).

Figure 10: Source of change in total patent applications by office (%), 2008-09



Note: Patent applications filed at the EPO are considered non-resident applications. Growth rates presented in the graph are weighted by the total growth in numbers of patent applications and should therefore not be compared to the growth rates in Table 1.

Source: WIPO Statistics Database, June 2010

As a possible sign of international cut-backs, non-resident applications fell more sharply in most patent offices than did resident applications. The fall in non-resident compared to resident applications was particularly marked at the EPO and the Korean Intellectual Property Office (KIPO), where the drop in non-resident applications accounted for most of the overall fall. The United States Patent and Trademark Office (USPTO) again constitutes an exception, as non-resident applications actually grew by 4.4%, offsetting an equal percentage decline in resident applications. Similarly, in Japan and France, resident applications dropped to a more substantial extent than did non-resident applications.

Interestingly, in France, the majority of the decline was due to reductions in numbers of applications from selected major patent applicants, notably in the automotive sector which was heavily affected by the crisis as noted earlier. SMEs did not cut back on patent applications but instead increased their filings by 3.7% despite the downturn.¹⁶

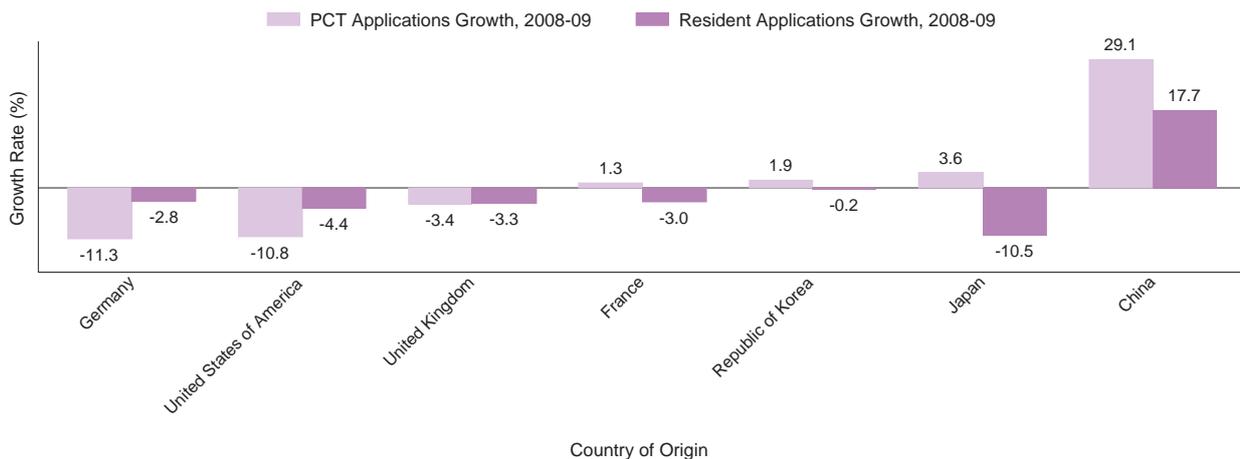
PCT applications experience a decline

PCT applications grew by 2.1% in 2008, 4.8 percentage points lower than in 2007. In 2009, PCT applications worldwide dropped by 4.5% – the first-ever year-on-year decline since the PCT became operational in 1978.

Whether or not PCT applications were more or less affected by the economic downturn than national or regional patent applications depends on several considerations. First, as described above, the crisis led to a substantial fall in international trade. Firms' patenting strategies may have focused on domestic markets, thus relying less on the PCT System to seek protection in foreign jurisdictions. Second, firms may have filed for patents for only their most valuable inventions. Since patent protection for those inventions is more likely sought in more than one country, PCT applications may have been less affected than national or regional applications. Finally, in filing a PCT application, applicants gain additional time to decide how many jurisdictions in which to pursue patent protection, thereby deferring IP filing costs to a later date. This flexibility and deferral of payment may be especially valuable in times of cash constraints and high economic uncertainty. The relative importance of these considerations is likely to differ across companies, sectors and countries.

There is indeed significant heterogeneity in the 4.5% drop in PCT applications in 2009. To a large extent, the year-on-year decrease reflects an 10.8% fall in PCT applications from the US – the largest user of the PCT System, accounting for around 30% of total applications. The sharp fall in PCT applications from the US represents close to 80% of the worldwide drop. That fall is steeper than the year-on-year decrease in patent applications filed by US residents with the USPTO, which saw only a 4.4% drop in 2009 (see Figure 11).

¹⁶ Observatoire de la Propriété Intellectuelle (2010), Mémo Objet : Evolution de la propriété industrielle en 2009 et durant le 1er trimestre 2010, May 2010.

Figure 11: Patent application growth rate by country of origin (%): selected origins

Note: Patent applications filed at the EPO are considered non-resident applications and are hence not included among the national resident applications.

Source: WIPO Statistics Database, June 2010

PCT applications from Germany, the third largest user of the PCT System, saw a decline similar in magnitude to the US (-11.3% in 2009) and, like the US, the drop in PCT applications was steeper than the drop in resident national applications. The drops in both PCT and resident applications originating from the United Kingdom were of similar magnitude. In Japan, the second largest user of the PCT System, the number of PCT applications increased by 3.6% in 2009, while the number of resident applications at the Japan Patent Office (JPO) fell by 10.5%. Similarly, France saw an increase in PCT applications and a decline in resident applications, though at lower magnitudes compared to Japan.

The Republic of Korea saw continued growth in numbers of PCT applications. This growth occurred at the time of flat resident patent applications at the KIPO. The growth rate of PCT applications declined, however, from more than 10% annually in 2008 and the two preceding years, to 1.9% in 2010, reflecting weaker economic conditions.

In China, PCT applications grew by 29.1% in 2009, outpacing the 17.7% growth rate in applications by domestic residents at the State Intellectual Property Office of China (SIPO). Growth in numbers of PCT applications from China actually accelerated in 2009 vis-à-vis 2008, appearing to be unaffected by the global economic turmoil. That growth was particularly strong in the area of basic communication processes and audiovisual technologies. The majority of middle- and lower-income economies that use the PCT saw increases in 2009 compared to the previous year, but at lower growth rates.

Due to the unavailability of 2009 data, a similar comparative assessment of the impact of the crisis on national patent applications in middle- and low-income economies is premature.

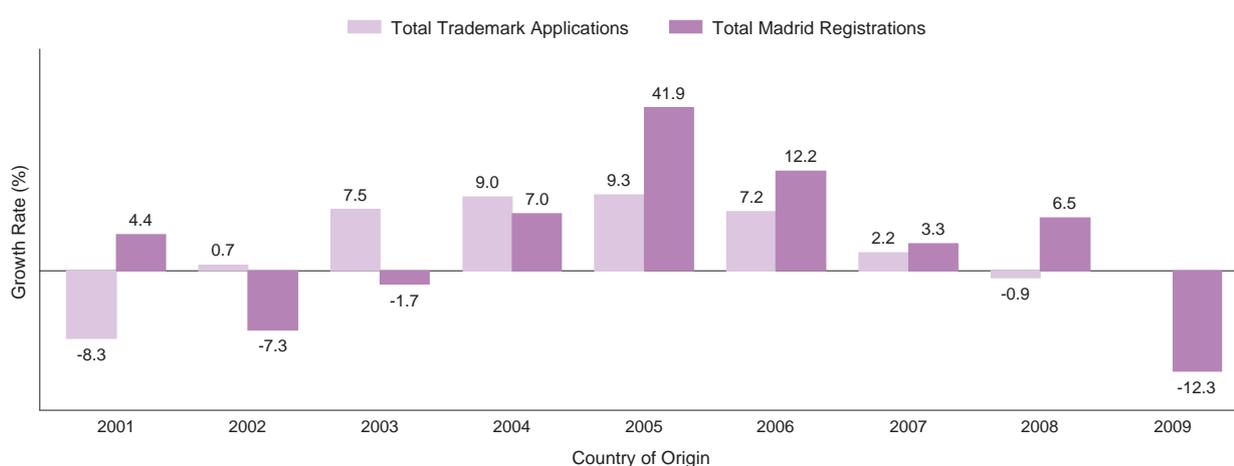
The economic recession also had a negative impact on industrial design applications. However, international registrations via the Hague System did not lead to absolute declines between 2008 and 2009, but only to a slowdown in registrations (from 33% in 2008 to 10% in 2009). The available data on national and regional industrial design applications, however, show that in 2009 most major IP offices experienced considerable declines in applications. Again, a breakdown of design filing growth rates by resident versus non-resident applications confirms that, in most offices, non-resident applications were more strongly affected by the crisis. In China, the number of resident applications continued to grow at a fast rate, while non-resident applications have declined.

A downturn and eventual (likely) drop in trademark applications

Similar to patent applications, growth in numbers of trademark applications started to slow before the onset of the economic crisis, namely as of 2005 or later depending on the country (see Figure 12). Reflecting the weaker economic conditions, there was an actual decline of 0.9% in total trademark applications in 2008, and a further fall is expected in 2009.

As indicated earlier, trademarks tend to be more vulnerable to economic downturns and more responsive to subsequent recoveries. Firms appear to be more cautious about introducing new products to market when economic uncertainty is high. They might also forego new marketing programs for existing products.

Figure 12: Trademark application growth rate (%)



Note: The high growth in Madrid registrations in 2005 can be explained by the accession of the Office for Harmonization in the Internal Market (OHIM) to the Madrid System.

Source: WIPO Statistics Database, June 2010

The available data on national and regional trademark applications confirm that most but not all major IP offices registered a considerable decline in trademark applications in 2008 and, where data are available, in 2009 (Table 2).

Table 2: Trademark application growth rate by IP office (%): selected offices

IP Office	Panel A: Total					Panel B: Resident					Panel C: Total Non-Resident				
	2005	2006	2007	2008	2009	2005	2006	2007	2008	2009	2005	2006	2007	2008	2009
China	13.3	12.6	-8.2	-1.8	20.8	12.5	12.8	-9.6	-2.4	25.6	21.3	10.5	5.1	2.8	-15.0
France	2.6	2.1	3.7	-1.0	8.1	2.2	4.4	5.9	-0.5	10.5	4.7	-10.0	-10.0	-5.2	-9.9
Germany	7.9	0.5	3.6	-3.0	-7.7	7.4	2.4	5.8	-3.7	-6.2	10.9	-9.4	-9.5	2.1	-16.9
Japan	5.6	-0.1	5.4	-16.6	-7.2	3.4	-2.0	5.7	-19.0	-5.4	18.6	9.4	4.1	-5.2	-14.4
OHIM	10.7	20.6	13.7	-1.6	0.6	10.3	23.4	15.5	-4.2	6.1	11.6	14.8	9.6	4.7	-11.3
Republic of Korea	8.6	6.2	8.1	-2.7	-2.4	8.2	6.1	6.3	-4.2	0.6	10.5	6.6	15.6	2.9	-13.1
United Kingdom	4.0	5.7	3.5	-11.8	..	7.6	10.7	8.3	-12.1	..	-2.1	-3.7	-6.9	-11.1	..
United States of America	6.5	4.9	9.6	-3.3	..	5.0	4.0	9.9	-4.0	..	15.3	10.0	7.8	0.3	..

Note: For offices party to the Madrid System, non-resident percentages are calculated on the basis of a sum of direct applications plus Madrid designations received.

Source: WIPO Statistics Database, June 2010

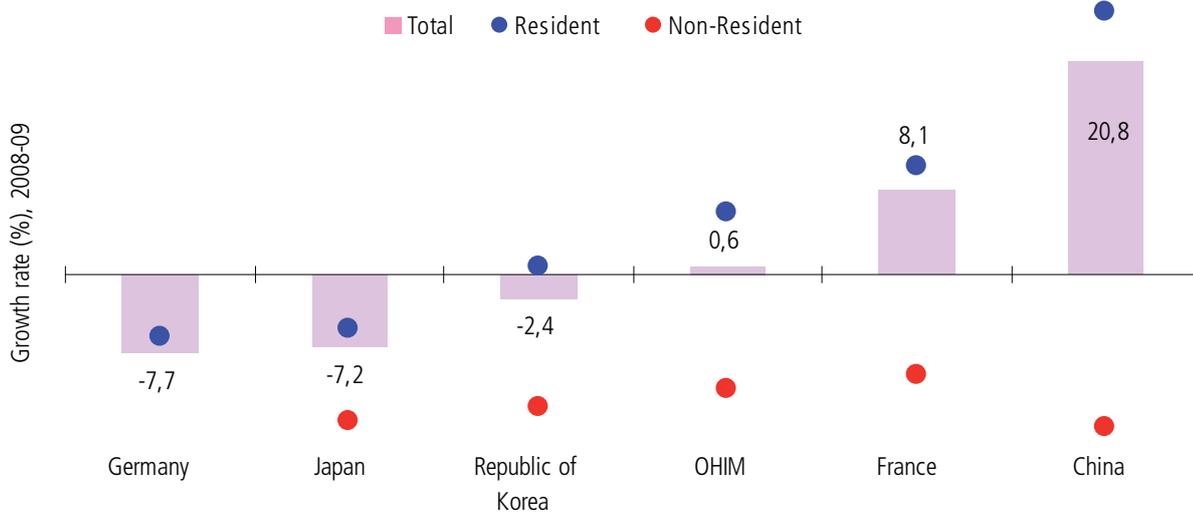
In 2008, the decline was particularly pronounced in Japan (-16.6%) and in the United Kingdom (-11.8%) but less so in France (-1%) and the Republic of Korea (-2.7%). Data for the US for the fiscal year ending in September 2009 show that US trademark applications dropped by 12% in 2009.¹⁷ The declines in trademark applications were more pronounced in many countries than were declines in patent applications. This confirms the earlier hypothesis that trademark applications are more vulnerable to the business cycle.

¹⁷ These data are not yet available according to calendar year and have thus not been integrated in Table 2.

Interestingly, compared to patent filing growth which was mostly negative in 2009, trademark applications bounced back to positive growth at a few offices, where data are available (China, France and the OHIM). The recovery in growth rates for both China and France is substantial. Where quarterly data are available, for example, in France, they show that the majority of filing growth took place in the third and fourth quarters of 2009 and thus, possibly, in parallel with the anticipated recovery. In France, the creation of a statute for micro-enterprises explains some of that growth.¹⁸

A breakdown of trademark filing growth rates in 2009 by resident versus non-resident applications yields a similar pattern to that observed for patents (Figure 13). All offices in the sample experienced a decline in non-resident trademark applications. In contrast, except for Germany and Japan, resident applications continued to grow, especially in China.

Figure 13: Source of change in total trademark applications by IP office (%), 2008-09



Note: Growth rates presented in the graph are weighted by total growth in trademark applications and should therefore not be compared to the growth rates in Table 2.

Source: WIPO Statistics Database, June 2010

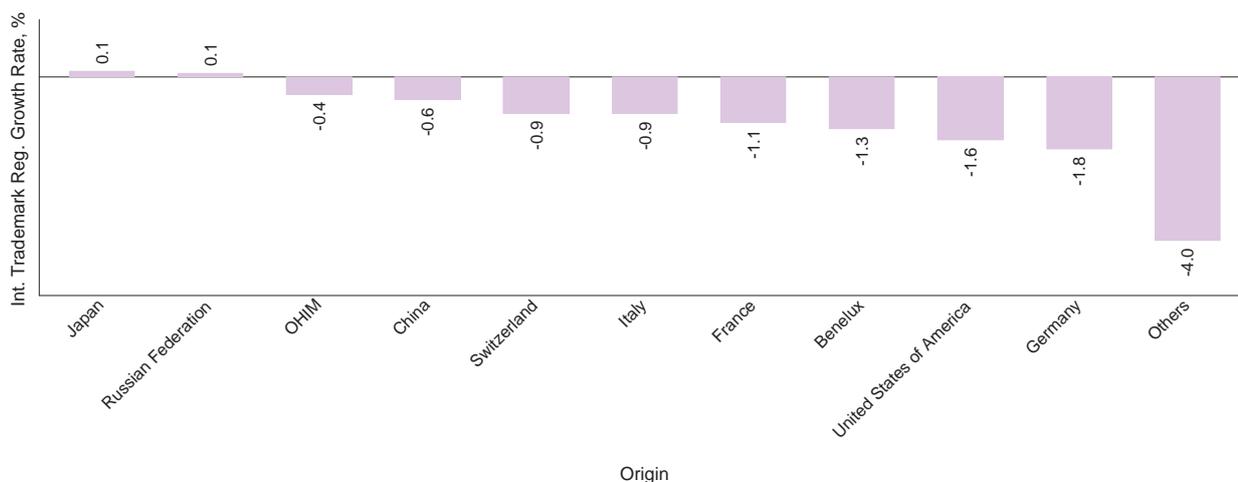
Economic crisis hits registrations under the Madrid System

As shown earlier, international trademark registrations under WIPO's Madrid System dropped by 12.3% in 2009 (Figure 12). In terms of individual origins, Germany, the US, Benelux¹⁹ and France accounted for the majority of this drop (in decreasing order of degree), whereas international registrations from Japan and the Russian Federation remained broadly unchanged (Figure 14). However, the decline was widely shared among all countries using the Madrid System (see "Others" in Figure 14, which shows a pronounced decline for other users of the Madrid System).

¹⁸ Observatoire de la Propriété Intellectuelle (2010), Les dépôts de marques en 2009, Laurence JOLY, Avril 2010.

¹⁹ Belgium, Netherlands and Luxembourg.

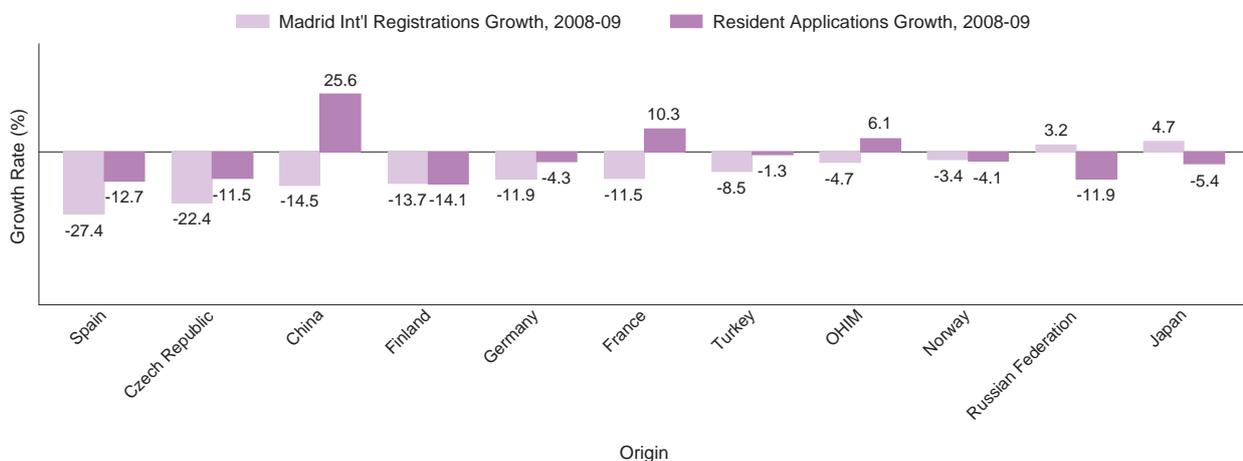
Figure 14: Source of change in Madrid international registrations by origin (%), 2008-09



Source: WIPO Statistics Database, June 2010

A comparison of the growth in numbers of registrations under the Madrid System compared to resident trademark applications shows that, in the majority of countries with available data, Madrid registrations were more negatively affected by the crisis, except for Norway, Japan and the Russian Federation (Figure 15). Again, this can be taken as a sign that firms focused on national markets during the crisis. Resident applications continued to grow in China, France and at OHIM.

Figure 15: Trademark application growth rate by origin (%): selected origins



Source: WIPO Statistics Database, June 2010

OUTLOOK

Most major economies have emerged from recession, and many middle-income economies have returned to fast pre-crisis growth rates. The first signs of recovery are also apparent in the greater availability of venture capital since late 2009, and there appears to be a modest recovery in R&D spending. In addition, preliminary data for the first six months of 2010 point to renewed growth of PCT applications.

This turnaround notwithstanding, in many large economies demand continues to be subdued and unemployment stubbornly high. Full crisis recovery will take time, and there is a risk of further degradation in the economic climate.

The crisis is likely to have a lingering impact on IP filing behavior in 2010 and 2011, which – based on lessons from past crises – is likely to be more pronounced for patent than for trademark filings. Thus, while trademark applications are expected to return to healthy growth in 2010 and 2011, recovery in patent applications is bound to be more modest.

The post-crisis world economy is likely to see faster rates of economic growth in low- and middle-income economies – especially in East Asia and India. The corresponding geographic shift of innovative activity, as measured by R&D expenditure and IP filings, that has been ongoing for a number of years is bound to continue.

Despite their detrimental effect on revenues and cash flows, economic crises can offer opportunities for rationalization, the acceleration of structural changes, new entrepreneurship and “creative destruction” - elements that are only incompletely measured by R&D expenditure or IP filings. The true overall impact of the crisis and of recovery on innovation – be it positive or negative – is likely to become apparent only over time.

SECTION A

PATENTS AND UTILITY MODELS

Over the past two decades, the patent system has undergone important changes worldwide. As a result, patent legislation and patenting behavior have become prominent public policy themes. Similarly, use of the utility model system for protecting inventions has risen significantly, most notably in China.

This section provides an overview of worldwide patent and utility model (UM) activity that will enable users to analyze and monitor the latest trends. A wide range of indicators are included to offer insights into the functioning and use of the patent and UM systems. After a brief description of the trend in worldwide patent and UM activity follows an analysis of patent and UM activity by office, origin, patent families, PCT (Patent Cooperation Treaty) international applications, patents by field of technology, international collaboration, intensity of patent activity, patents in force, oppositions to patents granted, and pending patents.

National and regional patent office data, spanning a large number of offices, are available for 2008. WIPO-administered PCT statistics are available for 2009. National and regional office statistics for 2009 are included for a handful of countries, in the “Special Theme” that addresses the impact of the global financial crisis on IP activity.

PATENT SYSTEM

A patent confers a set of exclusive right to applicants by law for inventions that meet standards of novelty, non-obviousness and industrial applicability. It is valid for a limited period of time (generally 20 years), during which patent holders can commercially exploit their inventions on an exclusive basis. In return, applicants are obliged to disclose their inventions to the public so that others, skilled in the art, may replicate the invention. The patent system is designed to encourage innovation by providing innovators with time-limited exclusive legal rights, thus enabling innovators to appropriate the returns of their innovative activities.

The procedures for acquiring patent rights are governed by the rules and regulations of national and regional patent offices. These offices are responsible for issuing patents, and the rights are limited to the jurisdiction of the issuing authority. To obtain patent rights, applicants must file an application describing the invention with a national or regional office.

They can also file an “international application” through the PCT, which facilitates the acquisition of patent rights in a large number of jurisdictions. The PCT is an international treaty administered by the World Intellectual Property Organization (WIPO). The PCT System simplifies the process of multiple national patent filings by reduc-

ing the requirement to file a separate application in each jurisdiction. However, the decision on whether or not to grant patents remains at the discretion of national or regional patent offices, and the patent rights remain limited to the jurisdiction of the patent granting authority.

The PCT international application process starts with the international phase, during which an international search and optional preliminary examination and supplementary international search are performed, and concludes with the national phase, during which national (or regional) patent offices decide on the patentability of an invention according to national law. For further details about the PCT System, refer to: www.wipo.int/pct/en/.

UTILITY MODEL SYSTEM

Like a patent, a UM confers a set of rights for an invention for a limited period of time, during which UM holders can commercially exploit their inventions on an exclusive basis. The terms and conditions for granting UMs are different from those for “traditional” patents. For example, UMs are issued for a shorter duration (7 to 10 years) and, at most offices, UM applications are granted without substantive examination. Like patents, the procedures for granting UM rights are governed by the rules and regulations of national IP offices, and rights are limited to the jurisdiction of the issuing authority.

UMs are available in around 60 countries, and UMs are an important alternative to patents in protecting inventions. In this report, the UM terminology refers to UMs and other types of protection similar to UMs. For example, innovation patents in Australia and short-term patents in Ireland are considered equivalent to UMs.

A.1 WORLDWIDE TREND

A.1.1 Trend in total patent activity

Figure A.1.1 depicts the total number of patent applications and patents granted across the world between 1985 and 2008. The latest available data covering a large number of patent offices are for 2008.

The slowdown in patent application growth in 2008, when global economic activity started to decline, was largely due to zero growth in patent applications in the United States of America (US) and a drop in the number of applications filed in Japan and the Republic of Korea. Despite the slowdown, the overall growth rate of patent applications continued to be positive, reflecting strong growth in China (Figure A.2.3a). As discussed in the Special Theme, 2009 data for several patent offices point to a drop in patent applications worldwide. As in 2008, 2009 data show zero growth at the US patent and trademark office (USPTO), a drop in the number of applications filed with the European Patent Office (EPO, -12,102) and substantial growth at the State Intellectual Property Office of China (SIPO, +24,735).

Figure A.1. Trend in total patent applications and patent grants



Note: Data prior to 1995 may be downward biased due to incomplete reporting of PCT national phase entries. Application counts are based on application date, and grant counts are based on grant date. The world total is a WIPO estimate covering around 110 patent offices (see Data Description). It includes direct applications and Patent Cooperation Treaty national phase entry data.

Source: WIPO Statistics Database, June 2010

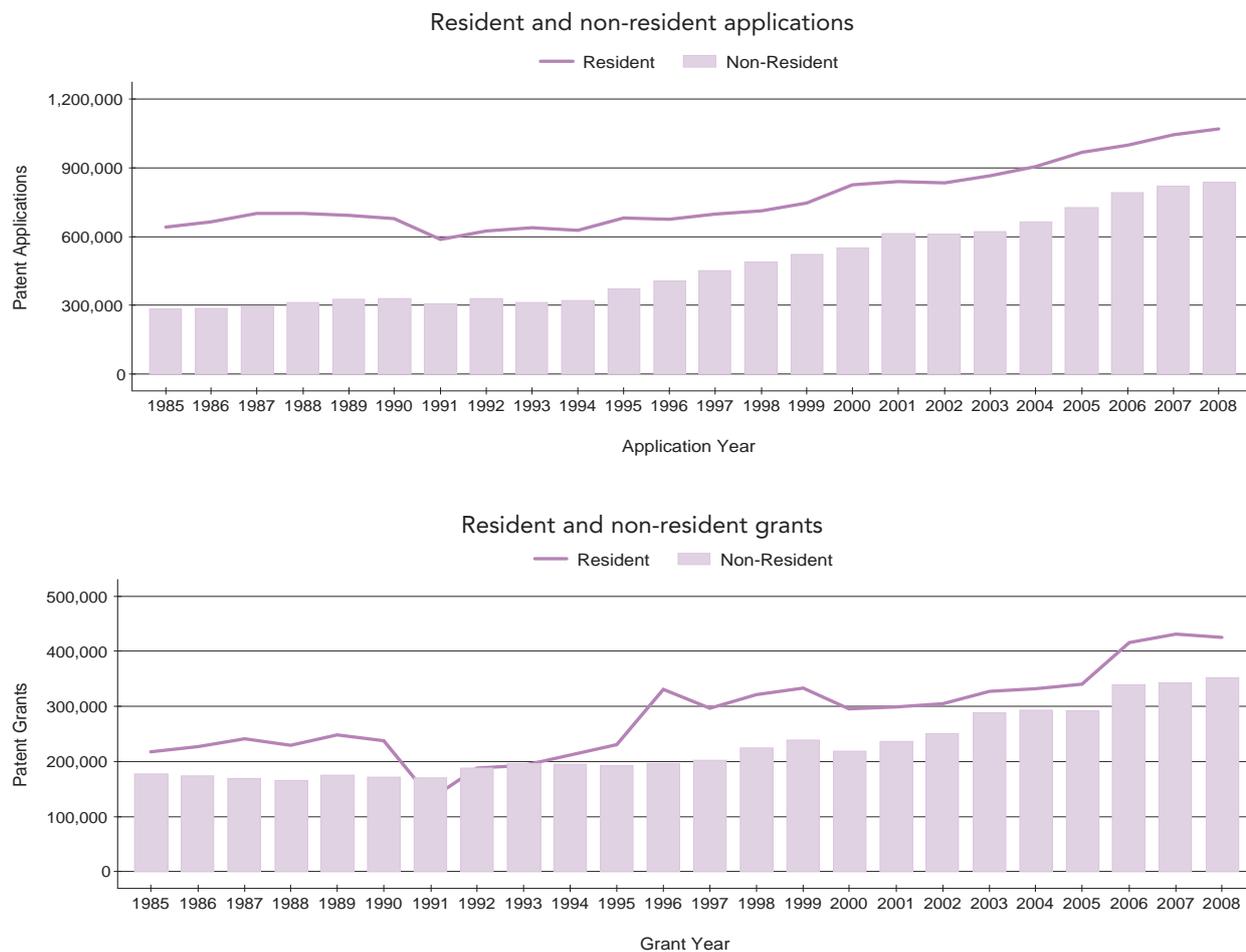
In 2008, approximately 1.91 million patent applications were filed across the globe, representing a 2.6% increase over 2007. The long-term trend shows that the number of applications filed worldwide was stable between 1985 and 1995 - around one million applications per year. Since then, the number of patent applications worldwide has followed a sustained upward trend, except for a small drop in 2002. China and the US account for more than half of the growth between 1995 and 2008.

As with applications, the growth in total patents granted has slowed in recent years. The total number granted stood at around 777,600 in 2008, representing a 0.6% increase over the previous year. A sharp drop in the number of patents granted by the patent office of the Republic of Korea (Figure A.2.4) accounts for a significant portion of the slowdown in the growth in global patent grants.

A.1.2 Resident and non-resident patent activity

A resident application is defined as an application filed with a patent office by an applicant residing in the country in which that office has jurisdiction. For example, a patent application filed with the Japan Patent Office (JPO) by a resident of Japan is considered a resident application for the JPO. Resident applications are sometimes also referred to as domestic applications. A resident grant refers to a patent granted on the basis of a resident application. A non-resident application is an application filed with the patent office of a given country by an applicant residing in another country. For example, a patent application filed with the USPTO by an applicant residing in France is considered a non-resident application for the USPTO. Non-resident applications are also known as foreign applications. A non-resident grant is a patent granted on the basis of a non-resident application.

Figure A.1.2a Total resident and non-resident patent applications and grants



Note: Data prior to 1995 may be downward biased due to incomplete reporting of PCT national phase entries. Patent applications filed with and granted by the EPO are considered non-resident applications. The world total is a WIPO estimate covering around 110 patent offices (see Data Description).

Source: WIPO Statistics Database, June 2010

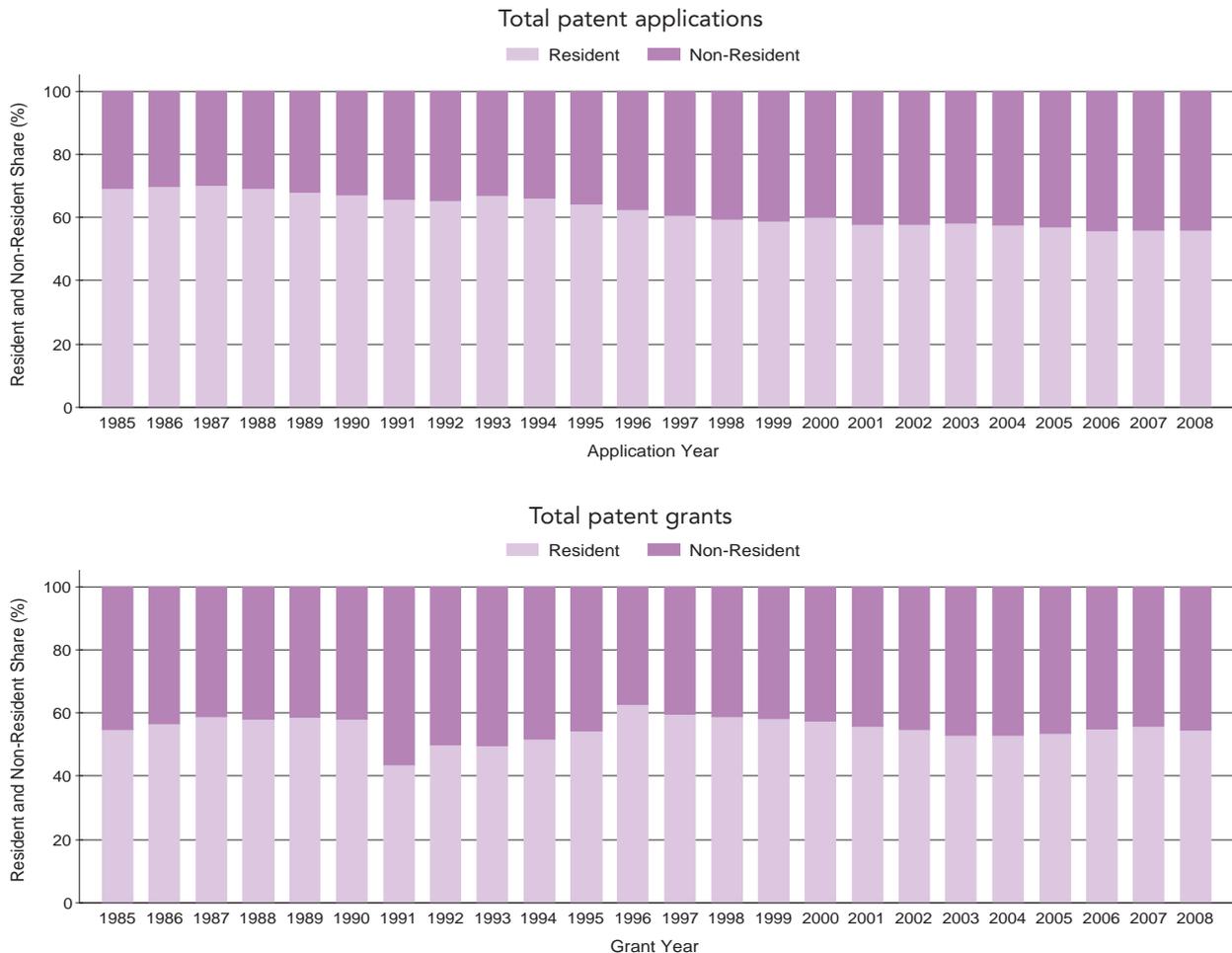
In 2008, the total number of resident patent applications stood at around 1.1 million, a 2.6% increase over the previous year. This growth rate masks the large heterogeneity in annual changes of resident applications across patent offices. Residents of Japan, the Republic of Korea and the US filed fewer patent applications at their respective national patent offices in 2008 compared to 2007. Residents of China, in contrast, filed 27.1% more applications in 2008.

The total number of non-resident applications increased by a similar magnitude (+2.6%) in 2008 compared to 2007, amounting to a total of around 0.8 million applications. Non-resident applications at the USPTO and the SIPO increased by 4.6% and 3.4%, respectively. The non-resident share of total patent applications was 44% in 2008, which is considerably higher than its share in the 1990s.

The total number of resident patents granted decreased by 1.5% in 2008 compared to the previous year. This is mostly due to a drop in resident patents granted by the Korean Intellectual Property Office (KIPO). A substantial increase in resident patents granted by the SIPO prevented a larger drop in total grants.

Total non-resident patents granted increased by 3.2% in 2008. As with resident grants, there was a drop in non-resident grants at the KIPO and a significant rise at the SIPO. Non-resident grants account for 45.4% of global patents granted.

Figure A.1.2b Resident and non-resident share in total patent applications and grants



Source: WIPO Statistics Database, June 2010

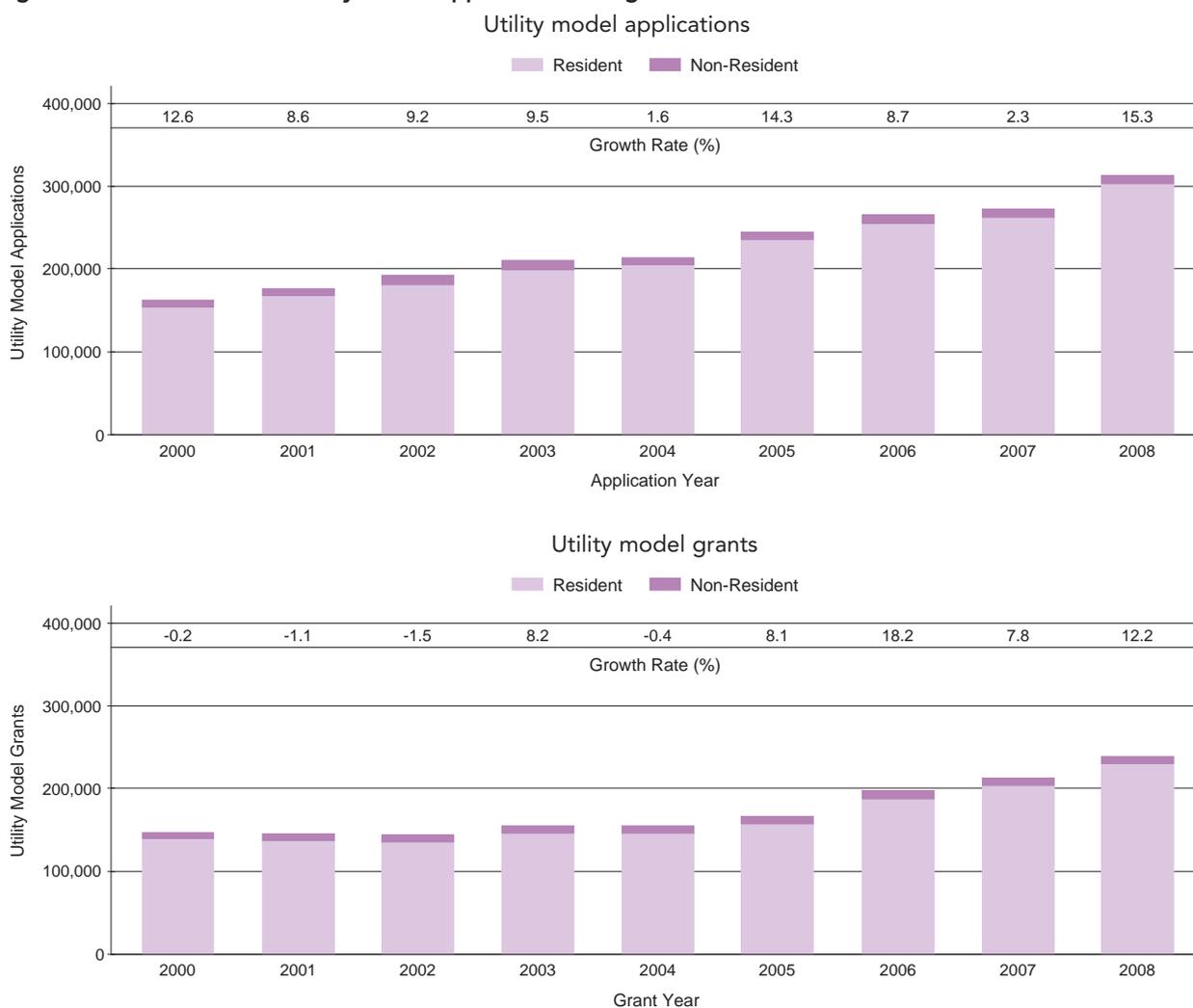
A.1.3 Trend in utility model activity

Figure A.1.3 shows data on the total number of UM applications filed and issued across the world during the period 2000-08. The total number of UM applications has grown continually over the past decade and, in 2008, approximately 313,000 UM applications were filed across the world. Growth in UM applications at the SIPO (Figure A.2.6) accounts for most of the overall growth in global UM applications.

The total number of UMs granted in 2008 is estimated at 238,000, representing a 12.2% increase over 2007. Similar to applications, strong growth at the SIPO accounts for most of the increase in total grants.

In contrast to patents, the UM System is mostly used by residents to protect inventions at national patent offices. For example, the resident share of total UM applications is 96.9%, which is far above the proportion observed for patent applications. The grant data show a similar distribution between resident and non-resident grants.

Figure A.1.3 Trend in total utility model applications and grants



Note: The world total is a WIPO estimate covering around 55 patent offices (see Data Description).

Source: WIPO Statistics Database, June 2010

A.2 PATENT AND UTILITY MODEL ACTIVITY BY OFFICE

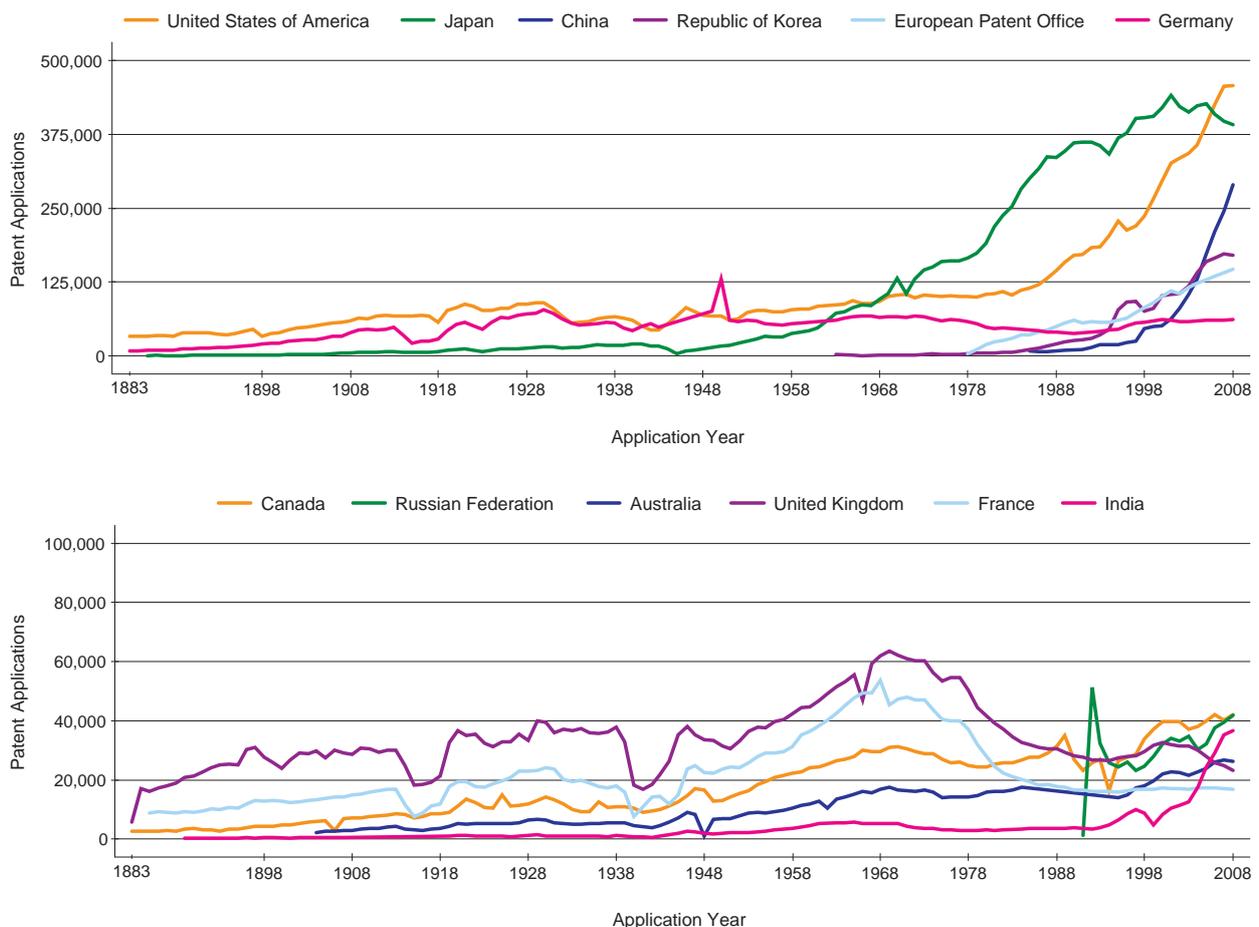
Patent and UM activity differ across patent offices, and the aggregate (worldwide) data presented above hide rich variations across offices. For example, patent application data show that the patent offices of China, Japan and the US account for around 60% of patent applications worldwide. There is also substantial variation in the share of resident and non-resident patent and UM activity. Notably, at some patent offices, resident applications account for the major part of total activity, while at other offices non-resident activity far exceeds resident activity.

A.2.1 Trend in patent applications by patent office

Figure A.2.1a presents the long-term trend in patent applications for selected patent offices. It shows that the number of patent applications at leading patent offices was stable until the early 1970s, followed by an acceleration in applications at the patent offices of Japan and, later, the US. Between 1968 and 2005, the JPO received the largest number of applications. In 2006, the USPTO overtook the JPO to become the largest patent office as measured by total applications. In 2008, the USPTO received 456,321 applications.

More recently, the SIPO and the KIPO saw sharp increases in numbers of applications. In 2005, the SIPO overtook the KIPO to become the third largest patent office and is rapidly closing the gap with the JPO and the USPTO. The number of patent applications filed with the patent office of India was stable until 2000 and has since experienced rapid growth, reaching 36,812 applications in 2008.

Figure A.2.1a Trend in patent applications at selected patent offices

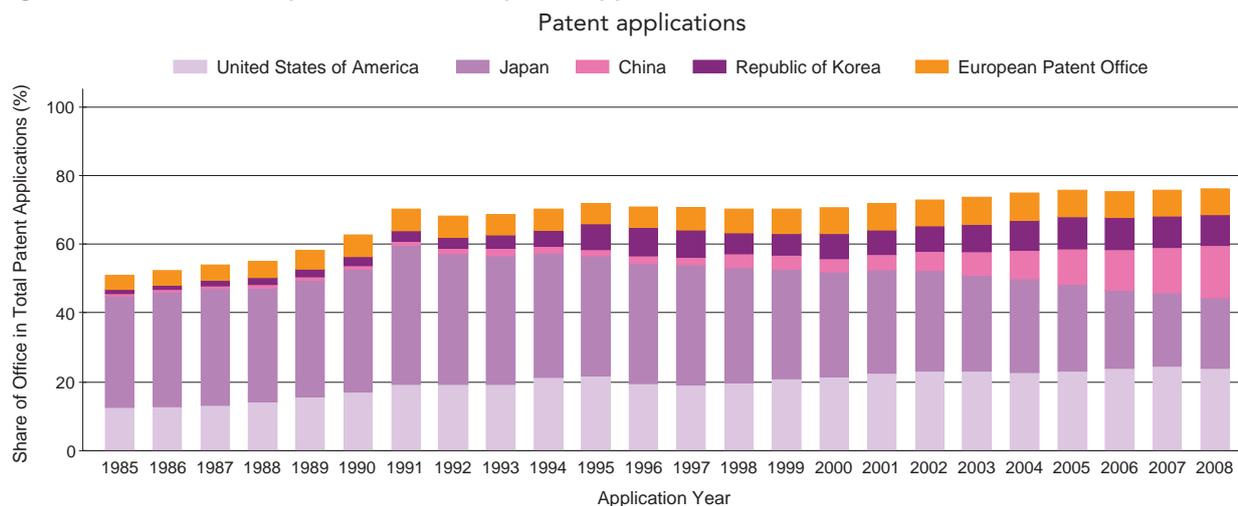


Source: WIPO Statistics Database, June 2010

The number of patent applications filed with the patent offices of France and the United Kingdom declined over the past three decades. The drop in number of applications filed with those offices can be largely explained by the existence of an alternative route for acquiring national patent rights, namely through the EPO.

The top five offices accounted for 76.2% of total patent applications in 2008, a significant increase over 1985 (50.9%). In addition, the shares of the top five offices themselves have shifted considerably (Figure A.2.1b). In particular, the combined share of the JPO and the USPTO decreased from a peak of 59.6% in 1991 to 44.4% in 2008. In contrast, the combined share of the KIPO and the SIPO increased from 4.4% to 24.1% over the same period.

Figure A.2.1b Share of top 5 offices in total patent applications



Source: WIPO Statistics Database, June 2010

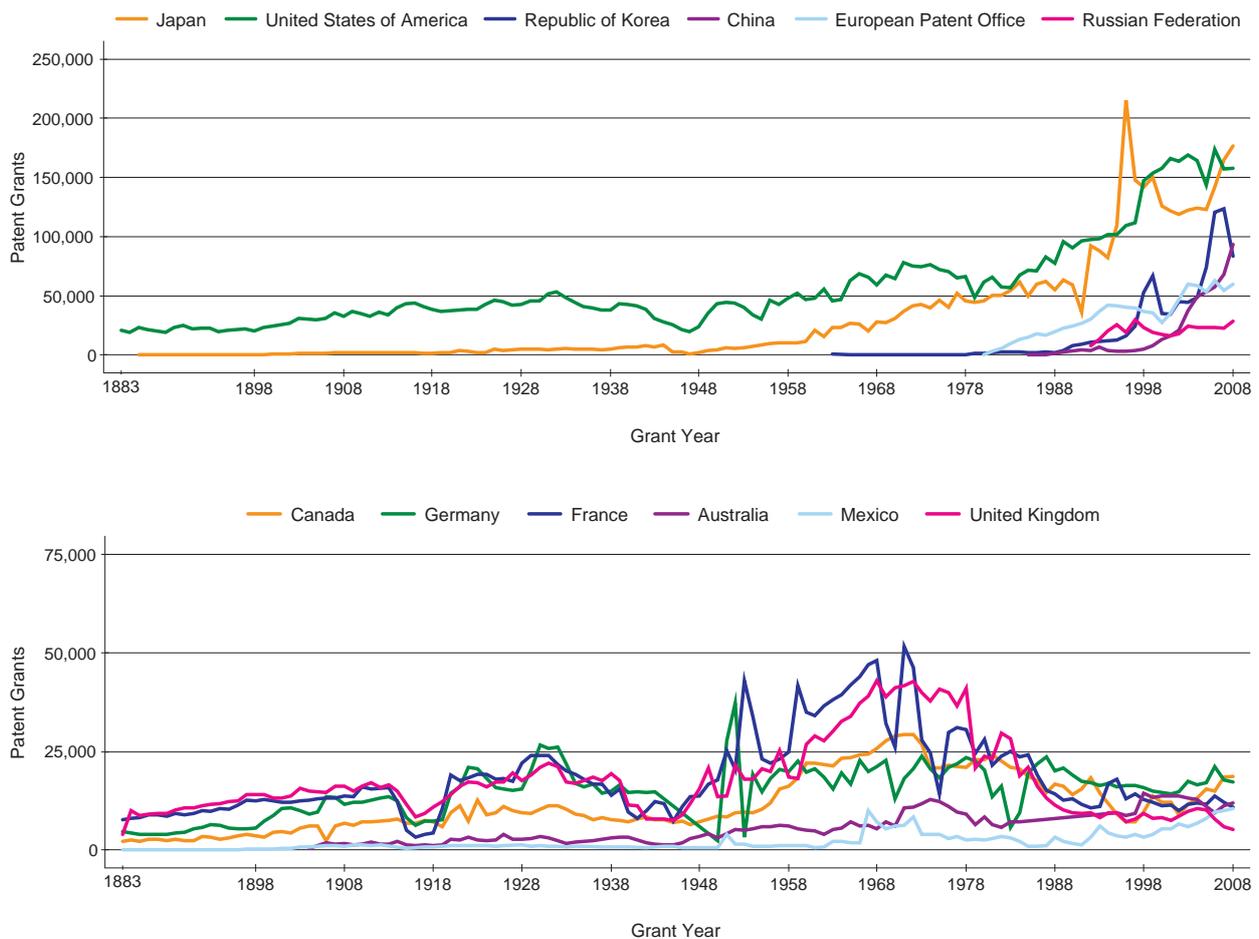
A.2.2 Trend in patents granted by patent office

The trend in patents granted is similar to that observed for patent applications. However, the acceleration in number of grants occurred later, in the mid-1980s. Compared to patent applications, patents granted show greater year-to-year variation, reflecting institutional shifts that have taken place in various patent offices, such as the hiring of new examiners.

Despite a 32% fall in 2008, the number of patents granted by the KIPO increased by 17.4% per year (average annual growth) over the past two decades. The SIPO experienced the fastest growth in number of patents granted over the same period (+21.5% annually).

As in the case of applications, patents granted by the offices of France and the United Kingdom have declined since the late 1970s, reflecting the emergence of the EPO route.

Figure A.2.2 Trend in patents granted at selected patent offices



Source: WIPO Statistics Database, June 2010

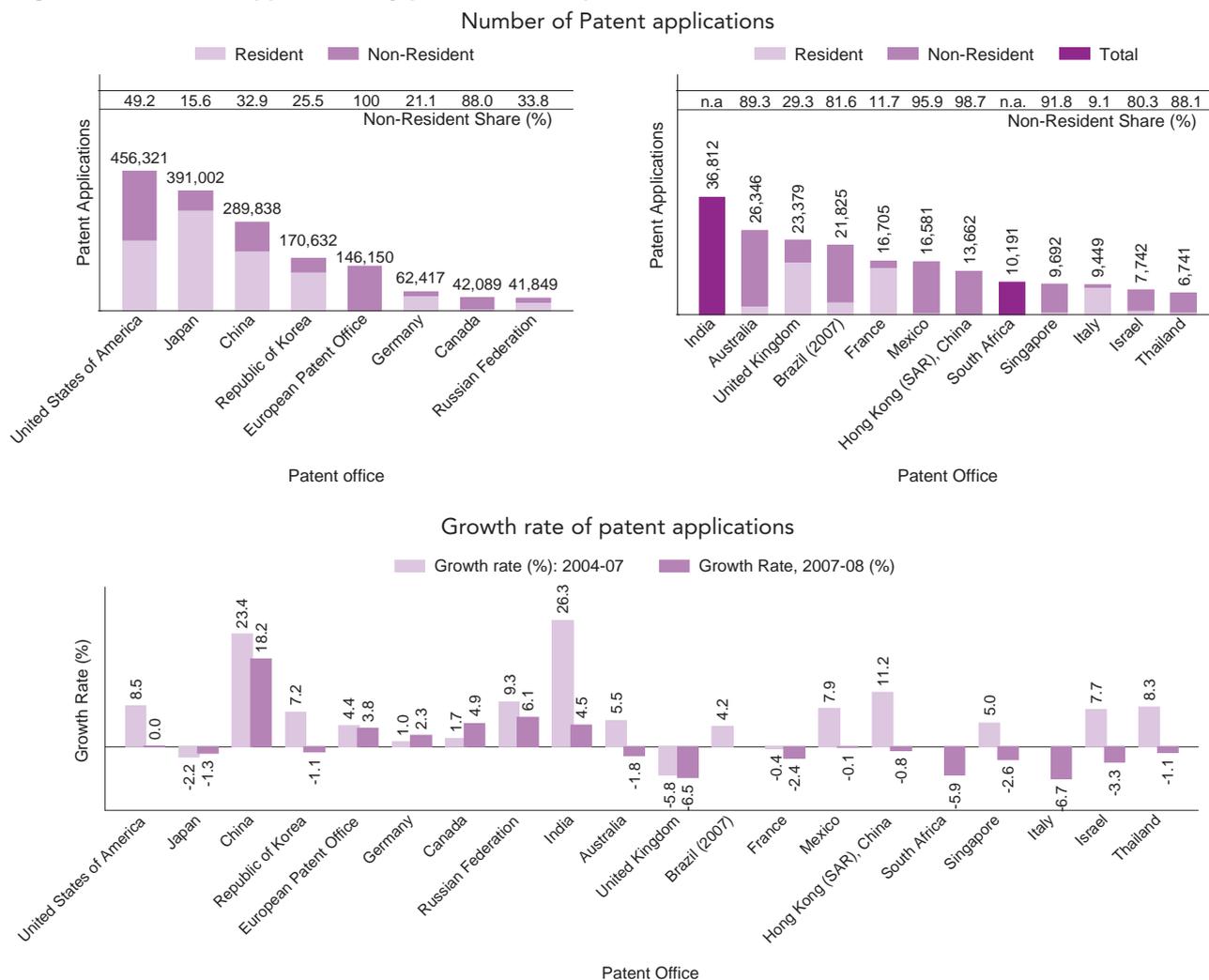
A.2.3 Patent applications at the top 20 patent offices

Figure A.2.3a depicts the number of resident and non-resident patent applications received by the top 20 patent offices. As previously pointed out, the USPTO received the largest number of applications in 2008, followed by the patent offices of Japan, China and the Republic of Korea. Despite a fall in the number of applications filed with the JPO (-5,289) and the KIPO (-1,837), the combined share of the top five offices increased from 75.9% in 2007 to 76.2% in 2008.

The non-resident share of total patent applications varied from 9.1% in Italy to 98.7% in Hong Kong (SAR), China. The non-resident share of total applications at the EPO is, by definition, 100%. For all reporting countries, the non-resident share of total applications was similar to that of total grants, except at the SIPO and the United Kingdom Intellectual Property Office (UK-IPO), where the non-resident share of total applications was below that of total grants (Figure A.2.4).

A breakdown of the application growth rates for 2004-07 and 2007-08 offers an insight into the impact of the global financial crisis on patent applications (see Special Theme for further details). There was zero growth in patent applications in the US in 2008, which is far below the 8.5% average annual growth rate recorded between 2004 and 2007. For the majority of reporting offices, 2007-08 growth rates were below average annual growth rates between 2004 and 2007. This includes the SIPO that, nonetheless, showed the largest growth in applications in 2008.

Figure A.2.3a Patent applications by patent office: top 20 offices, 2008



Note: Patent applications filed with the EPO are considered non-resident applications. Therefore, the share of non-resident applications at the EPO is, by definition, 100%. Growth rate (2004-07) refers to average annual growth rate.

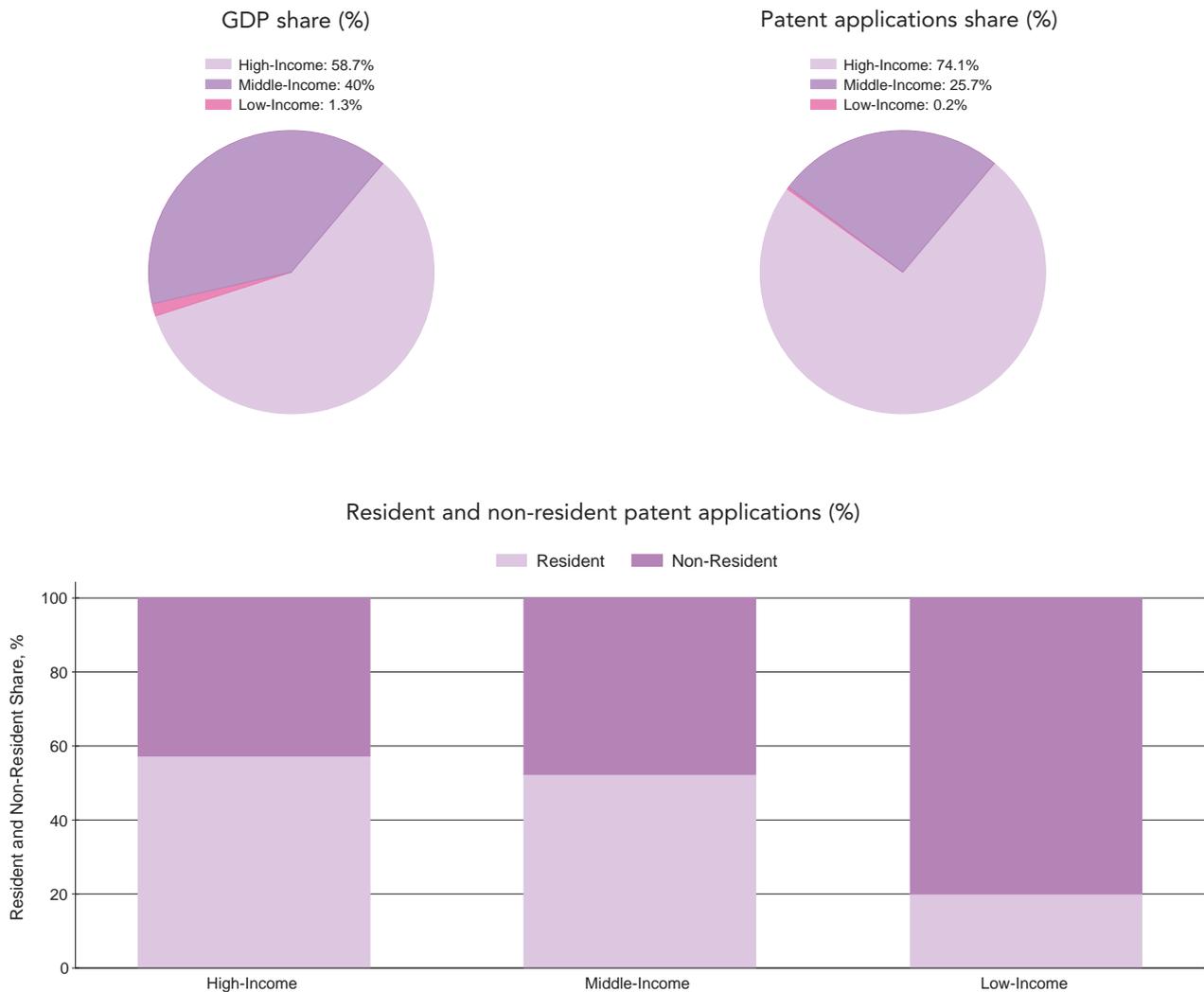
Source: WIPO Statistics Database, June 2010

As mentioned previously, the combined share of the top five offices was 76.2% in 2008. Patent and GDP data by income groups show that patent application data are more concentrated than GDP.²⁰ The share of high-income economies in total patent applications is 15.4 percentage points above their GDP share (Figure A.2.3b). In contrast, the shares of low-income and middle-income economies in total patent applications are below their respective GDP shares. The SIPO accounts for 60% of middle-income economies' patent share (25.7%).

Resident applications account for more than half of total applications in high-income (57.4%) and middle-income (52.3%) economies. However, the resident share of middle-income economies, excluding the SIPO data, is only 30.8%. Only a fifth of all applications in low-income economies are resident applications.

²⁰ The figure of total patent applications worldwide, as reported in Figure A.1.1, is based on data from around 110 patent offices of countries whose economies accounted for around 93.8% of world GDP in 2008.

Figure A.2.3b GDP and patent share by income group, 2008



Note: The above graphs are based on data for 111 economies. High-income, middle-income and low-income groups include 41, 56 and 14 economies, respectively. Patent application data include three regional patent offices (the African Regional Intellectual Property Organization (ARIPO), the Eurasian Patent Organization (EAPO), and the EPO). The EPO data are allocated to the high-income group, as the majority of EPO members are high-income economies. For the same reason, ARIPO and EAPO data are allocated to the low-income and middle-income groups, respectively. All ARIPO, EAPO and EPO patent application data are classified as non-resident applications. The income group classification is based on the World Bank definition. Economies are divided according to 2009 GNI per capita, calculated using the World Bank Atlas method. The groups are: low income, \$995 or less; middle income, \$996 - \$12,195; and high income, \$12,196 or more.

Source: WIPO Statistics Database, June 2010

A.2.4 Patents granted at the top 20 patent offices

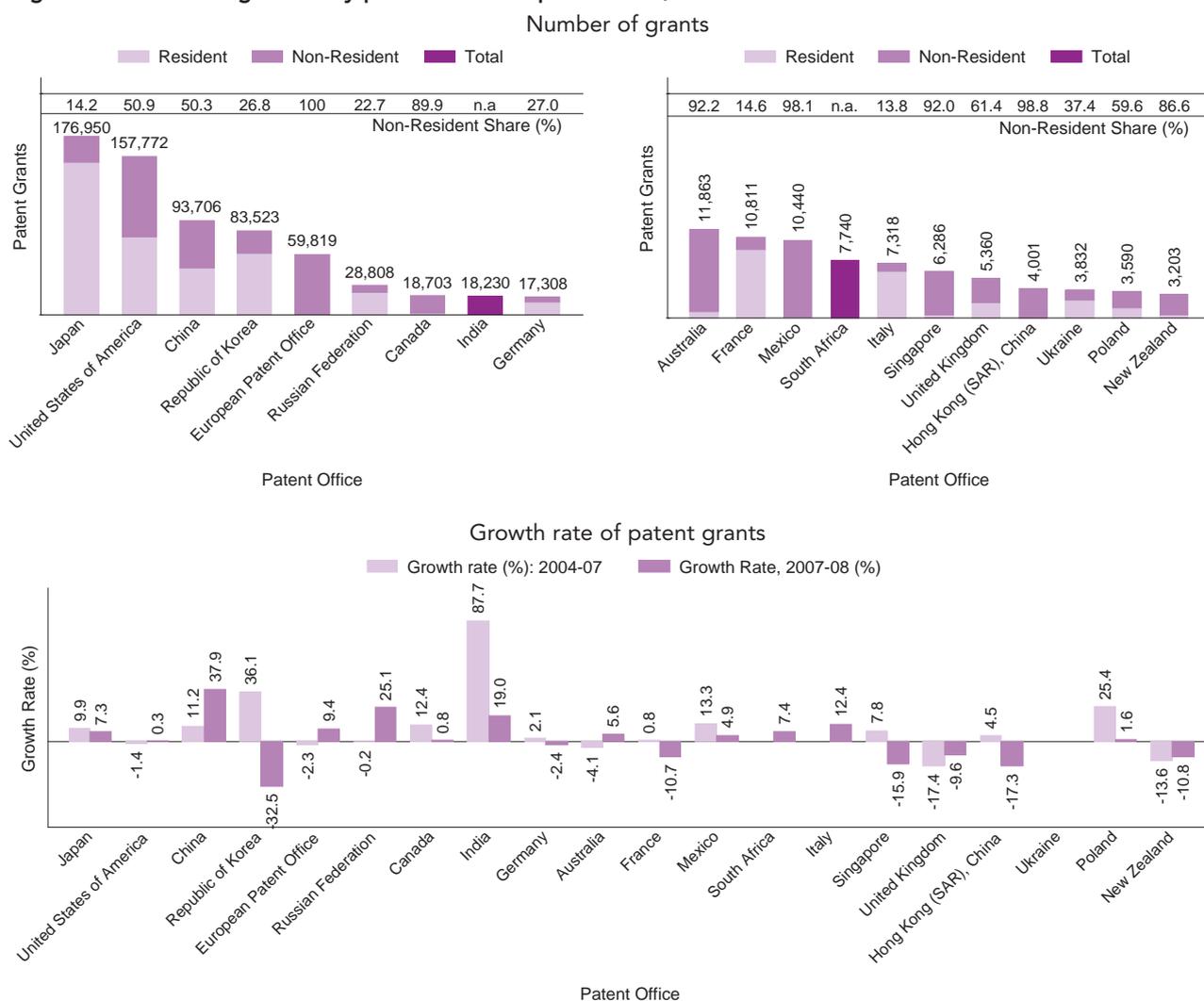
Figure A.2.4 shows the number of resident and non-resident patents granted by the top 20 patent offices. In 2008, the JPO and the USPTO issued the largest number of patents. These two offices accounted for 43.1% of patents issued around the world. In 2008, the SIPO overtook the KIPO as the office issuing the third largest number of patents. This was due to a substantial fall in patents issued in the Republic of Korea (-40,182) combined with a rise in patents granted in China (+25,758). In 2008, the combined share of the top five offices in total patents granted (73.5%) was somewhat smaller than their combined share in total applications (76.2%).

The JPO and KIPO exhibit relatively low numbers of non-resident grants, which corresponds to their low numbers of non-resident applications (Figure A.2.3a). At the USPTO and the SIPO, residents and non-residents each account for about half of total grants (Figure A.2.4). However, in the case of the SIPO, the non-resident share of total patents granted is about 17 percentage points higher than the non-resident share of total patent applica-

tions. Non-residents account for the majority (more than 90%) of total patents issued by the patent offices of Singapore, Mexico, Australia and Hong Kong (SAR), China.

The average 0.6% growth in total patents granted in 2008 (Figure A.1.1) masks substantial variation across patent offices. In 2008, the SIPO issued 25,758 (+37.9%) more patents than in 2007. The patent offices of the Russian Federation, India and Italy and the EPO also experienced high growth in patents granted over the same period. The patent office of the Republic of Korea, in contrast, issued 40,182 (-32.5%) fewer patents in 2008. Interestingly, 75% of this drop can be accounted for by the granting of resident patents.

Figure A.2.4 Patents granted by patent office: top 20 offices, 2008



Note: Patents granted by the EPO are considered non-resident grants. Therefore, the share of non-resident patents granted by the EPO is, by definition, 100%. Growth rate (2004-07) refers to average annual growth rate.

Source: WIPO Statistics Database, June 2010

A.2.5 Patent activity in selected middle and low income economies

Figures 2.5a and 2.5b show the total number of patent applications and patents granted for selected middle-income and low-income economies not covered in previous sub-sections. The selected offices represent economies from different parts of the world (additional offices are reported on in the statistical annex).

The two highest ranking offices in this selection are those of Ukraine and Malaysia, each having received more than 5,000 patent applications in 2008 (Figure A.2.5a).

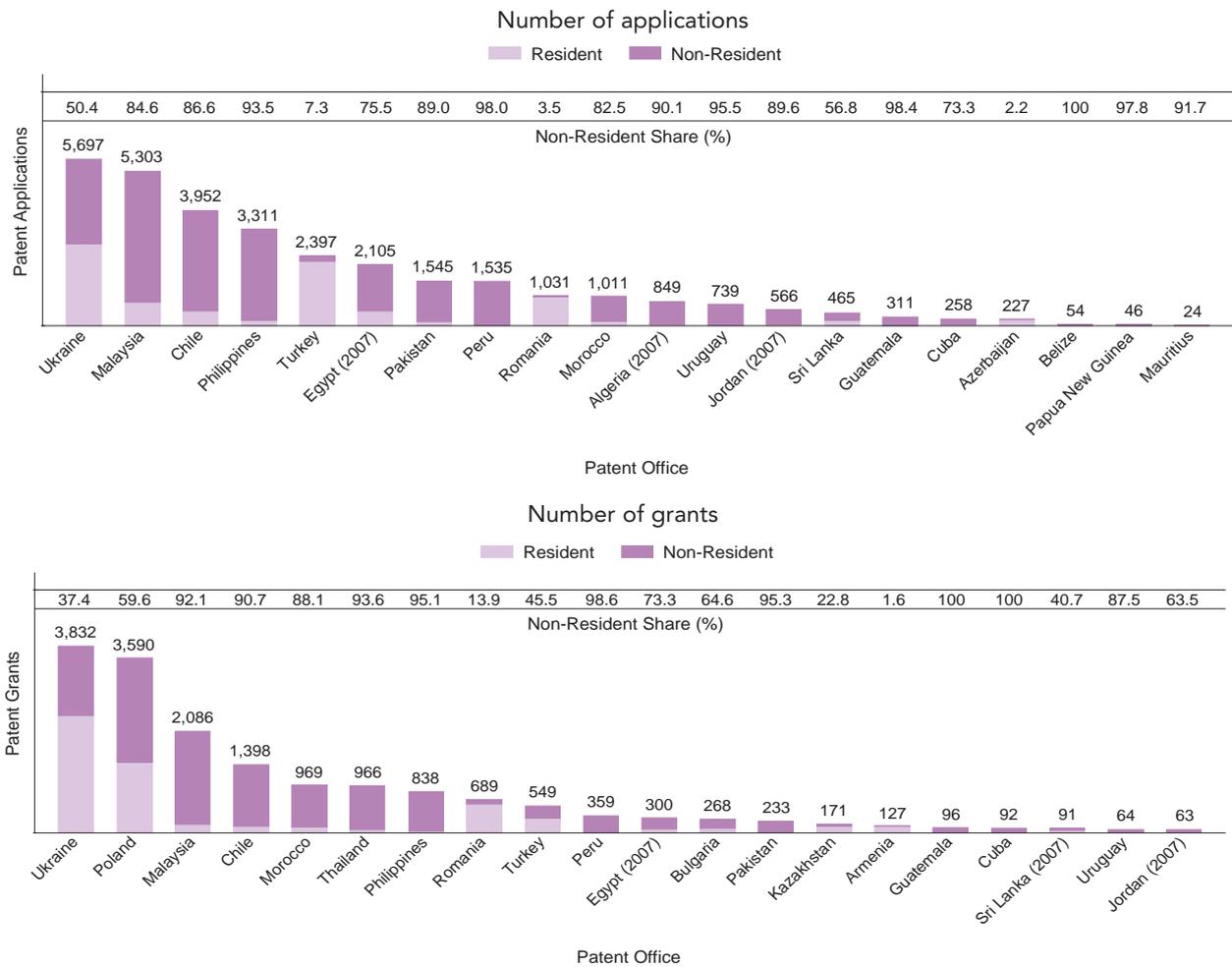
At the majority of these patent offices, the number of patent applications filed in 2008 is higher than in 2004. The patent offices of Jordan, Egypt and Belize experienced a large growth in patent applications. In contrast, the patent offices of Ukraine, Malaysia and Romania saw a small decline in applications over the same period.

Where these offices saw an increase in numbers of applications, non-residents accounted for most of that increase. For example, the total number of applications received by the patent office of Chile rose from 2,867 in 2004 to 3,952 in 2008, and non-resident applications accounted for 86% of that increase.

The patent offices of Ukraine and Poland each granted more than 3,500 patents in 2008. There was a sharp increase in the number of patents granted by the office of Chile over the past five years, which was mostly due to an increase in non-resident grants. However, at most offices, the number of patents granted in 2008 was lower than in 2004. The most notable drop in patents granted occurred at the offices of Pakistan, the Philippines, Sri Lanka and Turkey.

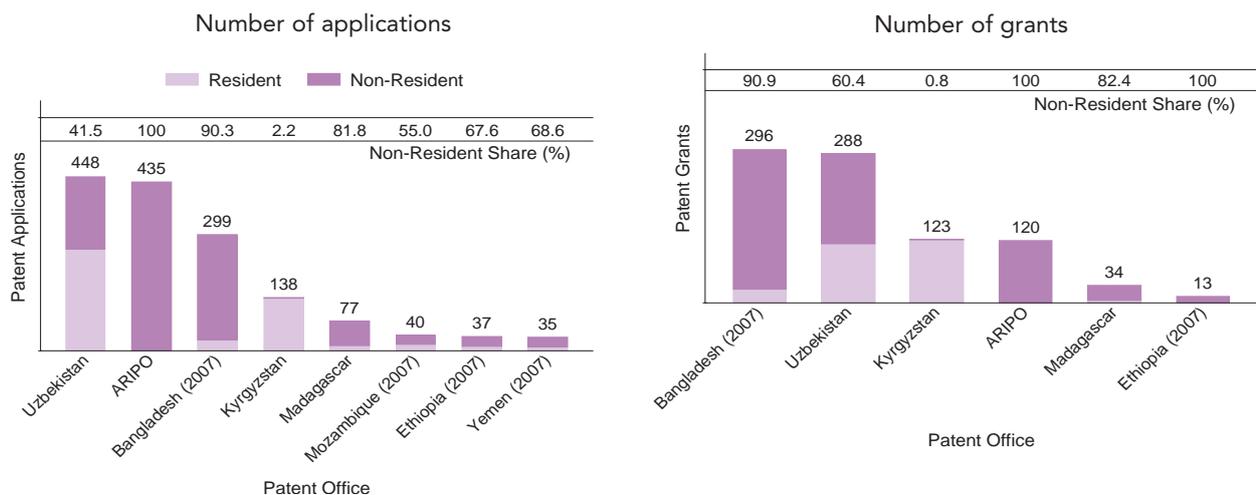
In the majority of the selected offices of middle-income economies, non-resident applications account for the largest share of total applications and grants. For example, all applications filed with the patent office of Belize were from non-residents. Similarly, all patents granted by the patent offices of Cuba and Guatemala were based on non-resident applications. The patent offices of Armenia, Azerbaijan, Romania and Turkey were the only four offices with a low non-resident share in patent applications and grants – less than 8%.

Figure A.2.5a Patent applications and patents granted in selected middle-income economies by patent office, 2008



Source: WIPO Statistics Database, June 2010

Figure A.2.5b Patent applications and patents granted in selected low-income economies by patent office, 2008



Note: Patent applications and patents granted by ARIPO are considered non-resident applications and grants, respectively. Therefore, the share of non-resident patents granted by the ARIPO is, by definition, 100%.

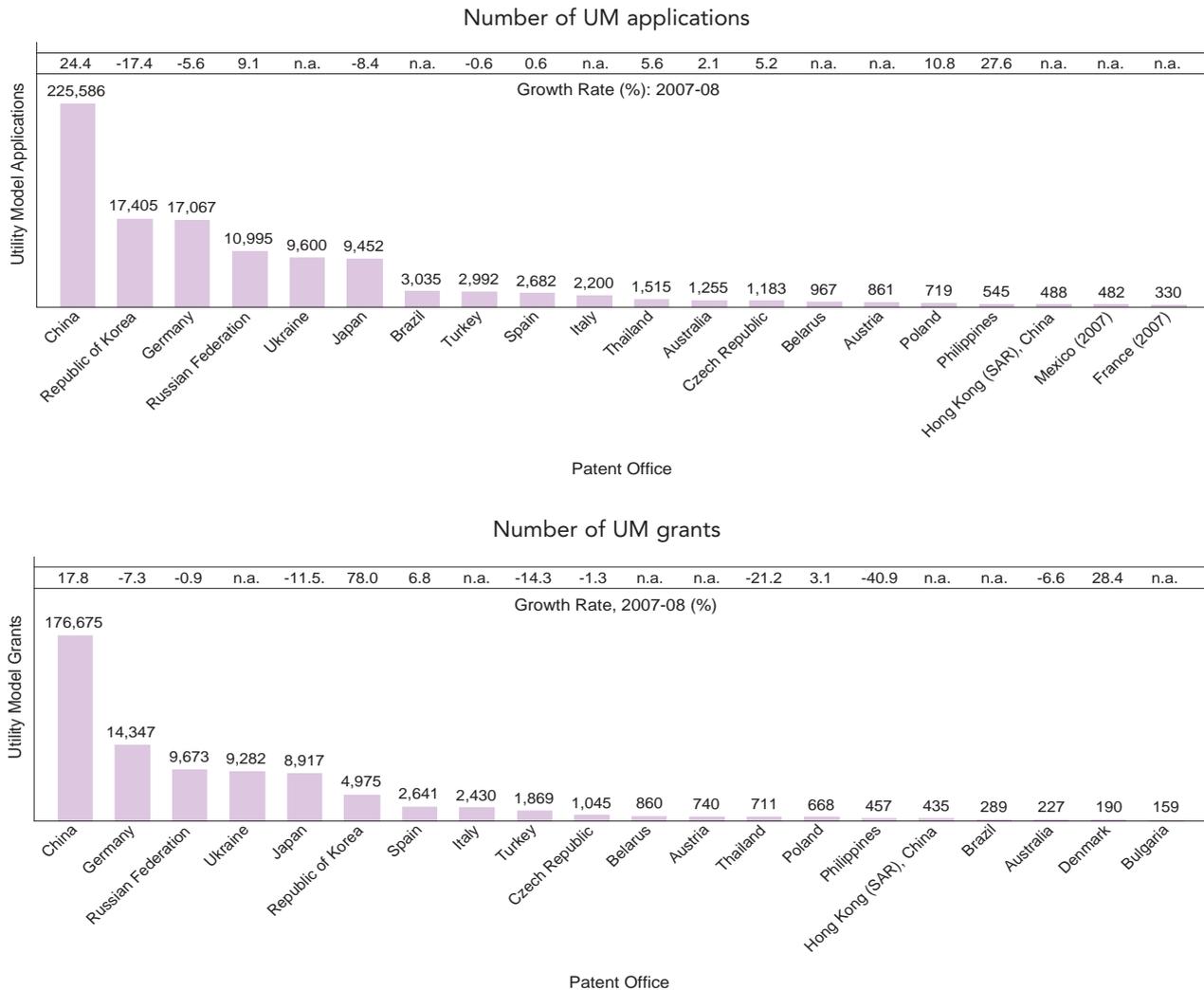
Source: WIPO Statistics Database, June 2010

Figure A.2.5b shows statistics on patent applications and patents granted for selected low-income economies. The patent office of Uzbekistan and ARIPO each received more than 400 patent applications in 2008. The patent offices of Bangladesh and Uzbekistan each granted around 300 patents. At all offices, except for Kyrgyzstan, non-resident applications accounted for a large share of all applications and grants. For example, around 90% of all patent applications and patents granted by the office of Bangladesh were from non-residents.

A.2.6 Utility model activity by patent office

The SIPO received the highest number of UM applications in 2008 (Figure A.2.6). It accounts for 72% of total UM applications worldwide. Combined UM and patent data make the SIPO the largest office in the world, both in terms of the number of applications received and granted. The KIPO and the patent office of Germany each received around 17,000 UM applications, which is less than their respective 2007 figures. The patent offices of the Russian Federation, Ukraine and Japan each received around 10,000 applications in 2008. The majority of other offices received fewer than 4,000 applications in 2008.

Figure A.2.6 Utility model applications by patent office, 2008



Source: WIPO Statistics Database, June 2010

Unlike patents, resident applications account for the majority of UM applications, both worldwide and in most offices. For the 20 offices shown in figure A.2.6, the resident share of total UM applications varied from 36.7% in France to 99.3% in China. In 17 offices, the resident share of total applications exceeded 80%. In other words, applicants primarily use the UM system to protect inventions in domestic markets.

As is the case of applications, the SIPO issued the largest number of UMs in 2008. Despite a 78% growth in UM grants at the KIPO, that office issued only 4,975 UMs. The patent offices of Germany and the JPO each issued around 1,100 fewer UMs in 2008 than in 2007, which can be mostly accounted for by a fall in resident grants.

The distribution of resident and non-resident shares in total UMs granted is similar to that of UM applications, showing that resident applications account for the bulk of total UMs granted.

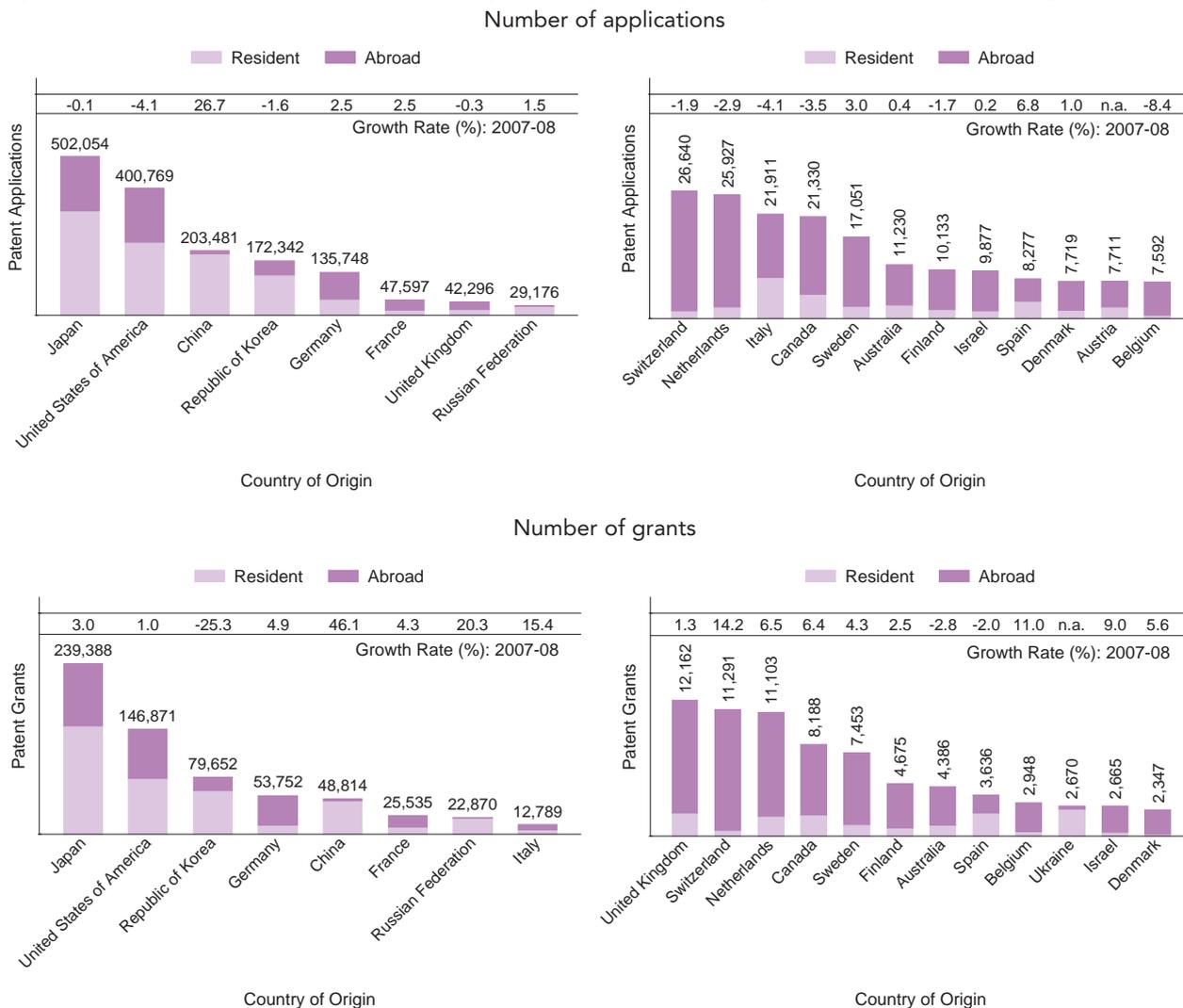
A.3 PATENT ACTIVITY BY COUNTRY OF ORIGIN

Patent indicators presented in this sub-section are based on the concept of “country of origin” in order to provide a more complete picture of worldwide patent activity than can be provided solely by analyzing patent data by office. The criterion for allocating patent applications to a particular country is residency of the first-named applicant. For example, resident applications in Japan include all applications received by the JPO with a first-named applicant residing in Japan. For Japan, applications filed abroad include all applications filed with other patent offices around the world with a first-named applicant residing in Japan.

A.3.1 Patent activity by country of origin

Figure A.3.1 presents patent application and grant data by country of origin for the top 20 countries of origin. The actual number of patent applications and patents granted by country of origin is likely to be higher than the data reported in the two figures due to incomplete data and because a breakdown of data by country of origin is not available for some patent offices. Specifically, it was not possible to determine the country of origin for around 7% of total patent applications filed in 2008.

Figure A.3.1 Patent applications and patents granted by country of origin: top 20 countries of origin, 2008



Source: WIPO Statistics Database, June 2010

Despite a 0.1% drop in patent applications, residents of Japan filed the largest number of patent applications across the world. Residents of the US filed 400,769 patent applications. However, applications originating from the US decreased by 17,004 (-4.1%) in 2008 compared to the previous year. Approximately three-fifths of the total drop in US applications is due to the decreased number of applications filed by US residents with the USPTO.

Residents of Switzerland, the Netherlands and Sweden filed most of their patent applications abroad. For example, 94% of all patent applications filed by residents of Switzerland were filed abroad. This explains why these countries rank higher (among the top 20) for application counts by country of origin than for application counts by patent office (Figure A.2.3a).

Patents granted by country of origin show a similar trend to that for patent applications by country of origin, with a few notable differences. For all reporting countries depicted – except Australia, the Republic of Korea and Spain – the numbers of patents granted increased from 2007 to 2008. The increase in patents issued to US residents can be explained by an increase in the number of patents granted to US residents by foreign patent offices. Residents of the Republic of Korea experienced a sharp fall (-25.3) in total number of patents granted in 2008. This fall was entirely accounted for by a drop in resident grants.

Similar to data on applications, foreign patent offices accounted for the majority (more than 86%) of patents granted to residents of Belgium, Denmark, Israel, Sweden and Switzerland. The EPO accounted for the largest share of patents (around 20%) granted to residents of Belgium, Denmark, Sweden and Switzerland. The USPTO accounted for the largest share of total patents (around 43%) granted to residents of Israel.

A.3.2 Patent applications by country of origin and patent office

To provide an even more detailed picture of patent flows across countries, this sub-section presents a breakdown of patent data by county of origin and patent office. When deciding where to seek patent protection, applicants consider such factors as market size and geographical proximity. At large patent offices, such as the SIPO, the JPO and the USPTO, resident applicants account for a large share of total applications (Table A.3.2a and A.3.2b).

Residents of the US account for the largest shares of total patent applications filed at the offices of Mexico (49.5%), Canada (45.7%) and Australia (42.9%). Residents of Japan account for the largest share of non-resident applications at the SIPO and the KIPO. In contrast, residents of China and the Republic of Korea account for a small fraction of total applications filed with the JPO. The distribution of patent applications by country of origin and patent office in 2008 is similar to that in 2007.

Table A.3.2a Patent applications by country of origin and patent office: selected countries of origin and offices, 2008
Number of patent applications, 2008

Country of Origin	Patent Office														
	AU	CA	CN	DE	EP	FR	GB	HK	IT	JP	KR	MX	RU	SG	US
Austria	116	212	379	759	1,492	20	10	44	6	296	147	66	162	30	1,418
Australia	2,821	616	609	19	1,056	2	114	173		572	230	119	90	211	3,976
Belgium	288	354	535	44	1,900	58	215	143	8	519	288	172	159	83	1,609
Canada	484	5,061	896	71	1,931	12	160	373	5	726	387	257	111	171	10,307
China	208	233	194,579	129	1,510	78	110	351	14	772	481	47	221	71	4,455
Denmark	339	352	631	54	1,587	6	12	160	4	502	194	157	131	92	1,439
Finland	205	274	979	127	1,780	11	67	154	4	575	575	140	278	101	2,621
France	753	2,005	3,170	210	9,051	14,743	137	359	45	3,458	1,486	694	1,057	298	8,561
Germany	1,531	3,190	8,686	49,240	26,660	477	339	972	282	8,023	3,603	1,405	2,215	589	25,202
Israel	302	425	440	10	1,118	3	132	94		520	294	140	112	90	4,550
Italy	345	633	1,194	104	4,343	51	68	230	8,588	820	328	272	461	97	3,805
Japan	1,817	2,374	33,264	3,511	23,085	292	594	1,801	140	330,110	17,552	630	1,262	1,224	82,396
Netherlands	594	739	3,261	97	7,291	18	175	146	14	3,391	1,283	534	761	294	3,883
Republic of Korea	373	424	8,022	904	4,347	92	204	205	49	5,599	127,114	407	569	132	23,584
Russian Federation	13	53	85	64	161	1	7	10		57	36	10	27,712	10	547
Spain	164	242	343	22	1,325	48	53	92	12	257	95	197	152	26	1,216
Sweden	524	662	1,766	261	3,140	23	106	384	15	1,576	730	396	459	267	3,265
Switzerland	1,283	1,714	2,337	1,103	5,972	145	297	830	59	2,437	1,230	1,014	846	511	3,353
United Kingdom	1,294	1,469	1,795	76	5,070	36	16,523	453	15	2,079	753	449	376	364	9,771
United States of America	11,309	19,239	24,527	4,279	37,370	286	2,457	5,683	76	25,112	12,389	8,210	3,606	3,791	231,588
Others / Unknown	1,583	1,818	2,340	1,333	5,961	303	1,599	1,005	113	3,601	1,437	1,265	1,109	1,240	28,775
Total	26,346	42,089	289,838	62,417	146,150	16,705	23,379	13,662	9,449	391,002	170,632	16,581	41,849	9,692	456,321

Note: Patent data are allocated to a particular country according to the residency of the first-named applicant. The actual numbers of patent application and grant data by country of origin might be higher than the data reported above due to incomplete data and/or because a breakdown by country of origin is not available for some patent offices. For example, it was not possible to determine the country of origin for 39,441 patent applications filed in 2008. Patent office codes: AU (Australia), CA (Canada), CN (China), DE (Germany), EP (European Patent Office), FR (France), GB (United Kingdom), HK (Hong Kong (SAR), China), IT (Italy), JP (Japan), KR (Republic of Korea), MX (Mexico), RU (Russian Federation), SG (Singapore) and US (United States of America).

Source: WIPO Statistics Database, June 2010

Table A.3.2b Patent applications by country of origin and patent office: selected countries of origin and offices, 2008
Distribution of patent applications (%), 2008

Country of Origin	Patent Office														
	AU	CA	CN	DE	EP	FR	GB	HK	IT	JP	KR	MX	RU	SG	US
Austria	0.4	0.5	0.1	1.2	1.0	0.1	0.0	0.3	0.1	0.1	0.1	0.4	0.4	0.3	0.3
Australia	10.7	1.5	0.2	0.0	0.7	0.0	0.5	1.3		0.1	0.1	0.7	0.2	2.2	0.9
Belgium	1.1	0.8	0.2	0.1	1.3	0.3	0.9	1.0	0.1	0.1	0.2	1.0	0.4	0.9	0.4
Canada	1.8	12.0	0.3	0.1	1.3	0.1	0.7	2.7	0.1	0.2	0.2	1.5	0.3	1.8	2.3
China	0.8	0.6	67.1	0.2	1.0	0.5	0.5	2.6	0.1	0.2	0.3	0.3	0.5	0.7	1.0
Denmark	1.3	0.8	0.2	0.1	1.1	0.0	0.1	1.2	0.0	0.1	0.1	0.9	0.3	0.9	0.3
Finland	0.8	0.7	0.3	0.2	1.2	0.1	0.3	1.1	0.0	0.1	0.3	0.8	0.7	1.0	0.6
France	2.9	4.8	1.1	0.3	6.2	88.3	0.6	2.6	0.5	0.9	0.9	4.2	2.5	3.1	1.9
Germany	5.8	7.6	3.0	78.9	18.2	2.9	1.5	7.1	3.0	2.1	2.1	8.5	5.3	6.1	5.5
Israel	1.1	1.0	0.2	0.0	0.8	0.0	0.6	0.7		0.1	0.2	0.8	0.3	0.9	1.0
Italy	1.3	1.5	0.4	0.2	3.0	0.3	0.3	1.7	90.9	0.2	0.2	1.6	1.1	1.0	0.8
Japan	6.9	5.6	11.5	5.6	15.8	1.7	2.5	13.2	1.5	84.4	10.3	3.8	3.0	12.6	18.1
Netherlands	2.3	1.8	1.1	0.2	5.0	0.1	0.7	1.1	0.1	0.9	0.8	3.2	1.8	3.0	0.9
Republic of Korea	1.4	1.0	2.8	1.4	3.0	0.6	0.9	1.5	0.5	1.4	74.5	2.5	1.4	1.4	5.2
Russian Federation	0.0	0.1	0.0	0.1	0.1	0.0	0.0	0.1		0.0	0.0	0.1	66.2	0.1	0.1
Spain	0.6	0.6	0.1	0.0	0.9	0.3	0.2	0.7	0.1	0.1	0.1	1.2	0.4	0.3	0.3
Sweden	2.0	1.6	0.6	0.4	2.1	0.1	0.5	2.8	0.2	0.4	0.4	2.4	1.1	2.8	0.7
Switzerland	4.9	4.1	0.8	1.8	4.1	0.9	1.3	6.1	0.6	0.6	0.7	6.1	2.0	5.3	0.7
United Kingdom	4.9	3.5	0.6	0.1	3.5	0.2	70.7	3.3	0.2	0.5	0.4	2.7	0.9	3.8	2.1
United States of America	42.9	45.7	8.5	6.9	25.6	1.7	10.5	41.6	0.8	6.4	7.3	49.5	8.6	39.1	50.8
Others / Unknown	6.0	4.3	0.8	2.1	4.1	1.8	6.8	7.4	1.2	0.9	0.8	7.6	2.7	12.8	6.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Note: See note of table A.3.2.a.

Source: WIPO Statistics Database, June 2010

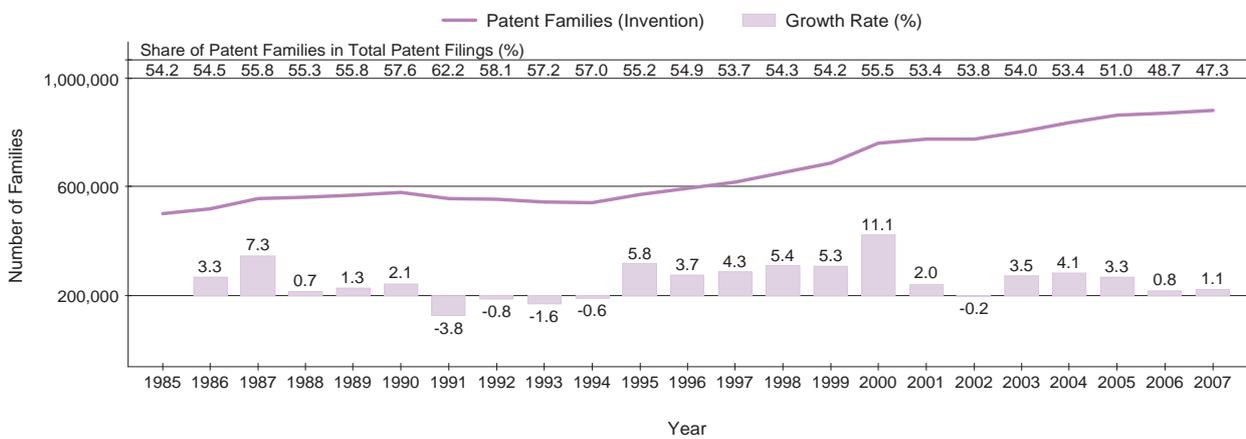
A.4 PATENT FAMILIES

Applicants may file patent applications for their inventions in multiple jurisdictions, leading to some inventions being counted more than once in patent counts by office or by country of origin. To correct for this, WIPO has developed indicators related to so-called patent families, defined as a set of patent applications interlinked by—or a combination of—priority claim, PCT national phase entry, continuation, continuation-in-part, addition or division.²¹

A.4.1 Trend in patent families

Figure A.4.1a shows a steady increase in the total number of patent families from 1995 onwards, except for a small drop in 2002. The total number of patent families in 2007 was estimated at 880,000, a 1.1% increase from 2006. Between 1985 and 2007, the total number of patent families increased by 75%, whereas the total number of patent applications doubled. As a consequence, the share of patent families in total patent applications dropped from 54.2% in 1985 to 47.3% in 2007.

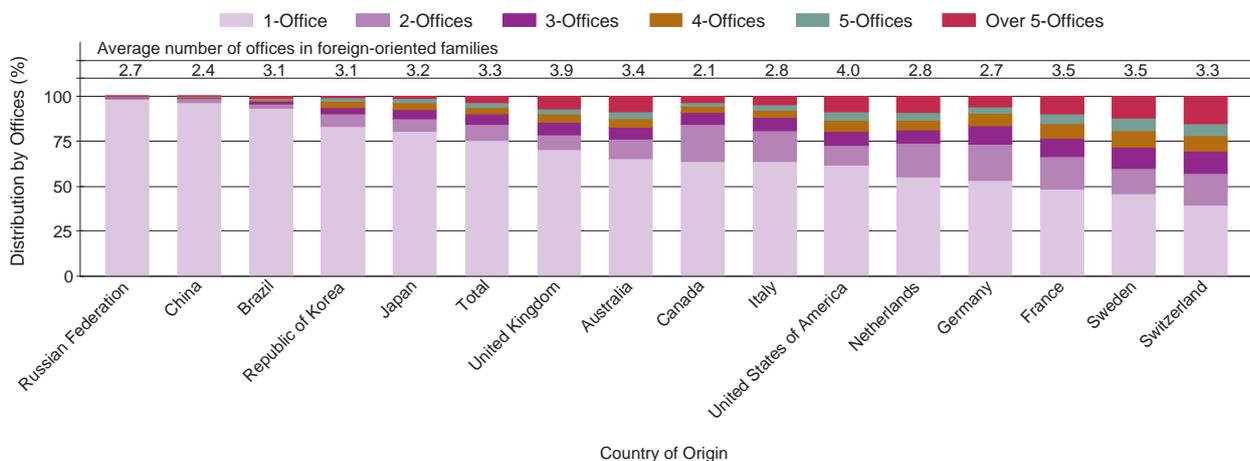
Figure A.4.1a Trend in total patent families



Note: The patent family dataset includes only published patent applications. Unpublished patent applications (e.g. patent applications withdrawn before publication) and provisional applications filed at the USPTO are not included in the patent family database. WIPO's patent family dataset has the following features: (1) each "first-filed" patent application forms a patent family; all subsequent patent filings are added to that family; (2) one patent application may belong to more than one patent family due to the existence of multiple priority claims.

Source: WIPO Statistics Database and EPO PATSTAT Database, June 2010

Figure A.4.1b Distribution of patent families by number of offices and country of origin, 2003-2007



Note: For information about patent families, refer to the note under figure A.4.1a.

Source: WIPO Statistics Database and EPO PATSTAT Database, June 2010

²¹ In this report, patent families include only those families associated with patent applications for inventions and exclude families associated with UM applications.

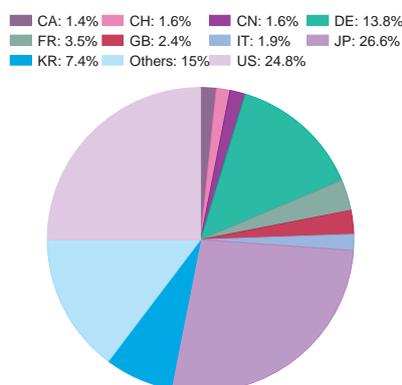
Over the years, the percentage of patent families covering at least two patent offices has increased considerably. For example, 15% of all patent families created in 1985 contained at least two patent offices; whereas, in 2005, this percentage stood at 25%.²² Figure A.4.1b depicts the distribution of patent families by number of offices and for the top 15 countries of origin. On average, 24.6% of patent families created between 2003 and 2007 include at least two patent offices. Among the top countries, there is considerable variation in this share. For example, fewer than 7% of patent families created by residents of the Russian Federation (1.5%), China (3.4%) and Brazil (6.6%) contained at least two patent offices between 2003 and 2007. In contrast, more than half of all patent families created by residents of France (51.5%), Sweden (54.3%) and Switzerland (60.5%) include at least two offices.

A.4.2 Foreign-oriented patent families

Figure A.4.2 depicts the distribution of so-called foreign-oriented patent families for the 2003-07 period. A foreign-oriented patent family is one that includes at least one filing office other than the office of the applicant's country of origin.²³

Between 2003 and 2007, approximately 1.23 million foreign-oriented patent families were created across the world. Japan, the US and Germany accounted for around 65% of all foreign-oriented patent families. In contrast, China accounted for only 1.6% of all foreign-oriented patent families, despite being the third largest country in terms of number of patent applications by country of origin (Figure A.3.1). This can be largely explained by the fact that only a small proportion of total patent applications originating from China are filed at foreign patent offices. The average number of offices per foreign-oriented family varied from four patent offices per foreign-oriented family for the US to 2.1 patent offices per foreign-oriented patent family for Canada.²⁴

Figure A.4.2. Distribution of foreign-oriented patent families, 2003-2007



Note: CA (Canada), CH (Switzerland), CN (China), DE (Germany), FR (France), GB (United Kingdom), IT (Italy), JP (Japan), KR (Republic of Korea) and US (United States of America).

Source: WIPO Statistics Database and EPO PATSTAT Database, June 2010

The criterion for allocating a patent family to a particular country is the residence of the applicant that filed the first application in that family. To the extent that the underlying invention was created in the applicant's country of residence, subsequent patent filings at foreign patent offices may offer information on the flow of technology between countries. As shown in Table A.4.2, the USPTO and the EPO account for the largest numbers of foreign-oriented patent families. For example, 21.3% of all foreign-oriented patent families include filings at the USPTO. The SIPO, the JPO and the KIPO also received large numbers of foreign-oriented patent families. Geographic proximity and market size appear to play an important role when applicants decide where to file applications abroad. For example, applicants from European countries have a high propensity to file with the EPO. Applicants from Japan and the Republic of Korea tend to prioritize their filings abroad within East Asia.

²² Subsequent patent applications can be filed 30 months after the filing date of the first application. Consequently, data on the number of offices for the latest year may be incomplete.

²³ Some foreign-oriented patent families contain only one filing office, as applicants may choose to file directly at a foreign office. For example, if a Canadian applicant files a patent application directly (without previously filing with the patent office of Canada) with the USPTO, that application and applications filed subsequently with the USPTO form a foreign-oriented patent family.

²⁴ For the latest years, the number of offices per patent family may be incomplete due to the time lag between first and subsequent applications, which could be up to 30 months. Furthermore, subsequent national patents originating from regional patent grants are not included. Therefore, the total number of patent offices per patent family may be underestimated.

Table A.4.2 Foreign-oriented patent families by patent office and country of origin: selected offices and countries of origin, 2003-2007

Country of Origin	Patent Office																Total
	AU	BR	CA	CN	DE	EP	GB	IL	JP	KR	MX	NO	NZ	RU	US	Others	
Australia		535	3,185	3,107	153	5,241	691	402	2,702	1,259	834	137	2,851	484	8,884	2,284	32,749
Austria	588	229	814	1,320	2,430	4,526	86	76	1,104	531	293	175	91	491	2,902	827	16,483
Belgium	827	275	1,009	1,509	363	4,128	625	222	1,402	912	680	278	271	382	2,994	1,843	17,720
Canada	1,224	297		1,858	264	4,753	551	73	1,352	777	586	99	157	227	9,087	1,178	22,483
China	1,024	262	824		509	5,800	331	63	2,973	1,643	182	46	76	572	13,098	1,102	28,505
Denmark	1,741	461	1,790	2,539	364	5,126	244	351	2,138	849	931	566	509	592	4,656	1,543	24,400
Finland	963	449	1,227	3,334	535	5,998	472	93	1,684	1,861	471	347	80	692	6,134	1,336	25,676
France	3,298	2,694	7,391	12,521	1,549	35,876	440	947	13,163	5,634	3,288	1,050	664	2,966	26,931	5,209	123,621
Germany	7,111	4,941	11,797	38,740		94,570	2,042	1,829	43,669	16,451	6,427	1,878	1,334	6,676	86,945	16,479	340,885
India	958	286	755	999	145	2,243	214	208	834	651	489	75	272	241	3,700	1,329	13,399
Israel	658	163	779	784	96	2,225	390		862	478	281	76	93	207	3,606	475	11,173
Italy	1,860	1,404	2,556	5,024	993	16,601	257	499	3,320	1,402	1,231	336	361	1,349	10,873	2,164	50,230
Japan	11,792	3,270	13,580	165,393	20,380	124,336	4,444	1,454		95,554	3,875	1,326	1,292	4,832	310,358	23,786	785,672
Netherlands	1,289	494	1,534	3,610	472	7,690	860	216	4,496	1,818	618	298	276	520	7,481	1,733	33,405
Republic of Korea	3,528	1,327	2,392	43,787	4,501	24,487	1,149	274	33,859		1,989	86	215	2,495	85,466	4,584	210,135
Spain	725	430	837	1,113	214	3,766	97	206	894	406	845	144	164	424	2,457	1,330	14,052
Sweden	2,032	978	2,133	5,563	927	10,314	460	417	4,498	2,174	1,219	800	513	1,229	10,055	2,233	45,545
Switzerland	2,922	1,263	3,594	5,734	3,487	13,285	1,110	646	5,448	2,497	2,173	574	619	1,533	10,470	4,345	59,700
United Kingdom	6,494	1,637	6,768	8,109	622	21,984		1,199	9,109	3,296	2,729	1,355	1,694	1,556	23,304	6,134	95,990
United States of America	79,229	23,269	124,436	136,944	18,213	230,078	17,188	20,522	146,033	79,282	58,353	11,673	16,579	19,880		65,197	1,046,874
Others	11,573	3,805	11,594	28,439	4,643	59,049	3,638	2,592	26,384	12,605	6,958	2,031	2,201	5,467	74,765	46,613	302,357
Total	139,836	48,469	198,995	470,427	60,860	682,076	35,289	32,289	305,924	230,080	94,452	23,350	30,312	52,815	704,166	191,724	3,301,064

Note: Patent office codes: AU (Australia), BR (Brazil), CA (Canada), CN (China), DE (Germany), EP (European Patent Office), GB (United Kingdom), IL (Israel), IT (Italy), JP (Japan), KR (Republic of Korea), MX (Mexico), NO (Norway), NZ (New Zealand), RU (Russian Federation) and US (United States of America).

Source: WIPO Statistics Database and EPO PATSTAT Database, June 2010

A.5 PATENT APPLICATIONS FILED THROUGH THE PATENT COOPERATION TREATY (PCT)

The PCT, an international treaty administered by WIPO, offers applicants an advantageous route for obtaining patent protection internationally. Applicants and patent offices of PCT Contracting States benefit from uniform formality requirements, international search, preliminary examination and international publication of patent applications. In addition, compared to filing patent applications directly in foreign jurisdictions (using the so-called "Paris Convention" route), applicants that use the PCT can delay examination procedures at national patent offices as well as the payment of associated legal fees and translation costs. Starting with only 18 Members in 1978, there were 142 PCT Contracting States at the end of 2009.

A.5.1 Trend in patent applications filed through the PCT System

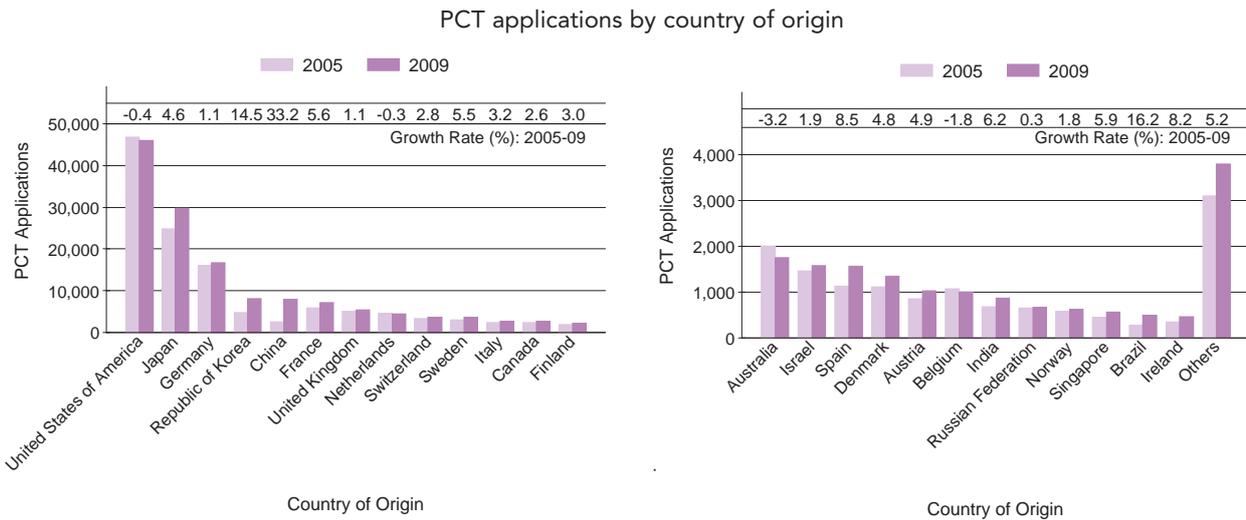
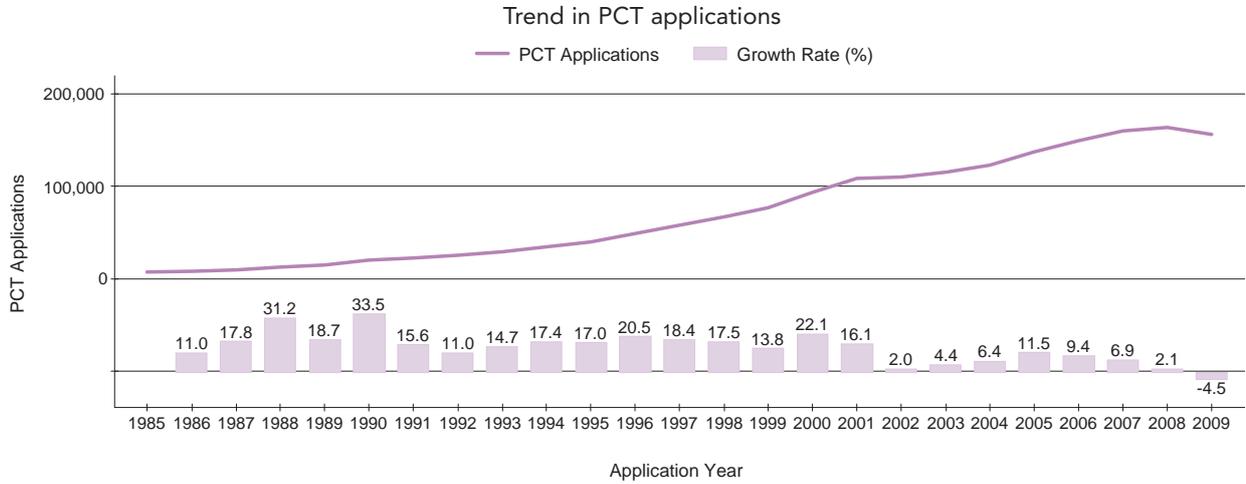
Figure A.5.1 presents the trend in PCT applications data and the number of applications by country of origin. The criterion for allocating PCT applications to a particular country is the residency of the first-named applicant in the PCT application. The data refer to the international phase of the PCT procedure, and counts are based on international application date.

In 2009, an estimated 155,900 PCT applications were filed worldwide, representing a 4.5% decrease compared to 2008. Until that time, the number of PCT applications had increased steadily since 1978. For the first time, the number of applications filed through the PCT System declined compared to the previous year. This was due in large part to the negative impact, in certain countries, of the global economic downturn on international patent activity. Chiefly, PCT applications from the US, the largest user of the PCT System, dropped by 10.8% in 2009. PCT applications filed in 2009 by applicants from China saw the highest annual growth (29.1%). Applications from Japan (3.6%) also showed positive annual growth in 2009. Many European countries registered declines in PCT applications in 2009, with Germany (-11.3%) and Sweden (-13.4%) experiencing the largest falls.

Applicants from the US still accounted for the largest share (+29.6%) of PCT applications in 2009, followed by applicants from Japan (+19.1%) and Germany (+10.7%). The top three countries accounted for 59% of all PCT filings in 2009, down from 64% in 2005.

Over the 2005-09 period, three of the major PCT-using countries experienced double-digit annual growth: China (33.2%), Brazil (16.2%) and the Republic of Korea (14.5%). The annual growth rate for the US, the biggest user of the PCT System, was close to zero during the same period.

Figure A.5.1 PCT applications



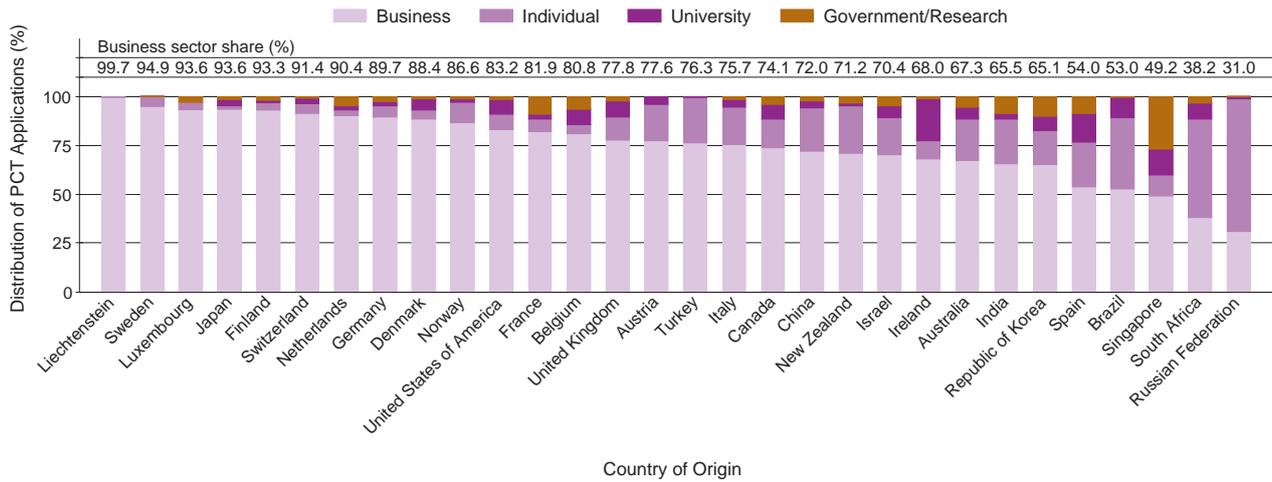
Note: The data reported above refer to the international phase of the PCT procedure and are based on international filing date. The 2009 data are based on a WIPO estimate.

Source: WIPO Statistics Database, June 2010

A.5.2 Top PCT applicants

Data on PCT applications are broken down by four types of applicants: businesses, universities, government and research institutions, and individuals. Figure A.5.2 shows the distribution of PCT applications by applicant type, and Tables A.5.2a and A.5.2b list the top business and university applicants, respectively. Applicants from the business sector accounted for the majority (83.2%) of PCT applications published in 2009. Universities and government/research institutions jointly accounted for 7.7% of published PCT applications, and individuals made up the remaining 9%.

Figure A.5.2 Distribution of PCT applications by ownership type: top 30 origins, 2009



Note: Government and research institutions include private non-profit organizations and hospitals. The university sector includes applications from all types of academic institutions. Due to confidentiality requirements, the PCT data shown are based on publication date.

Source: WIPO Statistics Database, June 2010

The composition of applicant types varies across countries. Business applicants accounted for the majority of PCT applications in most countries, except for the Russian Federation and South Africa where individual applicants accounted for the largest shares. Ireland (21.6%), Spain (14.7%) and Singapore (13.2%) had the highest shares of PCT applications from the university sector. Government and research institutions were most prominent in Singapore (26.9%), the Republic of Korea (9.9%) and France (8.9%).

Panasonic Corporation (Japan) returned to the top spot in the list of top PCT applicants, nudging Huawei Technologies, Co., Ltd. (China) into second place (Table A.5.2a). Four Japanese companies were among the top 10 applicants. Eight of the top 10 applicants saw more PCT applications published in 2009 than in 2008 – with the exception of Philips (rank 4) and Toyota (rank 9).

Table A.5.2a Business sector top PCT applicants, 2009

Rank	Applicant's Name	Country of Origin	Number of PCT Applications	Change from 2008
1	PANASONIC CORPORATION	Japan	1,891	162
2	HUAWEI TECHNOLOGIES CO., LTD.	China	1,847	110
3	ROBERT BOSCH GMBH	Germany	1,587	314
4	KONINKLIJKE PHILIPS ELECTRONICS N.V.	Netherlands	1,295	-256
5	QUALCOMM INCORPORATED	United States of America	1,280	373
6	TELEFONAKTIEBOLAGET LM ERICSSON (PUBL)	Sweden	1,240	256
7	LG ELECTRONICS INC.	Republic of Korea	1,090	98
8	NEC CORPORATION	Japan	1,069	244
9	TOYOTA JIDOSHA KABUSHIKI KAISHA	Japan	1,068	-296
10	SHARP KABUSHIKI KAISHA	Japan	997	183
11	SIEMENS AKTIENGESELLSCHAFT	Germany	932	-157
12	FUJITSU LIMITED	Japan	817	-167
13	BASF SE	Germany	739	18
14	3M INNOVATIVE PROPERTIES COMPANY	United States of America	688	25
15	NOKIA CORPORATION	Finland	663	-342
16	MICROSOFT CORPORATION	United States of America	644	-161
17	SAMSUNG ELECTRONICS CO., LTD.	Republic of Korea	596	-43
18	NXP B.V.	Netherlands	593	186
19	mitsubishi electric corporation	Japan	569	66
20	HEWLETT-PACKARD DEVELOPMENT COMPANY, L.P.	United States of America	554	58
21	MOTOROLA, INC.	United States of America	538	-240
22	ZTE CORPORATION	China	517	188
23	E.I. DUPONT DE NEMOURS AND COMPANY	United States of America	509	-8
24	ELECTRONICS AND TELECOMMUNICATIONS RESEARCH INSTITUTE	Republic of Korea	452	7
25	SONY ERICSSON MOBILE COMMUNICATIONS AB	Sweden	435	33
26	BSH BOSCH UND SIEMENS HAUSGERÄTE GMBH	Germany	413	19
27	INTERNATIONAL BUSINESS MACHINES CORPORATION	United States of America	401	-263
27	CANON KABUSHIKI KAISHA	Japan	401	121
29	BAKER HUGHES INCORPORATED	United States of America	375	79
30	DAIKIN INDUSTRIES, LTD.	Japan	374	4
31	MITSUBISHI HEAVY INDUSTRIES, LTD.	Japan	373	158
32	DAIMLER AG	Germany	363	127
33	KYOCERA CORPORATION	Japan	362	30
34	THOMSON LICENSING	France	359	-103
35	SUMITOMO CHEMICAL COMPANY, LIMITED	Japan	352	89
36	THE PROCTER & GAMBLE COMPANY	United States of America	341	-71
37	CONTINENTAL AUTOMOTIVE GMBH	Germany	334	-98
38	SONY CORPORATION	Japan	328	21
39	KABUSHIKI KAISHA TOSHIBA	Japan	326	113
41	HONDA MOTOR CO., LTD.	Japan	318	125
42	NOKIA SIEMENS NETWORKS OY	Finland	313	245
43	EASTMAN KODAK COMPANY	United States of America	311	12
44	GENERAL ELECTRIC COMPANY	United States of America	307	-19
44	MONDOBIOTECH LABORATORIES AG	Liechtenstein	307	307
46	DOW GLOBAL TECHNOLOGIES INC.	United States of America	304	19
47	INA-SCHAEFFLER KG	Germany	299	-77
48	APPLIED MATERIALS, INC.	United States of America	296	99
49	CORNING INCORPORATED	United States of America	285	57
50	PIONEER CORPORATION	Japan	283	-214
50	ALCATEL LUCENT	France	283	71

Note: Due to confidentiality requirements, the PCT data shown are based on publication date.

Source: WIPO Statistics Database, June 2010

US universities dominated the list of top PCT applicants for the university sector. The University of California accounted for the largest number of published PCT applications in 2009. It is the only university in this category featured in the overall top 100 list of applicants. Compared to 2008, the 50 university applicants presented in the table experienced a combined 6.9% drop in PCT applications published in 2009. Notwithstanding this drop, several universities filed more PCT applications in 2009, notably the University of Tokyo, the Korea Advanced Institute for Science and Technology and New York University. In contrast, the top three universities saw a substantial drop in PCT applications published in 2009.

Table A.5.2b University sector top PCT applicants, 2009

Rank	Applicant's Name	Country of Origin	Number of PCT Applications	Change from 2008
40	THE REGENTS OF THE UNIVERSITY OF CALIFORNIA	United States of America	321	-26
104	MASSACHUSETTS INSTITUTE OF TECHNOLOGY	United States of America	145	-44
130	BOARD OF REGENTS, THE UNIVERSITY OF TEXAS SYSTEM	United States of America	126	-33
144	THE TRUSTEES OF COLUMBIA UNIVERSITY IN THE CITY OF NEW YORK	United States of America	110	-20
148	PRESIDENT AND FELLOWS OF HARVARD COLLEGE	United States of America	109	-1
157	UNIVERSITY OF FLORIDA RESEARCH FOUNDATION, INC.	United States of America	103	-15
176	THE UNIVERSITY OF TOKYO	Japan	94	23
191	THE JOHNS HOPKINS UNIVERSITY	United States of America	87	6
208	THE TRUSTEES OF THE UNIVERSITY OF PENNSYLVANIA	United States of America	80	-19
257	UNIVERSITY OF UTAH RESEARCH FOUNDATION	United States of America	66	6
262	WISCONSIN ALUMNI RESEARCH FOUNDATION	United States of America	64	-25
272	THE BOARD OF TRUSTEES OF THE LELAND STANFORD JUNIOR UNIVERSITY	United States of America	62	-20
275	THE REGENTS OF THE UNIVERSITY OF MICHIGAN	United States of America	61	-9
278	UNIVERSITY OF SOUTHERN CALIFORNIA	United States of America	60	2
310	ARIZONA BOARD OF REGENTS	United States of America	55	10
329	CALIFORNIA INSTITUTE OF TECHNOLOGY	United States of America	52	-30
329	THE BOARD OF TRUSTEES OF THE UNIVERSITY OF ILLINOIS	United States of America	52	-16
329	UNIVERSITY OF WASHINGTON	United States of America	52	0
344	INDUSTRY-ACADEMIC COOPERATION FOUNDATION, YONSEI UNIVERSITY	Republic of Korea	50	7
351	SEOUL NATIONAL UNIVERSITY INDUSTRY FOUNDATION	Republic of Korea	49	-19
368	RAMOT AT TEL AVIV UNIVERSITY LTD.	Israel	47	6
383	ISIS INNOVATION LIMITED	United Kingdom	45	10
383	KYOTO UNIVERSITY	Japan	45	1
383	PURDUE RESEARCH FOUNDATION	United States of America	45	9
401	KOREA ADVANCED INSTITUTE OF SCIENCE AND TECHNOLOGY	Republic of Korea	43	19
401	THE OHIO STATE UNIVERSITY RESEARCH FOUNDATION	United States of America	43	3
410	IMPERIAL COLLEGE INNOVATIONS LIMITED	United Kingdom	42	-14
410	NEW YORK UNIVERSITY	United States of America	42	14
417	UNIVERSITY OF MASSACHUSETTS	United States of America	41	-3
428	UNIVERSITY OF SOUTH FLORIDA	United States of America	40	-11
437	TOHOKU UNIVERSITY	Japan	39	5
437	POSTECH FOUNDATION	Republic of Korea	39	7
450	DANMARKS TEKNISKE UNIVERSITET	Denmark	38	11
450	OSAKA UNIVERSITY	Japan	38	-17
450	DUKE UNIVERSITY	United States of America	38	-8
450	YALE UNIVERSITY	United States of America	38	-3
450	THE REGENTS OF THE UNIVERSITY OF COLORADO	United States of America	38	9
470	THE RESEARCH FOUNDATION OF STATE UNIVERSITY OF NEW YORK	United States of America	37	-13
487	EIDGENOSSISCHE TECHNISCHE HOCHSCHULE ZÜRICH	Switzerland	36	10
487	UNIVERSITY OF ROCHESTER	United States of America	36	-5
515	KEIO UNIVERSITY	Japan	34	6
529	THE UNIVERSITY OF BRITISH COLUMBIA	Canada	33	4
529	YISSUM RESEARCH DEVELOPMENT COMPANY OF THE HEBREW UNIVERSITY OF JERUSALEM	Israel	33	-11
529	THE UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL	United States of America	33	-1
551	NATIONAL UNIVERSITY OF SINGAPORE	Singapore	32	10
551	NORTHWESTERN UNIVERSITY	United States of America	32	-17
582	NATIONAL UNIVERSITY CORPORATION HOKKAIDO UNIVERSITY	Japan	30	0
582	UNIVERSITY OF MIAMI	United States of America	30	10
596	THE UNIVERSITY OF QUEENSLAND	Australia	29	-4
596	TOKYO INSTITUTE OF TECHNOLOGY	Japan	29	5
596	UNIVERSITY OF PITTSBURGH OF THE COMMONWEALTH SYSTEM OF HIGHER EDUCATION	United States of America	29	-14

Note: Due to confidentiality requirements, the PCT data reported above are based on publication date.

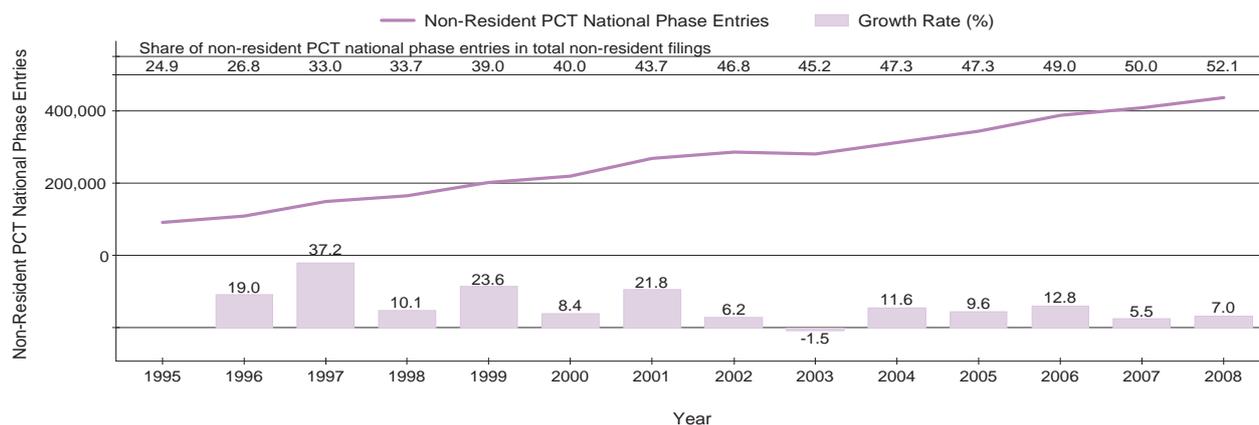
Source: WIPO Statistics Database, June 2010

A.5.3 Trend in PCT national phase entries

As mentioned above, the PCT application process starts with the international phase and concludes with the national phase. The PCT indicators presented above (Figures A.5.1 to A.5.2) refer to the international phase. This sub-section focuses on the national phase. Under the PCT System, applicants can decide to enter the PCT national phase in the jurisdiction(s) of their choice within 30 months from the priority date. The national or regional patent office at which the applicant enters the PCT national phase initiates the granting procedure according to prevailing national law. PCT national phase entry statistics shed light on international patenting strategies. National phase entry data presented here refer only to non-resident applications (i.e., resident national phase application data are excluded). For example, if a PCT application from a resident of China enters the national phase procedure at the SIPO, it is excluded from the reported statistics.

To obtain patent protection in foreign jurisdictions, applicants can either file patent applications directly with a foreign patent office or file a PCT application. The total number of national phase entries in 2008 amounted to 464,000, of which around 436,700 originated from non-resident applicants. The relative importance of the PCT route has increased significantly over the past decade. In particular, the share of PCT national phase entries in total non-resident patent filings doubled in the past 14 years, from 25% in 1995 to over 52% in 2008 (Figure A.5.3a). The rapid growth in PCT national phase entries can be partly explained by an increase in the number of PCT Contracting Parties, especially during the 1996–2001 period. The greater country coverage of the PCT has, in turn, increased the attractiveness of using the system.

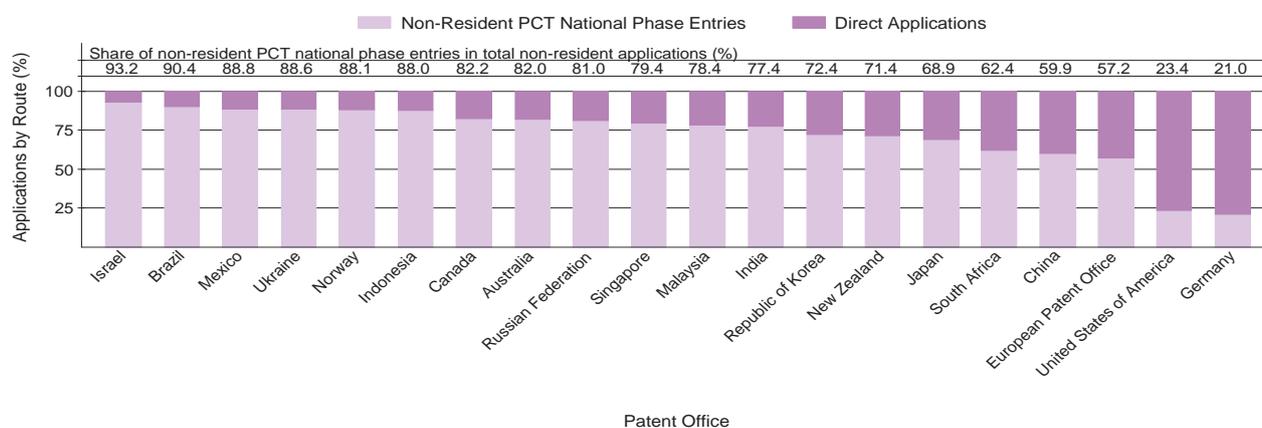
Figure A.5.3a Trend in non-resident PCT national phase entries



Note: The national phase entries data are based on a WIPO estimate (see Data Description).

Source: WIPO Statistics Database, June 2010

Figure A.5.3b Share of PCT national phase entries in total non-resident patent applications: selected patent offices, 2008



Source: WIPO Statistics Database, June 2010

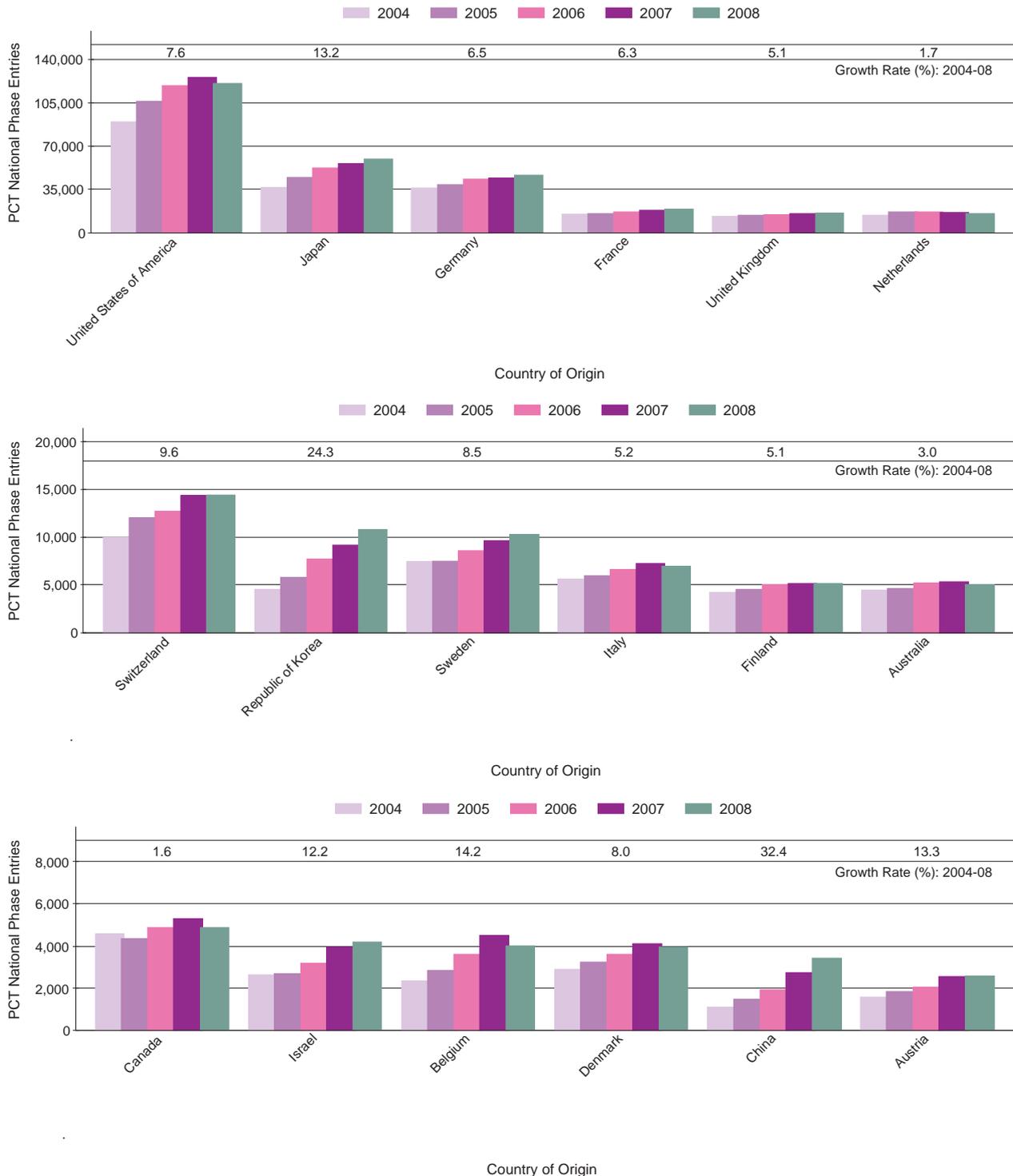
The use of the PCT System for filing applications abroad varies across patent offices (Figure A.5.3b). At most patent offices, the PCT System is the most popular route for non-resident patent applications - over 80% of total non-resident patent applications were filed via the PCT System in 2008. Among the five patent offices that received the highest number of non-resident patent applications, the KIPO and the JPO saw around 70% of their non-resident applications routed through the PCT System. For the SIPO and the EPO, this share stood at around 60%. Only a quarter of the non-resident patent applications filed with the USPTO made use of the PCT System²⁵. Many European countries exhibited low shares of PCT national phase entries, as most PCT applicants chose to enter the national phase at the EPO instead of the national offices.

²⁵ However, the low percentage of PCT national phase entries at the USPTO does not accurately reflect usage of the PCT System at that office, as many PCT applicants took advantage of a special legal provision in US patent law for proceeding with their PCT application at the USPTO (the so-called "by-pass route"). In particular, the PCT application is converted into a continuation or continuation-in-part application, which is counted as a "direct filing".

A.5.4 PCT national phase entry by country of origin and office

Figure A.5.4 offers a breakdown of national phase entry by country of origin. It shows that applicants from the US, Japan and Germany accounted for the largest numbers of PCT national phase entries from 2004 to 2008. However, PCT national phase entries by applicants from China (32.4%) and the Republic of Korea (24.3%) enjoyed the fastest annual growth during the same period.

Figure A.5.4 Non-resident PCT national phase entry by country of origin: selected origins



Note: Growth rate (2004-08) refers to average annual growth rate.

Source: WIPO Statistics Database, June 2010

Table A.5.4 presents the 2008 PCT national phase entry data broken down by patent office and country of origin. It provides information on the “flow of patents” between countries. Overall, the EPO received the largest number of national phase entries (83,576), most of which originated from the US (33.1%), Japan (14.5%) and Germany (14.4%). Applicants from Japan and the US filed approximately 55% of all national phase entries at the SIPO.

Table A.5.4 PCT national phase entry at selected offices and countries of origin, 2008

Patent Office	Country of Origin										Others/ Unknown	Total
	US	JP	DE	FR	GB	NL	CH	KR	SE	IT		
European Patent Office	27,692	12,084	12,062	4,614	3,329	3,333	2,601	1,979	2,387	1,770	11,725	83,576
United States of America	8,543	15,988	9,450	3,762	4,017	2,159	1,312	2,410	1,617	1,631	10,233	61,122
China	17,773	13,766	6,522	2,333	1,627	2,725	1,812	2,522	1,674	837	6,050	57,641
Japan	17,718	12,582	5,974	2,594	1,712	2,770	1,840	2,121	1,331	625	5,279	54,546
Canada	15,194	1,921	2,757	1,552	1,340	694	1,471	352	624	512	5,558	31,975
Republic of Korea	10,724	9,513	3,014	1,282	674	1,174	1,116	423	565	285	3,139	31,909
Australia	9,137	1,259	1,332	661	1,119	548	1,099	286	477	304	4,301	20,523
Brazil (2007)	5,946	1,021	1,952	1,071	538	786	1,111	235	425	377	2,177	15,639
Mexico	7,086	561	1,319	614	433	478	957	370	385	238	1,719	14,160
Russian Federation	3,178	1,009	1,882	767	347	688	755	318	438	349	1,768	11,499
Singapore	3,116	906	484	236	317	214	427	84	204	78	1,256	7,322
Israel	2,741	254	28	151	277	52	25	28	114	33	2,585	6,288
Norway (2007)	1,822	257	492	211	291	235	322	23	283	75	891	4,902
Germany	1,046	1,079	892	29	23	23	49	142	39	4	336	3,662
Malaysia	1,209	511	321	122	209	275	213	55	85	22	507	3,529
New Zealand	1,083	89	218	92	276	78	84	3	138	33	1,164	3,258
Philippines	959	319	298	94	172	84	295	50	113	23	421	2,828
Ukraine	657	88	479	165	132	82	216	17	81	65	566	2,548
Eurasian Patent Organization	623	68	349	125	166	158	145	8	25	76	802	2,545
United Kingdom	842	204	31	9	319	37	8	51	14	5	401	1,921
Colombia (2007)	685	51	204	79	1	56		7	178	32	454	1,747
Morocco	157	36	64	143	59	29	124	2	4	22	127	767
African Regional Intellectual Property Organization	108	7	36	19	36	11	23	1	3	9	157	410
T F Y R of Macedonia	134	8	50	37	35	2	3		11	22	104	406
Sri Lanka	69	12	2	2	20	3	13	2	5	4	132	264
Guatemala	96	4	36	12	8	1	41	2		1	39	240
Turkey	43	7	9	2	1		11	7		1	96	177
Uzbekistan	50	2	14	2	17	11	13	4		3	50	166
Kazakhstan	44		16	2	1	1		3		2	66	135
Spain	5		9	3	1		1	1			81	101

Note: Country codes: US (United States of America), JP (Japan), DE (Germany), FR (France), GB (United Kingdom), NL (Netherlands), CH (Switzerland), KR (Republic of Korea), SE (Sweden), and IT (Italy).

Source: WIPO Statistics Database, June 2010

A.6 PATENTS BY FIELD OF TECHNOLOGY

Patent applications span a wide range of technologies. Furthermore, the tendency to file patent applications differs across technologies as some technologies depend more heavily on the patent system than others. To understand activity patterns and trends across technologies, this sub-section presents data by field of technology.

Every patent application is assigned one or more International Patent Classification (IPC) symbols, corresponding to the field(s) of technology to which an invention may belong. Patent statistics by technological field are based on the method of "fractional counting", whereby a patent application with multiple fields of technology is divided into equal shares, each representing one field of technology. Applications for which no IPC symbol has been assigned are distributed proportionally to all fields of technology. The IPC-technology concordance table (available at www.wipo.int/ipstats/en) was used to convert IPC symbols into 35 corresponding fields of technology.

A.6.1 Total patents by field of technology

Table A.6.1 shows the total number of patent applications by field of technology and the average annual growth rate for 2003-07. In 2007, the largest numbers of patent applications were filed in computer technology, electrical machinery and telecommunications, with each of these fields accounting for more than 5% of all applications. Applications in computer technology, information technology (IT) methods for management and digital communication saw the highest annual growth rates from 2003 to 2007. Patent applications in the life sciences (analysis of biological materials and biotechnology) experienced a decline during the same period.

Table A.6.1 Total patent applications by field of technology

Field of Technology	Year of Filing					Growth Rate, 2003-07 (%)
	2003	2004	2005	2006	2007	
Electrical engineering						
Electrical machinery, apparatus, energy	85,482	96,345	106,304	116,096	120,547	9.0
Audio-visual technology	70,228	83,878	88,558	88,395	83,210	4.3
Telecommunications	69,603	77,443	88,285	92,900	92,168	7.3
Digital communication	43,955	47,109	52,393	58,252	63,537	9.6
Basic communication processes	16,794	17,313	18,149	18,421	19,106	3.3
Computer technology	95,794	110,434	125,860	136,734	145,282	11.0
IT methods for management	17,361	17,266	18,755	20,844	25,900	10.5
Semiconductors	64,945	72,552	79,676	85,243	88,349	8.0
Instruments						
Optics	67,217	74,017	82,144	85,004	81,770	5.0
Measurement	57,460	61,548	67,078	73,479	78,595	8.1
Analysis of biological materials	11,267	9,984	10,137	10,228	10,558	-1.6
Control	25,821	27,492	28,880	30,371	32,321	5.8
Medical technology	65,063	64,511	68,832	76,004	80,678	5.5
Chemistry						
Organic fine chemistry	46,449	46,556	50,941	50,881	51,364	2.5
Biotechnology	35,992	31,765	31,657	32,812	33,930	-1.5
Pharmaceuticals	57,302	59,736	67,801	71,562	69,638	5.0
Macromolecular chemistry, polymers	26,215	24,615	27,582	28,396	28,840	2.4
Food chemistry	21,669	20,769	22,652	24,739	28,421	7.0
Basic materials chemistry	34,474	34,214	37,816	39,747	42,191	5.2
Materials, metallurgy	27,619	27,433	30,168	33,928	36,089	6.9
Surface technology, coating	25,760	27,448	30,229	32,648	33,980	7.2
Micro-structural and nano-technology	1,839	1,883	2,242	2,144	2,617	9.2
Chemical engineering	31,929	31,586	33,618	35,024	37,130	3.8
Environmental technology	20,411	20,832	22,195	23,944	25,584	5.8
Mechanical engineering						
Handling	42,435	43,913	46,083	46,356	48,179	3.2
Machine tools	35,652	36,507	38,827	41,047	43,729	5.2
Engines, pumps, turbines	40,965	42,395	43,668	46,744	51,926	6.1
Textile and paper machines	38,295	38,188	40,581	38,255	37,946	-0.2
Other special machines	46,759	46,237	47,171	48,529	50,607	2.0
Thermal processes and apparatus	23,969	25,447	26,698	28,493	29,969	5.7
Mechanical elements	43,123	44,128	46,525	50,606	53,063	5.3
Transport	66,267	68,212	71,612	75,566	79,659	4.7
Other fields						
Furniture, games	42,920	45,365	47,414	50,894	53,663	5.7
Other consumer goods	32,362	34,062	35,385	35,227	36,391	3.0
Civil engineering	53,240	54,376	56,434	59,048	62,844	4.2

Note: The IPC-technology concordance table (available at: www.wipo.int/ipstats/en) was used to convert IPC symbols into 35 corresponding fields of technology.

Source: WIPO Statistics Database and EPO PATSTAT Database, June 2010

A.6.2 Foreign-oriented patent families by field of technology

Countries may show innovative strength in different fields of technology, which is at least partly reflected in the distribution of patent filings. Table A.6.2 lists foreign-oriented patent families by 35 fields of technology for the top 15 countries of origin.

For the majority of those countries, computer technology accounted for a large share of total foreign-oriented patent families. For example, the largest numbers of foreign-oriented patent families originating from Canada, Germany, the United Kingdom and the US were in the field of computer technology. Telecommunications accounted for a large share of the foreign-oriented patent families owned by residents of Canada, China, Finland, the Republic of Korea and Sweden. These countries generally show high R&D expenditure in the telecommunications sector. The largest numbers of foreign-oriented patent families for China and Sweden were in the field of digital communication. Medical technology and pharmaceuticals accounted for a large share of foreign-oriented patent families originating from the United Kingdom and the US. Optics and semiconductors were the top technology fields for Japan and the Republic of Korea, respectively.

Table A.6.2 Foreign-oriented patent families by field of technology and country of origin: top origins, 2003-07

Field of Technology	Origin of Patent Families															
	AT	AU	CA	CH	CN	DE	FI	FR	GB	IT	JP	KR	NL	SE	US	Others
Electrical engineering																
Electrical machinery, apparatus, energy	543	323	727	1,210	1,729	12,123	342	2,585	1,234	1,189	27,773	8,323	382	393	13,428	7,825
Audio-visual technology	133	171	583	531	1,509	7,199	368	1,085	716	227	27,639	9,422	1,743	282	8,223	8,068
Telecommunications	110	250	1,478	332	1,888	6,339	1,490	2,371	1,156	443	17,638	10,338	366	1,454	15,475	5,488
Digital communication	63	196	1,478	258	2,582	4,419	1,457	2,485	1,138	442	8,180	4,815	332	1,671	13,755	3,579
Basic communication processes	59	41	202	95	206	2,112	184	501	294	194	5,182	1,854	100	203	3,557	2,351
Computer technology	183	764	2,474	673	1,833	12,665	1,426	2,605	2,422	723	27,421	9,568	490	759	31,771	12,117
IT methods for management	38	279	349	189	140	1,578	109	231	445	77	1,871	658	63	110	4,786	1,187
Semiconductors	304	119	113	195	755	7,999	79	899	354	296	24,414	11,797	593	76	9,994	7,445
Instruments																
Optics	77	154	222	242	897	3,717	128	873	552	299	31,149	7,636	685	144	7,451	4,820
Measurement	276	410	563	1,700	707	9,734	371	1,936	1,508	762	13,271	1,915	486	594	12,461	4,454
Analysis of biological materials	51	110	58	162	66	785	45	308	405	103	1,311	202	88	104	3,903	1,301
Control	163	240	356	423	258	4,144	128	804	710	481	5,372	905	167	272	5,545	2,146
Medical technology	263	660	520	1,969	433	6,710	210	1,465	1,666	1,172	7,399	1,067	466	990	24,195	4,976
Chemistry																
Organic fine chemistry	87	185	141	633	360	3,985	61	2,227	1,325	567	5,019	850	161	283	13,841	5,652
Biotechnology	126	315	121	281	238	1,640	88	662	842	292	2,827	699	242	146	10,769	3,593
Pharmaceuticals	134	444	249	864	557	2,512	72	1,407	1,764	769	3,679	762	249	428	21,347	7,413
Macromolecular chemistry, polymers	57	54	95	238	151	2,157	204	468	233	252	5,968	785	219	43	5,239	1,744
Food chemistry	33	321	123	410	92	1,114	46	365	363	302	1,811	312	1,374	54	2,882	2,770
Basic materials chemistry	97	169	185	443	262	3,447	80	670	678	287	5,841	886	290	70	7,904	3,037
Materials, metallurgy	228	295	144	298	261	2,458	122	644	300	326	5,451	789	80	169	3,288	1,865
Surface technology, coating	120	154	209	363	290	2,776	130	654	424	375	8,284	1,290	235	172	6,307	1,910
Micro-structural and nano-technology	7	14	6	19	28	299	12	116	18	17	454	248	12	22	436	156
Chemical engineering	184	365	351	618	325	4,125	238	1,008	769	751	4,680	1,140	302	303	6,545	2,675
Environmental technology	154	251	227	196	146	2,505	84	657	402	336	3,222	574	164	172	3,051	1,303
Mechanical engineering																
Handling	333	515	556	1,226	242	4,968	361	1,409	1,014	1,959	6,919	926	608	411	6,737	3,254
Machine tools	360	360	454	686	340	5,569	160	847	501	1,078	6,577	702	194	571	5,432	2,626
Engines, pumps, turbines	253	439	522	562	218	8,385	72	1,742	950	795	10,518	1,133	145	384	7,578	2,413
Textile and paper machines	152	528	126	681	211	4,692	491	517	326	761	12,385	1,160	179	178	3,972	1,752
Other special machines	375	412	837	782	330	4,945	212	1,425	727	1,383	6,440	936	638	395	6,922	3,407
Thermal processes and apparatus	261	288	319	336	334	2,770	100	573	336	664	3,508	1,968	172	209	2,866	1,768
Mechanical elements	336	378	451	596	347	9,019	140	1,818	976	1,242	9,696	928	293	930	6,994	2,512
Transport	393	400	775	481	280	12,222	134	4,393	1,097	1,583	15,168	1,497	475	1,462	9,769	3,198
Other fields																
Furniture, games	374	493	838	564	523	2,607	97	1,003	1,066	1,150	4,480	1,602	317	283	6,320	2,928
Other consumer goods	176	289	436	521	349	3,411	80	1,079	738	1,068	3,980	2,742	217	196	4,475	2,634
Civil engineering	680	1,088	1,183	807	316	4,587	260	1,847	1,516	1,489	2,657	909	645	694	7,656	4,519

Note: The IPC technology concordance table (available at: www.wipo.int/ipstats/en) was used to convert IPC symbols into 35 corresponding fields of technology. Assigning a field of technology to a patent family is based on all applications associated with that family rather than just first applications. Country codes: AT (Austria), AU (Australia), CA (Canada), CH (Switzerland), CN (China), DE (Germany), FI (Finland), FR (France), GB (United Kingdom), IT (Italy), JP (Japan), KR (Republic of Korea), NL (Netherlands), SE (Sweden) and US (United States of America).

Source: WIPO Statistics Database and EPO PATSTAT Database, June 2010

A.6.3 PCT patent applications from universities by technology

Table A.6.3 shows the number of PCT patent applications filed by universities broken down by field of technology. The growth rate shows average annual growth for the 2005-09 period. PCT application data refer to PCT applications published during the reference year.

Universities accounted for 5% of all PCT applications published in 2009. However, between 2005 and 2009, PCT applications by university applicants experienced double-digit growth across most fields of technology.

The largest numbers of PCT applications filed by university applicants were in the fields of pharmaceuticals and biotechnology, with more than 1,100 applications in 2009. Medical technology (648) and measurement technology (504) also accounted for a large number of applications. Despite rapid growth in PCT applications in the field of micro-structural and nano-technology, the total number of applications remained below 100 in 2009.

Table A.6.3 PCT patent applications from universities by field of technology

Field of Technology	Year of Publication					Growth Rate, 2005-09 (%)
	2005	2006	2007	2008	2009	
Electrical engineering						
Electrical machinery, apparatus, energy	127	182	211	227	247	18.1
Audio-visual technology	41	57	64	52	59	9.5
Telecommunications	85	111	121	150	138	12.9
Digital communication	33	48	65	86	88	27.8
Basic communication processes	40	55	54	56	56	8.8
Computer technology	227	313	278	351	355	11.8
IT methods for management	8	14	21	11	20	25.7
Semiconductors	173	230	246	292	332	17.7
Instruments						
Optics	167	211	216	201	187	2.9
Measurement	344	472	476	545	504	10.0
Analysis of biological materials	277	338	360	392	421	11.0
Control	32	50	50	47	59	16.5
Medical technology	425	542	654	719	648	11.1
Chemistry						
Organic fine chemistry	380	389	408	412	397	1.1
Biotechnology	959	959	1,143	1,207	1,179	5.3
Pharmaceuticals	862	1,081	1,118	1,353	1,261	10.0
Macromolecular chemistry, polymers	108	133	133	149	158	10.0
Food chemistry	56	75	80	83	91	12.9
Basic materials chemistry	138	188	211	253	251	16.1
Materials, metallurgy	113	134	151	161	179	12.2
Surface technology, coating	101	136	128	126	122	4.8
Micro-structural and nano-technology	20	35	38	77	96	48.0
Chemical engineering	124	166	205	198	200	12.7
Environmental technology	52	69	89	72	87	13.7
Mechanical engineering						
Handling	13	12	21	26	26	18.9
Machine tools	27	34	41	60	35	6.7
Engines, pumps, turbines	37	47	60	76	72	18.1
Textile and paper machines	36	55	45	48	50	8.6
Other special machines	99	95	107	119	116	4.0
Thermal processes and apparatus	13	18	26	32	39	31.6
Mechanical elements	20	21	31	36	30	10.7
Transport	18	29	34	61	44	25.0
Other fields						
Furniture, games	14	21	14	26	23	13.2
Other consumer goods	12	16	15	27	22	16.4
Civil engineering	35	30	45	54	43	5.3

Note: PCT application data by field of technology are based on publication date. The IPC-technology concordance table (available at: www.wipo.int/ipstats/en) was used to convert IPC symbols into 35 corresponding fields of technology.

Source: WIPO Statistics Database, June 2010

A.6.4 Patent applications in selected energy-related technology fields

In recent years, climate change has been high on the political agenda. The development of environment-related technologies, such as those related to renewable energy, will play an important role in tackling climate change. This sub-section presents statistics on patent activity in selected energy-related technologies, namely, fuel cells, geothermal, solar and wind energy. Annex A provides definitions of these technologies according to IPC symbols²⁶. The data presented refer to published PCT applications.

The total number of PCT applications filed in the four energy-related fields increased from 584 applications in 2000 to 3,424 in 2009. There has been a substantial increase in solar energy patent applications, while patent applications in the fields of wind energy and fuel cell technology followed a generally upward trend. Applications in the field of geothermal energy were small in number compared to the other three fields, but have nevertheless increased over the past three years.

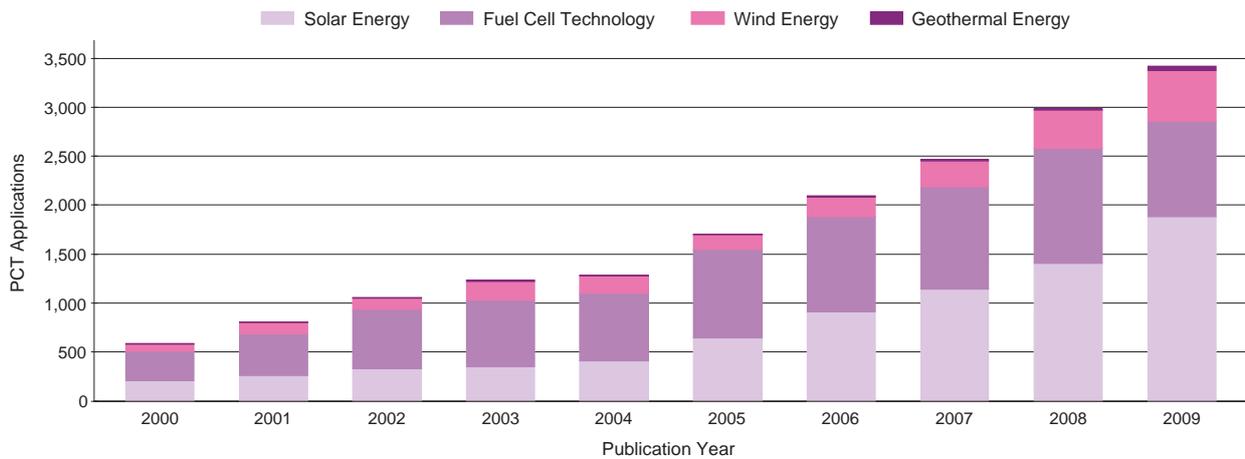
Applicants from Japan filed the largest share of PCT applications in the fields of solar energy (33.8%) and fuel cell technology (45.9%) from 2005 to 2009, while residents of the US accounted for a quarter of all PCT applications in these two fields. Canada accounted for a small share of PCT applications in fuel cell technology; however, relative to the total number of PCT applications published, Canada had a higher ratio than the US, France and Germany. Similarly, the Republic of Korea had the highest solar energy technology to total PCT applications ratio.

Denmark, Germany and the US accounted for similar shares of PCT applications for wind energy technology worldwide. In the case of Denmark and Germany, wind energy technology accounted for a high proportion of PCT applications relative to the total number of published PCT applications.

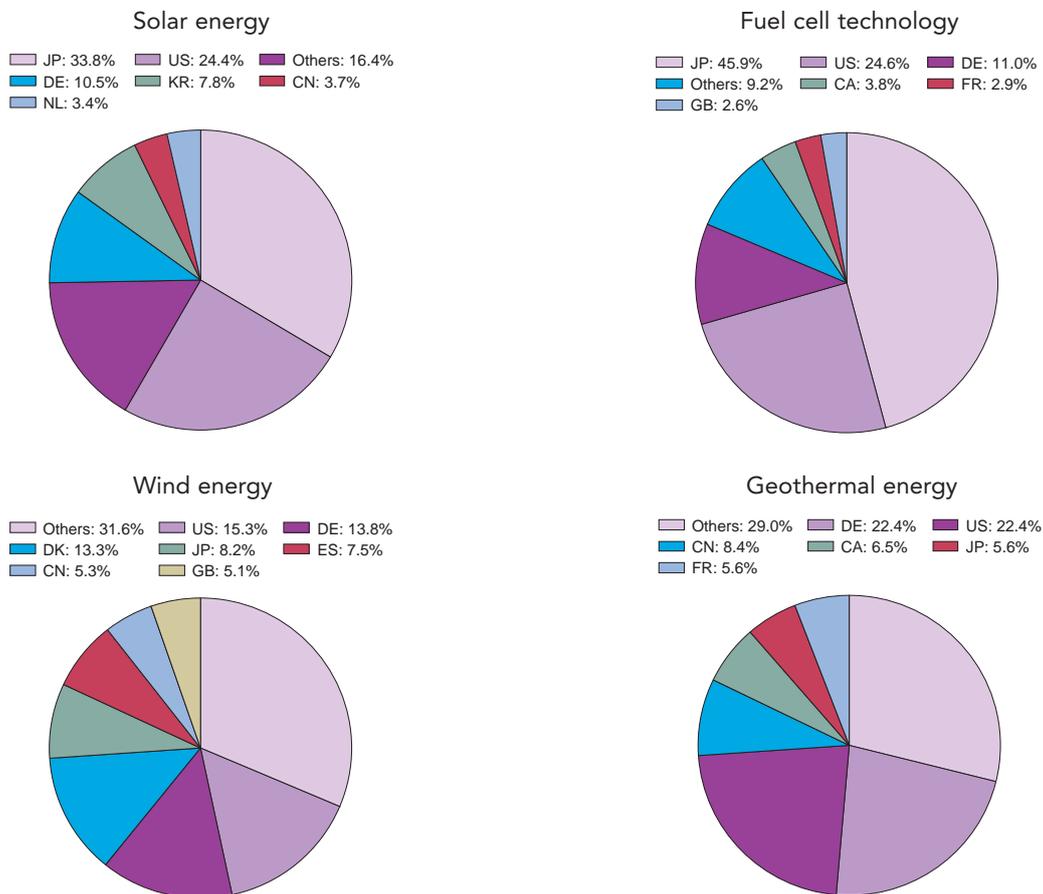
²⁶ The correspondence between IPC symbols and technology fields is not always clear cut (i.e., there is no one-to-one relationship). It is therefore difficult to capture all patents in a specific technology field. Nonetheless, the IPC-based definitions of the four energy-related technologies employed here are likely to capture the vast majority of patents in these areas.

Figure A.6.4 PCT applications by field of energy-related technology

Trend in PCT applications in energy-related technology fields: selected technologies



Country share (%), 2005-09



Note. For definitions of the fields of technology, see annex A. Country codes: CA (Canada), CN (China), DE (Germany), DK (Denmark), ES (Spain), FR (France), GB (United Kingdom), JP (Japan), KR (Republic of Korea), NL (Netherlands) and US (United States of America).

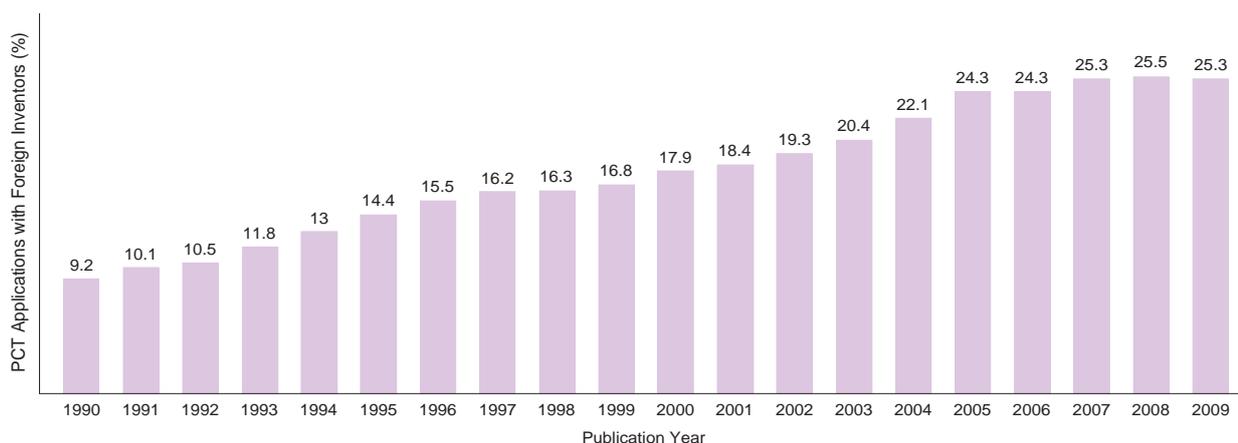
Source: WIPO Statistics Database, June 2010

A.7 INTERNATIONAL COLLABORATION

Foreign researchers play an increasingly important role in R&D and innovation activity. Patent data can be used to monitor the level of cross-border collaboration in R&D activity. This sub-section presents three indicators of cross-country collaboration.

Figure A.7a depicts the percentage of PCT applications having at least one foreign inventor (i.e., one inventor's country of residence is different from the first-named applicant's country of residence). The percentage of PCT applications that include foreign inventors has increased considerably, from around 9% in 1990 to 25% in 2009, reflecting the increased internationalization of R&D.

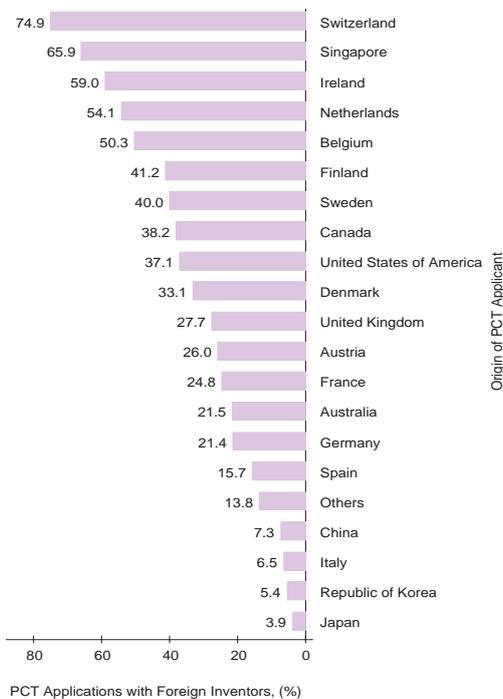
Figure A.7a PCT applications with at least one foreign inventor (%)



Note: The data reported above are based on published PCT applications.

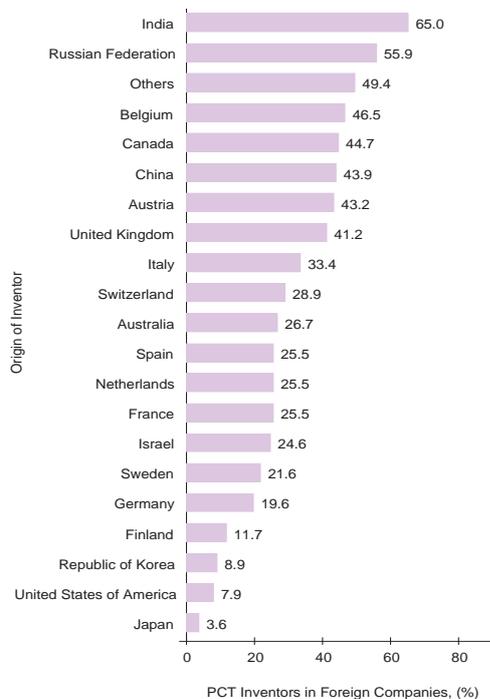
Source: WIPO Statistics Database, June 2010

Figure A.7b PCT applications with at least one foreign inventor by country of origin (%), 2009



PCT Applications with Foreign Inventors, (%)

Figure A.7c Inventors in foreign-owned PCT applications (%), 2009



PCT Inventors in Foreign Companies, (%)

Note: The data reported above are based on published PCT applications.

Source: WIPO Statistics Database, June 2010

The level of cross-border collaboration varies considerably across countries (Figure A.7b). In 2009, 74.9% of PCT applications originating from Switzerland included at least one foreign inventor, while that was the case for only 3.9% of all PCT applications originating from Japan. Other countries with a large share of PCT applications citing foreign inventors include Singapore (65.9%), Ireland (59%) and the Netherlands (54.1%). Countries with a low share include the Republic of Korea (5.4%), Italy (6.5%) and China (7.3%).

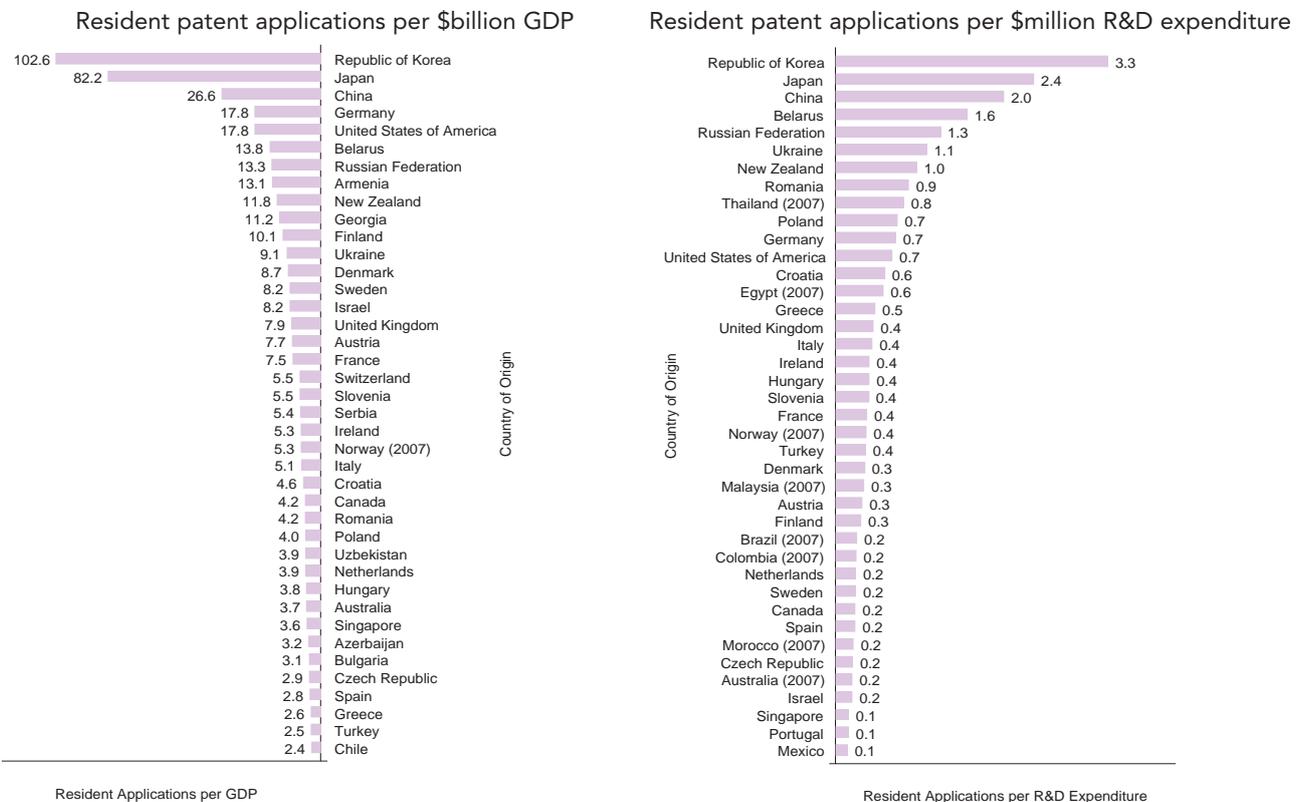
Finally, one might ask how many inventors from around the world had a different country of residence to that of the PCT applicant. Among PCT applications published in 2009, the US (6,003), Germany (5,708) and China (5,014) recorded the highest absolute numbers of inventors contributing to PCT applications filed by foreign entities. However, in percentage terms, the majority of Indian (65%) and Russian (55.9%) inventors were associated with foreign PCT applications (Figure A.7c). In contrast, fewer than 10% of inventors from Japan, the Republic of Korea and the US contributed to foreign PCT applications.

A.8 INTENSITY OF PATENT ACTIVITY

Differences in patent activity across economies reflect their size and level of development. For the purposes of cross-country comparison, it is therefore interesting to express patent activity relative to GDP and to national R&D expenditure.

Figure A.8 presents data on resident patent applications per GDP and per R&D expenditure, respectively. These indicators may be loosely regarded as measures of “patent intensity”. The Republic of Korea, Japan and China are the top ranked countries in 2008, both for GDP and R&D-adjusted resident patents. The US accounted for the second largest number of resident applications but, because of its large economy, it only occupied the 5th rank for the GDP-adjusted indicator and the 12th rank for the R&D-adjusted indicator.

Figure A.8 Intensity of patent activity, 2008



Note: GDP and R&D expenditure data are in constant 2005 purchasing power parity dollars. For the resident patent applications per GDP indicator, countries were selected based on having a GDP greater than 15 billion dollars and more than 100 resident applications. R&D expenditure was lagged by one year. For the resident patent applications per R&D expenditure indicator, countries were selected based on having an R&D expenditure greater than 500 million dollars and more than 100 resident applications.

Source: WIPO Statistics Database, UNESCO and World Bank, June 2010

High R&D intensity countries (i.e., countries with a high R&D expenditure to GDP ratio) – such as Israel, Finland and Sweden – filed fewer resident patents per R&D dollar compared to resident patents per GDP. Belarus was ranked high both for resident patents per GDP and R&D ratios, despite the fact that only 1,510 resident applications were filed with its patent office. This is because the magnitudes of Belarus' GDP and R&D expenditure were considerably lower than that of other reporting countries,

For the majority of countries shown in the figures, resident patent per GDP and R&D ratios hardly changed from 2007 to 2008. Notable exceptions are China, the Republic of Korea and New Zealand. China saw the largest increase in both resident patents per GDP and R&D ratios, because growth in resident patent applications outpaced growth of GDP and R&D expenditure. In contrast, the Republic of Korea experienced large decreases in both ratios due to a decline in resident patent applications and continued growth of GDP and R&D expenditure. New Zealand saw the largest drop in the resident patent to GDP ratio due to a sharp fall in resident patent applications.

A.9 PATENTS IN FORCE

Patent rights are granted for a limited time (generally 20 years). Indicators of patents in force provide information on the volume of patents currently in force as well as the patent "life-cycle". Patent holders pay fees to IP offices in order to keep their patents valid.

A.9.1 Patents in force by destination and source

Figure A.9.1 depicts the number of patents in force by destination and source. The first indicator provides information on the geographical location of patents in force, and the second sheds light on the origin of the owners of patents that are in force. Unfortunately, data on the number of patents in force by country of origin for Germany, the United Kingdom, Italy, Sweden, Belgium, Austria, Israel and Norway include only those patents in force abroad. Statistics on patents in force domestically are not available.

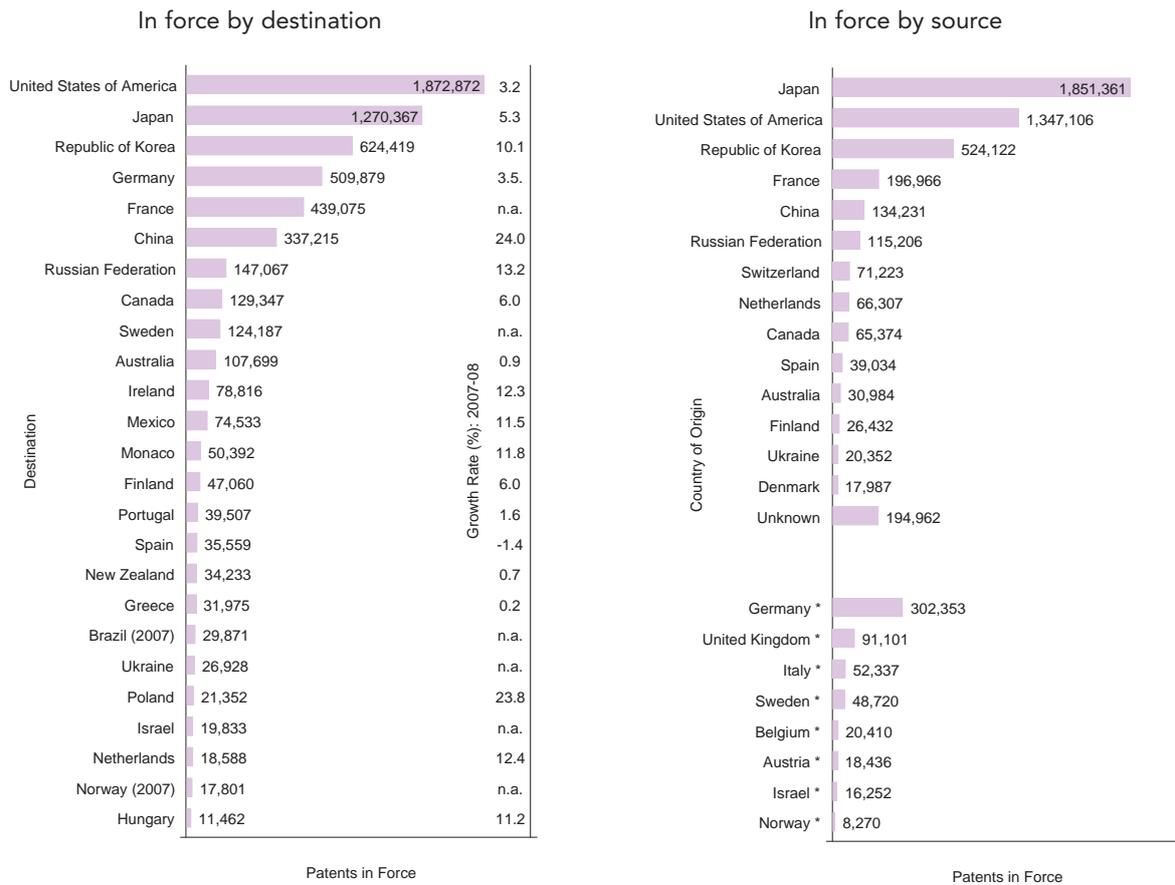
The total number of patents in force across the world is estimated at 6.7 million in 2008, a 5.3% increase over 2007. The US accounted for the largest share (28%) of patents in force by destination, followed by Japan (19%). The patent offices of these two countries issued around 47.5% of all patents granted over the past 20 years. The numbers of patents in force in China and the Republic of Korea have increased considerably in recent years, reflecting rapid growth in the number of patents issued by their patent offices (Figure A.2.4). For all reporting destination countries except Spain, the number of patents in force in 2008 was higher than in 2007. The number of patents issued by the patent office of Spain declined in 2008, a likely factor in the drop in number of patents in force in Spain.²⁷

There is similarity in the distribution of resident and non-resident patents in force and that of patents granted. For example, Japanese residents accounted for 89.5% of all patents in force in Japan and 85.8% of patents granted by the JPO in 2008. By the same token, Canadian residents accounted for only 10.6% of the patents in force in Canada and 10.1% of patents granted by the patent office of Canada.

Turning to patents in force by source, residents of Japan (1.85 million) and the US (1.35 million) owned around 48% of the patents in force in 2008. Most patents owned by residents of China (95.1%) and the Republic of Korea (84.6%) are in force in their own country. In contrast, only a small proportion of all patents owned by residents of Denmark (7.6%) and Switzerland (5.7%) are in force in their respective countries. The largest shares of the patents owned by residents of Switzerland are in force in the US (20.7%), France (20.0%) and China (8.3%).

²⁷ Note that the change in the number of patents in force is also affected by the number of patents that lapse in any given year.

Figure A.9.1 Patents in force by destination and source, 2008



Note: The global number of patents in force was estimated at 6.7 million in 2008. This estimate is based on data from 88 patent offices and is a lower bound estimate. The actual number of patents in force by country of origin is likely to be higher than the data reported here, due to incomplete data and because a breakdown by country of origin is not available for some patent offices. For example, it was not possible to determine the country of origin for 194,962 patents in force in 2008. The number of patents in force by country of origin for Germany, the United Kingdom, Italy, Sweden, Belgium, Austria, Israel and Norway include only those patents that are in force abroad, as statistics on patents in force domestically are not available.

Source: WIPO Statistics Database, June 2010

A.9.2 Patents in force by year of application

As described in the previous sub-section, patent holders must pay maintenance fees to keep their patents valid. The timing for paying maintenance fees varies among patent offices. When a patent is due for renewal, patent holders decide whether the expected benefit of holding on to the patent is greater than the cost of the renewal fee. Depending on technological and commercial developments, patent holders may opt to let the patent lapse before the end of the full protection term (generally 20 years).

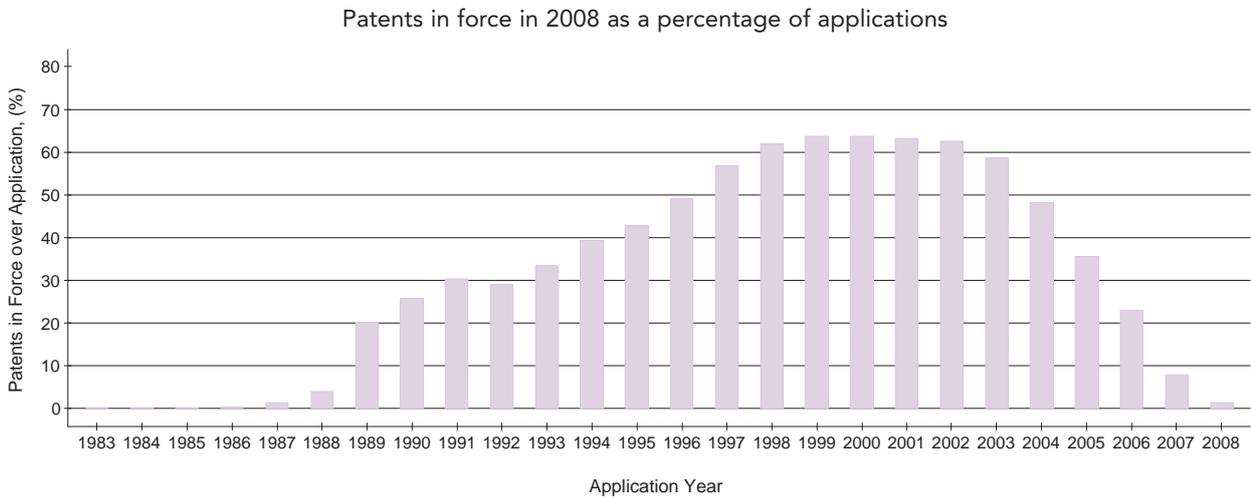
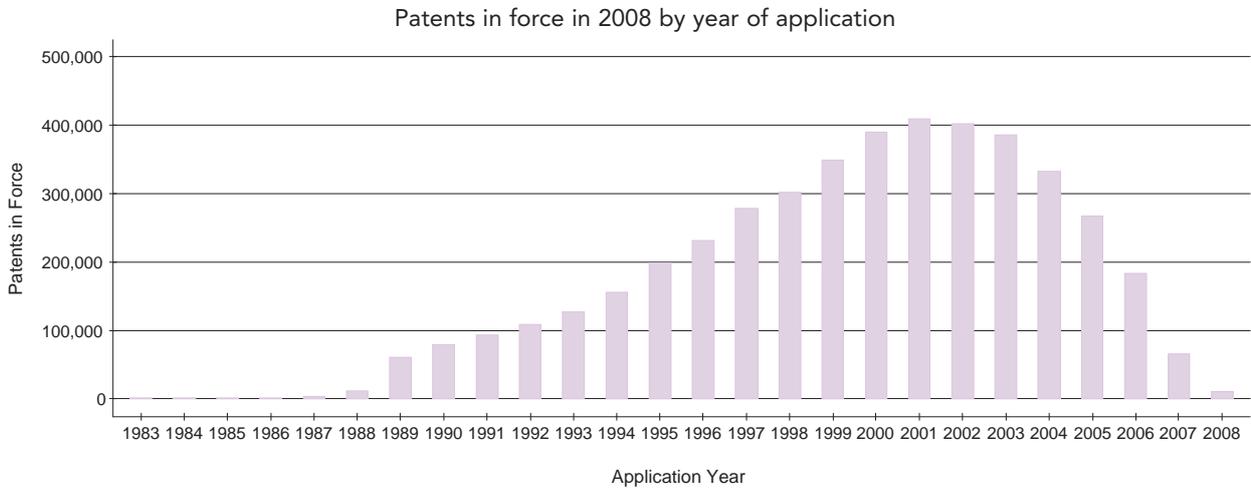
Figure A.9.2 depicts the breakdown of patents in force in 2008. The first graph shows patents in force data for 2008 by year of application. The bell-shaped curves portray the distribution of patents in force. The largest numbers of patents in force in 2008 were filed in 2001, 2002 and 2000. Approximately 71.8% of all patents in force in 2008 were filed between 1997 and 2006, and about 21% were filed before 1997.

The second graph adjusts for the growth in number of patents in force and shows the percentage of patents in force in 2008 broken down by application year and divided by the total number of applications filed in a given year. Adjusting for number of patents in force by total number of applications causes the distribution of patents in force data to shift to the left. For example, 40% of total patent applications filed in 1994 resulted in patents being granted and are still in force 14 years later. A percentage based on patents in force data adjusted for the number of patents granted would be even higher²⁸. A considerable portion (20%) of patent applications filed 20 years ago resulted in the issuance of patents that were maintained for the full patent term.

²⁸ Applications can be granted, rejected or withdrawn. It would therefore be ideal to adjust patents in force data by the total number of grants. The breakdown of patents in force data by grant year are not available, therefore, application data are used to provide a rough proxy.

Comparing the 2008 profile to previous years shows that the distribution of patents in force by application year remains fairly stable.

Figure A.9.2 Patents in force by year of application



Note: The 2008 patents in force data are based on 58 patent offices. Patents in force in 2008 as a percentage of applications is calculated as follows: number of patent applications filed in year t and in force in 2008 divided by the total number of patent applications filed in year t.

Source: WIPO Statistics Database, June 2010

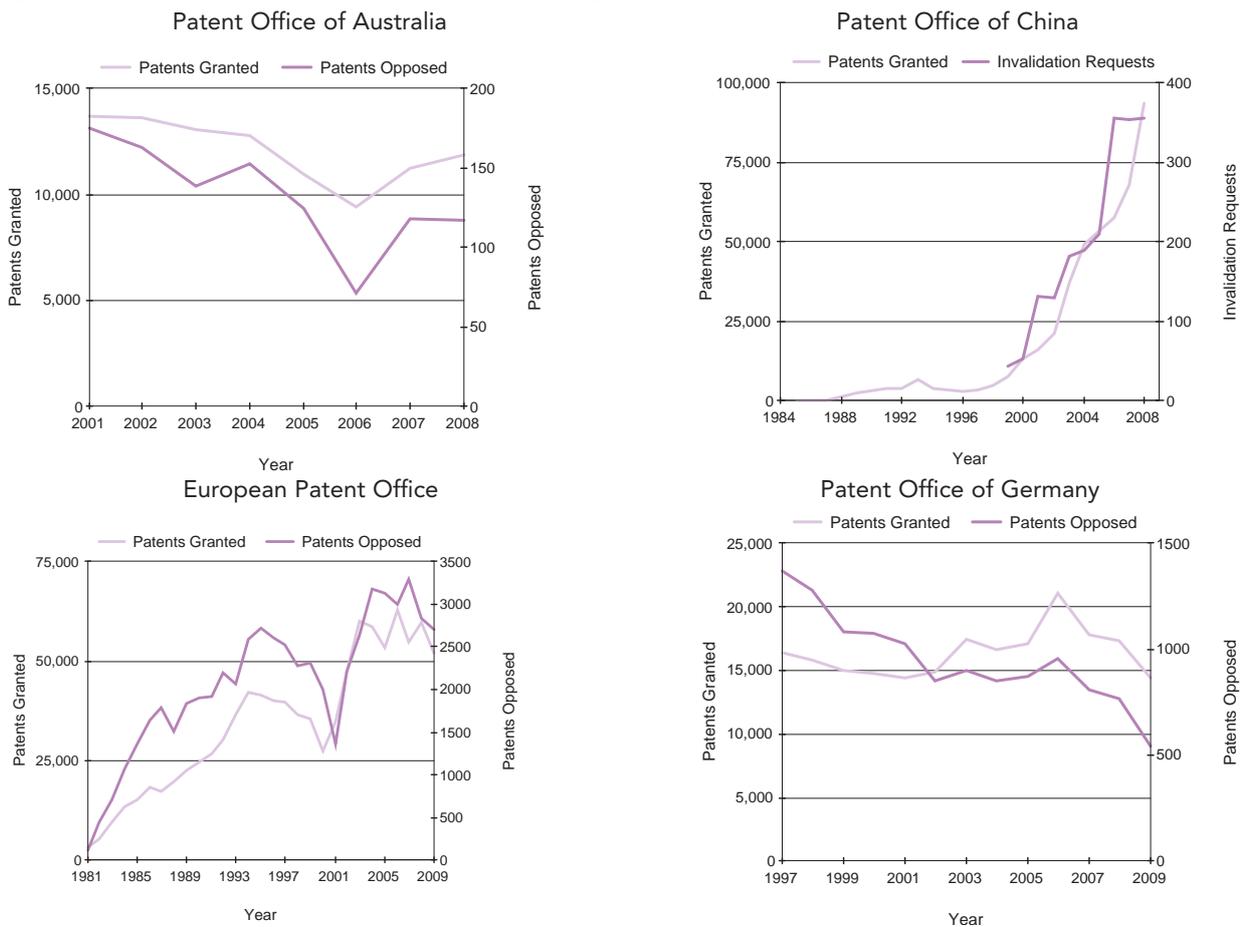
A.10 OPPOSITION AND INVALIDATION OF PATENTS GRANTED

In some patent offices, it is possible for third parties to oppose the grant of a patent. Some offices allow for pre-grant opposition, others for post-grant opposition, and again others for both pre- and post-grant opposition. Some offices provide for a re-examination procedure instead of, or in addition to, an opposition system. In addition, certain national laws allow third parties to challenge patent validity through an invalidation procedure. Differences in opposition procedures make it difficult to compare opposition-related statistics across patent offices, but data are comparable over time within a particular office.

Figures A.10a and A.10b present data on opposition and invalidation requests for selected offices and compare these data to the number of patents granted. Several insights emerge. The number of oppositions or requests for re-examination (or invalidation) appears small compared to total patents granted. For example, at the EPO, 4.7% of patents granted were opposed in 2009. Similarly, at the USPTO, the re-examination ratio (requests for re-examination divided by the number of patents granted) stood at 0.5% in 2009²⁹.

In most offices, the number of opposition and invalidation requests correlates positively with the number of patents granted. One exception is the USPTO, where the number of re-examinations has more than tripled over the last eight years, even though the number of patents granted has remained fairly stable. In other words, there has been an increase in the tendency of third parties to challenge patents granted by the USPTO.

Figure A.10a Opposition and invalidation of patents granted

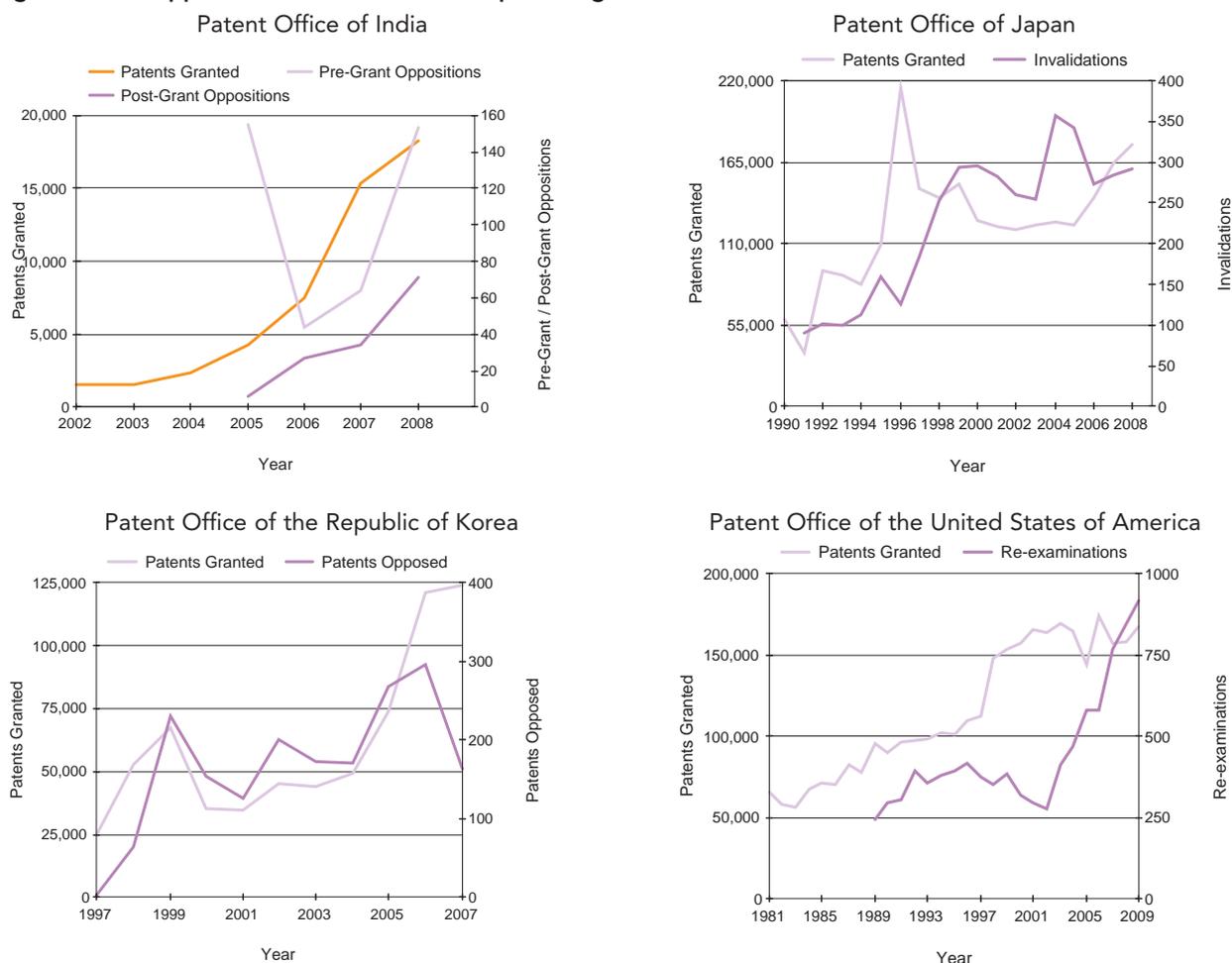


Note: Opposition and invalidation procedures differ among patent offices. At the EPO and the patent offices of Germany and India, the procedure is called "opposition". At the USPTO, it is referred to as "re-examination". The SIPO and the JPO provide "invalidation request" and "trial for invalidation" procedures, respectively.

Source: WIPO Statistics Database, June 2010

²⁹ The opposition and re-examination to grant ratios presented here are a rough approximation, because the numerator and denominator do not cover the same data sample. For example, the 4.7% opposition ratio at the EPO was derived by dividing the number of oppositions filed in 2009 by the number of patents granted in 2009. Patents granted by the EPO can be opposed within nine months of the publication of the grant of the European patent in the European Patent Bulletin. Therefore, the number of oppositions filed in 2009 could refer to patents granted in 2008 and 2009.

Figure A.10b Opposition and invalidation of patents granted



Note: See note of Figure A.10a.

Source: WIPO Statistics Database, June 2010

A.11 PENDING PATENT APPLICATIONS BY OFFICE

The processing of patents is a time- and resource-intensive undertaking. Patent offices need to carefully assess whether invention claims meet the standards of novelty, non-obviousness and industrial applicability as set out in national laws. For operational planning and assessing the effectiveness of the patent system more broadly, it is important to know how many patent applications are still pending.

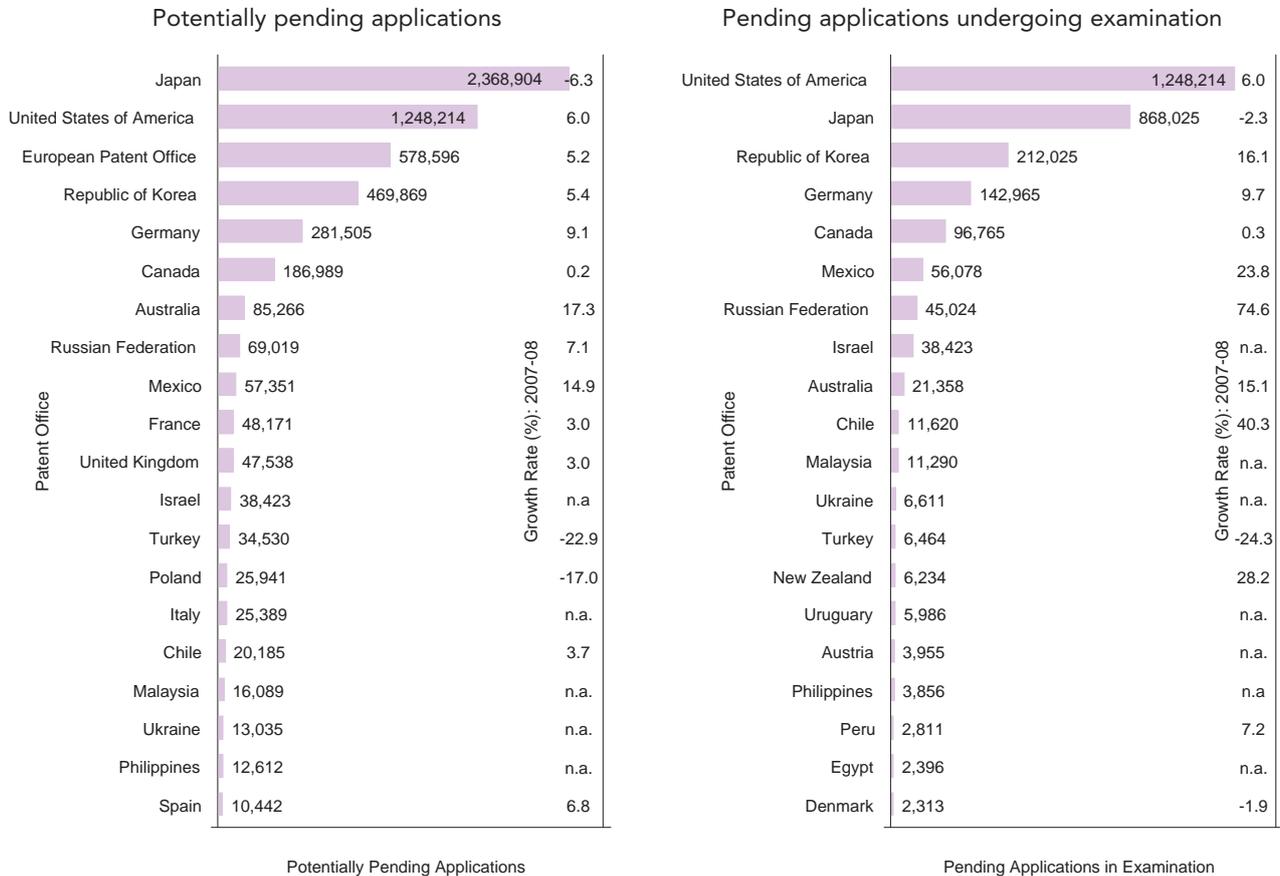
Unfortunately, differences in procedures across patent offices complicate the measurement of pending applications. In some offices, such as the USPTO, patent applications automatically proceed to the examination stage unless applicants withdraw them. In contrast, patent applications filed at other offices do not proceed to the examination stage until applicants file a separate request for examination. For example, in the case of the JPO, applicants have up to three years to file such a request.

For offices that automatically examine all patent applications, it seems appropriate to count as pending all applications that await a final decision. However, where offices require separate examination requests, it may be more fitting to consider pending applications to be those for which the applicant has requested examination.

To take account of this procedural difference, figure A.11a presents pending applications data for both definitions of pendency. In particular, statistics on potentially pending applications include all patent applications, at any

stage in the process, that await a final decision by the patent office, including those applications for which applicants have not filed a request for examination (where applicable). Statistics on pending patent applications undergoing examination exclude those applications for which the applicant has not yet requested examination (where separate requests are necessary).

Figure A.11a Pending patent applications, 2008



Source: WIPO Statistics Database, June 2010

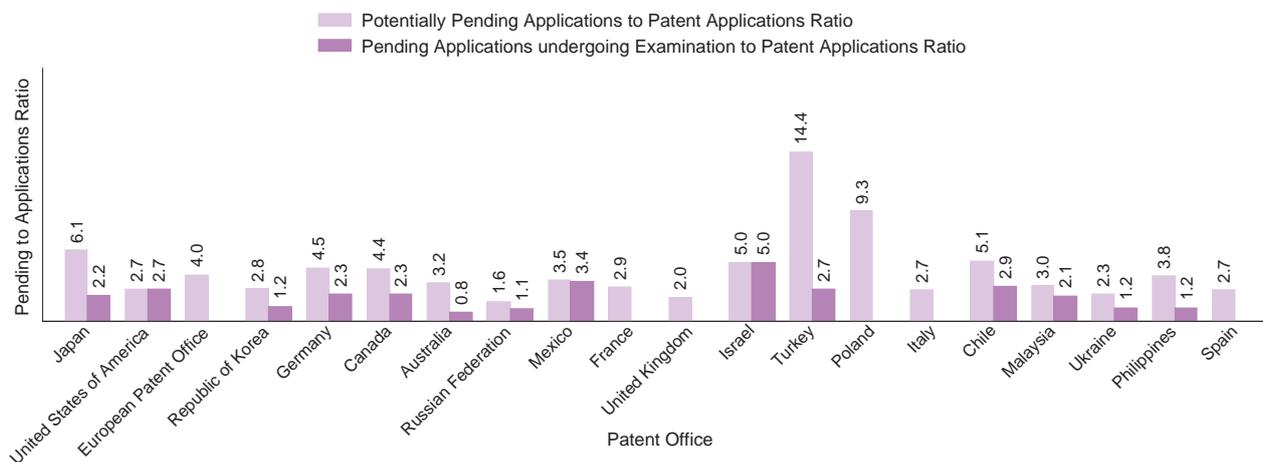
In 2008, the total number of potentially pending applications across the world stood at 5.94 million, representing a 0.2% increase over 2007. This world total is an estimate based on pending applications data for 71 patent offices, which include the top 20 offices except those of China, India, Singapore and South Africa. The largest numbers of total potentially pending applications are for the JPO (2.37 million), the USPTO (1.25 million), the EPO (0.58 million) and the KIPO (0.47 million).

At the majority of patent offices, the number of potentially pending applications has increased over the past few years. The patent offices of Chile, Poland and Turkey show small absolute numbers of potentially pending applications. However, these countries have a high ratio of potentially pending applications to total patent applications (Figure A.11b). For example, at the patent office of Turkey, the number of potentially pending applications (34,530) is 14.4 times higher than the number of total patent applications (2,397) received in 2008.

The total number of pending applications undergoing examination across the world is estimated at 3.45 million. This is based on data from 39 patent offices, which include the top 15 offices except for China, India, Italy, Singapore and South Africa. The total number of pending patent applications undergoing examination shows a similar trend to that of potentially pending applications. A large number of pending applications were undergoing examination at the USPTO, the JPO, the KIPO and the patent offices of Germany and Canada (no breakdown is available for the EPO). The growth rate for pending patent applications undergoing examination shows a sim-

ilar trend to that of potentially pending applications. However, there are few notable differences among the top patent offices. For example, between 2007 and 2008, pending patent applications undergoing examination at the JPO decreased by 2.3%, compared to a 6.3% drop in potentially pending applications. In contrast, pending applications undergoing examination at the KIPO increased by 16.1%, compared to a 5.4% increase in potentially pending applications.

Figure A.11b Pending application to patent application ratio, 2008



Source: WIPO Statistics Database, June 2010

SECTION B

TRADEMARKS

This section provides an overview of worldwide trademark activity using a range of indicators covering the following areas: a) trademark applications, b) trademark registrations, c) trademark applications by class, d) international registrations and renewals through the WIPO-administered Madrid System for the International Registration of Marks (Madrid System) and e) intensities (trademarks per GDP and per population of one million), and f) trademarks in force.

Statistics contained in this section concern those reported by national and regional IP offices from around the world and those resulting from use of the Madrid System. 2008 is the latest year for which comprehensive statistics from national and regional offices are available. Indicators solely referring to Madrid System statistics already incorporate data for 2009.

TRADEMARK SYSTEM

A trademark is a distinctive sign, which distinguishes certain goods or services of one undertaking from those produced or provided by other undertakings. The holder of a registered trademark has the legal right to exclusive use of the mark in relation to the products or services for which it is registered. The owner can prevent unauthorized use of the trademark, or a confusingly similar mark, used for goods or services that are identical with or similar to the goods and services for which the mark is registered. Unlike patents, trademark registrations can potentially be maintained indefinitely as long as the trademark holder pays the renewal fees and actually uses the trademark.

The procedures for registering trademarks are governed by the rules and regulations of national and regional IP offices. Trademarks can be applied for by filing an application with the relevant national or regional IP office(s), or by filing an international application through the Madrid System. However, the decision of whether or not to issue a trademark registration remains at the discretion of the competent national or regional authority, and trademark rights are limited to the jurisdiction of the authority that issues the trademark.

The Madrid System, established in 1891, is governed by the Madrid Agreement (1891) and the Madrid Protocol (1989) and administered by the World Intellectual Property Organization (WIPO). The Madrid System makes it possible for an applicant to apply for a trademark registration in a large number of contracting parties by filing a single application at a national or regional IP office party to the System. The Madrid System simplifies the process of multinational trademark registration by reducing the requirement to file a separate application with each IP office. It also streamlines subsequent management of the registration, since it is possible to record changes or to renew the registration through a single procedural step. A registration recorded in the International Register produces the same effect as one made directly with each designated contracting party if no refusal was issued by the competent authority of that jurisdiction within a specified time limit. Further details about the Madrid System can be found at: www.wipo.int/madrid/en/.

B.1 WORLDWIDE TREND

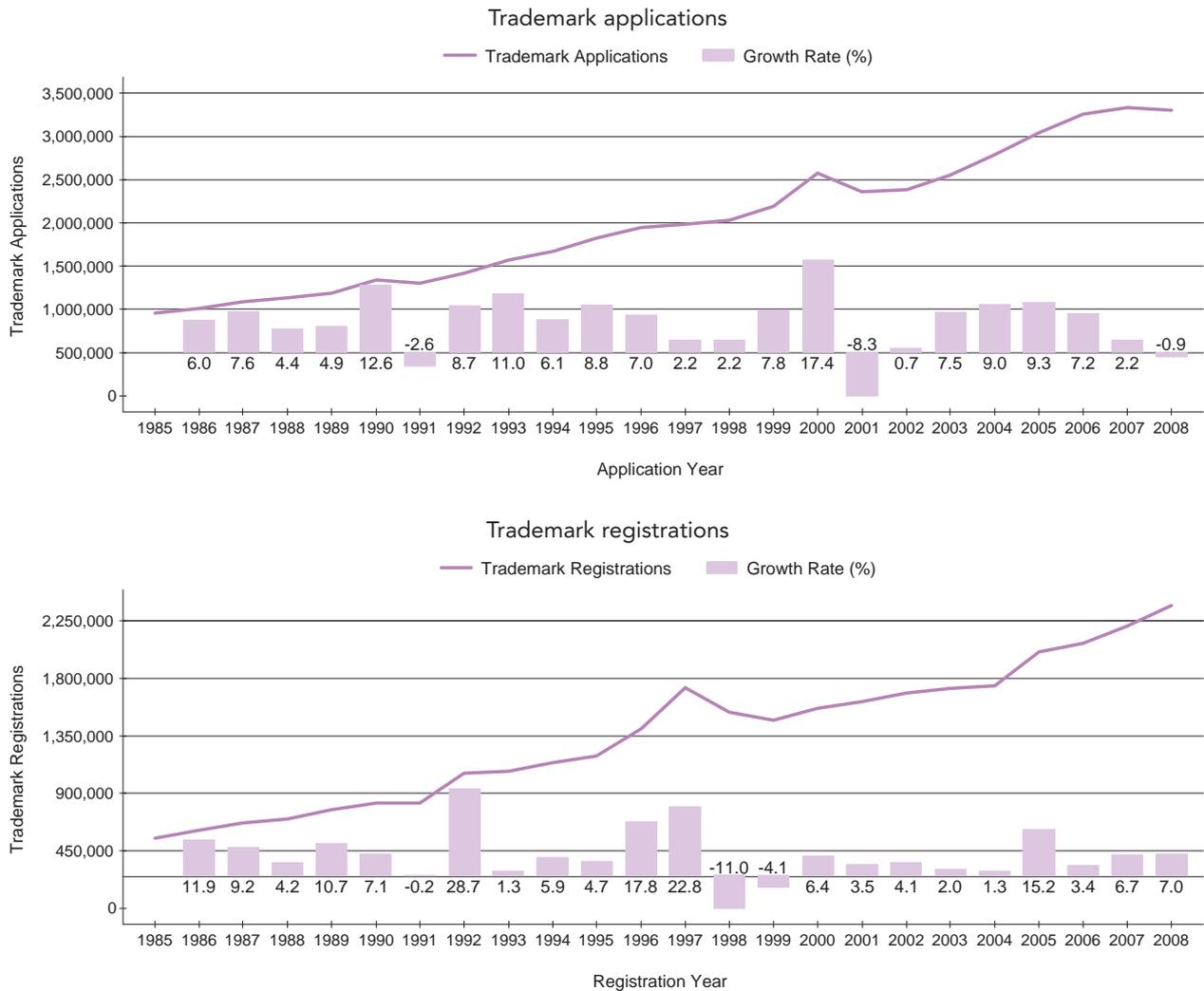
B.1.1 Trend in total trademark activity

Figure B.1.1 reports worldwide totals of trademark applications and registrations and gives an overall view of the general trend between 1985 and 2008. Estimations have been made for offices for which statistics are missing in order to calculate the overall totals.

The period between 1985 and 2007 shows an upward trend in total trademark applications interspersed with years of high growth – for example, at the peak of the so-called “dot-com boom” in 2000, which was then followed by a sharp decline in 2001.

The decreasing growth rate since 2005 has culminated, for the first time since 2001, in a drop in total trademark applications in 2008 compared to the previous year. Thus, the total number of trademark applications filed worldwide in 2008 is estimated at 3.30 million, representing a 0.9% decline from 2007. As suggested in the Special Theme, this decline is likely a reflection of the onset of the economic downturn.

Figure B.1.1a Trend in total trademark applications and registrations



Note: The world total is a WIPO estimate covering around 164 IP offices (see Data Description). The world total estimate includes direct application and Madrid designation data.

Source: WIPO Statistics Database, June 2010

The drop in trademark applications was mainly due to a decrease (-1.9%) in the numbers of applications filed by residents with their respective national or regional offices. The largest decreases in resident applications from 2007 to 2008 occurred at the IP offices³⁰ of Japan (-22,472), China (-14,427), the US (-10,209) and Spain (-8,059). The overall decrease was, however, attenuated by a net 1.4% growth in applications filed by non-residents, which, in turn, was driven by an increase of 4.2% in total designations received by offices via the Madrid System. In the case of China, resident applications had already fallen by 64,324 from 2006 to 2007 after a long period of exponential growth (Figure B.2.1).

Based on available 2009 national and regional IP office statistics and the continuation of the economic downturn, it is expected that many offices will show a further drop in trademark applications from 2008 levels; however, high growth at the IP office of China will attenuate and perhaps offset the expected decrease in trademark applications worldwide in 2009.

In contrast to trademark applications, total trademark registrations have shown positive year-on-year growth since 2000. This can be attributed to the high growth in registration activity experienced by a number of IP offices, such as those of China and the European Union's (EU) Office for Harmonization in the Internal Market (OHIM). The estimated total number of trademark registrations issued worldwide is 2.37 million, representing a growth of 7.0% over 2007.

The increase in trademark registrations is largely due to growth (+10.4%) in registrations issued by IP offices to residents of the office's jurisdiction, and to growth (+3.5%) in registrations issued by IP offices to non-resident applicants who had filed trademark applications via the Madrid System³¹. In previous years, some offices had received large numbers of trademark applications resulting in backlogs, and the recent high numbers of registrations issued are likely a result of the allocation of additional resources, including the hiring and training of examiners to process pending trademark applications. This can be seen in the case of China, which, at the end of 2007, had over 1.8 million pending trademark applications and, in 2008, recruited 300 trademark examination assistants to help reduce the pendency time from 36 months to 30 months. The registration of many of these pending applications in 2008 contributed to positive growth in total registrations.

B.1.2 Resident and non-resident trademark activity

It is insightful to study more closely the difference between resident versus non-resident trademark activity. Resident applications refer to those filed by applicants with their national or regional IP office. For example, an application filed by a resident of the US with the USPTO is considered a resident application from that office's perspective. Similarly, non-resident applications are those filed by applicants with a foreign IP office. For example, an application filed with the IP office of China by a resident of the US is considered a non-resident application from that office's perspective. Trademark applications filed by residents of EU countries at the OHIM are considered resident trademark applications by this office. This is also the case for residents of Belgium, the Netherlands and Luxembourg who file applications with the Benelux Office for Intellectual Property (BOIP). The concepts of resident and non-resident are similarly applied to registrations.

When totaled, 32% of all trademark applications from 1985 to 2008 were filed by non-resident applicants. Between 2003 and 2008, this share remained between 28% and 30% after peaking at 38% in 1997. The approximately 975,000 non-resident trademark applications filed in 2008 accounted for almost 30% of all applications, with the approximately 2,330,000 resident applications accounting for slightly over 70% of the total, thus reinforcing the pattern that over two-thirds of all trademark application activity occurs within the domestic market (Figure B.1.2).

As for registrations, a slightly higher share (38%) of all trademark registrations between 1985 and 2008 were issued to non-resident applicants. In 2008, a total of 783,000 trademark registrations were issued to non-residents, accounting for 33% of total trademark registrations.

³⁰ In this section, the generic term "IP office" is used to refer to an office that receives trademark applications and issues registrations since not all such offices are called trademark offices.

³¹ Direct non-resident registrations declined by 1.2% over the same period.

The trends of non-resident applications and registrations are fairly flat compared to those for residents, reflecting that growth over the years has been mainly driven by increases in resident applications and registrations.

Figure B.1.2 Total resident and non-resident trademark applications and registrations



Source: WIPO Statistics Database, June 2010

B.1.3 Trademark applications by class

Statistics concerning "Class" refer to the 45 classes of the International Classification of Goods and Services for the Purposes of the Registration of Marks under the Nice Agreement (Nice Classification) (see www.wipo.int/classifications/en/). The breakdown of applications by class offers some insight into the relative importance of trademarks for different classes of goods and services.

Trademark applications typically group the goods or services indicated therein into one or more classes (depending on whether or not an IP office has a single or multiclass filing system)³² of the Nice Classification. The first 34 of the 45 classes indicate goods and the remaining 11 refer to services.

Among the 97 offices for which direct application and/or Madrid designation statistics broken down by class were available for 2008, the top 10 classes accounted for just over half of all classes specified in trademark applications. Ranked in order, class numbers 35, 9, 41 and 25 were the top four specified in these trademark applications, together accounting for approximately 27.5% of the total (Figure B.1.3a).

³² In contrast to patent/IPC counts, there is no fractional counting of trademark applications with regard to class.

Three of the top five classes related to services and, together, the 11 service-related classes accounted for about 36% of all reported applications in which one or more classes were specified. In addition, four of the top 10 classes, including the number one class, were service classes — Class 35 (advertising, business management, business administration and office functions). The frequency with which this class was specified in applications was highest at the IP offices of the US (41,992), China (37,568), Germany (27,324), Brazil (22,984), the OHIM (21,006) and the Russian Federation (18,379).

The highest ranked class indicating goods was Class 9, which comprises, among other things, scientific, photographic and measuring apparatus and instruments, as well as data processing equipment and computers. This was the most specified class in applications filed with the IP office of China (46,983 specifications), followed by the US (40,382), the OHIM (23,069) and the Republic of Korea (14,369).

The most specified class at a single office was Class 25 (clothing, footwear and headgear) at the IP office of China, which was specified 64,335 times in applications filed with this office.

Figure B.1.3a Top 10 reported classes specified in trademark applications, 2008

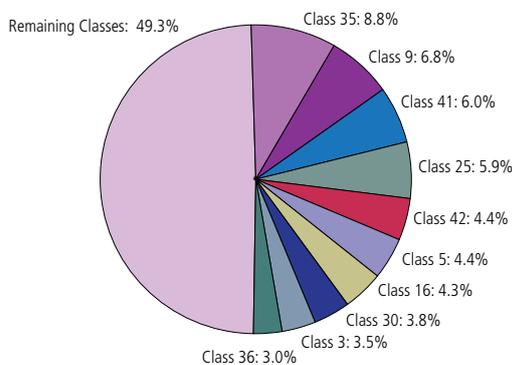
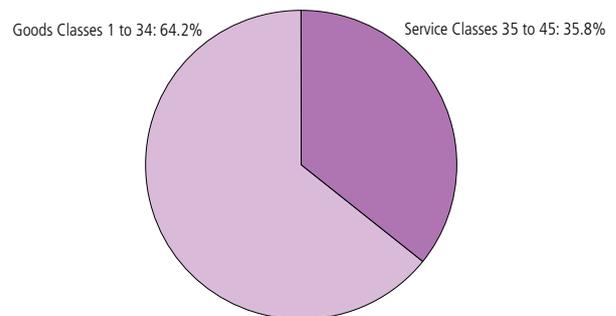


Figure B.1.3b Distribution of total reported classes specified in trademark applications by goods and services classes, 2008



Note: The above figures are based on class statistics available for 97 offices.

Class 3 - Bleaching preparations and other substances for laundry use; cleaning, polishing, scouring and abrasive preparations; soaps; perfumery, essential oils, cosmetics, hair lotions; dentifrices.

Class 5 - Pharmaceutical, veterinary and sanitary preparations; dietetic substances adapted for medical use, food for babies; plasters, materials for dressings; material for stopping teeth, dental wax; disinfectants; preparations for destroying vermin; fungicides, herbicides.

Class 9 - Scientific, nautical, surveying, electric, photographic, cinematographic, optical, weighing, measuring, signaling, checking (supervision), life-saving and teaching apparatus and instruments; apparatus for recording, transmission or reproduction of sound or images; magnetic data carriers, recording discs; automatic vending machines and mechanisms for coin-operated apparatus; cash registers, calculating machines, data processing equipment and computers; fire-extinguishing apparatus.

Class 16 - Paper, cardboard and goods made from these materials, not included in other classes; printed matter; bookbinding material; photographs; stationery; adhesives for stationery or household purposes; artists' materials; paint brushes; typewriters and office requisites (except furniture); instructional and teaching material (except apparatus); plastic materials for packaging (not included in other classes); playing cards; printers' type; printing blocks.

Class 25 - Clothing, footwear, headgear.

Class 30 - Coffee, tea, cocoa, sugar, rice, tapioca, sago, artificial coffee; flour and preparations made from cereals, bread, pastry and confectionery, ices; honey, treacle; yeast, baking-powder; salt, mustard; vinegar, sauces (condiments); spices; ice.

Class 35 - Advertising; business management; business administration; office functions.

Class 36 - Insurance; financial affairs; monetary affairs; real estate affairs.

Class 41 - Education; providing of training; entertainment; sporting and cultural activities.

Class 42 - Providing of food and drink; temporary accommodation; medical, hygienic and beauty care; veterinary and agricultural services; legal services; scientific and industrial research; computer programming; services that cannot be placed in other classes.

Note: see www.wipo.int/classifications/fulltext/nice/en/mn30.htm for further details.

Source: WIPO Statistics Database, June 2010

B.2 TRADEMARK ACTIVITY BY OFFICE

This sub-section offers a more detailed breakdown of trademark activity by IP office. Statistics pertaining to IP offices reflect all applications/registrations received/issued by the office itself either to residents of the country/region it represents or to non-residents filing from abroad.

B.2.1 Trend in trademark applications by IP office

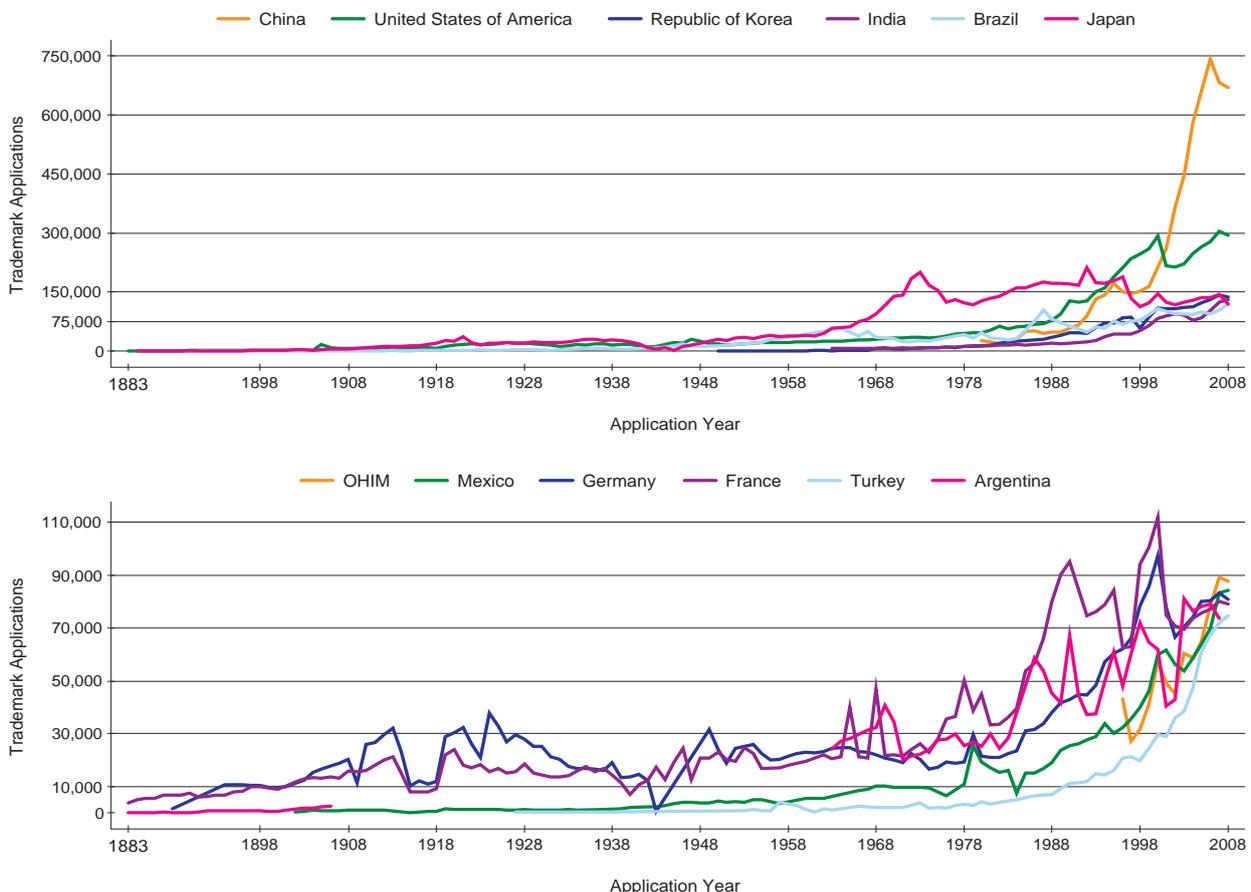
Japan experienced a long period, extending from the 1950s to the mid-1990s, during which its office received the largest number of trademark applications worldwide. In 1995, the US overtook Japan as the largest office in terms of applications until 2001 when it was surpassed by the IP office of China (Figure B.2.1).³³

As mentioned earlier, for the second year running the IP office of China received fewer applications in 2008 than in the previous year, dropping by 12,270 applications. Most big IP offices also showed falls in the number of applications received in 2008. The IP office of Japan witnessed the largest drop in applications from 2007 to 2008 (-23,788), followed by the IP offices of the US (-10,059) and Spain (-8,550). These significant declines in applications are the first to occur since the end of the dot-com boom in 2001 and correspond with the onset of the economic downturn.

Compared to 2007, the IP offices of Brazil and India, in contrast, showed increases in applications filed with their offices (+15,912 and +6,658, respectively) in 2008.

The offices of France, Germany and Mexico received similar numbers of trademark applications in 2008 -between 79,000 and 85,000. Compared to 2007 figures, France and Germany fell by 1% and 3%, respectively, whereas Mexico increased by 1.3%.

Figure B.2.1 Trend in trademark applications at selected IP offices



Source: WIPO Statistics Database, June 2010

³³ It should be noted that IP offices have either a single-class or multi-class filing system. The multi-class filing system used by many national offices must also be taken into consideration (see B.2.4).

B.2.2 Trend in trademark registrations by IP office

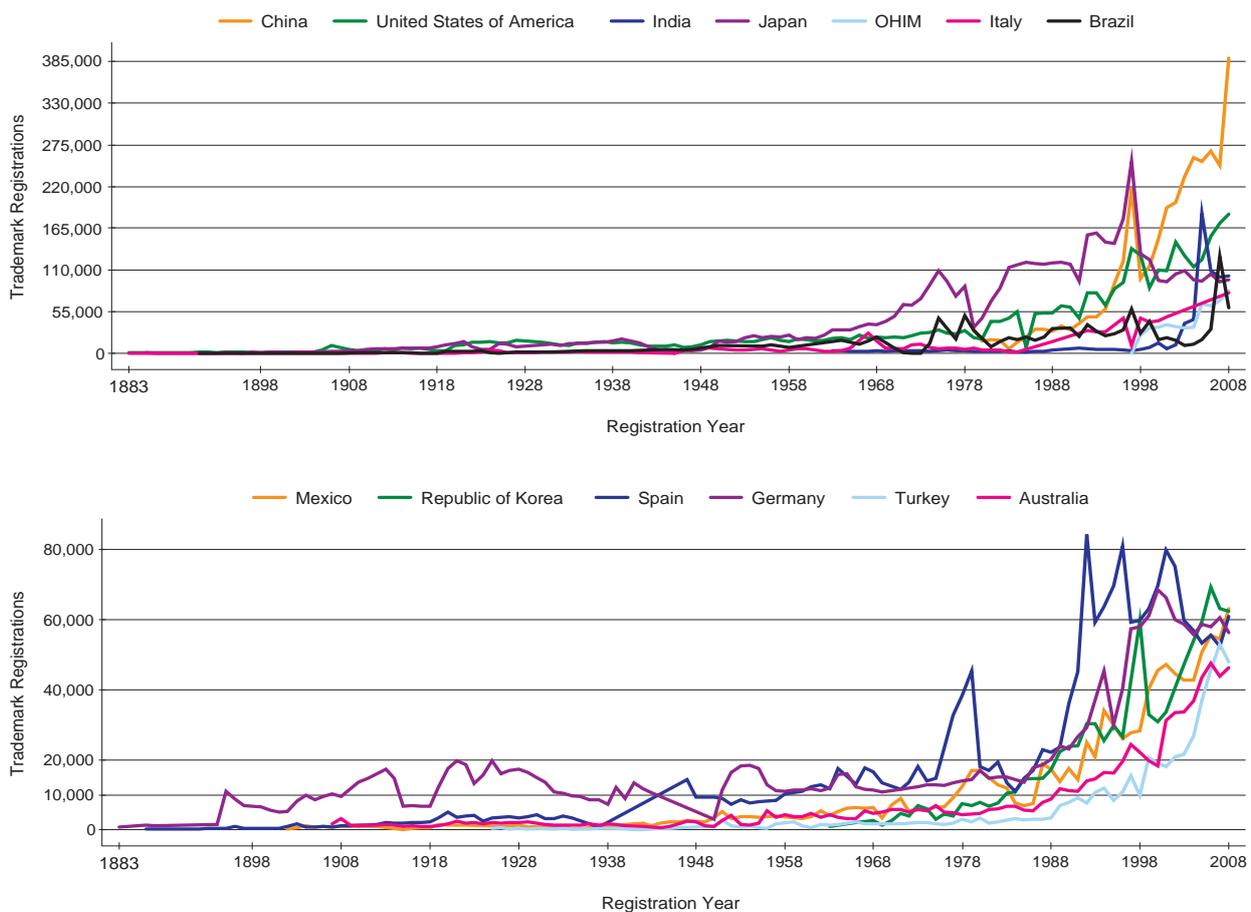
For the majority of reporting IP offices, the number of trademark registrations was relatively stable until the early 1980s, after which registrations increased sharply. The increase in trademark registrations at the offices of Brazil and India started from 2003 onward. However, registrations fell markedly from 2007 to 2008 for Brazil and from 2005 to 2006 for India. Since trademark applications filed with these offices actually grew over the same years, the sharp falls most likely reflect a high level of processing of application backlogs during the year(s) prior to the drop.

Similar to the historical trend observed for applications, Japan's office saw the highest number of trademark registrations worldwide for many years starting in 1960, before being overtaken by the offices of the US and China in 2000 (Figure B.2.2).

The offices of Germany and Spain have historically ranked among the top 7 to 12 offices in terms of registrations. Both offices were surpassed by the Republic of Korea's office in 2005.

Most larger IP offices witnessed growth in the number of trademark registrations issued in 2008 compared to 2007 despite decreases in trademark application activity. This is largely due to the processing of backlogs since many registrations issued in 2008 were for applications filed before that year. In the case of China, the 140,918 additional registrations issued in 2008 compared to 2007 were due to the hiring and training of additional examiners, as described earlier.

Figure B.2.2 Trend in trademark registrations at selected IP offices

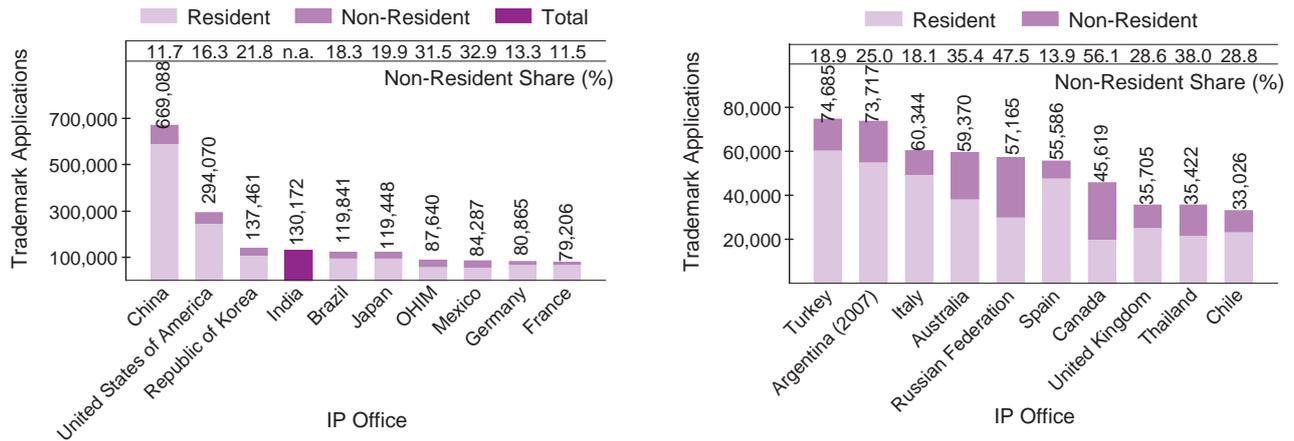


Source: WIPO Statistics Database, June 2010

B.2.3 Trademark applications at the top 20 IP offices

The trademark office of China was the largest recipient of trademark applications in 2008 with 669,088 applications, followed by the IP offices of the US (294,070), the Republic of Korea (137,461), India (130,172) and Brazil (119,841). In other words, three of the four so-called BRIC countries (Brazil, Russian Federation, India and China) are among the top five offices, with the Russian Federation being in fifteenth place. The combined share of the BRIC countries was around 30% of all trademark applications worldwide. The top 10 offices in 2008 accounted for just over half (55%) of all trademark applications, whereas the remaining 10 offices comprised just 16% of trademark applications worldwide. In total, the top 20 offices received over two-thirds (71%) of all applications.

Figure B.2.3a Trademark applications by IP office: top 20 offices, 2008



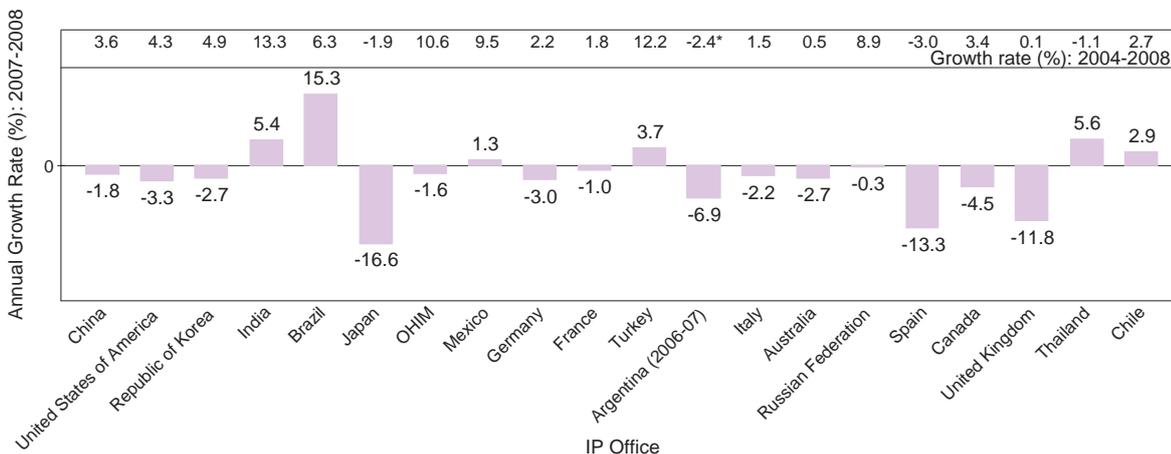
Note: The OHIM resident statistics represent applications filed at that office by residents of all EU countries.

Source: WIPO Statistics Database, June 2010

Figure B.2.3b shows that, of the European IP offices presented, all experienced a decrease from 2007 to 2008 in the number of applications received. The IP offices of Japan, Spain and the United Kingdom saw the largest year-on-year fall in applications at -16.6%, -13.3% and -11.8%, respectively. In contrast, most upper-middle and lower-middle income economies – notably, Brazil, Chile, India, Mexico, Thailand and Turkey – experienced growth in the number of applications received.

For the period of 2004 to 2008, the average annual growth rate of total trademark applications worldwide was 4.4%. The offices of India and Turkey and the OHIM exhibited the highest five-year annual growth rates, each exceeding 10%. The rapid growth in applications at the OHIM was largely due to the increasing use of this regional office by EU residents, enabling them to obtain trademark protection in all EU countries through a single registration.

Figure B.2.3b Trademark application growth rate by IP office: top 20 offices



Source: WIPO Statistics Database, June 2010

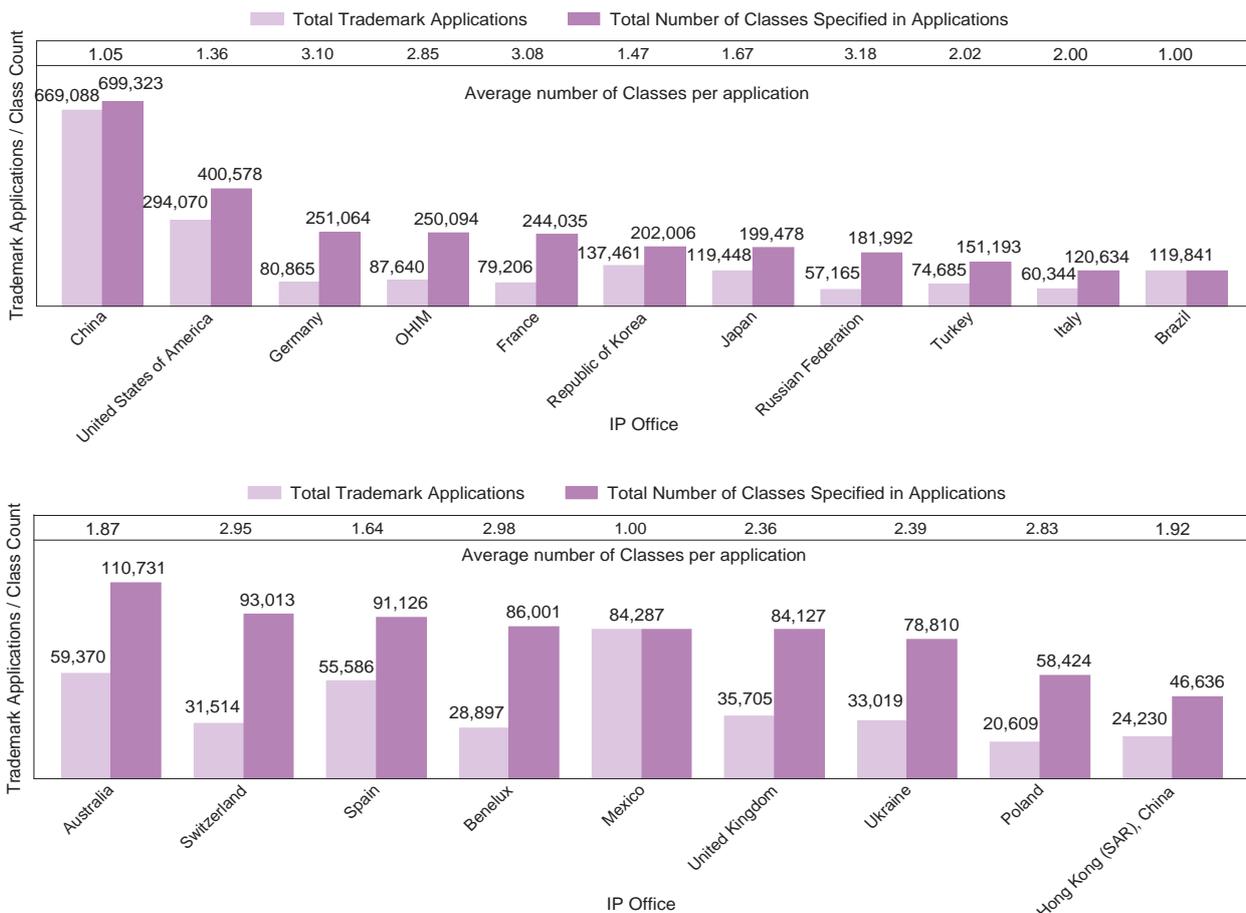
B.2.4 Trademark applications by office and class

Within the international trademark system and in certain offices, an applicant can file a trademark application specifying one or more of the 45 classes of goods and services defined in the Nice Classification. IP offices have either a single-class or multi-class filing system³⁴.

For better comparison of trademark application activity across offices, the multi-class filing system used by many national offices must be taken into consideration. For example, the offices of Japan, the Republic of Korea, the US as well as many European offices all have multi-class filing systems. The offices of Brazil, China and Mexico use single-class filing systems, requiring a separate application for each class in which applicants seek trademark protection. This can result in much higher numbers of applications for these offices than for those that allow multi-class applications. For instance, the number of applications received by the trademark office of China is over 8.2 times that received by Germany's IP office. However, class count-based trademark application data reduce this gap to about 2.8 times.

Japan received more trademark applications than did each of the offices of France and Germany as well as the OHIM. However, the applications received by those offices specified higher total numbers of classes than did applications filed with the office of Japan. More generally, the gap between the offices receiving higher volumes of trademark applications and those receiving lower volumes is narrower when comparing on the basis of number of classes rather than number of applications.

Figure B.2.4 Trademark applications and total class count: top 20 offices, 2008



Note: These data are a composite of both trademark applications received directly by offices and designations received by each office via the Madrid System. In spite of the fact that the office of China uses a single-class filing system, i.e. one application per class specified, the class count figure for this office is greater than the application count figure due to designations received via the Madrid System that, in contrast, allows multi-class filings. For Japan, the total number of classes specified in applications is calculated based on the average figure of 1.67 classes specified per application, provided by the IP office of Japan.

Source: WIPO Statistics Database, June 2010

³⁴ Not all IP offices use the Nice Classification.

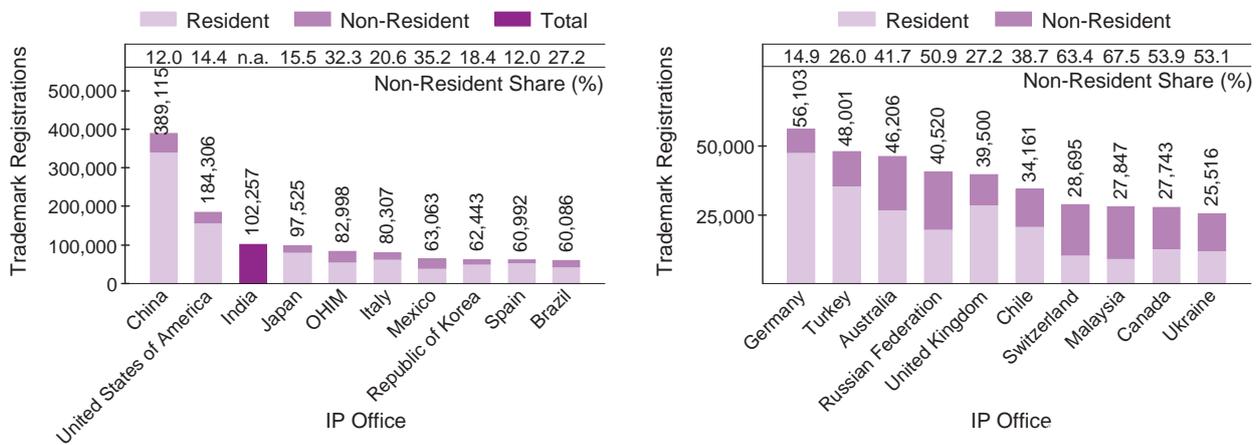
B.2.5 Trademark registrations at the top 20 IP offices

From 2007 to 2008, the number of registrations issued by the IP office of China jumped by approximately 141,000 to 389,115 representing an increase of nearly 57% and more than doubling the number of registrations issued in the US.

While, on average, IP offices issued 33% of total trademark registrations to non-residents in 2008, some offices, such as those of Australia, Canada, Malaysia, the Russian Federation and Switzerland, issued between 40% and 68% of registrations to non-residents, meaning that these offices' percent shares of non-resident registrations are higher than their shares of non-resident applications.

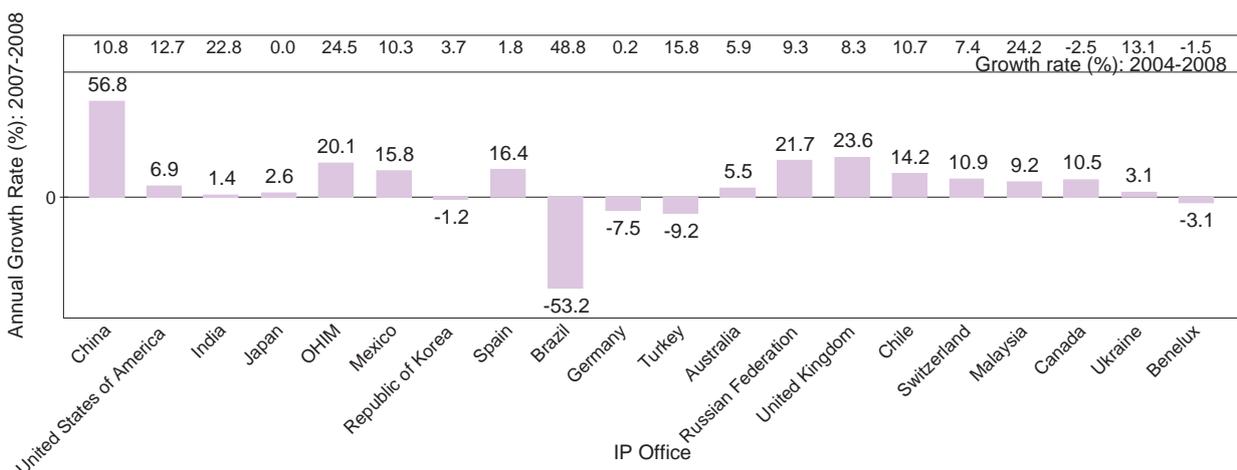
Together, the offices of China, the US, India, Japan and the OHIM issued almost one-third of total estimated trademark registrations worldwide in 2008. These offices, along with the remaining top 10 offices, issued about half of total registrations.

Figure B.2.5a Trademark registrations by IP office: top 20 offices, 2008



Source: WIPO Statistics Database, June 2010

Figure B.2.5b Trademark registration growth rate by IP office: top 20 offices



Note: Growth for Italy could not be calculated due to unavailability of registration data from 2004 to 2008

Source: WIPO Statistics Database, June 2010

In 2008, most of the offices above showed year-on-year growth in registrations issued despite some having seen declines in the numbers of applications received. This reflects the time lag between receipt of trademark applications and the issuance of registrations, and is sometimes related to the processing of backlogs. In other words, many registrations issued in 2008 were for applications filed prior to that year. China had the highest annual change followed by the United Kingdom, the Russian Federation and the OHIM, whereas Brazil showed a large drop (-53%) in the number of registrations issued in 2008 compared to 2007. It should be noted, however, that from 2006 to 2007, the number of registrations issued by the office of Brazil nearly quadrupled, and its 2008 registration figures are nearly twice that of 2006.

According to longer term trends, Brazil, India, Malaysia and the OHIM experienced in excess of 20% growth in the number of registrations for the period of 2004 to 2008.

B.3 TRADEMARK ACTIVITY BY ORIGIN

This sub-section presents application and registration statistics by origin of applicants. Origin statistics refer to the residence of the applicant or registrant. Resident origin statistics correspond with IP office activity pertaining to residents of the office's jurisdiction, whereas origins abroad statistics correspond with IP office activity involving applicants residing outside the office's jurisdiction. Numbers of applications and registrations for origins abroad are underestimated, as some offices do not report detailed statistics containing the origin of all applications and registrations.³⁵

B.3.1 Trademark activity by origin

Although non-residents account for around 30% of total trademark applications filed worldwide, there is substantial variation in this share across origins, as shown in figure B.3.1a. For instance, over 50% of applications filed by residents of Germany (55.7%), the Netherlands (60.2%) and Switzerland (81.8%) were destined for protection outside their respective borders.

Residents of Canada, Japan, Poland, the Russian Federation, Spain and the US filed a substantial share (between 29% and 38%) of their applications at IP offices abroad.

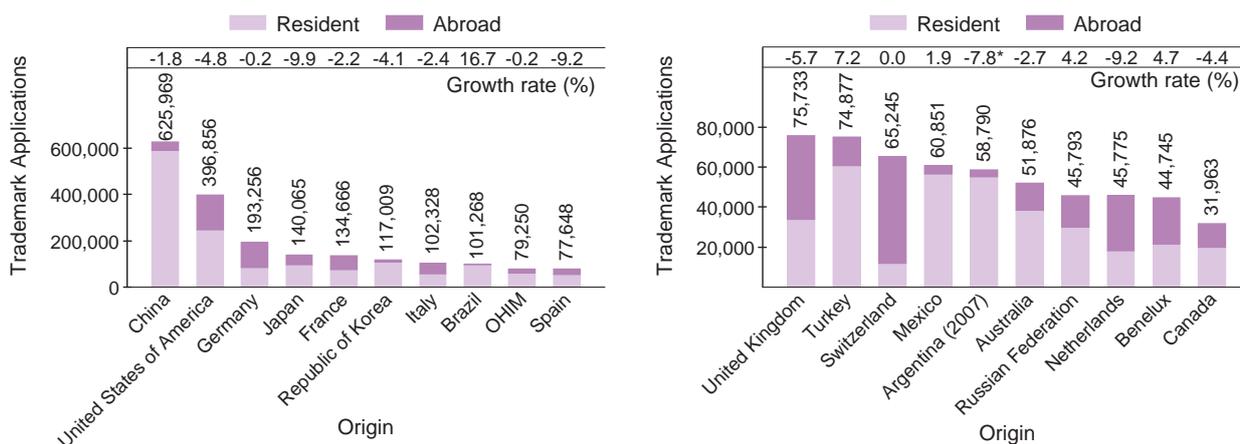
In contrast, residents of Argentina, Brazil, Chile, China, Mexico, Peru, South Africa and Thailand filed only between 3% and 10% of their total applications abroad, demonstrating that, proportionally speaking, relatively few residents from these lower to upper-middle income economies seek international trademark protection. Residents of the Republic of Korea, a high-income economy, filed a similarly small share of their applications abroad (8.1%).

Despite having filed only approximately 6% of their total applications abroad, Chinese residents nonetheless designated 35,444 applications for protection outside of China, placing this country in eighth position in terms of applications filed abroad.

In terms of year-on-year change, figures for 2008 show that 14 of the top 20 origins experienced decreases in the numbers of applications filed globally by residents of these countries (or, in the case of the OHIM, EU residents). Applications by Japanese residents saw the largest change from 2007 to 2008, falling by 9.9%. The five offices out of the top 20 that saw year-on-year growth in applications are those of Benelux, Brazil, Mexico, the Russian Federation and Turkey, with Brazil experiencing the highest year-on-year percentage increase of 16.7%.

³⁵ For example, OHIM Madrid designation data contained in Figures B.3.1a and B.3.1b should be redistributed to applicants' country of origin. However, it is not possible to do so due to lack of detailed information.

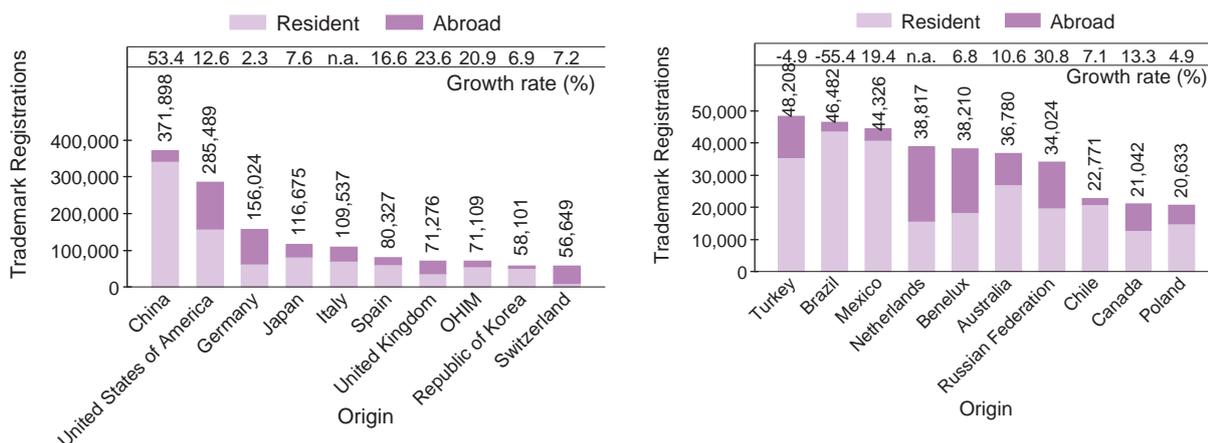
Figure B.3.1a Trademark applications by origin: top 20 origins, 2008



Note: The growth rate for Argentina is based on the percentage change from 2006 to 2007. For national IP offices in the EU, resident applications include those filed directly by residents with their respective national office as well as those filed with the OHIM (if chosen as the office of first filing). Resident applications at the OHIM comprise those filed at that office by residents of EU member states. Similarly, resident applications at the Benelux office comprise those filed by residents of Belgium, Luxembourg and the Netherlands.

Source: WIPO Statistics Database, June 2010

Figure B.3.1b Trademark registrations by origin: top 20 origins, 2008



Note: Registration by origin statistics are not included for France, which does not report resident registration statistics. For national IP offices in the EU, resident registrations include those issued to residents by their respective offices as well as those issued by the OHIM (if chosen as the office of first filing). Resident registrations issued by the OHIM comprise those issued to residents of EU member states by that office. Similarly, resident registrations issued by the Benelux office comprise those issued to residents of Belgium, Luxembourg and the Netherlands.

Source: WIPO Statistics Database, June 2010

As for trademark registrations by origin, residents of China were issued the highest number of registrations worldwide in 2008, although only 8% of those registrations were issued by IP offices abroad (Figure B.3.1b). Residents of the US, Germany and Japan saw the next highest numbers of registrations. However, the shares in total registrations issued to these countries' residents by IP offices abroad were much higher at 44.8%, 59.8% and 29.3%, respectively. Notably, 81.5% of all registrations issued to residents of Switzerland came from IP offices other than the Swiss IP office.

Most origins experienced growth in total registrations from 2007 to 2008, with registrations issued to residents showing faster growth than registrations issued to non-residents. The large drop in total registrations of Brazilian origin (-55.4%) can be accounted for by the 57.2% fall in registrations issued by the Brazil IP Office to its residents. The number of Brazilian residents that were issued registrations by IP offices abroad, however, increased by 30.9% from 2007 to 2008. The 4.9% overall drop in registrations issued to residents of Turkey represents a decrease of 12.8% in registrations issued domestically to Turkish residents, which is partially offset by an increase of 27.5% in registrations issued for Turkish applications filed abroad.

Care should be taken when comparing 2008 statistics on applications by origin with registrations by origin statistics in view of the time lag between application for a trademark and the issuance of a registration. Moreover, registration data are highly influenced by the capacity of offices to process applications and backlogs, and can thus vary greatly from year to year.

B.3.2 Trademark applications by origin and IP office

To better understand the flow of trademarks across countries, it is useful to consider application data by origin and IP office. Table B.3.2 provides a breakdown of these statistics for selected origins and IP offices.

In the distribution table, the highest percentage in each column represents the share of all resident applications received by that IP office. This figure varies from 29.8% at the IP office of Israel to 88.3% for China. Over half of the 15 IP offices listed received over 80% of all applications from domestic applicants.

For the majority of offices, applications of US origin accounted for the largest proportion of applications received from abroad. Exceptions are the offices of France, Switzerland and Turkey, which received the highest proportion of their non-resident applications from applicants in Germany. Applicants residing in Switzerland accounted for the highest proportion of non-resident applications in Germany. The IP office of the Russian Federation received 6.2% of its applications equally from German and US residents.

Nearly one in three of all non-resident applications received by the IP office of Canada originated from the US, and residents of Canada accounted for the highest proportion of non-resident applications at the US office. More generally, many offices receive a high proportion of trademark applications from residents of neighboring countries, suggesting greater demand for protecting goods and services in geographical proximity to the applicant's country of residence.

Table B.3.2 Trademark applications by country of origin and IP office: selected origins and offices, 2008
Number of trademark applications

Country of Origin	IP Office														
	AU	BR	CA	CH	CN	DE	FR	IL	IT	JP	KR	MX	RU	TR	US
Australia	38,381	158	424	138	1,453	132	138	80	115	545	398	154	195	123	1,999
Brazil	47	97,868	59	14	262	13	6	46	37	108	56	310	43	27	376
Canada	295	298	20,040	74	925	21	30	77	43	241	276	527	113	55	6,569
China	948	507	425	386	590,525	836	836	144	772	1,040	1,277	389	1,094	651	1,807
France	923	1,586	1,227	2,221	3,740	1,016	70,100	572	1,201	1,709	1,729	1,329	1,828	934	2,834
Germany	1,828	2,526	1,687	5,064	5,806	70,076	1,274	834	1,299	2,440	2,659	2,407	3,568	2,579	4,987
Israel	79	58	99	30	160	10		3,198	8	87	60	94	63	37	548
Italy	802	957	518	1,377	3,411	525	503	367	49,432	1,221	1,315	740	1,830	1,035	2,034
Japan	1,011	971	1,089	557	12,917	325	351	288	553	95,660	5,284	856	1,142	501	3,284
Mexico	22	417	166	62	369	3	4	7	13	85	28	56,592	97	17	1,103
Portugal	51	337	54	86	136	67	93	11	92	70	41	35	78	69	201
Republic of Korea	206	244	203	65	3,255	130	87	54	130	704	107,487	209	263	118	967
Russian Federation	86	53	17	166	695	343	253	18	258	124	121	8	30,024	214	293
Singapore	269	63	87	49	1,433	35	23	31	24	169	203	48	85	37	287
South Africa	91	86	39	19	291	7	2	23	8	29	28	23	34	8	147
Spain	269	761	222	354	1,502	248	236	79	234	376	320	1,316	524	258	1,040
Switzerland	1,013	1,393	891	11,885	2,505	1,560	1,004	550	863	1,394	1,601	1,498	1,733	1,091	2,338
Turkey	123	27	28	179	372	427	348	61	325	148	124	18	635	60,597	295
United Kingdom	1,445	1,205	1,173	682	3,809	353	331	495	377	1,126	1,206	1,217	1,013	547	4,983
United States of America	6,466	5,875	14,359	2,553	20,269	907	840	2,393	2,017	7,340	8,949	11,775	3,519	2,154	246,222
Others / Unknown	5,015	4,451	2,812	5,553	15,253	3,831	2,747	1,414	2,543	4,832	4,299	4,742	9,284	3,633	11,756
Total	59,370	119,841	45,619	31,514	669,088	80,865	79,206	10,742	60,344	119,448	137,461	84,287	57,165	74,685	294,070

Distribution of trademark applications

Country of Origin	IP Office														
	AU	BR	CA	CH	CN	DE	FR	IL	IT	JP	KR	MX	RU	TR	US
Australia	64.6	0.1	0.9	0.4	0.2	0.2	0.2	0.7	0.2	0.5	0.3	0.2	0.3	0.2	0.7
Brazil	0.1	81.7	0.1	0.0	0.0	0.0	0.0	0.4	0.1	0.1	0.0	0.4	0.1	0.0	0.1
Canada	0.5	0.2	43.9	0.2	0.1	0.0	0.0	0.7	0.1	0.2	0.2	0.6	0.2	0.1	2.2
China	1.6	0.4	0.9	1.2	88.3	1.0	1.1	1.3	1.3	0.9	0.9	0.5	1.9	0.9	0.6
France	1.6	1.3	2.7	7.0	0.6	1.3	88.5	5.3	2.0	1.4	1.3	1.6	3.2	1.3	1.0
Germany	3.1	2.1	3.7	16.1	0.9	86.7	1.6	7.8	2.2	2.0	1.9	2.9	6.2	3.5	1.7
Israel	0.1	0.0	0.2	0.1	0.0	0.0	0.0	29.8	0.0	0.1	0.0	0.1	0.1	0.0	0.2
Italy	1.4	0.8	1.1	4.4	0.5	0.6	0.6	3.4	81.9	1.0	1.0	0.9	3.2	1.4	0.7
Japan	1.7	0.8	2.4	1.8	1.9	0.4	0.4	2.7	0.9	80.1	3.8	1.0	2.0	0.7	1.1
Mexico	0.0	0.3	0.4	0.2	0.1	0.0	0.0	0.1	0.0	0.1	0.0	67.1	0.2	0.0	0.4
Portugal	0.1	0.3	0.1	0.3	0.0	0.1	0.1	0.1	0.2	0.1	0.0	0.0	0.1	0.1	0.1
Republic of Korea	0.3	0.2	0.4	0.2	0.5	0.2	0.1	0.5	0.2	0.6	78.2	0.2	0.5	0.2	0.3
Russian Federation	0.1	0.0	0.0	0.5	0.1	0.4	0.3	0.2	0.4	0.1	0.1	0.0	52.5	0.3	0.1
Singapore	0.5	0.1	0.2	0.2	0.2	0.0	0.0	0.3	0.0	0.1	0.1	0.1	0.1	0.0	0.1
South Africa	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Spain	0.5	0.6	0.5	1.1	0.2	0.3	0.3	0.7	0.4	0.3	0.2	1.6	0.9	0.3	0.4
Switzerland	1.7	1.2	2.0	37.7	0.4	1.9	1.3	5.1	1.4	1.2	1.2	1.8	3.0	1.5	0.8
Turkey	0.2	0.0	0.1	0.6	0.1	0.5	0.4	0.6	0.5	0.1	0.1	0.0	1.1	81.1	0.1
United Kingdom	2.4	1.0	2.6	2.2	0.6	0.4	0.4	4.6	0.6	0.9	0.9	1.4	1.8	0.7	1.7
United States of America	10.9	4.9	31.5	8.1	3.0	1.1	1.1	22.3	3.3	6.1	6.5	14.0	6.2	2.9	83.7
Others / Unknown	8.4	3.7	6.2	17.6	2.3	4.7	3.5	13.2	4.2	4.0	3.1	5.6	16.2	4.9	4.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Note: AU (Australia), BR (Brazil), CA (Canada), CH (Switzerland), CN (China), DE (Germany), FR (France), IL (Israel), IT (Italy), JP (Japan), KR (Republic of Korea), MX (Mexico), RU (Russian Federation), TR (Turkey), US (United States of America).

Source: WIPO Statistics Database, June 2010

B.4 TRADEMARK REGISTRATIONS AND RENEWALS THROUGH THE MADRID SYSTEM

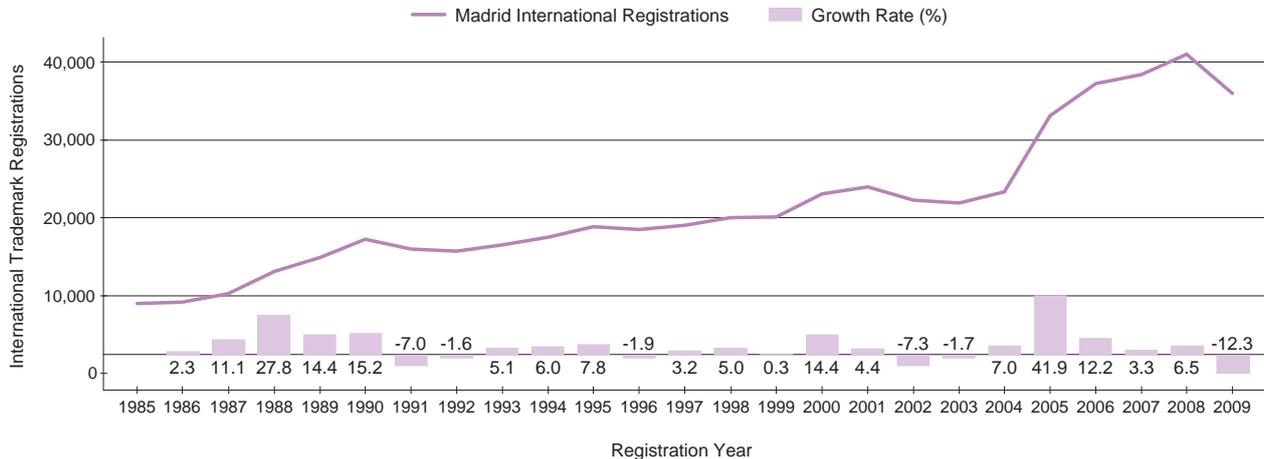
In order to obtain trademark protection in multiple offices, an applicant can either file an application directly with each office or file an application for international registration through the Madrid System. The Madrid System makes it possible to seek trademark protection in up to 85 contracting parties by filing a single application.

Before seeking international protection through the Madrid System, applicants must apply for trademark protection at their national or regional IP office. An international registration under the Madrid System produces the same effect as an application for registration of the mark in each of the contracting parties designated by the applicant. If protection is not refused by the office of a designated contracting party, the status of the mark is the same as if it had been registered by that office. Thereafter, the international registration can be maintained and renewed through a single procedure.

B.4.1 Trend in trademark registrations and renewals through the Madrid System

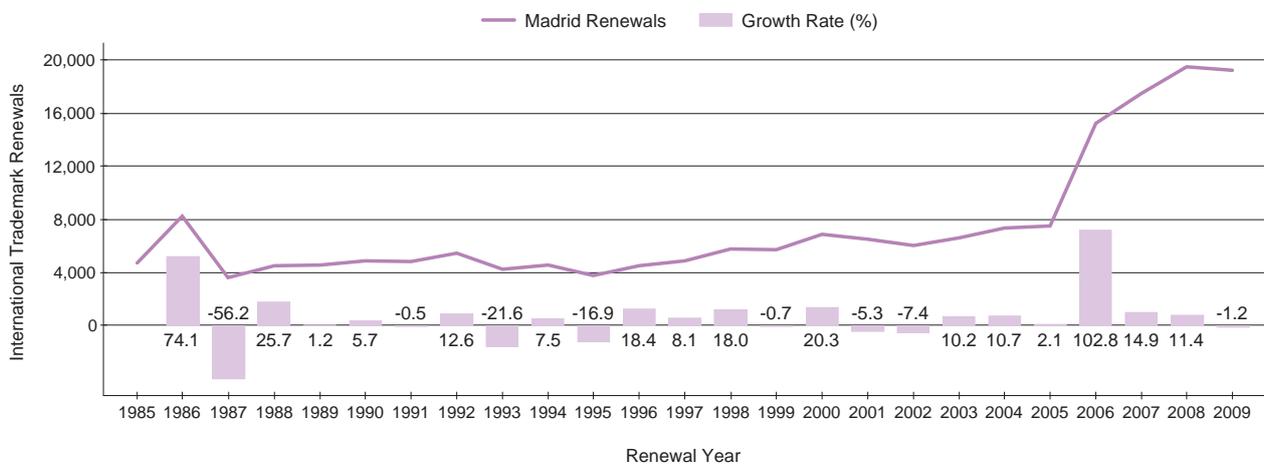
Figures B.4.1a and B.4.1b present the trend in international trademark registrations and renewals from 1985 to 2009. There were nearly 36,000 new Madrid international registrations in 2009, representing a drop of approximately 5,000 or 12.3% from 2008 levels. As discussed in the Special Theme, this drop is a likely reflection of the global economic downturn.

Figure B.4.1a Trend in international trademark registrations through the Madrid System



Source: WIPO Statistics Database, June 2010

Figure B.4.1b Trend in international trademark renewals through the Madrid System



Source: WIPO Statistics Database, June 2010

Between 1985 and 2008, the number of Madrid international registrations has seen an upward trend with occasional decreases during and immediately after periods of economic recession. For example, after the end of the dot-com boom in 2001, international registrations decreased in 2002. The high growth rate in 2005 can be explained, on the one hand, by the economic recovery that followed the recession induced by the burst of the dot-com-bubble and, on the other, by the addition of new contracting parties to the Madrid System, notably the OHIM, which made it possible for applicants of EU countries to apply for international registrations via the OHIM to protect their marks beyond the EU's borders. The year-on-year drop in the number of international registrations in 2009 was the first to occur since 2003.

The trend for international trademark renewals through the Madrid System (Figure B.4.1b) is similar to that for international registrations. The significant growth of renewals in 2006 is due to a change in renewal period from 20 years to 10 years in 1996. Similar to international registrations, the drop in the number of international trademark renewals in 2009 was the first to occur since 2003.

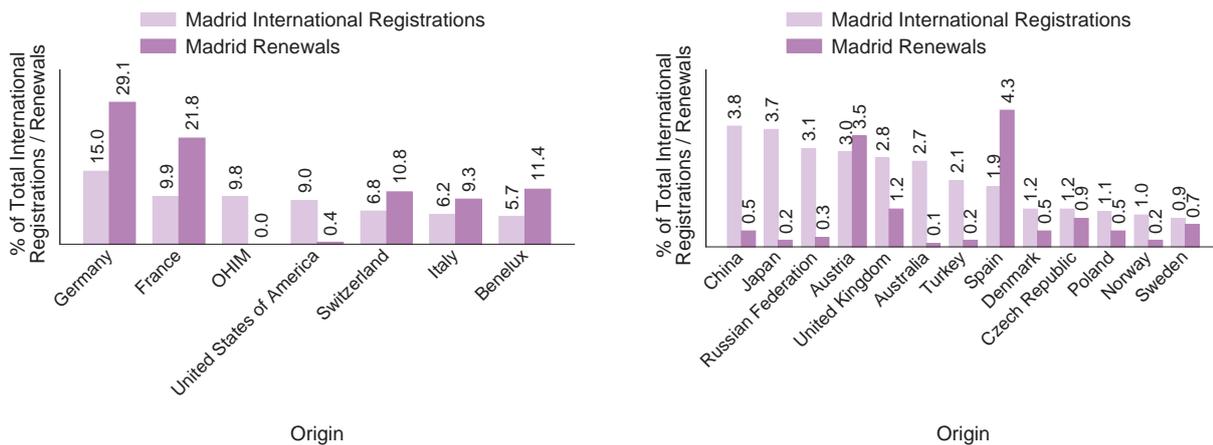
B.4.2 Trend in trademark registrations and renewals through the Madrid System by origin and by designation

Despite the drop in international registrations in 2009, there was not a substantial shift from 2008 in the distribution of the origin of the applicants to which registrations were issued. Applicants from Germany that filed applications via the Madrid System accounted for 15% of total international registrations, remaining virtually unchanged from their 2008 share (Figure B.4.2a). The OHIM, however, saw the largest increase by nearly one percentage point in its share of total international registrations.³⁶

When totaled, about 62% of all international registrations in 2009 were issued to applicants from EU countries, either through their national offices or through the OHIM.

Figure B.4.2a also presents statistics on renewals of international registrations by origin. Germany and France accounted for 29.1% and 21.8% of all renewals, respectively. In 2009, 85.1% of all renewals were made by owners of international registrations residing in EU countries. Renewal numbers from the US and the OHIM are comparatively small, having only recently become contracting parties of the Madrid System; however, this has no bearing on trademark renewals occurring directly at these national offices.

Figure B.4.2a International trademark registrations and renewals through the Madrid System by origin: top 20 origins, 2009



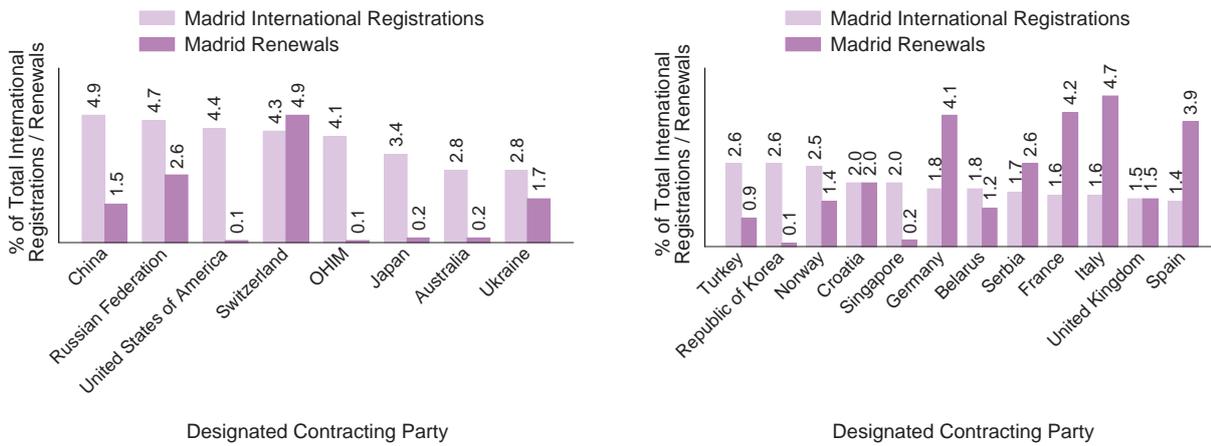
Source: WIPO Statistics Database, June 2010

Figure B.4.2b shows the share of international registrations by designated contracting party, i.e., the designated office in which the owner of an international registration seeks trademark protection. China, the OHIM, the Russian Federation, Switzerland and the US received between 4% and 5% of all designations, showing the importance placed by international registration holders on protecting their goods and services in those foreign markets.

The distribution in 2009 of renewals by designated contracting party remained similar to that observed in 2008. France, Germany, Italy, Spain and Switzerland accounted for the largest shares of renewals (ranging from about 4% to 5%). This is a result of the historically larger numbers of international registrations filed in these European countries.

³⁶ OHIM is listed as the origin for international registrations where applicants chose that office as the office of first filing.

Figure B.4.2b International trademark registrations and renewals by designated contracting party: top 20 parties, 2009



Source: WIPO Statistics Database, June 2010

B.4.3 Top Madrid applicants

In 2009, the top 100 Madrid System applicants accounted for nearly 10% of all international applications for the registration of marks, and the top 50, listed in table B.4.3, comprised about 6.6% of these applications.

Pharmaceutical company Novartis AG of Switzerland topped the list with 136 applications. German applicants held 16 positions among the top 50 applicants. They consist mainly of companies specializing in home and personal care products, retail, electronics and mechanical engineering. China's Zhejiang Province Haomenglai Group Co., LTD, which came in 4th, is one of four Chinese companies appearing in the list of top 50 applicants. Positions 6 and 7 went to companies from Slovenia and Hungary, respectively.

Table B.4.3 Top 50 Madrid applicants, 2009

2009 Rank	Madrid Applicant's Name	Country of Origin	Madrid Applications Filed
1	NOVARTIS AG	Switzerland	136
2	LIDL STIFTUNG & CO. KG	Germany	109
3	HENKEL AG & CO. KGAA	Germany	98
4	ZHEJIANG PROVINCE HAOMENGLAI GROUP CO., LTD.	China	96
5	SHIMANO INC.	Japan	74
6	KRKA	Slovenia	74
7	RICHTER GEDEON NYRT	Hungary	70
8	L'OREAL	France	67
9	BSH BOSCH UND SIEMENS HAUSGERÄTE GMBH	Germany	64
10	EGIS GYÖGYSZERGYÁR	Hungary	63
11	PFIZER AG	Switzerland	61
12	JANSSEN PHARMACEUTICA NV	Belgium	61
13	BAYER AKTIENGESELLSCHAFT	Germany	54
14	GLAXO GROUP LIMITED	United Kingdom	53
15	BOEHRINGER INGELHEIM PHARMA GMBH & CO. KG	Germany	52
16	SOCIÉTÉ DES PRODUITS NESTLÉ S.A.	Switzerland	51
17	SANOVI-AVENTIS, SOCIÉTÉ ANONYME	France	51
18	CALLAWAY GOLF COMPANY	United States of America	45
19	SIEMENS AKTIENGESELLSCHAFT	Germany	44
20	DEUTSCHE TELEKOM AG	Germany	42
21	BIOFARMA	France	42
22	BEIERSDORF AG	Germany	41
23	TUI AG	Germany	40
24	SYNGENTA PARTICIPATIONS AG	Switzerland	39
25	DSM IP ASSETS B.V.	Netherlands	39
26	ITM ENTREPRISES SOCIÉTÉ ANONYME	France	38
27	KABUSHIKI KAISHA SANKEI SEISAKUSHO (SANKEI MANUFACTURING CO.,LTD)	Japan	37
27	ICN POLFA RZESZÓW S.A.	Poland	37
29	SPAR ÖSTERREICHISCHE WARENHANDELS-AG	Austria	36
30	OTKRYTOE AKTSIONERNOE OBCHTCHESTVO "NEFTYANAYA KOMPANIYA "LUKOIL"	Russian Federation	36
31	KAUFLAND WARENHANDEL GMBH & CO. KG	Germany	36
32	DAIICHI SANKYO COMPANY, LIMITED	Japan	36
33	AUDI AG	Germany	34
34	UNILEVER N.V.	Netherlands	32
35	GDF SUEZ	France	32
36	HOFER KOMMANDITGESELLSCHAFT	Austria	31
37	ZF FRIEDRICHSHAFEN AG	Germany	30
38	BASF SE	Germany	30
39	NOVO NORDISK A/S	Denmark	29
40	BRILLUX GMBH & CO. KG	Germany	29
41	BEIJING WANJINDAO SHANGMAO YOUXIAN GONGSI	China	29
42	PIVOVARNA UNION D.D.	Slovenia	28
43	KONINKLIJKE PHILIPS ELECTRONICS N.V.	Netherlands	28
44	CHRISTIAN DIOR COUTURE	France	28
44	NINGBO FAR EAST LIGHTING CO., LTD.	China	27
46	MICROSOFT CORPORATION	United States of America	27
47	HANGZHOU ZHONGCE RUBBER CO., LTD	China	27
48	MIBE GMBH ARZNEIMITTEL	Germany	26
49	STRAUSS ADRIATIC D.O.O.	Serbia	25
50	MERCK KGAA	Germany	25

Source: WIPO Statistics Database, June 2010

B.4.4 Subsequent designations of international trademark registrations through the Madrid System

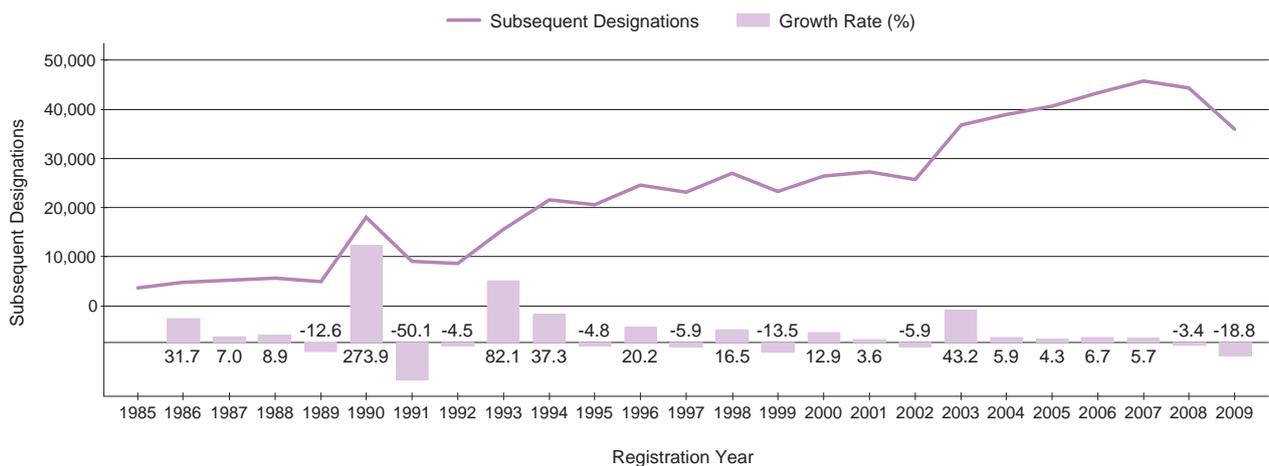
A “subsequent designation” is a procedure for extending the effects of an international registration to a contracting party not covered by the original registration – either because that contracting party was not initially designated in the international application or it could not have been designated since it was not yet a member of the Madrid Agreement or the Madrid Protocol at the time. The holder of an international registration can thus expand the geographical scope of protection of the mark in line with its business needs.

In 2009, there were close to 36,000 subsequent designations filed by holders of international registrations. This figure represents a fall of 18.8% from 2008 and thus a further decline from a peak reached in 2007. Indeed, in the period from 1985 to 2009, there were nine years during which subsequent designations decreased from the previous year’s levels (Figure B.4.4a).

The large increase of subsequent designations in 1990 was the result of higher numbers of such designations for Eastern European countries and countries that had been part of the former Soviet Union.

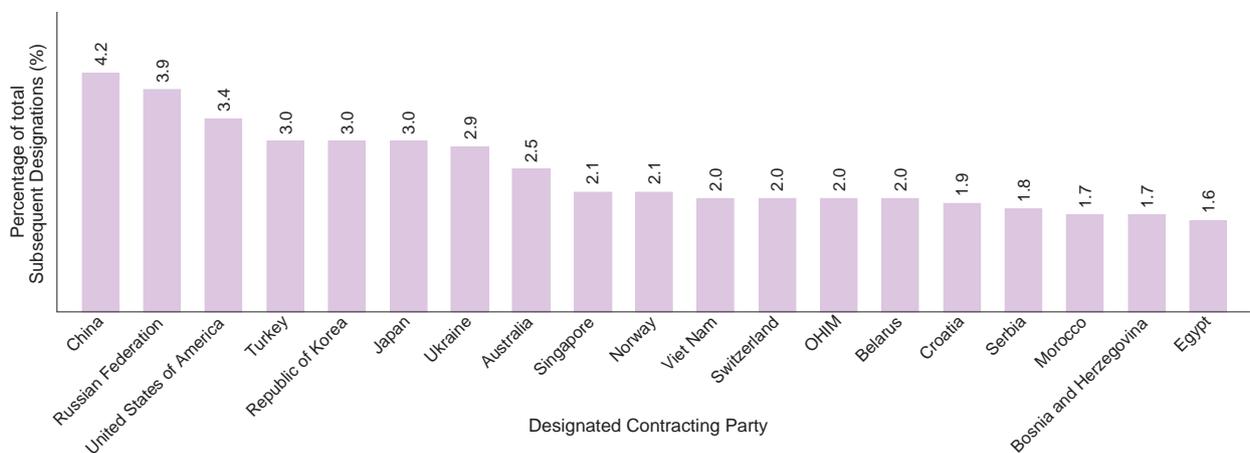
China, the Russian Federation, and the United States of America received the highest numbers of subsequent designations in 2009 (Figure B.4.4b). Although most contracting parties showed decreases from the previous year, the share in total subsequent designations for 2009 varied only slightly from 2008 levels.

Figure B.4.4a Trend in subsequent designations of international trademark registrations



Source: WIPO Statistics Database, June 2010

Figure B.4.4b Subsequent designations of international trademark registrations by designated contracting party: top 20 parties, 2009



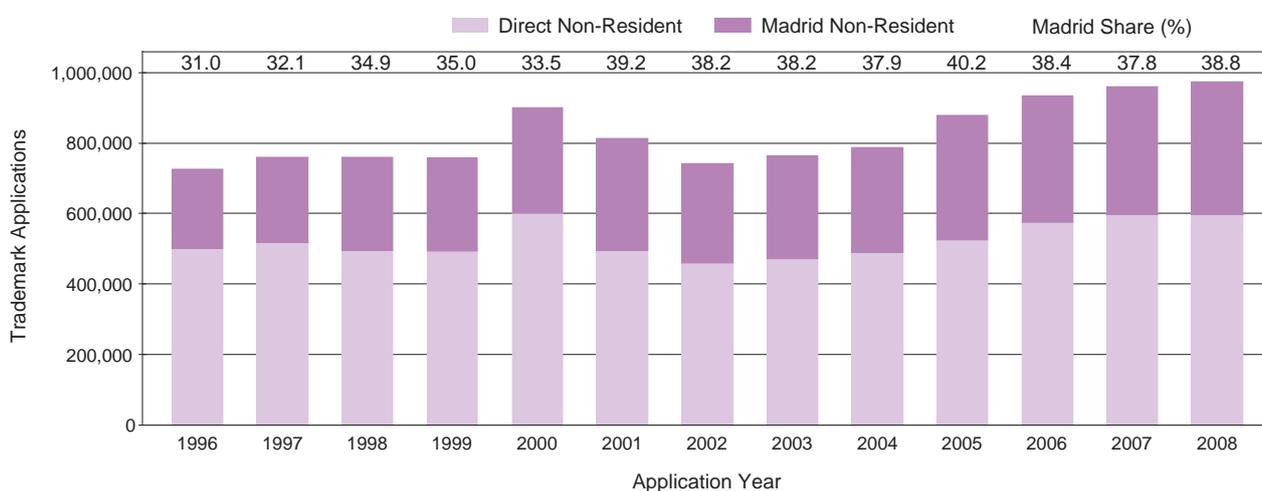
Source: WIPO Statistics Database, June 2010

B.4.5 Non-resident trademark applications by filing route

Non-resident trademark applications can be filed directly with national and regional IP offices or through the Madrid System. Although total resident trademark applications dropped by 1.9% from 2007 to 2008, Figure B.4.5a shows that total non-resident applications actually grew slightly from about 961,000 in 2007 to nearly 975,000 in 2008. Applications filed directly with national and regional offices fell slightly by 0.3%, but this decline was more than offset by a 4.2% increase in the number of designations received by offices party to the Madrid System. As a consequence, the share of non-resident applications received by IP offices worldwide through the Madrid System increased from 37.8% in 2007 to 38.8% in 2008. Since 2001, this share has varied from 38% to just over 40%.

Between 2004 and 2008, non-resident applications resulting from Madrid designations saw an average annual growth rate of 6.1%. This growth is equivalent to an almost 80,000 increase in the number of designations received in 2008 compared to 2004. For the same period, applications filed directly at national or regional offices by foreign residents saw a one percentage point lower average annual growth rate of 5.1%, equivalent to an increase of approximately 107,000 applications from 2004 levels.

Figure B.4.5a Non-resident trademark applications by direct and Madrid routes

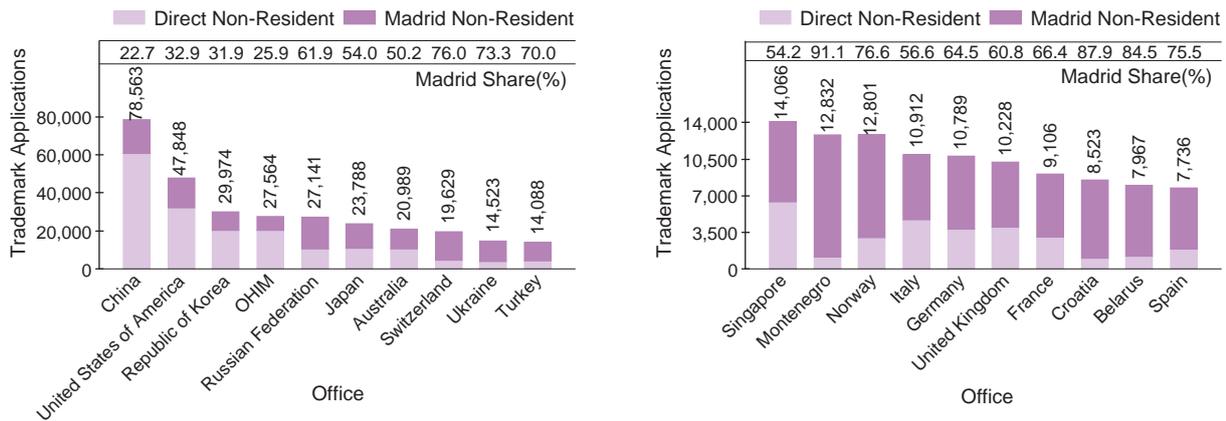


Source: WIPO Statistics Database, June 2010

The share of non-resident applications filed via the Madrid System varies across IP offices (Figure B.4.5b). In 2008, 16 of the 20 offices shown received more than half of their trademark applications from abroad through Madrid designations, with some offices receiving upwards of 70% to 90%.

The top four offices in terms of non-resident applications — China, the US, the Republic of Korea and the OHIM — received between 22% and 33% of their non-resident applications via Madrid designations, a lower proportion than the global figure of almost 39% calculated across all IP offices.

Figure B.4.5b Share of Madrid applications in total non-resident applications: top 20 offices 2008

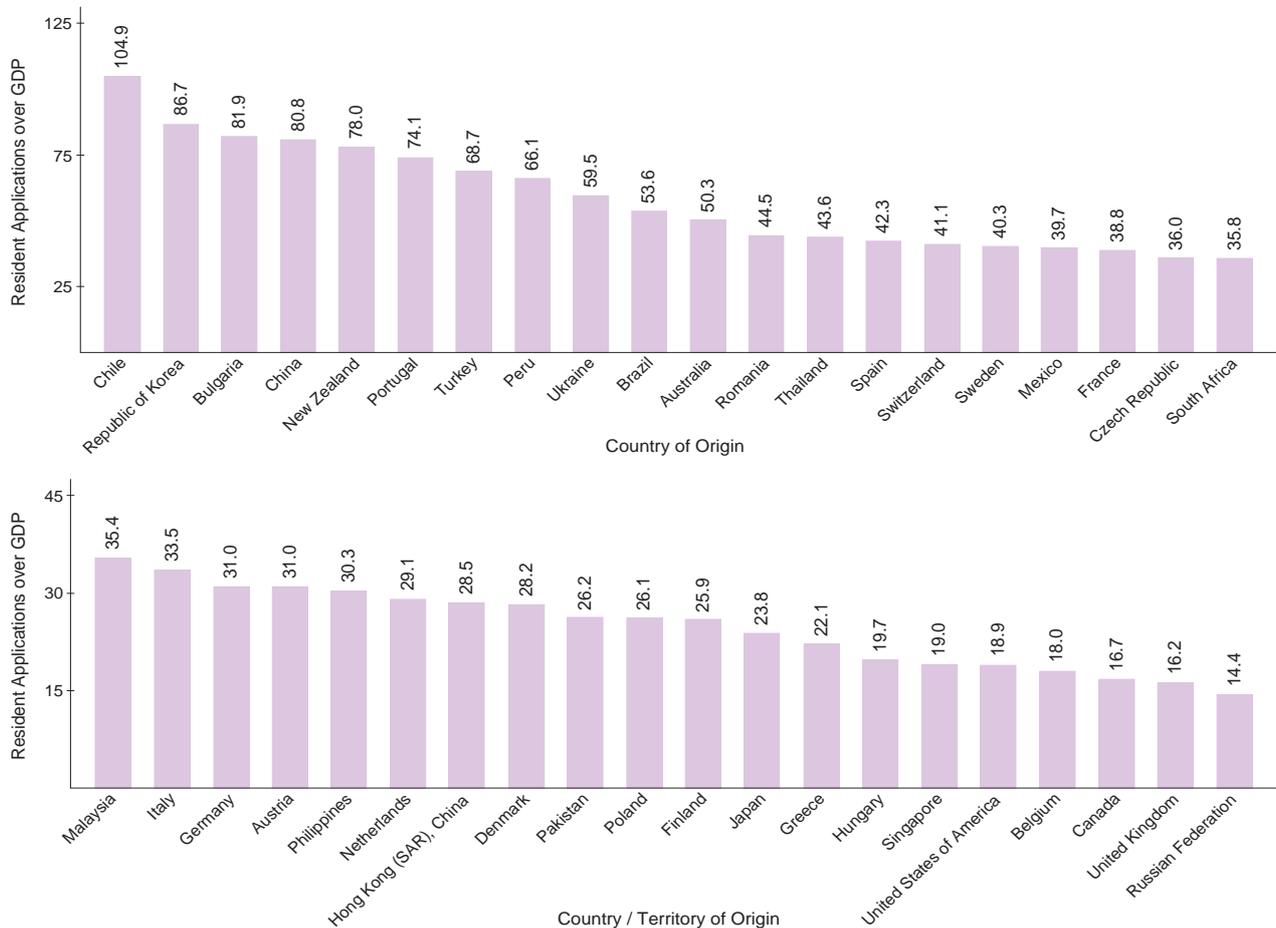


Source: WIPO Statistics Database, June 2010

B.5 INTENSITY OF TRADEMARK ACTIVITY

As in the case of patents, differences in trademark activity across economies reflect, to a large extent, their size. For purposes of cross-country comparison, it is therefore interesting to express trademark activity as measured by resident applications, relative to GDP and population levels. The resulting intensity of trademark activity indicators are presented in Figures B.5.1 and B.5.2.

Figure B.5.1 Resident trademark applications per \$billion GDP, selected countries, 2008



Note: GDP data are in billions of constant 2005 US dollars based on purchasing power parities. Countries and territories of origin were selected based on having a 2008 GDP greater than \$80 billion and resident applications exceeding 3,500.

Source: WIPO Statistics Database and World Bank, June 2010

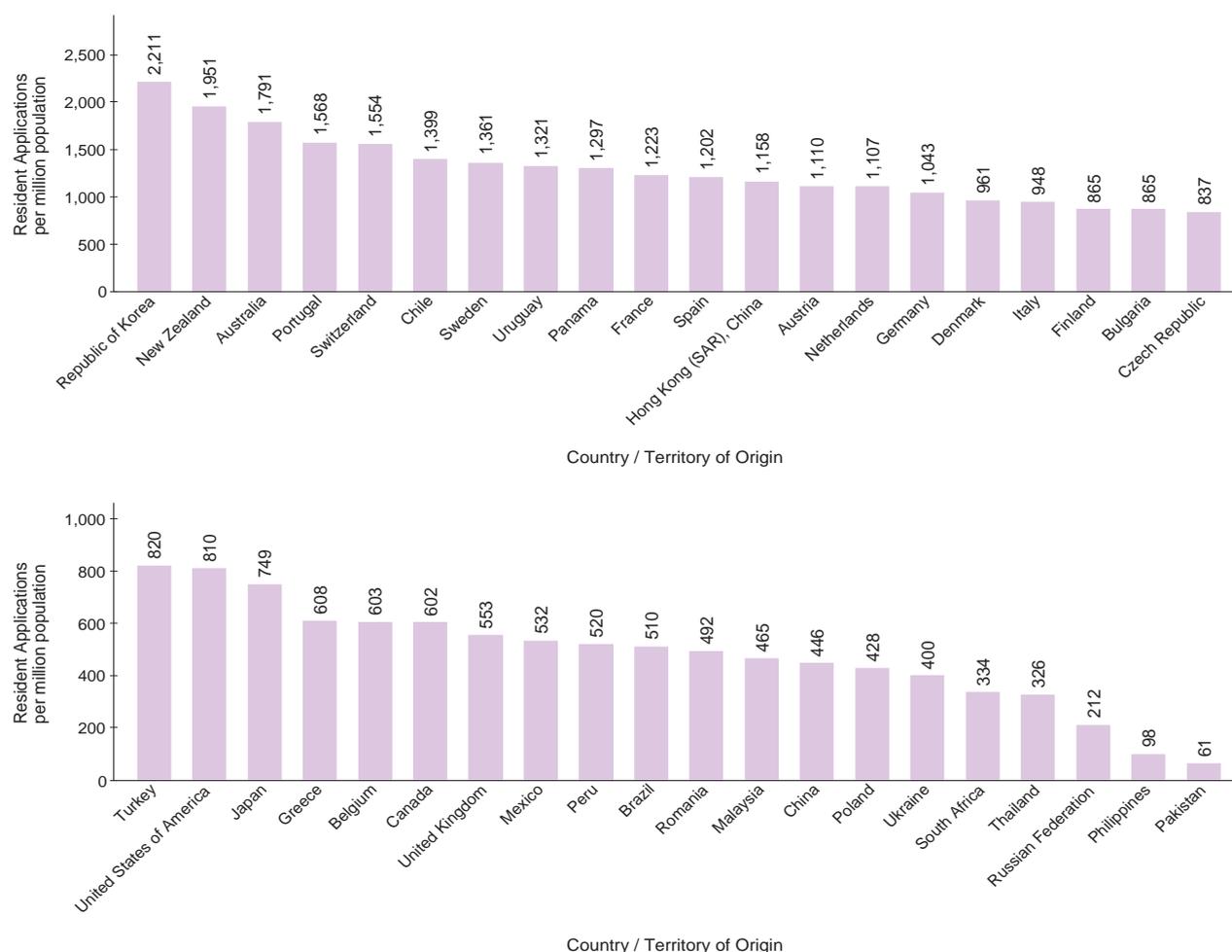
When resident trademark applications are adjusted for GDP, countries with lower numbers of resident applications (e.g., Finland, Hungary and Singapore) rank higher than some that have higher numbers of resident applications (e.g., the United Kingdom and the US). Chile, at about 105, followed by the Republic of Korea, Bulgaria and China (between 80 and 87) exhibited the highest resident applications to GDP ratio. For all other reporting countries, the resident applications to GDP ratio varied from 14.4 in the Russian Federation to 78.0 in New Zealand.

Among the top 20 countries, eight are located in Southeast and East Asia, where their respective residents filed between 19 (Singapore) and almost 87 (Republic of Korea) trademark applications per billion dollars of GDP.

Turning to the intensity of trademark activity indicator of resident trademark applications per population, a somewhat different picture emerges. From its population of 48.6 million, the Republic of Korea received about 107,000 resident applications. The resulting 2,200 resident applications per population of 1 million make the Republic of Korea the most intensive trademark user according to this intensity indicator. New Zealand and Australia held the 2nd and 3rd positions with resident applications per population of 1 million of 1,951 and 1,791, respectively. Among the top 10 countries, three were from Latin America, namely Chile, Uruguay and Panama³⁷. Among the top 20 countries represented, 13 were European.

Compared to the higher ratios associated with other countries of origin, the lower ratios of resident trademark applications per population of 1 million seen by China (445.8), the US (809.8) and Brazil (509.8) resulted, in part, from having populations often much larger than those of the other countries depicted.

Figure B.5.2 Resident trademark applications per population, selected countries, 2008



Note: Countries and territories of origin are selected based on whether they had populations greater than 3.3 million and resident applications exceeding 4,400.
Source: WIPO Statistics Database and World Bank, June 2010

³⁷ This number would likely have been higher if 2008 data were available from all Latin American IP offices.

B.6 TRADEMARKS IN FORCE

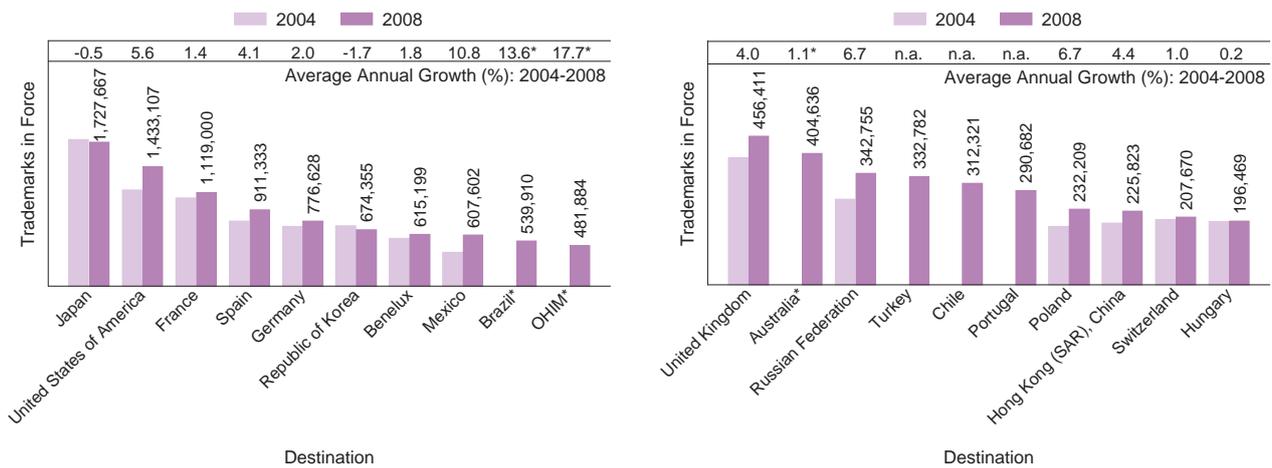
This sub-section presents statistics on trademarks in force, focusing on the numbers of trademarks in force by destination, the continuing year-on-year increase in number of trademarks in force, and the distribution of trademarks in force by year of registration.

In 2008, there was a combined total of 14.8 million trademarks in force at the 59 IP offices for which statistics are available. This figure thus gives only a partial picture of the total number of trademarks in force worldwide as many offices do not report this information.

Figure B.6.1 presents data available on trademarks in force by country / territory of destination. Japan continued to have the largest number of trademarks in force (1.7 million) in 2008 despite seeing a decrease from previous years' levels, followed by the US (1.4 million) and France (1.1 million)³⁸. Most countries shown in figure B.6.1 exhibited positive four or five-year average annual growth rates.

The top seven destinations in figure B.6.1 account for almost half of all trademarks in force in 2008, as reported by the 59 IP offices.

Figure B.6.1 Trademarks in force by destination, 2008



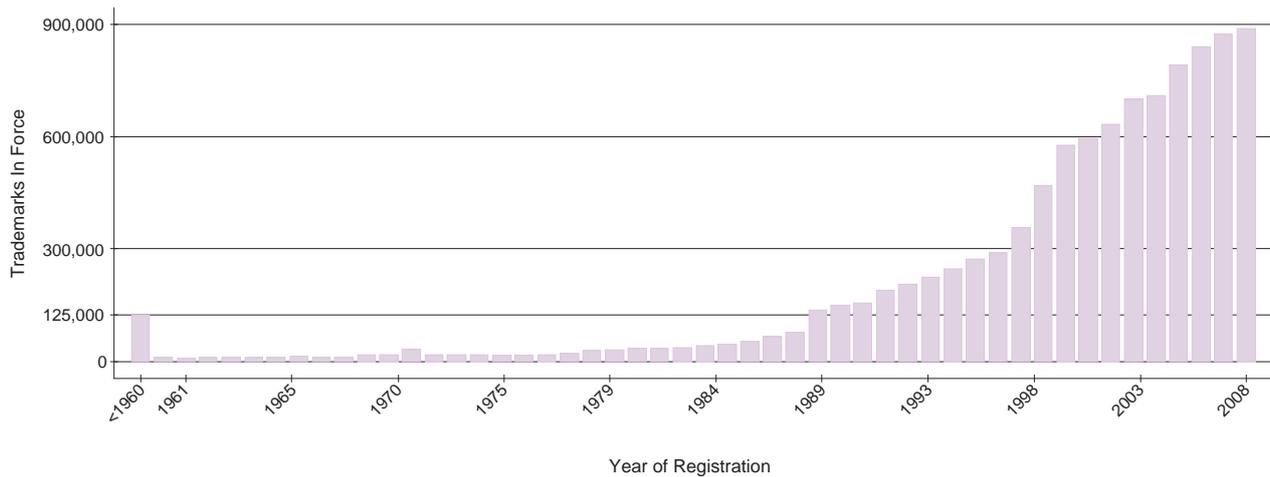
Note: *Due to the unavailability of 2004 data for trademarks in force for Australia, Brazil and the OHIM, the 2005 data are presented, and their average annual growths were calculated based on years 2005-08. 2004 and 2005 data on trademarks in force for Chile, Portugal and Turkey are not available. Data on trademarks in force provided by the office of France are an approximate figure.

Source: WIPO Statistics Database, June 2010

³⁸ Trademarks in force reported for EU countries do not include those in force at the OHIM belonging to residents of these countries.

Figure B.6.2 provides a breakdown of the 2008 data on trademarks in force by year of registration, thereby portraying the distribution of trademarks in force worldwide. Data for several larger offices, such as those of China, France, Germany and Japan, are not included in this graph, as the statistics reported by these offices do not give a breakdown by year of registration. The largest number of trademarks in force in reporting year 2008 were registered in 2007 and 2008. Interestingly, more than 125,000 of the trademarks in force in 2008 were registered prior to 1960, reflecting the longevity of certain trademarks. Of the approximately 10.2 million trademarks in force represented in figure B.6.2, 53% of them have an initial registration year of between 2002 and 2008. In other words, over half of the trademarks in force have resulted from relatively recent registrations.

Figure B.6.2 Trademarks in force by year of registration, 2008



Note: The above graph is based on actual data received from the 46 offices that provide a breakdown of trademarks in force by year of registration.

Source: WIPO Statistics Database, June 2010

SECTION C

INDUSTRIAL DESIGNS

This section provides an overview of worldwide industrial design activity using a range of indicators that cover industrial design applications, industrial design registrations, international registrations of industrial designs through the WIPO-administered Hague System and industrial designs in force.

Industrial designs are compositions of lines or colors or any three-dimensional forms that give a special appearance to a product or handicraft. They refer to the ornamental or aesthetic aspects of a useful article. Industrial designs are applied to a wide variety of industrial products and handicrafts: from technical and medical instruments to watches, jewelry and other luxury items; from house wares and electrical appliances to vehicles and architectural structures; from textile designs to leisure goods. The holder of a registered industrial design has exclusive rights against unauthorized copying or imitation of the design by third parties.

The procedures for registering industrial designs are governed by national laws. An industrial design can be registered if it is new or original. Rights are limited to the jurisdiction of the issuing authority. Industrial designs can be obtained by filing an application with the relevant national or regional IP office, or by filing an international application through the Hague System for the International Registration of Industrial Designs (Hague System). The term of protection is generally 15 years.

The Hague System consists of two active international treaties (the Hague Act and the Geneva Act). The Hague System makes it possible for an applicant to register up to 100 industrial designs in multiple countries by filing a single application with the International Bureau of WIPO. The Hague System simplifies the process of multinational registration by reducing the requirements to file multiple applications with each IP office. It also simplifies the subsequent management of the industrial design, since it is possible to record subsequent changes or to renew the registration through a single procedural step. For further details about the Hague System, refer to: www.wipo.int/hague/en/.

National and regional IP office statistics are available for the years up to and including 2008, whereas those for the Hague System also include 2009 data.

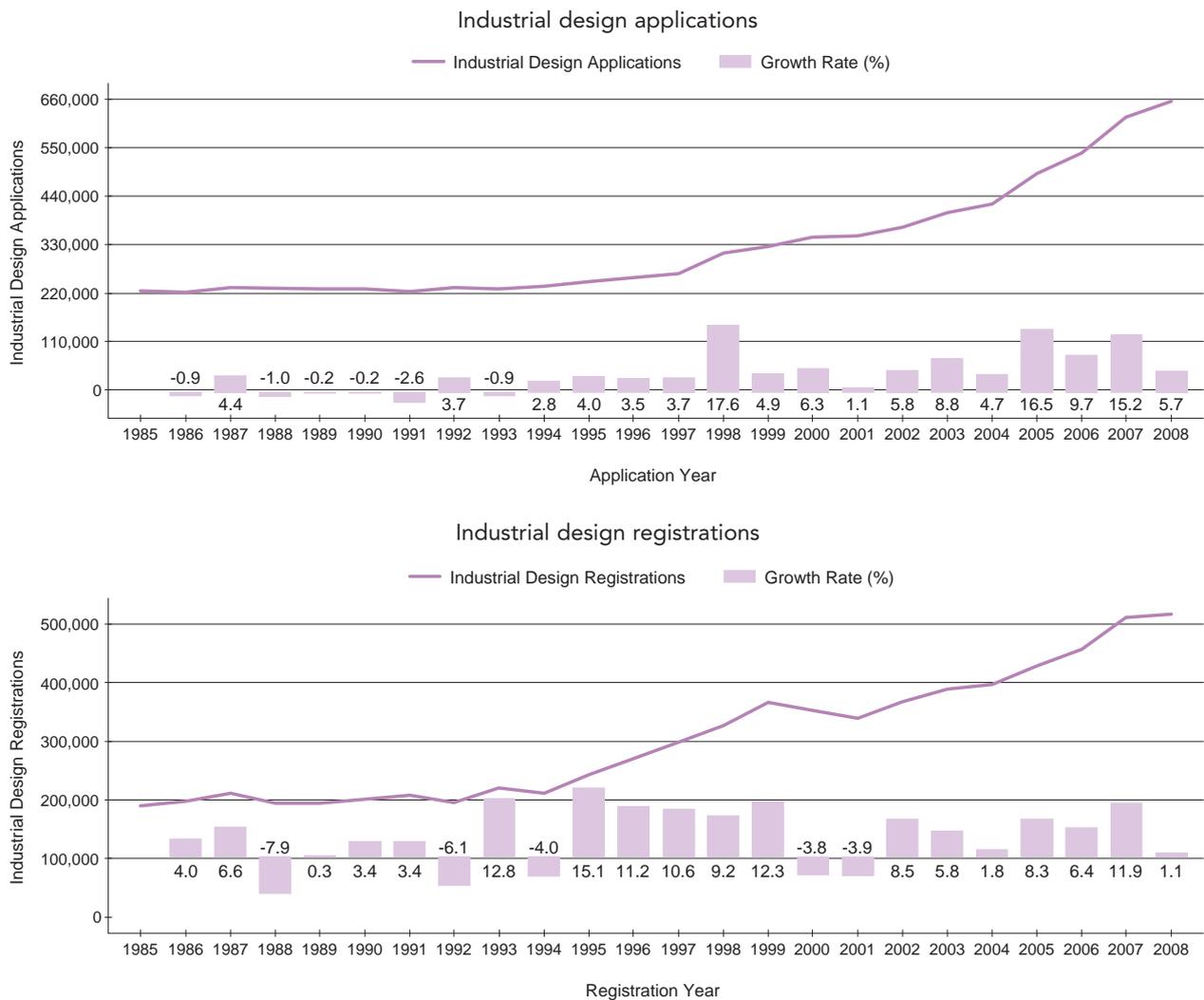
C.1 WORLDWIDE TREND

C.1.1 Trend in total industrial design activity

Figure C.1.1 reports the worldwide trend in industrial design applications and registrations³⁹ from 1985 to 2008. The total number of industrial design applications filed worldwide in 2008 stood at approximately 656,000, representing a 5.7% increase over the previous year. This represents the fifteenth consecutive year of growth, following a decade of stagnation.

The 2008 growth rate was lower than that for the previous three years. The substantial increase in industrial design applications in China (+45,472) primarily explains the 5.7% rise in global applications (Figure C.2.2a). The drop in industrial design applications experienced in some countries due to the global financial crisis was offset by strong growth in China.

Figure C.1.1 Trend in total industrial design applications and registrations



Note: The world total is a WIPO estimate covering around 120 IP offices (see Data Description). The world total estimate includes direct applications and international registrations filed through the Hague System.

Source: WIPO Statistics Database, June 2010

The total number of industrial design registrations worldwide stood at around 517,000 in 2008. After exceptional growth in registrations in 2007, total industrial design registrations increased by a modest 1.1% in 2008. This low growth is partly due to a decrease in registrations in Germany and slowing growth in registrations in China.

³⁹ Some IP offices refer to industrial designs granted, while others refer to industrial design registrations. Throughout this report, the term registrations is used.

C.1.2 Resident and non-resident industrial design activity

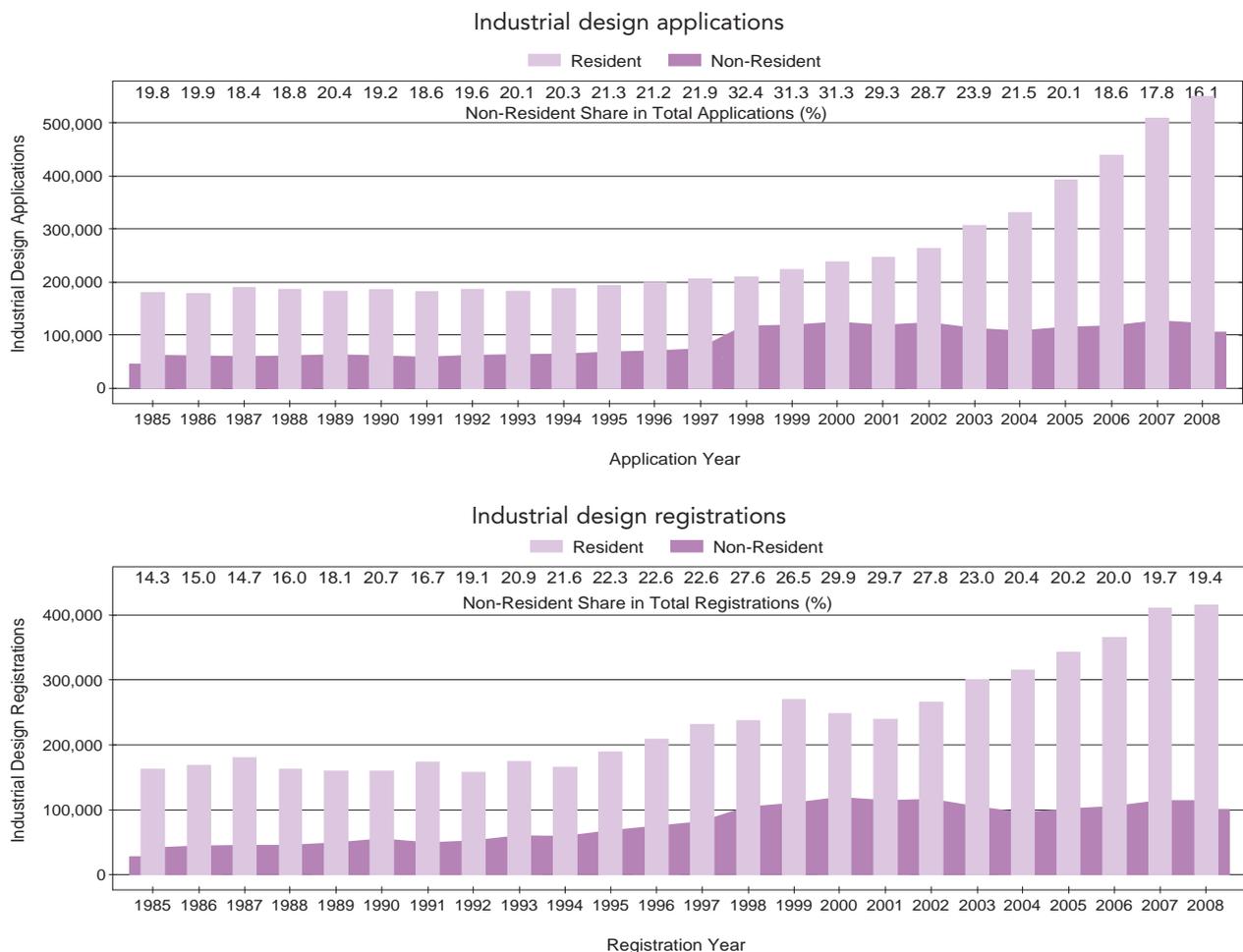
A resident application is defined as an application filed with an IP office⁴⁰ by an applicant residing in the country in which that office has jurisdiction. For example, an application filed at the IP office of Switzerland by a resident of Switzerland is considered a resident application for the Swiss IP office. A resident registration is an industrial design registration based on a resident application. A non-resident application is defined as an application filed at an IP office of a given country by an applicant residing in another country. For example, an application filed with the IP office of Australia by an applicant residing in Canada is considered a non-resident application for the Australian IP office. A non-resident registration is an industrial design registration based on a non-resident application.

Industrial design applications filed by residents of EU countries with the Office for Harmonization in the Internal Market (OHIM) are considered resident industrial design applications for this office. This is also the case for residents of Belgium, the Netherlands and Luxembourg who file their applications at the Benelux Office for Intellectual Property (BOIP).

The total numbers of resident and non-resident applications filed in 2008 are estimated at 550,300 and 105,700, respectively. Resident applications grew by 7.8% in 2008, while non-resident applications dropped by 4.2% from the previous year.

In 2008, non-resident applicants accounted for about 16% of total industrial design applications. The share of non-resident applications has followed a downward trend since its peak of 32% in 1998 because, while the number of non-resident applications has remained largely stable, the number of resident applications has increased significantly.

Figure C.1.2 Trend in resident and non-resident industrial design applications and registrations



Note: The world total is a WIPO estimate covering around 120 IP offices (see Data Description).

Source: WIPO Statistics Database, June 2010

⁴⁰ In this sub-section, the generic term "IP office" is used to refer to an office that receives industrial design applications and issues registrations.

The total numbers of resident and non-resident registrations in 2008 stood at about 417,000 and 100,000, respectively. The total number of resident registrations increased by 1.4% in 2008 from 2007, while the total number of non-resident registrations declined by 0.5%. Most of the increase in resident registrations was due to growth in registrations in China.

Similar to application data, the number of non-resident registrations has remained largely stable over the last decade. In contrast, the number of resident registrations has increased considerably since 2001. As a result, the non-resident share of total registrations has followed a downward path. For example, the non-resident share in all registrations dropped from 29.9% in 2000 to 19.4% in 2008.

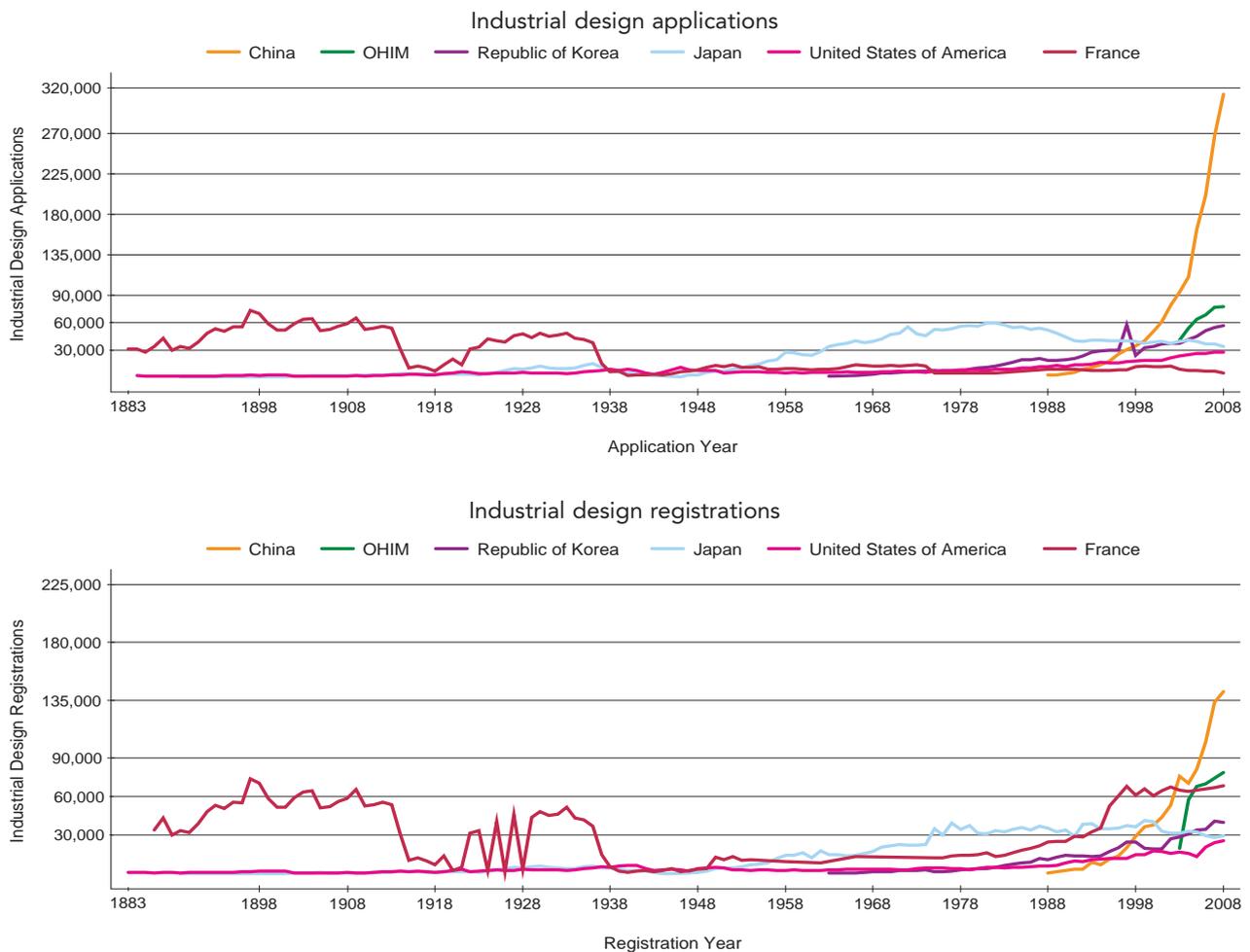
C.2 INDUSTRIAL DESIGN ACTIVITY BY OFFICE

Statistics on industrial design applications and registrations by IP office are presented below. These statistics include applications and registrations pertaining to both residents and non-residents.

C.2.1 Trend in industrial design applications and registrations by office

For most years spanning the late 1800s to the late 1930s, the office of France received the highest numbers of industrial design applications, after which the number of applications dropped. From the mid-1950s until the late 1990s, the office of Japan received the largest numbers of applications.⁴¹

Figure C.2.1 Trend in industrial design applications and registrations at selected offices



Note: OHIM (Office for Harmonization in the Internal Market).

Source: WIPO Statistics Database, June 2010

⁴¹ It should be noted that IP offices have either a single-class or multi-class industrial designs application system. Some offices permit applications to contain more than one design for the same product or within the same class, while other offices have strict requirements on unity (i.e., one application per design).

The most notable development in recent history has been the rapid growth in industrial design applications at the Chinese IP office, mostly driven by applications from Chinese residents. The IP office of China became the top office in terms of applications received in 2002. In 2008, the number of applications filed at the Chinese office was four times higher than that filed at the OHIM, the second largest office.

The trend in industrial design registrations is similar to the trend observed for applications, with a few notable differences. While, the IP office of France had historically received large numbers of registrations, the IP office of China surpassed France in 2003 to become the largest office. The numbers of registrations issued by the IP offices of the Republic of Korea and the US have remained largely stable despite an upward trend in registrations in recent years.

C.2.2 Industrial design applications at the top 20 offices

With a growth rate of 17% in 2008 compared to the previous year, the office of China received, by far, the highest number of industrial design applications (312,904), corresponding to almost 48% of the world total. Together, the top six offices accounted for 85% of all industrial design applications in 2008, representing a more concentrated distribution of applications compared to 2004 (75.8%).

The non-resident share of total applications varied significantly across offices, from 4.6% for China to 87.4% for Canada. Of the top six offices, the non-resident share in all applications was highest at the IP office of the US (44.3%).

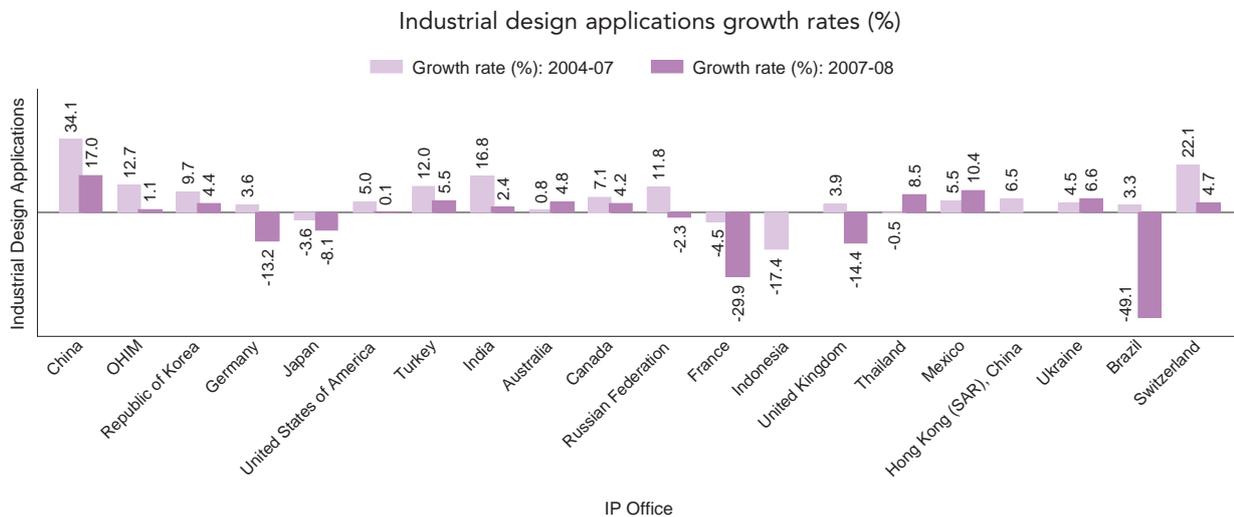
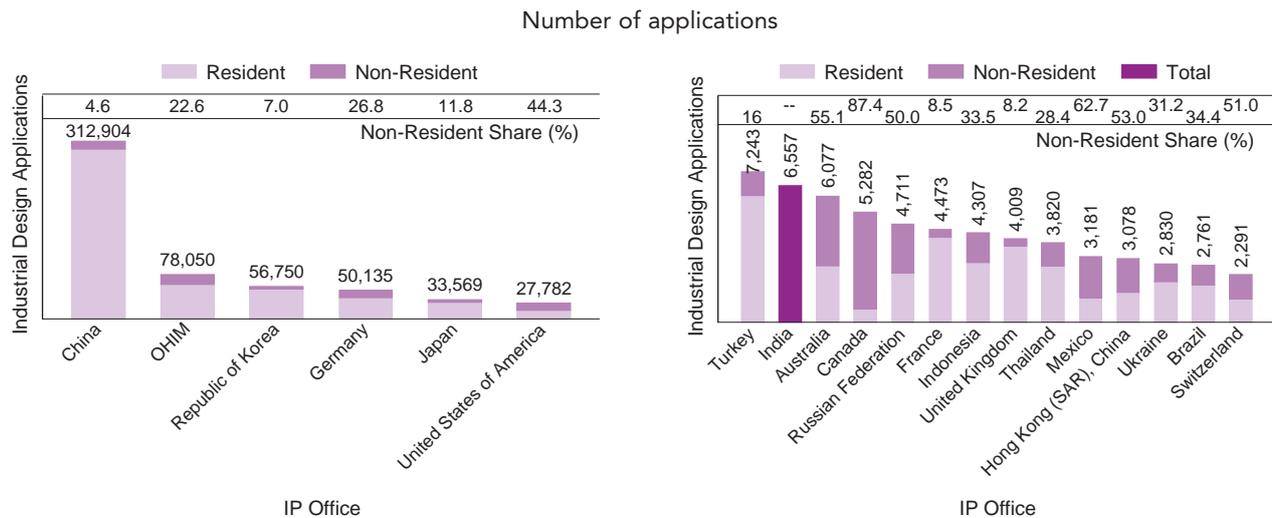
For most IP offices, the 2007-08 annual growth rate in industrial design applications was below the average annual growth rate for 2004-07. In 2008, there was a substantial decrease in industrial design applications at the IP offices of Brazil, France, Germany⁴² and the United Kingdom. In contrast, the IP offices of China and Mexico experienced double-digit growth over the same period.

Comparing the numbers of industrial design applications filed per office, while offering interesting insights, does not completely capture the differences between offices. It is therefore necessary to take into consideration legislative differences that exist across IP offices. In particular, some offices permit applications to contain more than one design for the same product or within the same class, while other offices have strict requirements on unity (i.e., one application per design). To account for this institutional difference, Figure C.2.2b provides statistics on the number of designs contained in industrial design applications.

Several additional insights emerge. The number of designs contained in applications filed at the IP office of France (16,857) is approximately four times higher than the number of applications. This implies that, on average, there are four designs contained in each application filed with that office. Similarly, applications filed with the IP office of Turkey contain 4.6 designs, on average. For the OHIM and the Republic of Korea the difference between the number of applications and the number of designs contained in an application is small, suggesting that most applications contain one design per application.

⁴² Data for Germany refer to the total number of designs contained in applications for the purposes of comparison with data from previous years.

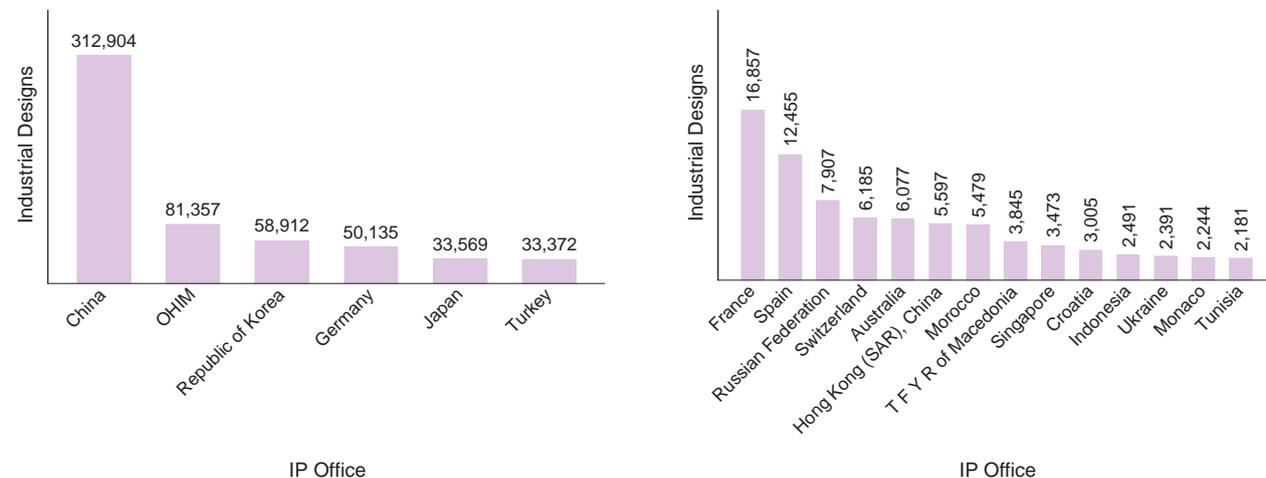
Figure C.2.2a Industrial design applications by IP office: top 20 offices, 2008



Note: OHIM resident statistics represent applications filed at this office by residents of all EU countries.

Source: WIPO Statistics Database, June 2010

Figure C.2.2b Number of designs contained in industrial design applications by office, 2008



Note: OHIM (Office for Harmonization in the Internal Market).

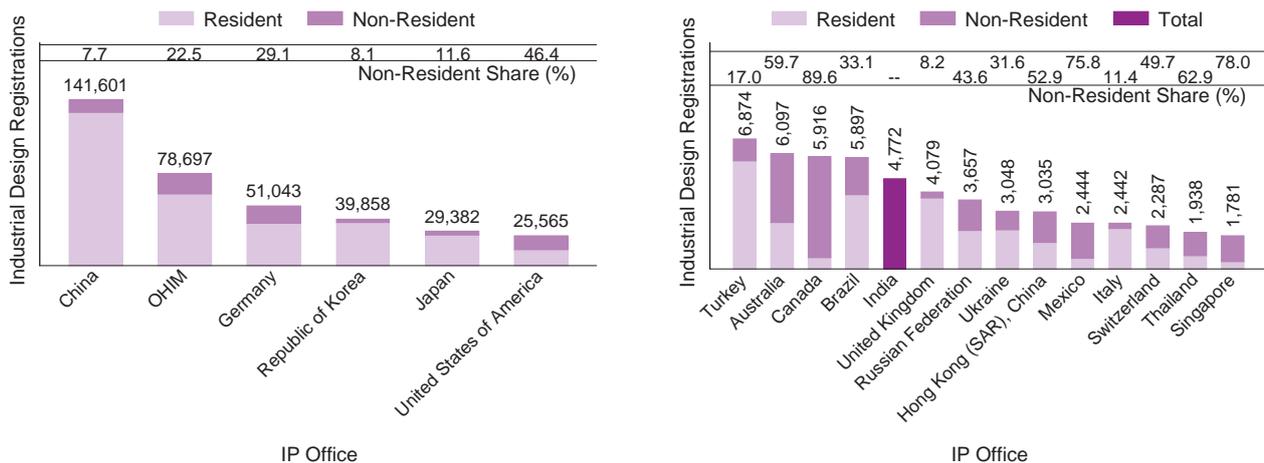
Source: WIPO Statistics Database, June 2010

C.2.3 Industrial design registrations at the top 20 offices

Figure C.2.3 provides a breakdown of industrial design registrations for the top 20 offices. It reveals that the gap in design registrations between China and other offices is considerably smaller than the gap in design applications. In many offices, such as the OHIM, applications undergo a formality examination, which is reflected by the similarity between application and registration statistics.

The resident and non-resident distribution for registration data is also similar to that for application data.

Figure C.2.3 Industrial design registrations by IP office: top 20 offices, 2008



Note: OHIM resident statistics represent registrations issued by this office to residents of all EU countries.

Source: WIPO Statistics Database, June 2010

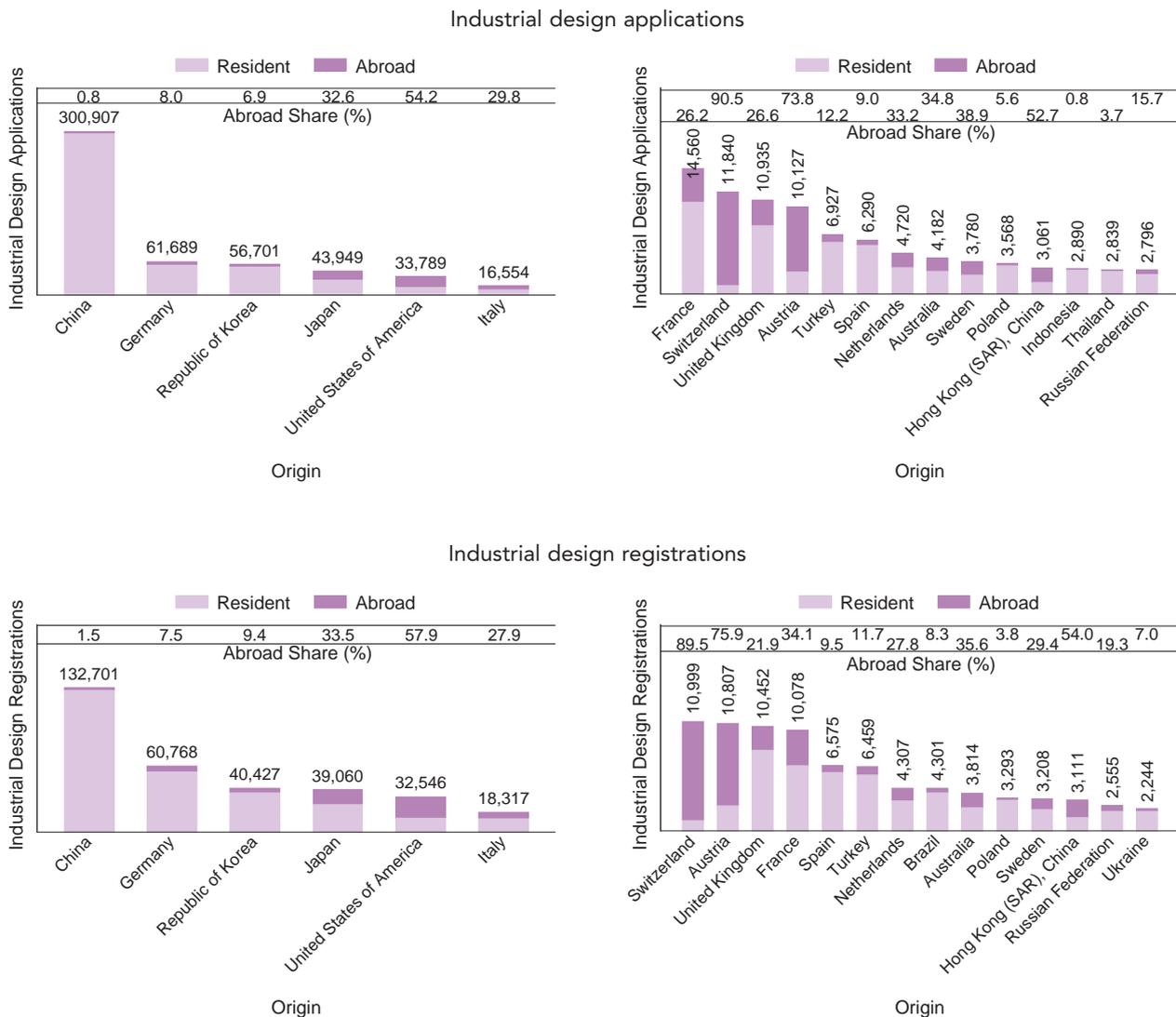
C.3 INDUSTRIAL DESIGN ACTIVITY BY ORIGIN

Figure C.3 presents industrial design application and registration data by country of origin. Country of origin statistics refer to the residence of the applicant or registrant. Resident origin statistics correspond with IP office activity pertaining to residents of the office's jurisdiction, whereas origins abroad statistics correspond with IP office activity pertaining to applicants residing outside the office's jurisdiction. Numbers of applications and registrations for origins abroad are underestimated as some offices do not report detailed statistics containing the origin of all applications and registrations. For example, the origin of about 10,000 industrial design applications is unknown for 2008.

Applicants residing in China account for the largest number (300,907) of industrial design applications worldwide. Applications by German residents occupied the second place, with 61,689 applications⁴³ or one-fifth of the number of applications from Chinese residents. Residents of the Republic of Korea, Japan and the US also filed a substantial number of industrial design applications in 2008. As for year-on-year growth, the majority of reporting countries saw a decrease in numbers of applications. In 2008, Austria and Hong Kong (SAR), China experienced a 29.7% and 33.7% drop in applications, respectively. In contrast, Sweden (27.6%), the Netherlands (24.4%) and China (17.8%) saw double-digit growth.

⁴³ Resident data for Germany refer to the total number of designs contained in applications received and registrations issued by the German IP office.

Figure C.3 Industrial design applications and registrations by origin: top 20 origins, 2008



Source: WIPO Statistics Database, June 2010

Almost all applications originating from Chinese residents were filed at the Chinese IP office. In the case of Germany and the Republic of Korea, 8% and 6.9% of design applications, respectively, were filed abroad. Of the top six origins, only US residents filed more applications abroad than domestically. Residents of Switzerland filed the majority of their applications abroad (90.5%).

Overall patterns for industrial design registrations are similar to those for applications. Residents of China (132,701) accounted for the largest number of registrations. However, the gap between China and Germany is smaller for registration than for application data. Residents of Germany, the Republic of Korea, Japan and the US each received more than 30,000 industrial design registrations in 2008.

The shares of registrations registered abroad are similar to those for applications. For the top three origins, the share of registrations abroad is less than 10%. Fewer than 1% of all registrations of Chinese origin were issued by foreign IP offices. In contrast, around 90% of registrations of Swiss origin were issued by foreign IP offices.

C.4 INDUSTRIAL DESIGN REGISTRATIONS AND RENEWALS THROUGH THE HAGUE SYSTEM

An applicant seeking protection for an industrial design in a number of countries can choose to file an application directly with each national or regional IP office or to file a single application via the Hague System. The Hague System makes it possible to seek protection for up to 100 industrial designs in a number of countries with a single application. Currently, there are 56 contracting parties to the Hague System, most of which are from Europe. An application for international registration of an industrial design leads to its recording in the International Register⁴⁴, and the publication of the registration in the International Design Bulletin. A registration recorded in the International Register will have the same effect as one made directly with each designated contracting party, if no refusal was issued by the IP office of a specific contracting party.

C.4.1 Trend in international registrations of industrial designs through the Hague System

The number of Hague registrations fell sharply during the 2003-05 period, which can be partly explained by the fact that it became possible, as of 2003, to apply for a Community Design via the OHIM, thus enabling applicants to file a single application with this office to protect their designs in all EU member countries. 2008 saw a return to high growth (approximately 33%) in international registrations that can, in turn, be largely attributed to the accession of the OHIM to the Hague System in that year. The 1,681 registrations issued in 2009 represented an increase of 10.4% compared to 2008 (Figure C.4.1a).

A breakdown by origin of these 1,681 international registrations issued in 2009 shows that applicants residing in Switzerland accounted for around 37% of all Hague System international registrations (Figure C.4.1b).

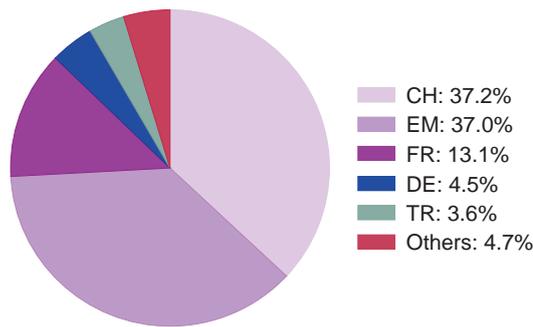
Figure C.4.1a Trend in international registrations of industrial designs



Source: WIPO Statistics Database, June 2010

⁴⁴ If it complies with the formal requirements.

Figure C.4.1b International registrations of industrial designs by origin, 2009



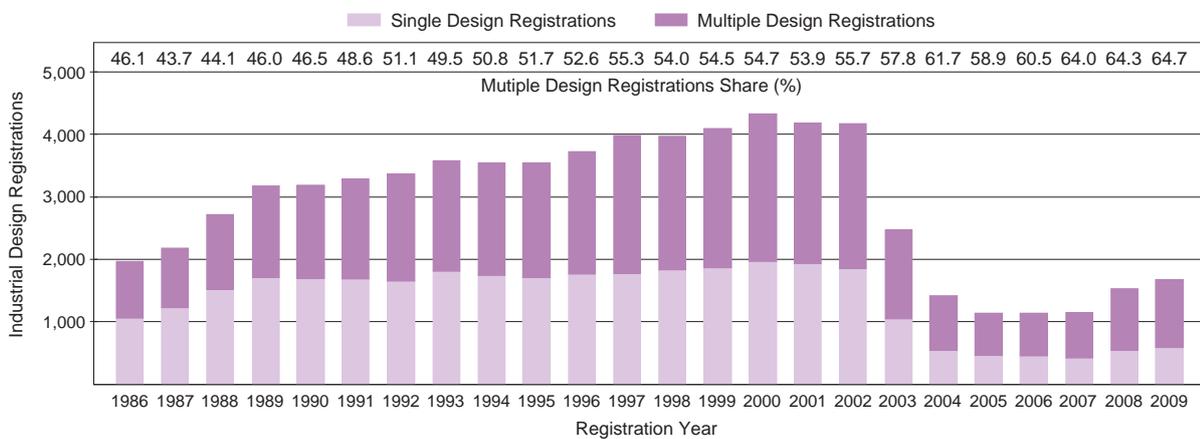
Note: CH (Switzerland), EM (data for unknown EU origins), FR (France), DE (Germany) and TR (Turkey).
 Source: WIPO Statistics Database, June 2010

C.4.2 International registrations with multiple designs

An international registration under the Hague System can contain up to 100 designs for products belonging to the same class. The share of international registrations with multiple designs increased from 46.1% in 1986 to 64.7% in 2009 (Figure C.4.2a).

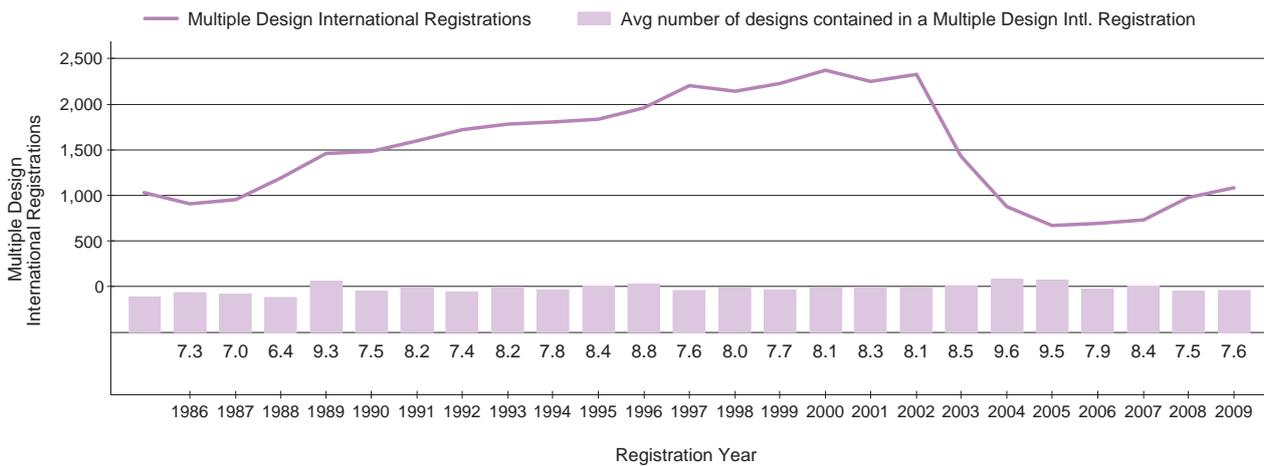
As shown in Figure C.4.2b, the average number of designs contained in multiple-design international registrations has remained stable over time, with an average of 7.6 designs per registration in 2009. In 2009, approximately, 17.5% of international registrations contained two designs per registration. The share of international registrations with more than 20 designs per registration was around 4.5%.

Figure C.4.2a Trend in single-design and multiple-design international registrations



Source: WIPO Statistics Database, June 2010

Figure C.4.2b Multiple-design international registrations and average number of designs



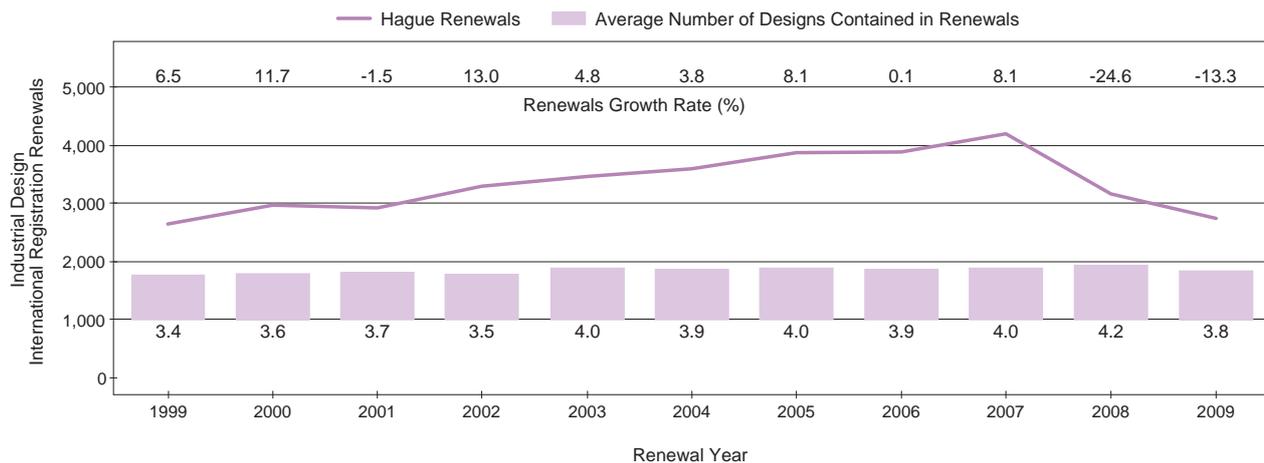
Source: WIPO Statistics Database, June 2010

C.4.3 International industrial design renewals through the Hague System

International registration renewals followed an upward trend until 2007, after which a continuous drop in the number of renewals ensued, declining from a peak of 4,205 in 2007 to 2,749 in 2009. The drop in the number of international registrations in 2003 led to the decline in the total number of renewals in 2008-09, 2003 registrations being due for renewal from 2008 onwards. The average number of designs contained in renewals has experienced little variation over time, and was 3.8 designs per renewal in 2009.

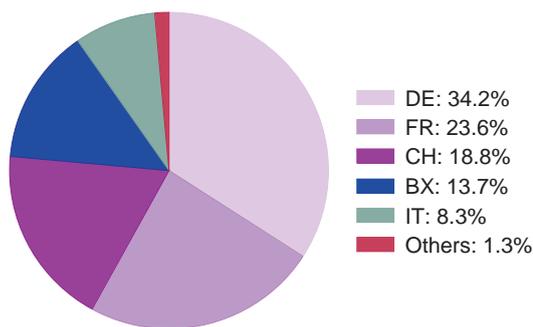
Residents of Germany accounted for 34.2% of total renewals in 2009, followed by residents of France (23.6%) and Switzerland (18.8%). The decrease in the number of renewals from Swiss residents accounted for 40% of the total decrease in 2009 renewals.

Figure C.4.3a Trend in international registration renewals



Source: WIPO Statistics Database, June 2010

Figure C.4.3b International registration renewals by origin, 2009



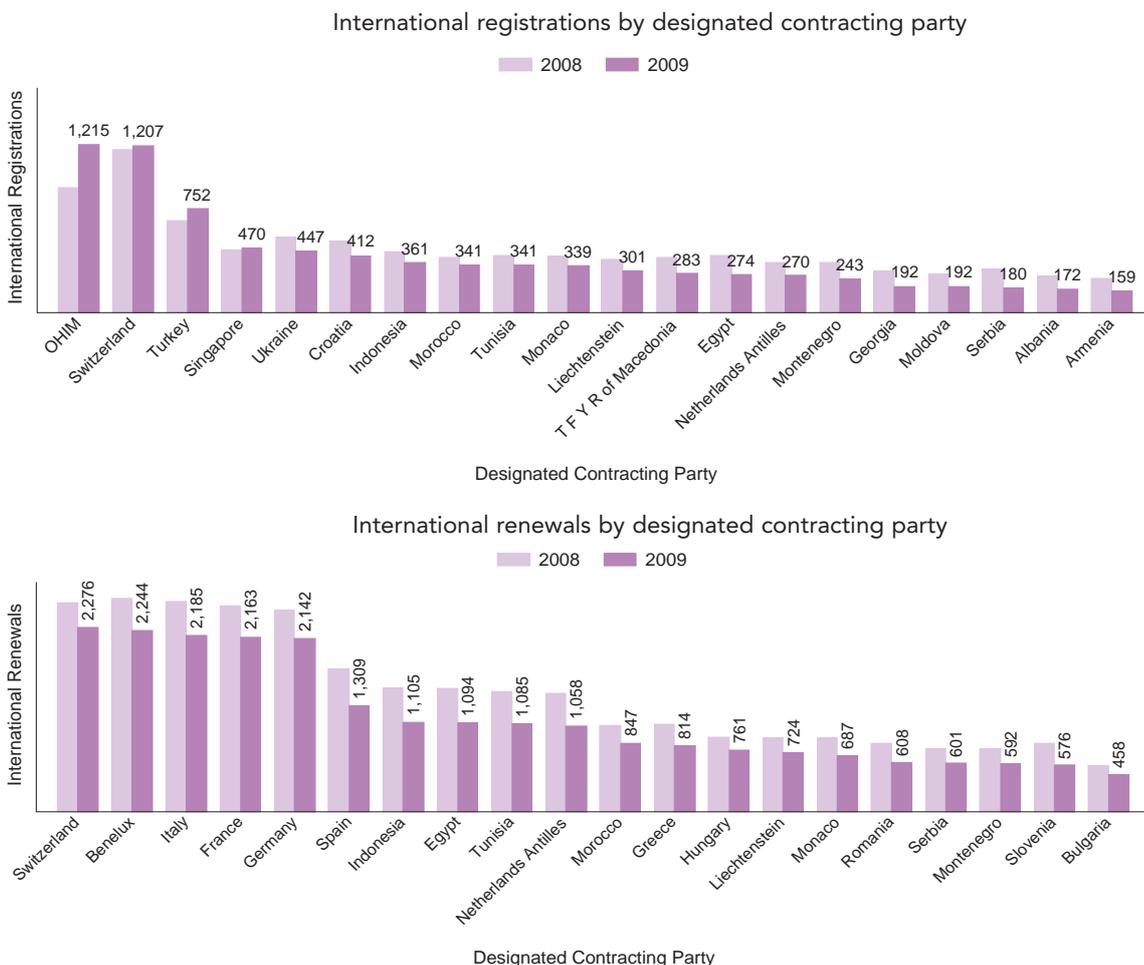
Note: DE (Germany), FR (France), CH (Switzerland), BX (Benelux) and IT (Italy).

Source: WIPO Statistics Database, June 2010

C.4.4 International registrations and renewals through the Hague System by designation

Mirroring the distribution by origin, the OHIM and Switzerland were the most designated contracting parties in Hague international registrations in 2009.⁴⁵ Turkey, Singapore, Ukraine and Croatia each received more than 400 designations. The top four contracting parties saw an increase in designations in 2009 compared to the previous year. All other reporting contracting parties experienced a decline in designations.

Figure C.4.4 Industrial design registrations and renewals by designated contracting party: top 20 contracting parties, 2009



Note: OHIM (Office for Harmonization in the Internal Market).

Source: WIPO Statistics Database, June 2010

⁴⁵ Note: The designations shown in figure C.4.4 include self-designations. For example, residents of Switzerland may designate Switzerland in an application filed directly with the International Bureau of WIPO.

As for renewals of international designs, Switzerland was the most designated contracting party, with 2,276 renewals. Belgium-Netherlands-Luxembourg, Italy, France and Germany were also each designated more than 2,100 times for renewal of a registration. For all reporting designated contracting parties, there was a decrease in the number of renewals between 2008 and 2009. This is consistent with the drop in renewals observed over the previous two years (Figure C.4.3a).

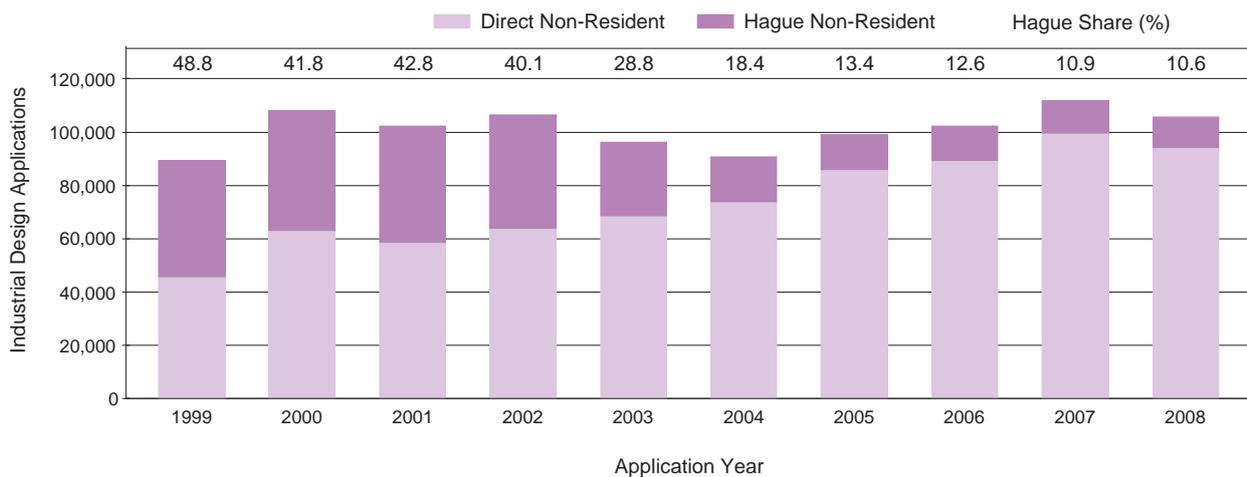
C.4.5 Non-resident industrial design applications by filing route

Applicants seeking design protection in foreign jurisdictions can either file applications directly with national or regional IP offices or make use of the Hague System. Figure C.4.5a shows the breakdown of non-resident applications by direct filing and by the Hague System.

Of the 106,000 non-resident applications filed in 2008, the Hague System accounted for 10.6% of total non-resident applications. The share of Hague non-resident applications has followed a downward trend since 1999.

Across offices, the Hague System share varied from 1.9% and 2.8% at the IP office of Germany and OHIM, respectively, to 97.3% and 97.5% at the IP offices of Montenegro and Liechtenstein, respectively (Figure C.4.5b). For all reporting IP offices, except the OHIM and the offices of Germany, Indonesia and Singapore, the share of total non-resident applications filed through the Hague System in 2008 was around or above 50%.

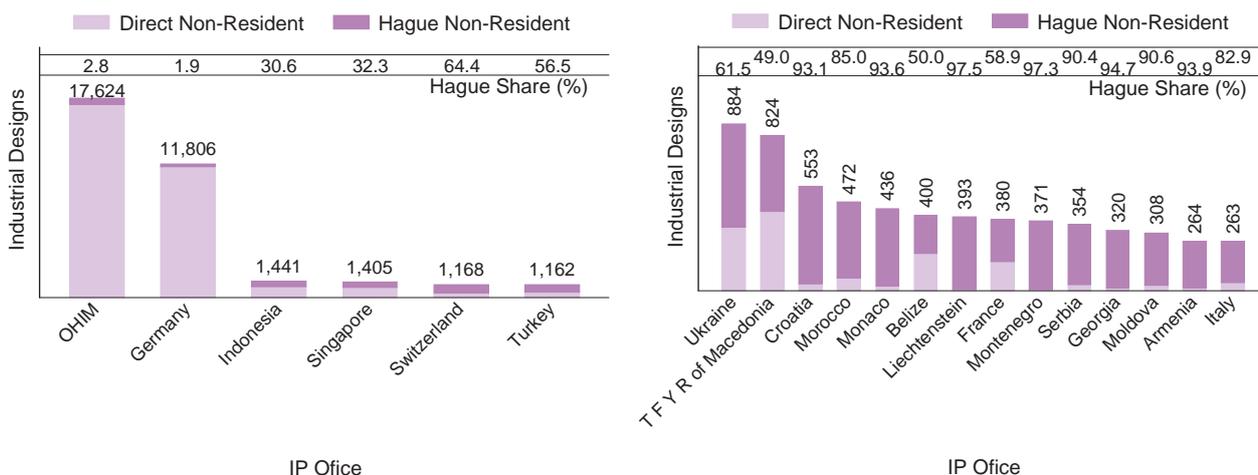
Figure C.4.5a Trend in non-resident industrial design applications by direct filing and by the Hague System



Note: The direct non-resident filing data by application year are based on actual and estimated data.

Source: WIPO Statistics Database, June 2010

Figure C.4.5b Hague System applications in total non-resident industrial design applications: selected offices, 2008



Note: The direct non-resident filing data by application year are based on actual and estimated data.

Source: WIPO Statistics Database, June 2010

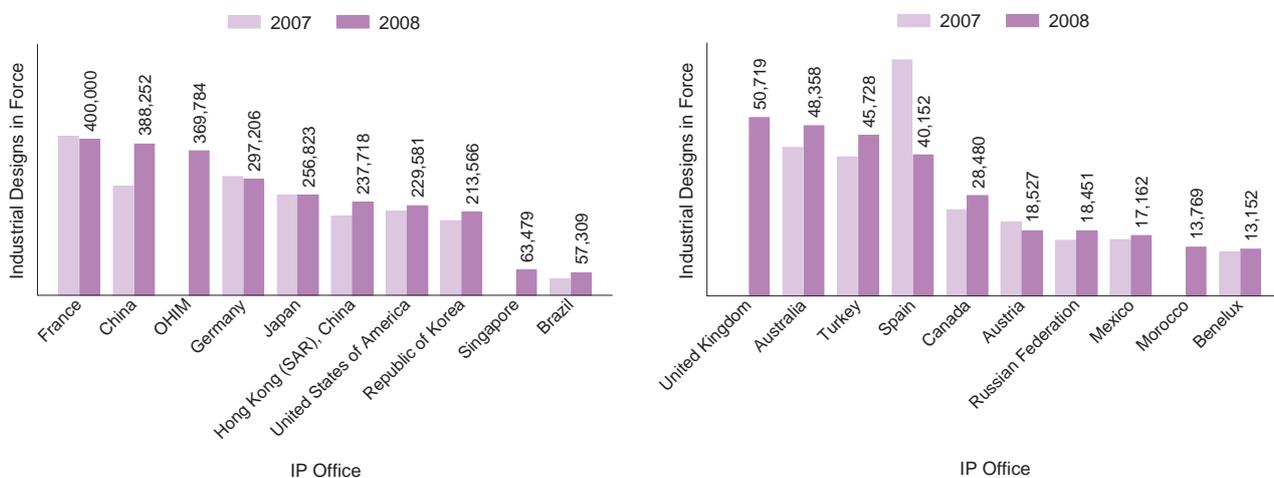
C.5 INDUSTRIAL DESIGNS IN FORCE

Industrial design registrations are valid for a limited period. The term of protection is usually 15 years in most jurisdictions. However, differences in national legislation do exist, notably in China (which provides for a 10-year term from the date of application) and the US (which provides for a 14-year term from the date of registration).

C.5.1 Industrial designs in force by destination

Figure C.5.1 presents the number of industrial designs that were in force in 2008 by destination. Among the top destinations, China experienced the fastest growth (40%) in industrial designs in force in 2008. In 2008, France accounted for the largest number of designs in force. For the majority of reporting destinations, the number of industrial designs in force increased in 2008 compared to the previous year. A notable drop in the number of industrial designs in force was recorded in Spain, possibly due to the availability of the OHIM route.

Figure C.5.1 Industrial designs in force by destination

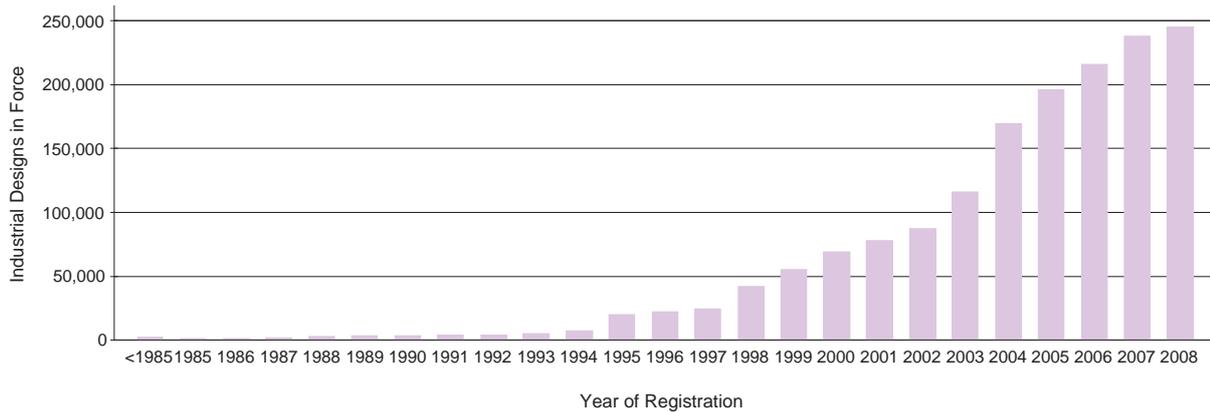


Source: WIPO Statistics Database, June 2010

C.5.2 Industrial designs in force by year of registration

Figure C.5.2 offers a breakdown of total industrial designs in force during the reporting year by year of registration. The data presented for reporting year 2008, based on 55 offices, portray the age distribution of designs in force. Data for several large offices – such as China, Germany, Japan and France – are not included in this figure, as these offices' statistics do not include a breakdown by year of registration. Approximately 66% of all industrial designs in force in 2008 were registered in or after 2004. Only a small share of industrial designs in force were registered in 1994 or earlier.

Figure C.5.2 Industrial designs in force by year of registration, 2008



Note: The industrial designs in force data presented in this graph are based on data from 55 offices.

Source: WIPO Statistics Database

SECTION D

MICROORGANISMS

MICROORGANISMS UNDER THE BUDAPEST TREATY

The Budapest Treaty on the International Recognition of the Deposit of Microorganisms for the Purposes of Patent Procedure plays an important role in the field of biotechnological inventions. Where an invention involves a microorganism or the use of a microorganism, disclosure is not always possible in writing but can sometimes be achieved only by the deposit, with a specialized institution, of a sample of the microorganism. To eliminate the need to deposit a microorganism in each country in which patent protection is sought, the Budapest Treaty provides that the deposit of a microorganism with any "International Depository Authority" (IDA) suffices for the purposes of patent procedure at the national patent offices of all Contracting States and before any regional patent office that recognizes the effects of the Treaty. An IDA is a scientific institution – typically a "culture collection" – capable of storing microorganisms. Presently, there are 38 such authorities. Further details about the Budapest Treaty are available at: www.wipo.int/treaties/en/registration/budapest/ .

INDICATORS COVERED

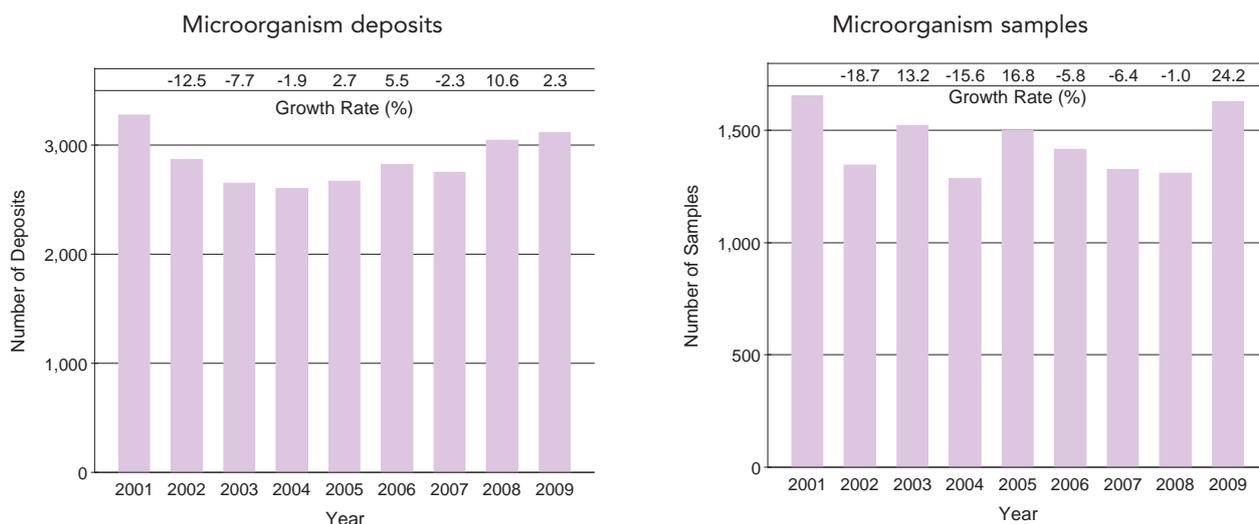
This sub-section reports the worldwide totals of deposits made at and samples of deposits furnished by IDAs for the period of 2001 to 2009. It is to be noted that not all IDAs have made data available. Under specific conditions set out in the Regulations under the Budapest Treaty, samples of deposited microorganisms may be furnished by IDAs to IP offices, third parties or to depositors themselves.

D.1 MICROORGANISM DEPOSITS AND SAMPLES

Figure D.1 shows the nine-year trend of total deposits made at and samples of deposits furnished by all IDAs that receive and store microorganisms. From a high of nearly 3,300 in 2001, deposits gradually dropped to around 2,600 in 2004, before rising for most subsequent years to slightly over 3,100 in 2009.

The trend in number of samples furnished shows greater year-to-year variation. With a 24.2% increase in total number of samples, the 2009 level (1,628) is roughly equivalent to that observed in 2001 (1,654).

Figure D.1 Trend in total microorganism deposits and samples



Source: WIPO Statistics Database, June 2010

Figure D.2 shows deposit activity for a nine-year period at the top five IDAs, which are selected on the basis of total deposits made at IDAs since the Budapest Treaty became operational in 1981. The top five include authorities from China, France, Germany, Japan, and the US. The US-based American Type Culture Collection (ATCC) has seen the highest numbers of deposits for all years represented. Strong growth in recent years by the China General Microbiological Culture Collection Center (CGMCC) has, however, resulted in a difference of only about 50 fewer deposits in 2009 than the 772 made at the ATCC. The remaining three IDAs had between 130 and 220 deposits each in 2009.

Figure D.3 shows the shares of the top 10 IDAs in the total number of deposits received by all IDAs since the acquisition of their status under the Budapest Treaty. The American Type Culture Collection (ATCC) has received over one-third of all microorganism deposits worldwide and, along with the Agricultural Research Service Culture Collection (NRRL), the US authorities received over 42% of all deposits. The International Patent Organism Depository (IPOD) of Japan and the Deutsche Sammlung von Mikroorganismen und Zellkulturen (DSMZ) of Germany have each received about 14% and 10%, respectively, of all microorganism deposits, followed by IDAs from France, China, the Republic of Korea and the United Kingdom. The two IDAs from China – the China Center for Type Culture Collection (CCTCC) and the China General Microbiological Culture Collection Center (CGMCC), have received a combined total of 9.5% of all deposits made since 1980 despite having achieved IDA status only in 1995.

Figure D.2 Top 5 IDAs receiving the highest numbers of deposits since the Budapest Treaty entered into force

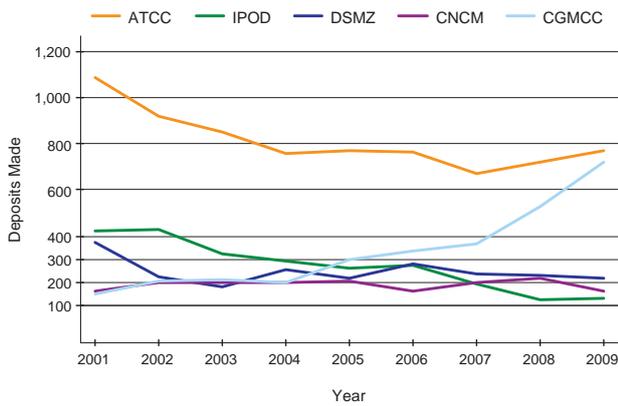
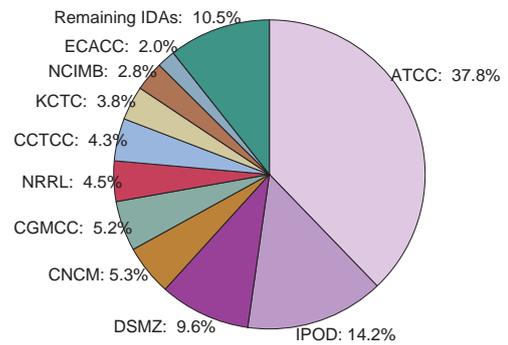


Figure D.3 Deposits made at IDAs: 1980-2009



Note: ATCC (American Type Culture Collection, US), CCTCC (China Center for Type Culture Collection), CGMCC (China General Microbiological Culture Collection Center), CNCM (Collection nationale de cultures de micro-organismes, France), DSMZ (Deutsche Sammlung von Mikroorganismen und Zellkulturen GmbH, Germany), ECACC (European Collection of Cell Cultures, the United Kingdom), IPOD (International Patent Organism Depository, Japan), KCTC (Korean Collection for Type Cultures, Republic of Korea), NCIMB (National Collections of Industrial, Food and Marine Bacteria, the United Kingdom) and NRRL (Agricultural Research Service Culture Collection, US).

Source: WIPO Statistics Database, June 2010

ANNEX,
GLOSSARY AND
LIST OF ABBREVIATIONS

ANNEX A: DEFINITION FOR SELECTED ENERGY-RELATED TECHNOLOGY FIELDS

Energy-related technology International Patent Classification (IPC) Symbols

Solar energy technology	F24J 2/00, F24J 2/02, F24J 2/04, F24J 2/05, F24J 2/06, F24J 2/07, F24J 2/08, F24J 2/10, F24J 2/12, F24J 2/13, F24J 2/14, F24J 2/15, F24J 2/16, F24J 2/18, F24J 2/23, F24J 2/24, F24J 2/36, F24J 2/38, F24J 2/42, F24J 2/46, F03G 6/06, G02B 5/10, H01L 31/052, E04D 13/18, H01L 31/04, H01L 31/042, H01L 31/18, E04D 1/30, G02F 1/136, G05F 1/67, H01L 25/00, H01L 31/00, H01L 31/048, H01L 33/00, H02J 7/35, H02N 6/00
Fuel cell technology	H01M 4/00, H01M 4/86, H01M 4/88, H01M 4/90, H01M 8/00, H01M 8/02, H01M 8/04, H01M 8/06, H01M 8/08, H01M 8/10, H01M 8/12, H01M 8/14, H01M 8/16, H01M 8/18, H01M 8/20, H01M 8/22, H01M 8/24
Wind energy	F03D 1/00, F03D 3/00, F03D 5/00, F03D 7/00, F03D 9/00, F03D 11/00, B60L 8/00
Geothermal energy	F24J 3/08, F03G 4/00, F03G 7/05

Note: For definition of IPC symbols see, www.wipo.int/classifications/ipc/en/. The correspondence between IPC symbols and technology fields is not always clear cut. Therefore, it is difficult to capture all patents in a specific technology field. Nonetheless, the IPC-based definitions of the four technologies presented above are likely to capture the vast majority of the patents.

Source: WIPO

GLOSSARY

This glossary seeks to assist readers in better understanding key technical terms and concepts. Many of the terms are defined generically (e.g., “application”), but apply to several or all of the various forms of IP covered in this report.

Applicant: An individual or other legal entity that files an application for a patent, UM, trademark or industrial design. There may be more than one applicant in an application. For the IP statistics presented in this report, the first-named applicant is deemed to be the owner of the application.

Application: The formal request for IP rights at an IP office, whereupon the IP office examines the application and decides whether to grant or refuse protection. Application also refers to a set of documents submitted to an IP office by the applicant.

Application Abroad: An application filed by a resident of a given country with a patent office of another country. For example, a patent application filed by an applicant residing in France with the USPTO is considered an “application abroad” from the perspective of France. “Application abroad” is a concept similar to “non-resident application”, which describes a patent application received by an IP office from an applicant residing in a country represented by another IP office.

Application Date: The date on which the IP office receives an application that meets the minimum requirements. Application date is also referred to as the filing date.

Country of Origin: The country of residence (or nationality, in the absence of a valid residence) of the first-named applicant of an IP application. Country of origin is used to determine the origin of the IP application.

European Patent Office (EPO): A regional patent office responsible for granting European patents for the Member States of the European Patent Convention. In the PCT procedure, the EPO acts as a receiving office, an international searching authority and international preliminary examining authority.

Foreign-Oriented Patent Families: A patent family having at least one filing office that is different from the office of the applicant’s country of origin.

Grant: Exclusive IP rights conferred to an applicant by an IP office. For example, patents are granted to applicants (assignees) to make use of and exploit an invention for a limited period of time. The holder of the rights can prevent unauthorized use of the invention.

Grant Date: The date on which an IP office issues IP rights.

Gross Domestic Product (GDP): The total, unduplicated output of economic goods and services produced within a country as measured in monetary terms.

Hague Registration: An international registration filed under the Hague System, which facilitates the acquisition of industrial design rights in multiple jurisdictions. An application for international registration of industrial designs leads to its recording in the International Register and the publication of the registration in the International Design Bulletin. If the registration is not refused by the IP office of a designated contracting party, the international registration will have the same effect as a registration in that contracting party.

Hague System: The abbreviated form of the Hague System for the International Registration of Industrial Designs. The Hague System consists of two active international treaties (the Hague Act and the Geneva Act). The Hague System makes it possible for an applicant to register up to 100 industrial designs in multiple countries by filing a single application with

the International Bureau of WIPO. The Hague System simplifies the process of multinational registration by reducing the requirements to file multiple applications with each IP office. It also simplifies the subsequent management of the industrial design, since it is possible to record subsequent changes or to renew the registration through a single procedural step.

Industrial Design Application filed via the Hague System: An application for the international registration of an industrial design filed under the WIPO-administered Hague Agreement.

Industrial Design: Compositions of lines or colors or any three-dimensional forms that give a special appearance to a product or handicraft. They refer to the ornamental or aesthetic aspects of a useful article. Industrial designs are applied to a wide variety of industrial products and handicrafts. The holder of a registered industrial design has exclusive rights against unauthorized copying or imitation of the design by third parties. Industrial design registrations are valid for a limited period. The term of protection is usually 15 years for most jurisdictions. However, differences in legislation do exist, notably in China (which provides for a 10-year term from the application date) and the US (which provides for a 14-year term from the date of registration).

International Patent Classification (IPC): An internationally recognized patent classification system. The IPC's hierarchical structure consists of sections, classes, subclasses and groups. IPC symbols are assigned according to technical features in the patent applications. One patent application can be assigned multiple IPC symbols, as it may relate to multiple technical features.

Intellectual Property (IP): Refers to creations of the mind: inventions, literary and artistic works, and symbols, names, images and designs used in commerce. IP is divided into two categories: industrial property, which includes patents, trademarks, industrial designs and geographical indications of source; and copyright, which includes literary and artistic works such as novels, poems and plays, films, musical works, artistic works such as drawings, paintings, photographs and sculptures, and architectural designs. Rights related to copyright include those of performing artists in their performances, producers of phonograms in their recordings, and those of broadcasters in their radio and television programs.

Invention: An invention is a new solution to a technical problem. To obtain patent rights, the invention must be novel, involve an inventive step and be industrially applicable, as judged by a person skilled in the art.

IP Rights In Force: IP rights that are currently valid. To remain in force, IP rights must be maintained, usually by paying maintenance (renewal) fees to an IP office at regular intervals. A trademark can be maintained indefinitely by paying renewal fees; however, patents, UMs and industrial designs can only be maintained for a limited number of years.

Madrid Registration: An international registration filed under the Madrid System, which facilitates the acquisition of trademark rights in multiple jurisdictions. It is not the same as a trademark registration issued by a national or regional IP office. An international registration, once issued by WIPO, serves as an application at each of the national and regional IP offices which are designated by the applicant and are party to the Madrid System. On the basis of the Madrid international registration, the national or regional IP office decides whether or not to issue a trademark registration that is valid within its jurisdiction.

Madrid System: The abbreviated form of the Madrid System for the International Registration of Marks, established under the Madrid Agreement and the Madrid Protocol and administered by WIPO. The Madrid System makes it possible for an applicant to apply for a trademark registration in a large number of contracting parties by filing a single application at a national or regional IP office party to the System. The Madrid System simplifies the process of multinational trademark registration by reducing the requirement to file a separate application with each IP office. It also streamlines subsequent management of the registration, since it is possible to record changes or to renew the registration through a single procedural step. Registration through the Madrid System does not create an "international" registration of a trademark, and the decision to register or refuse the trademark remains in the hands of the national and/or regional IP office(s). Trademark rights are limited to the jurisdiction of the trademark registration office(s).

Maintenance: The process by which IP rights are maintained (i.e., kept in force). This usually consists of paying maintenance (renewal) fees to an IP office at regular intervals. If maintenance (renewal) fees are not paid, IP rights may lapse.

Nice Classification: The abbreviated form of the International Classification of Goods and Services for the Purposes of Registering Marks under the Nice Agreement. The Nice Classification is divided into 34 classes for goods and 11 for services.

Non-Resident Application: An application filed with a patent office of a given country by an applicant residing in another country. For example, a patent application filed with the USPTO by an applicant residing in France is considered a non-resident application for the USPTO. Non-resident applications are sometimes also referred to as foreign applications. A non-resident grant is a patent granted on the basis of a non-resident application.

Paris Convention: The Paris Convention for the Protection of Industrial Property, signed in Paris, on March 20, 1883, is one of the most important IP treaties. It establishes the "right of priority" which enables a patent applicant, when filing an application in countries other than the original country of filing, to claim priority of an earlier application filed up to 12 months previously.

Patent: A set of exclusive rights granted by law to applicants for inventions that are new, non-obvious and commercially applicable. It is valid for a limited period of time (generally 20 years), during which patent holders can commercially exploit their inventions on an exclusive basis. In return, applicants are obliged to disclose their inventions to the public in a manner that enables others, skilled in the art, to replicate the invention. The patent system is designed to encourage innovation by providing innovators with time-limited exclusive legal rights, thus enabling innovators to reap the benefits of their innovative activity.

Patent Family: A set of interrelated patent applications filed in one or more countries to protect the same or a similar invention.

Patent Opposition: An administrative process for disputing the validity of a granted patent that is often limited to a specific time period after the patent has been granted. For example, at the EPO, anyone may oppose a patent within nine months of publication of the grant of the European patent in the European Patent Bulletin.

PCT Application: A patent application filed through the WIPO-administered PCT.

PCT National Phase Entry: The decision by a PCT applicant to enter the national phase before a national or regional patent office is referred to as national phase entry. It consists of the submission of a written request and payment of fees and must be carried out within 30 months from the priority date of the application (longer time periods are allowed by some offices).

PCT System: The PCT, an international treaty administered by WIPO, facilitates the acquisition of patent rights in a large number of jurisdictions. The PCT System simplifies the process of multiple national patent filings by reducing the requirement to file a separate application in each jurisdiction. However, the decision on whether to grant patent rights remains in the hands of national and regional patent offices, and the patent rights remain limited to the jurisdiction of the patent granting authority. The PCT international application process starts with the international phase, during which an international search and, possibly, a preliminary examination are performed, and concludes with the national phase, during which national and regional patent offices decide on the patentability of an invention according to national law.

Pending Patent Application: In general, a patent application filed with a patent office and for which no patent has yet been granted or refused and the application has not been withdrawn. In jurisdictions where a request for examination is obligatory to start the examination process, a pending application may refer to an application for which a request for examination has been received but for which no patent has been granted or refused, and the application has not been withdrawn.

Publication Date: The date on which an IP application is disclosed to the public. On that date, the subject matter of the application becomes “prior art”.

Reference Date: Application data are based on the date of application. Grant/registration data are based on the date of grant/registration. Patent data by field of technology and top PCT applicants are based on the publication date. Patent family data are based on the priority (or first filing) date.

Regional Application (Grant or Registration): An IP application (grant or registration) filed (granted or registered) with (by) a regional IP office having jurisdiction over more than one country or territory. There are currently four regional patent offices: the African Regional Intellectual Property Organization, the Eurasian Patent Organization, the European Patent Office and the African Intellectual Property Organization. There is one regional trademark and industrial design office: the Office for Harmonization in the Internal Market of the EU.

Registration: Exclusive rights, notably for trademarks and industrial designs, issued to an applicant by an IP office. For example, registrations are issued to applicants to make use of and exploit trademarks or industrial designs for a limited period of time and, in some cases, particularly in the case of trademarks, can be renewed indefinitely.

Research and Development (R&D) Expenditure: The money spent on creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of man, culture and society, and the use of this stock of knowledge to devise new applications.

Resident Application: An application filed with a patent office by an applicant residing in the country in which that office has jurisdiction. For example, a patent application filed with the JPO by a resident of Japan is considered a resident application for the JPO. Resident applications are sometimes referred to as domestic applications. A resident grant is a patent granted on the basis of a resident application.

Trademark: A trademark is a distinctive sign, which distinguishes certain goods or services of one undertaking from those produced or provided by other undertakings. The holder of a registered trademark has the legal right to exclusive use of the mark in relation to the products or services for which it is registered. The owner can prevent unauthorized use of the trademark, or a confusingly similar mark, used for goods or services that are identical or similar to the goods and services for which the mark is registered. Unlike patents, trademark registrations can potentially be maintained indefinitely as long as the trademark holder pays the renewal fees and actually uses the trademark. The procedures for registering trademarks are governed by the rules and regulations of national and regional IP offices. Trademark rights are limited to the jurisdiction of the authority that issues the trademark. Trademarks can be registered by filing an application with the relevant national or regional IP office(s), or by filing an international application through the Madrid System.

Trademark Application filed via the Madrid System: An application for international registration of a trademark filed through the WIPO-administered Madrid System.

Utility Model (UM): Like a patent, a UM is a set of rights granted for an invention for a limited period of time, during which UM holders can commercially exploit their inventions on an exclusive basis. The terms and conditions for granting UMs are different from those for “traditional” patents. For example, UMs are issued for a shorter duration (7 to 10 years) and, at most offices, UM applications are granted without substantive examination. The procedures for granting UM rights are governed by the rules and regulations of national IP offices, and rights are limited to the jurisdiction of the issuing authority.

World Intellectual Property Organization (WIPO): A United Nations specialized agency dedicated to the promotion of innovation and creativity for the economic, social and cultural development of all countries through a balanced and effective international IP system. Established in 1967, WIPO’s mandate is to promote the protection of IP throughout the world through cooperation among states and in collaboration with other international organizations.

LIST OF ABBREVIATIONS

BOIP	Benelux Office for Intellectual Property
EPO	European Patent Office
EU	European Union
GDP	Gross Domestic Product
IB	International Bureau
IP	Intellectual Property
IPC	International Patent Classification
JPO	Japan Patent Office
KIPO	Korean Intellectual Property Office
OHIM	Office for Harmonization in the Internal Market
PCT	Patent Cooperation Treaty
R&D	Research and development
SIPO	State Intellectual Property Office of the People's Republic of China
UM	Utility model
USPTO	United States Patent and Trademark Office
WIPO	World Intellectual Property Organization

STATISTICAL TABLES

PATENTS

Table P1: Patent applications by patent office and origin, 2008

Name	Applications by Office			Applications by Origin	PCT International Applications, 2009		PCT National Phase Entry, 2008	
	Total	Resident	Non-Resident	Total ¹	Receiving Office ²	Origin ²	Office	Origin
African Intellectual Property Organization	..	..	..	n.a.	3	n.a.	..	n.a.
African Regional Intellectual Property Organization	435	n.a.	435	n.a.	1	n.a.	410	n.a.
Albania ³	..	..	..	1	0	0	..	1
Algeria ⁴	849	84	765	89	7	8	734	2
Andorra ³	..	..	..	16	n.a.	2	..	5
Antigua and Barbuda ³	..	..	..	11	0	5	..	5
Argentina ³	..	..	..	269	n.a.	11	..	65
Armenia	230	226	4	242	2	5	2	2
Australia	26,346	2,821	23,525	11,230	1,710	1,754	20,523	6,236
Austria	2,627	2,298	329	7,711	492	1,029	..	2,602
Azerbaijan	227	222	5	255	4	3	..	25
Bahamas ³	..	..	..	110	n.a.	22	..	57
Bahrain ³	..	..	..	2	0	1	..	..
Bangladesh ⁴	299	29	270	30	n.a.	1	..	..
Barbados ^{3,5}	..	..	..	765	n.a.	92	..	607
Belarus	1,730	1,510	220	1,762	11	19	..	12
Belgium	708	575	133	7,592	57	1,000	..	4,027
Belize	54	0	54	41	0	2	54	2
Benin ^{3,6}	..	..	..	5	n.a.	0	..	..
Bermuda ³	..	..	..	151	n.a.	0	..	119
Bolivia (Plurinational State of) ³	..	..	..	15	n.a.	0	..	8
Bosnia and Herzegovina	71	59	12	68	7	12	9	2
Botswana ³	..	..	..	1	0	0	..	..
Brazil ⁴	21,825	4,023	17,802	5,126	444	492	15,639	625
Brunei Darussalam	75	0	75	24	n.a.	0	..	22
Bulgaria	271	249	22	403	21	25	14	53
Burundi ³	..	..	..	3	n.a.	1	..	3
Cameroon ^{3,6}	..	..	..	4	n.a.	9	..	2
Canada	42,089	5,061	37,028	21,330	1,895	2,569	31,975	6,422
Chile	3,952	531	3,421	743	28	55	..	51
China	289,838	194,579	95,259	203,481	8,000	7,906	57,641	4,006
Colombia ⁴	1,981	121	1,860	201	0	64	1,747	22
Congo ^{3,6}	..	..	..	1	n.a.	0	..	1
Cook Islands ³	..	..	..	1	n.a.	0	..	1
Costa Rica ³	..	..	..	15	1	4	..	2
Côte d'Ivoire ^{3,6}	..	..	..	2	n.a.	0	..	..
Croatia	401	330	71	445	34	38	53	74
Cuba	258	69	189	326	9	9	..	234
Cyprus	21	11	10	279	1	37	..	187
Czech Republic	854	712	142	1,263	164	178	88	272
Democratic People's Republic of Korea ³	..	..	..	33	0	0	..	17
Denmark	1,829	1,634	195	7,719	602	1,353	49	3,961
Dominica ³	..	..	..	1	0	1	..	..
Dominican Republic ^{3,4}	283	..	..	20	1	1	..	1
Ecuador ^{3,4}	794	..	..	10	3	4	..	2
Egypt ⁴	2,105	516	1,589	617	33	33	..	20
El Salvador ³	..	..	..	1	3	3	..	..
Estonia	72	62	10	123	17	30	7	34
Ethiopia ⁴	37	12	25	13	n.a.	0	..	..
Eurasian Patent Organization	3,066	n.a.	3,066	n.a.	11	n.a.	2,545	n.a.
European Patent Office	146,150	n.a.	146,150	n.a.	27,336	n.a.	83,576	n.a.
Fiji ³	..	..	..	3	n.a.	0	..	..

Name	Applications by Office			Applications by Origin	PCT International Applications, 2009		PCT National Phase Entry, 2008	
	Total	Resident	Non-Resident	Total ¹	Receiving Office ²	Origin ²	Office	Origin
Finland	1,946	1,799	147	10,133	1,157	2,133	56	5,143
France	16,705	14,743	1,962	47,597	3,770	7,163	..	19,350
Gabon ^{3,6}	..	..	..	2	n.a.	1	..	2
Georgia	247	221	26	227	4	5	..	2
Germany	62,417	49,240	13,177	135,748	1,954	16,732	3,662	47,389
Ghana ³	..	..	..	1	0	0	..	..
Greece	658	628	30	994	69	99	..	216
Grenada ³	..	..	..	1	0	0	..	..
Guatemala	311	5	306	7	2	2	240	..
Guinea ^{3,6}	..	..	..	1	n.a.	0	..	..
Honduras ³	..	..	..	1	0	1	..	..
Hong Kong (SAR), China	13,662	173	13,489	1,560	n.a.	0	..	126
Hungary	772	683	89	1,324	112	141	56	458
Iceland	81	50	31	202	17	57	26	125
India ³	36,812	..	..	4,683	663	865	..	1,910
Indonesia ³	..	..	..	23	2	7	..	6
International Bureau	n.a.	n.a.	n.a.	n.a.	8,727	0	n.a.	n.a.
Iran (Islamic Republic of) ³	..	..	..	51	n.a.	5	..	10
Iraq ³	..	..	..	2	n.a.	0	..	..
Ireland	1,007	931	76	3,527	91	469	..	1,397
Israel	7,742	1,528	6,214	9,877	1,238	1,577	6,288	4,705
Italy	9,449	8,588	861	21,911	598	2,664	..	6,941
Jamaica ³	..	..	..	15	n.a.	3	..	3
Japan	391,002	330,110	60,892	502,054	29,291	29,807	54,546	71,994
Jordan ⁴	566	59	507	113	n.a.	1	..	9
Kazakhstan	173	11	162	77	21	21	135	20
Kenya ³	..	..	..	4	3	5	..	..
Kuwait ³	..	..	..	23	n.a.	1	..	3
Kyrgyzstan	138	135	3	148	0	1	2	..
Latvia ³	..	..	..	98	11	24	..	36
Lebanon ³	..	..	..	23	n.a.	2	..	6
Libyan Arab Jamahiriya ³	..	..	..	4	1	4	..	..
Liechtenstein ^{3,7}	..	..	..	764	n.a.	56	..	141
Lithuania	105	87	18	123	17	22	6	8
Luxembourg	71	48	23	915	0	227	..	511
Macau (SAR), China	211	3	208	13	n.a.	0	..	2
Madagascar ⁵	77	14	63	14	n.a.	0	61	..
Malaysia	5,303	818	4,485	1,309	224	224	3,529	157
Malta	48	14	34	113	0	31	..	37
Marshall Islands ³	..	..	..	5	n.a.	0	..	1
Mauritius	24	2	22	52	n.a.	2	..	26
Mexico	16,581	685	15,896	1,178	146	192	14,160	285
Moldova	295	273	22	281	2	2	16	1
Monaco	10	7	3	83	0	13	..	26
Mongolia	..	..	..	..	0	2	..	..
Montenegro ⁵	917	3	914	5	n.a.	0	..	..
Morocco	1,011	177	834	194	22	25	767	8
Mozambique ^{4,8}	40	18	22	18	n.a.	0	..	..
Namibia ^{3,8}	..	..	..	4	n.a.	4	..	4
Netherlands	2,732	2,421	311	25,927	1,102	4,445	..	15,566
Netherlands Antilles ³	..	..	..	47	n.a.	0	..	26
New Zealand	5,724	1,256	4,468	2,594	286	283	3,258	889
Niger ^{3,6}	..	..	..	1	n.a.	1	..	1
Nigeria ^{3,5}	..	..	..	4	n.a.	2	..	..
Norway	5,420	1,140	4,280	3,875	449	629	..	1,821
Oman ^{3,5}	..	..	..	8	n.a.	1	..	1
Pakistan	1,545	170	1,375	189	n.a.	0	..	..

Name	Applications by Office			Applications by Origin	PCT International Applications, 2009		PCT National Phase Entry, 2008	
	Total	Resident	Non-Resident	Total ¹	Receiving Office ²	Origin ²	Office	Origin
Panama	371	0	371	106	n.a.	10	..	73
Papua New Guinea	46	1	45	1	0	0	41	..
Paraguay ³	..	..	..	2	n.a.	0	..	..
Peru	1,535	31	1,504	37	0	9	..	1
Philippines	3,311	216	3,095	310	20	20	..	19
Poland	2,778	2,488	290	2,889	152	173	58	130
Portugal	405	381	24	747	82	165	..	237
Qatar ³	..	..	..	4	n.a.	1	..	1
Republic of Korea	170,632	127,114	43,518	172,342	8,026	8,049	31,909	11,197
Romania	1,031	995	36	1,093	9	12	12	47
Russian Federation	41,849	27,712	14,137	29,176	678	669	11,499	835
Saint Kitts and Nevis ³	..	..	..	13	0	2	..	10
Saint Vincent and the Grenadines	..	..	..	..	0	1	..	..
Samoa ⁴	11	0	11	38	n.a.	2	..	..
San Marino ³	..	..	..	31	2	8	..	14
Saudi Arabia ⁴	770	128	642	373	n.a.	71	..	152
Senegal ^{3,6}	..	..	..	1	n.a.	0	..	1
Serbia	623	386	237	419	25	26	73	21
Seychelles ³	..	..	..	44	0	11	..	14
Singapore	9,692	793	8,899	3,635	500	572	7,322	1,369
Slovakia	242	167	75	278	21	34	36	50
Slovenia	307	301	6	659	68	137	..	209
Somalia	..	..	..	..	n.a.	1	..	..
South Africa ³	10,191	..	..	1,025	105	373	..	776
Spain	3,884	3,632	252	8,277	1,244	1,561	101	2,616
Sri Lanka ⁵	465	201	264	218	n.a.	16	264	1
Sudan ⁴	16	3	13	5	0	0	..	..
Sweden	2,855	2,549	306	17,051	2,045	3,581	..	10,248
Switzerland	2,033	1,594	439	26,640	412	3,673	3	14,393
Syrian Arab Republic ³	..	..	..	2	9	9	..	1
T F Y R of Macedonia	440	34	406	35	2	2	406	..
Tajikistan ³	..	..	..	2	0	0	..	..
Thailand	6,741	802	5,939	986	3	19	..	27
Trinidad and Tobago ³	..	..	..	12	1	2	..	5
Tunisia ³	..	..	..	27	2	6	..	7
Turkey	2,397	2,221	176	2,699	159	385	177	361
Turkmenistan ³	..	..	..	2	0	0	..	..
Uganda ^{4,8}	7	6	1	7	n.a.	0	1	..
Ukraine	5,697	2,825	2,872	3,286	72	79	2,548	56
United Arab Emirates ^{3,5}	..	..	..	69	n.a.	28	..	17
United Kingdom	23,379	16,523	6,856	42,296	4,893	5,326	1,921	16,526
United Republic of Tanzania ^{3,8}	..	..	..	2	n.a.	0	..	..
United States of America	456,321	231,588	224,733	400,769	46,490	46,079	61,122	129,316
Uruguay	739	33	706	75	n.a.	10	..	8
Uzbekistan	448	262	186	270	0	0	166	1
Vanuatu ³	..	..	..	7	n.a.	1	..	4
Venezuela ³	..	..	..	40	n.a.	2	..	2
Viet Nam ³	..	..	..	14	4	5	..	5
Yemen ⁴	35	11	24	11	n.a.	1	..	..
Zambia	..	..	..	..	0	1	..	..
Zimbabwe ³	..	..	..	2	0	1	..	..

1. Patent applications by country of origin data are partial and incomplete, as some offices do not report detailed statistics containing the origin of all applications.

2. WIPO estimate.

3. Resident application data are missing, therefore origin data are partial and incomplete.

4. 2007 data are used for patent applications by office, by origin and national phase entry data.

5. The International Bureau acts as the receiving office for PCT applications.

6. The African Intellectual Property Organization acts as the receiving office for PCT applications.

7. The Swiss Federal Institute of Intellectual Property acts as the receiving office for PCT applications.

8. The African Regional Intellectual Property Organization acts as the receiving office for PCT applications.

n.a. Not applicable

.. Not available

Table P2: Patent grants by patent office and origin, and patents in force, 2008

Name	Grants by Office			Grants by Origin	In Force by Office
	Total	Resident	Non-Resident	Total ¹	Total
African Regional Intellectual Property Organization	120	n.a.	120	n.a.	1,414
Algeria ^{2,3}	214	..	..	1	852
Andorra ³	..	..	..	15	..
Antigua and Barbuda ³	..	..	..	1	..
Argentina ³	..	..	..	102	..
Armenia	127	125	2	134	350
Australia	11,863	925	10,938	4,386	107,699
Austria ³	..	..	..	2,306	..
Azerbaijan	205	196	9	215	..
Bahamas ³	..	..	..	58	..
Bahrain ³	..	..	..	1	..
Bangladesh ²	296	27	269	28	..
Barbados ³	..	..	..	257	..
Belarus	1,252	1,139	113	1,322	..
Belgium	526	395	131	2,948	..
Belize ³	..	..	..	16	..
Benin ³	..	..	..	1	..
Bermuda ³	..	..	..	17	..
Bolivia (Plurinational State of) ³	..	..	..	1	..
Bosnia and Herzegovina	127	33	94	35	329
Botswana	..	..	..	..	444
Brazil ⁴	2,451	234	2,217	620	29,871
Brunei Darussalam	75	0	75	2	..
Bulgaria	268	95	173	134	4,981
Canada	18,703	1,886	16,817	8,188	129,347
Chad ³	..	..	..	3	..
Chile	1,398	130	1,268	176	7,879
China	93,706	46,590	47,116	48,814	337,215
Colombia ²	227	20	207	38	5,522
Cook Islands ³	..	..	..	1	..
Costa Rica ³	..	..	..	17	..
Côte d'Ivoire ³	..	..	..	1	..
Croatia	138	41	97	108	1,563
Cuba	92	0	92	83	92
Cyprus	36	9	27	96	454
Czech Republic	1,280	239	1,041	435	10,895
Democratic People's Republic of Korea ³	..	..	..	53	..
Denmark	225	148	77	2,347	2,438
Dominica ³	..	..	..	2	..
Dominican Republic ³	..	..	..	3	..
Ecuador ²	33	2	31	9	..
Egypt ²	300	80	220	93	..
El Salvador ³	..	..	..	2	..
Estonia	1,181	14	1,167	50	3,893
Ethiopia ²	13	0	13	1	..
Eurasian Patent Organization	1,666	n.a.	1,666	n.a.	n.a.
European Patent Office	59,819	n.a.	59,819	n.a.	n.a.
Fiji ³	..	..	..	1	..

Name	Grants by Office			Grants by Origin	In Force by Office
	Total	Resident	Non-Resident	Total ¹	Total
Finland	997	738	259	4,675	47060
France	10,811	9,236	1,575	25,535	439,075
Gabon ³	..	..	..	3	..
Gambia ²	7	0	7	0	991
Georgia	297	141	156	147	1,020
Germany	17,308	12,639	4,669	53,752	509,879
Ghana	..	..	..	..	1,018
Greece	444	425	19	520	31,975
Guatemala	96	0	96	4	521
Hong Kong (SAR), China	4,001	47	3,954	498	..
Hungary	551	109	442	391	11,462
Iceland	163	6	157	77	1,031
India ³	18,230	..	..	1,275	..
Indonesia ³	..	..	..	14	..
Iran (Islamic Republic of) ³	..	..	..	5	..
Iraq ³	..	..	..	2	..
Ireland	318	262	56	1,008	78,816
Israel	1,855	320	1,535	2,665	19,833
Italy	7,318	6,310	1,008	12,789	..
Jamaica ³	..	..	..	8	..
Japan	176,950	151,765	25,185	239,388	1,270,367
Jordan ²	63	23	40	38	..
Kazakhstan	171	132	39	173	171
Kenya ³	..	..	..	6	1,305
Kuwait ³	..	..	..	15	..
Kyrgyzstan	123	122	1	132	324
Latvia ³	..	..	..	27	..
Lebanon ³	..	..	..	6	..
Lesotho	..	..	..	..	971
Liberia ³	..	..	..	2	..
Liechtenstein ³	..	..	..	410	..
Lithuania	75	59	16	77	701
Luxembourg	34	13	21	485	..
Macau (SAR), China	46	0	46	1	125
Madagascar	34	6	28	6	333
Malawi	..	..	..	..	1,183
Malaysia	2,086	164	1,922	390	..
Malta	299	3	296	34	1,667
Marshall Islands ³	..	..	..	2	..
Mauritius ³	..	..	..	16	..
Mexico	10,440	197	10,243	330	74,533
Moldova	250	247	3	254	1,049
Monaco	14	11	3	89	50,392
Morocco	969	115	854	122	..
Mozambique ²	40	18	22	18	455
Namibia ³	..	..	..	1	51
Netherlands	2,058	1,743	315	11,103	18,588
Netherlands Antilles ³	..	..	..	33	..
New Zealand	3,203	430	2,773	884	34,233
Niger ³	..	..	..	1	..

Name	Grants by Office			Grants by Origin	In Force by Office
	Total	Resident	Non-Resident	Total ¹	Total
Nigeria ³	..	..	..	1	..
Norway ⁴	1,631	377	1,254	1,148	17,801
Oman ³	..	..	..	6	..
Pakistan	233	11	222	14	..
Panama	310	0	310	66	2,212
Papua New Guinea	1	0	1	0	1
Paraguay ³	..	..	..	1	..
Peru	359	5	354	7	2,370
Philippines	838	41	797	75	..
Poland	3,590	1,451	2,139	1,605	21,352
Portugal	165	132	33	241	39,507
Qatar ³	..	..	..	1	..
Republic of Korea	83,523	61,115	22,408	79,652	624,419
Romania	689	593	96	622	10,264
Russian Federation	28,808	22,260	6,548	22,870	147,067
Rwanda ²	20	0	20	0	..
Saint Kitts and Nevis ³	..	..	..	3	..
Saint Vincent and the Grenadines ³	..	..	..	2	..
Samoa ²	11	0	11	0	..
San Marino ³	..	..	..	10	..
Saudi Arabia ²	274	17	257	72	..
Serbia	290	70	220	81	1,277
Seychelles ³	..	..	..	27	..
Sierra Leone ³	..	..	..	2	596
Singapore	6,286	501	5,785	1,369	..
Slovakia	566	89	477	124	8,980
Slovenia	207	195	12	317	1,570
South Africa ³	7,740	..	..	399	..
Spain	2,277	2,032	245	3,636	35,559
Sri Lanka ²	91	54	37	58	..
Sudan ²	140	140	0	140	1,108
Suriname ³	..	..	..	4	..
Swaziland ³	..	..	..	10	1,017
Sweden	1,224	1,037	187	7,453	124,187
Switzerland	787	510	277	11,291	6,908
Syrian Arab Republic ³	..	..	..	1	..
T F Y R of Macedonia	336	11	325	12	..
Tajikistan ³	..	..	..	2	..
Thailand	966	62	904	110	..
Trinidad and Tobago ³	..	..	..	2	..
Tunisia ³	..	..	..	6	..
Turkey	549	299	250	435	9,391
Uganda	..	..	..	..	1,186
Ukraine	3,832	2,399	1,433	2,670	26,928
United Arab Emirates ³	..	..	..	25	..
United Kingdom	5,360	2,070	3,290	12,162	..
United Republic of Tanzania	..	..	..	..	527
United States of America	157,772	77,501	80,271	146,871	1,872,872
Uruguay	64	8	56	19	..
Uzbekistan	288	114	174	118	1,675

Name	Grants by Office			Grants by Origin	In Force by Office
	Total	Resident	Non-Resident	Total ¹	Total
Vanuatu ³	4	..
Venezuela ³	34	..
Viet Nam ³	2	..
Zambia	638
Zimbabwe ³	9	1,160

1. Patents granted by country of origin data are partial and incomplete, as some offices do not report detailed statistics containing the origin of all applications for which patents were issued.

2. 2007 data.

3. Resident grant data are missing, therefore origin data are partial and incomplete.

4. 2007 data are used for patents in force.

n.a. Not applicable

.. Not available

TRADEMARKS

Table T1: Trademark applications by IP office and origin, 2008

Name	Applications by Office			Applications by Origin	Madrid International Registrations, 2009	Designated Contracting Party
	Total	Resident	Non-Resident	Total ¹	Origin	
Afghanistan ²	..	..	..	41	n.a.	n.a.
Albania	4,596	216	4,380	232	0	3,060
Algeria	2,489	..	2,489	43	0	2,135
Andorra	1,021	325	696	376	n.a.	n.a.
Angola ²	..	..	..	10	n.a.	n.a.
Antigua and Barbuda	1,028	..	1,028	51	0	712
Argentina ³	73,717	55,252	18,465	58,790	n.a.	n.a.
Armenia	4,735	939	3,796	1,100	9	2,681
Australia	59,370	38,381	20,989	51,876	976	8,575
Austria	13,479	7,251	6,228	23,474	1,075	4,118
Azerbaijan	5,609	908	4,701	1,172	4	3,214
Bahamas ²	..	..	..	694	n.a.	n.a.
Bahrain	6,116	503	5,613	608	0	2,194
Bangladesh ³	8,232	5,002	3,230	5,011	n.a.	n.a.
Barbados ²	..	..	..	576	n.a.	n.a.
Belarus	11,454	3,487	7,967	4,563	55	5,380
Belgium ⁴	..	..	..	15,076	n.a.	n.a.
Belize	805	35	770	157	n.a.	n.a.
Benelux ⁵	28,897	21,838	7,059	44,745	2,057	4,102
Benin ²	..	..	..	1	n.a.	n.a.
Bermuda ²	..	..	..	1,029	n.a.	n.a.
Bhutan ³	986	18	968	19	0	596
Bolivia (Plurinational State of) ³	6,081	1,873	4,208	2,002	n.a.	n.a.
Bosnia and Herzegovina	5,538	416	5,122	592	14	3,771
Botswana	920	..	920	0	0	709
Brazil	119,841	97,868	21,973	101,268	n.a.	n.a.
Brunei Darussalam	944	40	904	65	n.a.	n.a.
Bulgaria	10,853	6,315	4,538	10,324	190	2,757
Cambodia ³	2,866	544	2,322	545	n.a.	n.a.
Canada	45,619	20,040	25,579	31,963	n.a.	n.a.
Chad ²	..	..	..	2	n.a.	n.a.
Chile	33,026	23,507	9,519	26,097	n.a.	n.a.
China	669,088	590,525	78,563	625,969	1,346	14,766
Colombia ³	23,994	14,118	9,876	16,620	n.a.	n.a.
Congo ²	..	..	..	3	n.a.	n.a.
Cook Islands ²	..	..	..	20	n.a.	n.a.
Costa Rica ³	11,754	5,872	5,882	6,206	n.a.	n.a.
Côte d'Ivoire ²	..	..	..	5	n.a.	n.a.
Croatia	10,324	1,801	8,523	3,280	218	5,967
Cuba	3,041	581	2,460	873	2	1,444
Cyprus	3,317	604	2,713	2,136	13	1,369
Czech Republic	13,106	8,267	4,839	16,475	418	3,147
Democratic People's Republic of Korea	2,007	..	2,007	90	0	1,343
Democratic Republic of the Congo ²	..	..	..	7	n.a.	n.a.
Denmark	8,015	4,146	3,869	13,178	436	2,168
Dominica ³	204	128	76	147	n.a.	n.a.
Dominican Republic ³	5,208	..	..	193	n.a.	n.a.
Ecuador ³	12,605	6,078	6,527	6,506	n.a.	n.a.
Egypt	3,340	..	3,340	839	20	2,816
El Salvador ²	..	..	..	214	n.a.	n.a.
Estonia	4,652	1,426	3,226	2,421	42	1,910
Ethiopia ³	719	426	293	449	n.a.	n.a.
Fiji ²	..	..	..	9	n.a.	n.a.
Finland	7,328	3,846	3,482	8,733	239	1,931
France	79,206	70,100	9,106	134,666	3,565	4,735
Gabon ²	..	..	..	2	n.a.	n.a.
Gambia ³	327	42	285	42	n.a.	n.a.
Georgia	5,441	759	4,682	932	6	3,154
Germany	80,865	70,076	10,789	193,256	5,391	5,593
Ghana	61	..	61	5	0	677
Greece	10,598	6,412	4,186	8,965	77	2,452

Name	Applications by Office			Applications by Origin	Madrid International Registrations, 2009	
	Total	Resident	Non-Resident	Total ¹	Origin	Designated Contracting Party
Guatemala ³	11,003	5,955	5,048	6,695	n.a.	n.a.
Guinea ²	..	..	..	1	n.a.	n.a.
Guinea-Bissau ³	6	6	0	8	n.a.	n.a.
Guyana ²	..	..	..	6	n.a.	n.a.
Haiti ²	..	..	..	5	n.a.	n.a.
Honduras ³	7,403	2,369	5,034	2,390	n.a.	n.a.
Hong Kong (SAR), China	24,230	8,081	16,149	12,259	n.a.	n.a.
Hungary	7,903	3,296	4,607	7,182	240	2,921
Iceland	4,597	550	4,047	3,445	38	2,501
India	130,172	..	..	3,169	n.a.	n.a.
Indonesia ²	..	..	..	808	n.a.	n.a.
Iran (Islamic Republic of)	3,468	1	3,467	1,199	18	3,006
Iraq ²	..	..	..	17	n.a.	n.a.
Ireland	5,183	1,750	3,433	6,025	39	1,747
Israel	10,742	3,198	7,544	5,240	n.a.	n.a.
Italy	60,344	49,432	10,912	102,328	2,231	4,713
Jamaica ³	1,708	594	1,114	651	n.a.	n.a.
Japan	119,448	95,660	23,788	140,065	1,335	10,386
Jordan ³	9,145	4,512	4,633	4,620	n.a.	n.a.
Kazakhstan	8,407	1,851	6,556	2,450	42	3,488
Kenya	1,729	..	1,729	41	3	1,425
Kuwait ²	..	..	..	223	n.a.	n.a.
Kyrgyzstan	3,966	239	3,727	253	0	2,573
Latvia	5,101	1,536	3,565	3,054	96	2,181
Lebanon ²	..	..	..	166	n.a.	n.a.
Lesotho	910	..	910	1	0	631
Liberia	781	..	781	10	0	486
Libyan Arab Jamahiriya ²	..	..	..	5	n.a.	n.a.
Liechtenstein	4,524	205	4,319	4,413	98	3,011
Lithuania	6,332	2,417	3,915	3,180	60	2,353
Luxembourg ⁴	..	..	..	4,213	n.a.	n.a.
Macau (SAR), China	7,678	624	7,054	705	n.a.	n.a.
Madagascar	1,318	514	804	575	2	776
Malawi ²	..	..	..	1	n.a.	n.a.
Malaysia	26,036	12,562	13,474	14,360	n.a.	n.a.
Maldives ³	155	155	0	156	n.a.	n.a.
Mali ²	..	..	..	5	n.a.	n.a.
Malta	1,236	503	733	882	n.a.	n.a.
Marshall Islands ²	..	..	..	62	n.a.	n.a.
Mauritania ²	..	..	..	5	n.a.	n.a.
Mauritius	24	2	22	442	n.a.	n.a.
Mexico	84,287	56,592	27,695	60,851	n.a.	n.a.
Micronesia ²	..	..	..	3	n.a.	n.a.
Moldova	6,662	1,581	5,081	2,211	24	3,385
Monaco	4,474	358	4,116	1,377	45	2,762
Mongolia	1,936	..	1,936	35	1	1,393
Montenegro	12,928	96	12,832	125	1	3,920
Morocco	4,367	..	4,367	582	62	3,762
Mozambique ³	2,419	518	1,901	529	1	866
Myanmar ²	..	..	..	20	n.a.	n.a.
Namibia	1,139	..	1,139	24	0	852
Nepal ³	1,132	612	520	617	n.a.	n.a.
Netherlands ⁴	..	..	..	45,775	n.a.	n.a.
Netherlands Antilles	1,854	1	1,853	325	18	830
New Zealand	17,582	8,330	9,252	10,724	n.a.	n.a.
Nicaragua ³	5,975	1,195	4,780	1,281	n.a.	n.a.
Nigeria ²	..	..	..	80	n.a.	n.a.
Norway	16,324	3,523	12,801	6,941	342	7,627
Office for Harmonization in the Internal Market ⁶	87,640	60,076	27,564	79,250	3,517	12,564
Oman	1,847	..	1,847	22	0	2,098
Pakistan	14,872	10,186	4,686	10,334	n.a.	n.a.
Panama	10,716	4,407	6,309	5,733	n.a.	n.a.
Papua New Guinea ³	612	76	536	87	n.a.	n.a.
Paraguay ²	..	..	..	188	n.a.	n.a.
Peru	24,825	14,980	9,845	15,590	n.a.	n.a.

Name	Applications by Office			Applications by Origin	Madrid International Registrations, 2009	
	Total	Resident	Non-Resident	Total ¹	Origin	Designated Contracting Party
Philippines	15,847	8,882	6,965	9,394	n.a.	n.a.
Poland	20,609	14,705	5,904	23,592	408	3,724
Portugal	20,325	15,508	4,817	20,678	161	2,675
Qatar ²	..	..	..	91	n.a.	n.a.
Republic of Korea	137,461	107,487	29,974	117,009	231	7,755
Romania	15,578	10,316	5,262	11,660	50	3,263
Russian Federation	57,165	30,024	27,141	45,793	1,097	14,150
Rwanda ³	238	14	224	16	n.a.	n.a.
Saint Kitts and Nevis ²	..	..	..	40	n.a.	n.a.
Saint Lucia ²	..	..	..	37	n.a.	n.a.
Saint Vincent and the Grenadines ²	..	..	..	5	n.a.	n.a.
Samoa ³	159	29	130	196	n.a.	n.a.
San Marino	1,869	..	1,869	519	18	1,309
Sao Tome and Principe ³	128	0	128	1	0	287
Saudi Arabia ²	..	..	..	588	n.a.	n.a.
Senegal ²	..	..	..	4	n.a.	n.a.
Serbia	9,479	2,054	7,425	4,056	254	5,130
Seychelles ²	..	..	..	226	n.a.	n.a.
Sierra Leone	1,017	..	1,017	2	0	747
Singapore	18,263	4,197	14,066	9,675	209	5,957
Slovakia	7,267	2,872	4,395	4,843	139	2,676
Slovenia	5,192	1,655	3,537	6,053	276	2,410
Solomon Islands ²	..	..	..	7	n.a.	n.a.
South Africa	29,833	16,269	13,564	17,705	n.a.	n.a.
Spain	55,586	47,850	7,736	77,648	682	4,264
Sri Lanka	5,916	3,321	2,595	3,501	n.a.	n.a.
Sudan ³	4,369	1,852	2,517	1,853	1	740
Suriname ³	570	119	451	125	n.a.	n.a.
Swaziland	1,004	..	1,004	9	0	676
Sweden	14,998	10,952	4,046	21,995	328	2,311
Switzerland	31,514	11,885	19,629	65,245	2,448	13,161
Syrian Arab Republic	2,757	..	2,757	234	3	2,420
T F Y R of Macedonia	4,890	..	4,890	257	20	3,774
Tajikistan	3,044	259	2,785	259	0	1,827
Thailand	35,422	21,950	13,472	23,288	n.a.	n.a.
Timor-Leste ²	..	..	..	1	n.a.	n.a.
Togo ²	..	..	..	6	n.a.	n.a.
Tonga ²	..	..	..	10	n.a.	n.a.
Trinidad and Tobago ²	..	..	..	43	n.a.	n.a.
Tunisia ²	..	..	..	52	n.a.	n.a.
Turkey	74,685	60,597	14,088	74,877	761	7,942
Turkmenistan	2,819	..	2,819	0	0	2,330
Uganda ²	..	..	..	10	n.a.	n.a.
Ukraine	33,019	18,496	14,523	22,255	201	8,539
United Arab Emirates ²	..	..	..	1,723	n.a.	n.a.
United Kingdom	35,705	25,477	10,228	75,733	999	4,671
United Republic of Tanzania ³	556	47	509	59	n.a.	n.a.
United States of America	294,070	246,222	47,848	396,856	3,225	13,406
Uruguay	11,501	4,405	7,096	4,898	n.a.	n.a.
Uzbekistan	5,007	1,204	3,803	1,234	2	2,508
Vanuatu ²	..	..	..	9	n.a.	n.a.
Venezuela ²	..	..	..	466	n.a.	n.a.
Viet Nam	4,971	..	4,971	596	46	4,169
Yemen	4,518	1,746	2,772	1,790	n.a.	n.a.
Zambia	1,159	..	1,159	3	0	790
Zimbabwe ²	..	..	..	9	n.a.	n.a.

1. Application by origin data are partial and incomplete, as some offices do not report detailed statistics containing the origin of all applications.

2. Resident application data are missing, therefore origin data are partial and incomplete.

3. 2007 data are used for trademark applications by office and by origin.

4. Application by office data are missing, as this country does not have a national trademark office. All applications for trademark protection in this country are filed at the Benelux Office for Intellectual Property or the Office for Harmonization in the Internal Market.

5. Resident applications at this regional office are comprised of those filed by residents of Belgium, Luxembourg and the Netherlands.

6. Resident applications at this regional office are comprised of those filed by residents of EU member states.

n.a. Not applicable

.. Not available

Table T2: Trademark registrations by IP office and origin, and trademarks in force, 2008

Name	Registrations by Office			Registrations by Origin	In Force by Office
	Total	Resident	Non-Resident	Total ¹	Total
Afghanistan ²	..	..	..	8	..
Albania ²	4,117	..	3,591	15	..
Algeria ²	2,429	..	2,429	35	..
Andorra	1,013	318	695	347	18,781
Angola ²	..	..	..	1	..
Antigua and Barbuda ²	1,028	..	1,028	42	..
Argentina ²	..	..	..	3,146	..
Armenia	4,129	675	3,454	787	34,541
Aruba ²	..	..	..	4	..
Australia	46,206	26,949	19,257	36,780	404,636
Austria ²	10,937	..	4,870	14,377	114,671
Azerbaijan	5,022	649	4,373	855	..
Bahamas ²	..	..	..	556	..
Bahrain	5,754	219	5,535	265	..
Bangladesh ³	619	126	493	142	..
Barbados ²	..	..	..	437	..
Belarus ⁴	9,048	1,551	7,497	2,350	78,538
Belgium ^{2,5}	..	..	..	12,227	..
Belize ²	542	..	..	66	..
Benelux ⁶	24,872	18,370	6,502	38,210	615,199
Benin ²	..	..	..	1	..
Bermuda ²	..	..	..	921	..
Bhutan ²	946	..	946	2	..
Bolivia (Plurinational State of) ²	..	..	..	97	..
Bosnia and Herzegovina	4,929	203	4,726	354	8,640
Botswana ²	920	..	920	..	..
Brazil	60,086	43,762	16,324	46,482	539,910
Brunei Darussalam	155	0	155	21	..
Bulgaria	9,843	4,329	5,514	7,332	138,561
Burundi ²	..	..	..	1	..
Cambodia ³	2,303	437	1,866	439	..
Cameroon ²	..	..	..	2	..
Canada	27,743	12,798	14,945	21,042	27,743
Central African Republic ²	..	..	..	2	..
Chile	34,161	20,934	13,227	22,771	312,321
China	389,115	342,498	46,617	371,898	..
Colombia ^{3,4}	18,139	10,635	7,504	12,574	187,942
Cook Islands ²	..	..	..	12	..
Costa Rica ²	..	..	..	258	..
Côte d'Ivoire ²	..	..	..	1	..
Croatia	9,320	1,116	8,204	2,515	24,011
Cuba	2,832	367	2,465	631	17,045
Cyprus	3,728	317	3,411	1,503	30,155
Czech Republic	11,531	6,975	4,556	14,528	112,190
Democratic People's Republic of Korea ²	1,661	..	1,661	82	..
Democratic Republic of the Congo ²	..	..	..	3	..
Denmark	7,601	3,891	3,710	11,218	164,871
Djibouti ²	..	..	..	1	..
Dominica ²	..	..	..	23	..
Dominican Republic ²	..	..	..	125	..
Ecuador ³	12,181	4,928	7,253	5,180	..
Egypt ²	3,193	..	3,193	682	..
El Salvador ²	..	..	..	279	..
Estonia	3,877	934	2,943	1,849	61,519
Ethiopia ³	627	355	272	365	..
Fiji ²	..	..	..	15	..
Finland	5,857	2,730	3,127	7,127	118,792
France ²	5,955	..	5,955	56,247	1,119,000
Gabon ²	..	..	..	2	..

Name	Registrations by Office			Registrations by Origin	In Force by Office
	Total	Resident	Non-Resident	Total ¹	Total
Gambia ³	327	42	285	42	..
Georgia	4,725	361	4,364	497	36,824
Germany	56,103	47,730	8,373	156,024	776,628
Ghana ²	61	..	61	7	..
Greece ²	3,279	..	3,279	2,094	..
Guatemala ²	..	..	..	433	..
Guinea-Bissau ³	2	2	0	13	..
Guyana ²	..	..	..	8	..
Haiti ²	..	..	..	4	..
Honduras ³	5,266	1,119	4,147	1,132	..
Hong Kong (SAR), China	18,408	5,926	12,482	9,741	225,823
Hungary	7,904	3,194	4,710	6,505	196,469
Iceland	4,457	555	3,902	3,087	53,841
India ²	102,257	..	..	1,871	..
Indonesia ²	..	..	..	631	..
Iran (Islamic Republic of)	3,241	1	3,240	987	..
Iraq ²	..	..	..	6	..
Ireland	4,607	1,375	3,232	4,961	56,308
Israel ⁴	9,529	2,604	6,925	4,156	94,206
Italy	80,307	63,765	16,542	109,537	..
Jamaica ²	..	..	..	87	..
Japan	97,525	82,438	15,087	116,675	1,727,667
Jordan ^{2,3}	6,824	..	..	79	..
Kazakhstan	7,691	1,799	5,892	2,316	..
Kenya ²	1,728	..	1,728	43	..
Kuwait ²	..	..	..	129	..
Kyrgyzstan	3,796	170	3,626	195	7,407
Latvia	4,566	1,076	3,490	2,373	..
Lebanon ²	..	..	..	136	..
Lesotho ²	910	..	910	..	..
Liberia ²	781	..	781	21	..
Libyan Arab Jamahiriya ²	..	..	..	4	..
Liechtenstein	4,518	200	4,318	3,673	..
Lithuania	5,851	1,994	3,857	2,557	75,559
Luxembourg ^{2,5}	..	..	..	3,760	..
Macau (SAR), China	7,979	667	7,312	712	39,606
Madagascar	1,404	567	837	605	..
Malawi ²	..	..	..	..	..
Malaysia	27,847	9,049	18,798	10,211	..
Maldives ³	151	151	0	151	..
Mali ²	..	..	..	2	..
Malta ⁴	1,433	504	929	698	57,110
Marshall Islands ²	..	..	..	15	..
Mauritania ²	..	..	..	2	..
Mauritius ²	2,366	..	..	311	..
Mexico	63,063	40,861	22,202	44,326	607,602
Micronesia ²	..	..	..	1	..
Moldova	5,795	1,004	4,791	1,519	14,882
Monaco	4,497	366	4,131	1,125	10,005
Mongolia ²	1,933	..	1,933	24	..
Montenegro	11,572	0	11,572	14	..
Morocco ²	4,355	..	4,355	495	..
Mozambique ³	2,391	502	1,889	509	..
Myanmar ²	..	..	..	1	..
Namibia ²	1,139	..	1,139	10	..
Nauru ²	..	..	..	2	..
Nepal ^{3,7}	1,132	612	520	612	26,731
Netherlands ^{2,5}	..	..	..	38,817	..
Netherlands Antilles	1,821	1	1,820	324	73,653
New Zealand	12,448	5,495	6,953	7,561	190,557
Nicaragua ²	..	..	..	49	..

Name	Registrations by Office			Registrations by Origin	In Force by Office
	Total	Resident	Non-Resident	Total ¹	Total
Nigeria ²	..	..	..	34	..
Norway	14,556	2,741	11,815	5,382	..
Office for Harmonization in the Internal Market ⁸	82,998	56,227	26,771	71,109	481,884
Oman ²	1,837	..	1,837	11	..
Pakistan	8,165	3,191	4,974	3,251	..
Panama	11,125	4,123	7,002	5,034	94,270
Papua New Guinea ²	..	..	..	4	..
Paraguay ²	..	..	..	130	..
Peru	18,695	10,322	8,373	10,789	186,598
Philippines	14,104	6,715	7,389	6,982	100,820
Poland	19,730	13,911	5,819	20,633	232,209
Portugal	19,588	15,079	4,509	19,104	290,682
Qatar ²	..	..	..	60	..
Republic of Korea	62,443	50,927	11,516	58,101	674,355
Romania	13,693	8,311	5,382	9,357	70,575
Russian Federation	40,520	19,895	20,625	34,024	342,755
Rwanda ³	238	14	224	15	..
Saint Kitts and Nevis ²	..	..	..	25	..
Saint Lucia ²	..	..	..	18	..
Saint Vincent and the Grenadines ²	..	..	..	17	..
Samoa ³	143	21	122	67	..
San Marino ²	1,869	..	1,869	464	..
Sao Tome and Principe ²	..	..	..	1	..
Saudi Arabia ²	..	..	..	340	..
Serbia	7,823	1,133	6,690	2,975	152,472
Seychelles ²	..	..	..	115	..
Sierra Leone ²	1,017	..	1,017	4	..
Singapore	17,737	3,533	14,204	7,788	..
Slovakia	6,810	2,469	4,341	4,194	47,696
Slovenia	4,911	1,364	3,547	5,433	23,964
Solomon Islands ²	..	..	..	1	..
South Africa	29	10	19	983	45,322
Spain	60,992	53,657	7,335	80,327	911,333
Sri Lanka	2,184	907	1,277	1,041	9,208
Sudan ³	2,571	911	1,660	917	..
Suriname ²	..	..	..	17	..
Swaziland ²	1,004	..	1,004	217	..
Sweden	8,989	6,204	2,785	16,364	132,073
Switzerland	28,695	10,504	18,191	56,649	207,670
Syrian Arab Republic ²	2,429	..	2,429	145	..
T F Y R of Macedonia ²	4,865	..	4,865	189	..
Tajikistan	2,894	259	2,635	261	37,119
Thailand ⁴	21,941	12,574	9,367	13,674	24,640
Tonga ²	..	..	..	1	..
Trinidad and Tobago ²	..	..	..	50	..
Tunisia ²	..	..	..	23	..
Turkey	48,001	35,543	12,458	48,208	332,782
Turkmenistan ²	2,807	..	2,807	..	..
Tuvalu ²	..	..	..	1	..
Uganda ³	629	..	629	..	..
Ukraine	25,516	11,974	13,542	15,212	92,837
United Arab Emirates ²	..	..	..	911	..
United Kingdom	39,500	28,767	10,733	71,276	456,411
United Republic of Tanzania ³	547	35	512	35	..
United States of America	184,306	157,726	26,580	285,489	1,433,107
Uruguay	12,484	4,468	8,016	4,845	81,957
Uzbekistan	4,417	991	3,426	998	38,553
Vanuatu ²	..	..	..	8	..
Venezuela ²	..	..	..	465	..
Viet Nam ²	4,391	..	4,391	451	..
Yemen	2,146	644	1,502	659	..

Name	Registrations by Office			Registrations by Origin	In Force by Office
	Total	Resident	Non-Resident	Total ¹	Total
Zambia ²	1,159	..	1,159	6	..
Zimbabwe ²	..	..	..	5	..

1. Registration by origin data are partial and incomplete, as some offices do not report detailed statistics containing the origin of all applications for which registrations were issued.
2. Resident registration data are missing, therefore origin data are partial and incomplete.
3. 2007 data are used for trademark registrations by office and by origin.
4. 2007 data are used for trademarks in force.
5. Registration by office data are missing, as this country does not have a national trademark office. All trademark registrations for this country are issued by the Benelux Office for Intellectual Property or the Office for Harmonization in the Internal Market.
6. Resident registrations for this regional office are comprised of those issued to residents of Belgium, Luxembourg and the Netherlands.
7. 2007 data are used for trademarks in force.
8. Resident registrations for this regional office are comprised of those issued to residents of EU member states.
- .. Not available

INDUSTRIAL DESIGNS

Table ID1: Industrial design applications by IP office and origin, 2008

Name	Applications by Office			Applications by Origin	Hague International Registrations, 2009	
	Total	Resident	Non-Resident	Total ¹	Origin	Designated Contracting Party
African Intellectual Property Organization	5	n.a.	5	n.a.	0	37
Albania	281	..	..	..	0	172
Andorra ²	..	..	..	4	0	n.a.
Antigua and Barbuda ²	..	..	..	1	0	n.a.
Argentina ²	..	..	..	50	0	n.a.
Armenia	272	8	264	9	1	159
Australia	6,077	2,727	3,350	4,182	0	n.a.
Austria	1,032	805	227	10,127	0	n.a.
Azerbaijan	55	25	30	25	0	n.a.
Bahamas ²	..	..	..	19	0	n.a.
Bangladesh ³	814	752	62	752	0	n.a.
Barbados ²	..	..	..	58	0	n.a.
Belarus	232	119	113	201	0	n.a.
Belgium ²	..	..	..	1,571	0	n.a.
Belize	406	6	400	9	0	136
Benelux	998	7	991	151	0	109
Benin	37	0	37	..	0	15
Bermuda ²	..	..	..	5	0	n.a.
Bosnia and Herzegovina	63	14	49	16	0	70
Botswana	43	0	43	..	0	26
Brazil	2,761	1,810	951	2,320	0	n.a.
Brunei Darussalam	17	1	16	9	0	n.a.
Bulgaria	337	270	67	703	5	33
Canada	5,282	664	4,618	2,095	0	n.a.
Chile	485	98	387	108	0	n.a.
China	312,904	298,620	14,284	300,907	0	n.a.
Colombia ³	446	166	280	235	0	n.a.
Cook Islands ²	..	..	..	1	0	n.a.
Côte d'Ivoire	43	0	43	..	0	19
Croatia	751	198	553	287	3	412
Cuba	18	7	11	7	0	n.a.
Cyprus	28	26	2	51	0	n.a.
Czech Republic	305	288	17	1,068	0	n.a.
Democratic People's Republic of Korea	182	0	182	22	1	64
Denmark	248	183	65	2,132	4	12
Dominican Republic ²	..	..	..	35	0	n.a.
Ecuador ³	185	72	113	73	0	n.a.
Egypt	417	0	417	6	1	274
El Salvador ²	..	..	..	8	0	n.a.
Estonia	135	84	51	128	0	26
Ethiopia ³	246	220	26	220	0	n.a.
Fiji ²	..	..	..	3	0	n.a.
Finland	220	206	14	2,545	0	n.a.
France	4,473	4,093	380	14,560	220	141
Gabon	26	0	26	..	0	9
Georgia	358	38	320	66	1	192
Germany	50,135	36,711	13,424	61,689	75	140
Ghana	4	0	4	..	0	14
Greece	388	252	136	413	0	52
Guatemala	85	21	64	24	0	n.a.
Hong Kong (SAR), China	3,078	1,447	1,631	3,061	0	n.a.
Hungary	407	295	112	558	3	40
Iceland	153	21	132	46	2	63
India ²	6,557	..	..	141	0	n.a.
Indonesia	4,307	2,866	1,441	2,890	0	361

Name	Applications by Office			Applications by Origin	Hague International Registrations, 2009	
	Total	Resident	Non-Resident	Total ¹	Origin	Designated Contracting Party
Iran (Islamic Republic of) ²	..	..	..	4	0	n.a.
Ireland	69	57	12	311	0	n.a.
Israel	1,794	1,312	482	1,667	0	n.a.
Italy	1,447	1,184	263	16,554	0	113
Jamaica ²	..	..	..	2	0	n.a.
Japan	33,569	29,621	3,948	43,949	0	n.a.
Kazakhstan	205	116	89	119	0	n.a.
Kyrgyzstan	239	0	239	..	0	158
Lao People's Democratic Republic ²	..	..	..	3	0	n.a.
Latvia	125	89	36	144	1	22
Lebanon ²	..	..	..	5	0	n.a.
Liechtenstein	399	6	393	653	13	301
Lithuania	48	39	9	85	1	21
Luxembourg ²	..	..	..	483	0	n.a.
Macau (SAR), China	111	17	94	17	0	n.a.
Madagascar	304	298	6	298	0	n.a.
Malaysia	1,702	630	1,072	966	0	n.a.
Mali	23	0	23	..	0	10
Malta	2	1	1	14	0	n.a.
Mauritius	13	6	7	42	0	n.a.
Mexico	3,181	1,188	1,993	1,278	0	n.a.
Moldova	382	74	308	103	4	192
Monaco	475	39	436	104	0	339
Mongolia	239	0	239	2	0	159
Montenegro	371	0	371	0	0	243
Morocco	1,230	758	472	776	6	341
Mozambique ³	55	23	32	23	0	n.a.
Namibia	45	0	45	..	0	29
Nepal ³	4	2	2	2	0	n.a.
Netherlands ²	..	..	..	4,720	0	n.a.
Netherlands Antilles	360	0	360	4	0	270
New Zealand	1,334	351	983	754	0	n.a.
Niger	25	0	25	..	0	10
Norway	679	252	427	592	0	n.a.
Office for Harmonization in the Internal Market	78,050	60,255	17,795	..	622	1,215
Oman	..	..	..	..	0	110
Pakistan	576	378	198	385	0	n.a.
Panama	54	0	54	34	0	n.a.
Papua New Guinea	6	1	5	1	0	n.a.
Paraguay ²	..	..	..	1	0	n.a.
Peru	342	84	258	87	0	n.a.
Philippines	1,221	640	581	658	0	n.a.
Poland	1,516	1,465	51	3,568	1	5
Portugal	306	292	14	1,133	0	n.a.
Republic of Korea	56,750	52,786	3,964	56,701	0	n.a.
Romania	497	404	93	524	2	46
Russian Federation	4,711	2,356	2,355	2,796	0	n.a.
Rwanda ³	1	0	1	..	0	n.a.
Saint Kitts and Nevis ²	..	..	..	1	0	n.a.
Samoa ³	6	0	6	9	0	n.a.
San Marino ²	..	..	..	13	0	n.a.
Sao Tome and Principe	..	..	..	..	0	10
Saudi Arabia ²	..	..	..	46	0	n.a.
Senegal	41	1	40	42	0	18
Serbia	473	119	354	134	4	180
Seychelles ²	..	..	..	19	0	n.a.
Singapore	1,759	354	1,405	716	0	470
Slovakia	117	85	32	295	0	n.a.
Slovenia	166	57	109	239	8	59
South Africa ²	..	..	..	171	0	n.a.

Name	Applications by Office			Applications by Origin	Hague International Registrations, 2009	
	Total	Resident	Non-Resident	Total ¹	Origin	Designated Contracting Party
Spain	1,586	1,377	209	6,290	14	98
Sri Lanka	402	350	52	358	0	n.a.
Sudan ³	52	52	0	52	0	n.a.
Suriname	44	0	44	..	0	24
Sweden	713	687	26	3,780	0	n.a.
Switzerland	2,291	1,123	1,168	11,840	625	1,207
Syrian Arab Republic	32	0	32	..	0	50
T F Y R of Macedonia	845	21	824	48	0	283
Tajikistan	24	0	24	..	0	n.a.
Thailand	3,820	2,735	1,085	2,839	0	n.a.
Tunisia	418	0	418	8	0	341
Turkey	7,243	6,081	1,162	6,927	60	752
Ukraine	2,830	1,946	884	2,118	4	447
United Arab Emirates ²	..	..	..	23	0	n.a.
United Kingdom	4,009	3,681	328	10,935	0	n.a.
United States of America	27,782	15,463	12,319	33,789	0	n.a.
Uruguay ²	..	..	..	16	0	n.a.
Uzbekistan	83	46	37	46	0	n.a.
Vanuatu ²	..	..	..	1	0	n.a.
Venezuela ²	..	..	..	5	0	n.a.
Viet Nam ²	..	..	..	10	0	n.a.
Yemen ³	103	72	31	72	0	n.a.

1. Industrial design application by country of origin data are partial and incomplete, as some offices do not report detailed statistics containing the origin of all applications.

2. Resident application data are missing, therefore origin data are partial and incomplete.

3. 2007 data.

n.a. Not applicable

.. Not available

Table ID2: Industrial design registrations by IP office and origin, and industrial designs in force, 2008

Name	Registrations by Office			Registrations by Origin	In Force by Office
	Total	Resident	Non-Resident	Total ¹	Total
African Intellectual Property Organization	5	n.a.	5	n.a.	n.a.
Albania	276	..	..	..	..
Antigua and Barbuda ²	..	..	..	2	..
Argentina ²	..	..	..	54	..
Armenia	261	4	257	6	98
Australia	6,097	2,455	3,642	3,814	48,358
Austria	942	750	192	10,807	18,527
Azerbaijan	25	17	8	17	..
Bahamas ²	..	..	..	28	..
Bangladesh ³	408	384	24	386	..
Barbados ²	..	..	..	57	..
Belarus ⁴	197	105	92	135	823
Belgium ²	..	..	..	1,582	..
Belize ²	400	..	..	6	..
Benelux	1,077	7	1,070	67	13,152
Benin	37	0	37	..	..
Bermuda ²	..	..	..	2	..
Bosnia and Herzegovina	24	6	18	8	247
Botswana	43	0	43	..	..
Brazil	5,897	3,945	1,952	4,301	57,309
Brunei Darussalam	17	1	16	7	..
Bulgaria ²	347	..	..	674	..
Canada	5,916	613	5,303	1,858	28,480
Chile	227	18	209	36	7,874
China	141,601	130,647	10,954	132,701	388,252
Colombia ³	197	62	135	113	2,046
Cook Islands ²	..	..	..	4	..
Costa Rica ²	..	..	..	4	..
Côte d'Ivoire	43	0	43	..	..
Croatia	704	137	567	201	3,599
Cuba	10	6	4	6	356
Cyprus	28	26	2	51	166
Czech Republic	348	304	44	1,152	4,727
Democratic People's Republic of Korea	182	0	182	21	..
Denmark	210	139	71	2,068	5,277
Dominican Republic ²	..	..	..	30	..
Ecuador ³	185	72	113	72	127
Egypt	336	0	336	5	..
El Salvador ²	..	..	..	4	..
Estonia	175	87	88	123	1,662
Ethiopia ³	167	145	22	145	..
Fiji ²	..	..	..	4	..
Finland	173	165	8	2,038	4,011
France	257	33	224	10,078	400,000
Gabon	26	0	26	..	..
Georgia	353	36	317	41	297
Germany	51,043	36,182	14,861	60,768	297,206
Ghana	4	0	4	..	..
Greece	357	220	137	394	8,108
Guatemala	6	0	6	5	59
Haiti ²	..	..	..	1	..
Hong Kong (SAR), China	3,035	1,430	1,605	3,111	237,718
Hungary	350	234	116	528	2,141
Iceland	148	23	125	48	395
India ²	4,772	..	..	280	..

Name	Registrations by Office			Registrations In Force	In Force
	Total	Resident	Non-Resident	by Origin	by Office
				Total ¹	Total
Indonesia	441	0	441	38	..
Iran (Islamic Republic of) ²	..	..	..	2	..
Ireland	101	78	23	357	1,082
Israel	1,077	724	353	1,071	..
Italy	2,442	2,164	278	18,317	..
Jamaica ²	..	..	..	3	..
Japan	29,382	25,986	3,396	39,060	256,823
Kazakhstan	84	39	45	40	307
Kyrgyzstan	239	0	239	..	..
Latvia	112	74	38	132	844
Lebanon ²	..	..	..	2	..
Liechtenstein	399	6	393	510	..
Lithuania	38	26	12	74	417
Luxembourg ²	..	..	..	435	..
Macau (SAR), China	55	2	53	3	308
Madagascar	392	378	14	378	1,617
Malaysia	1,483	580	903	817	10,371
Mali	23	0	23	1	..
Malta	2	2	0	48	185
Mauritius	13	3	10	31	..
Mexico	2,444	591	1,853	633	17,162
Moldova	369	73	296	94	4,089
Monaco	478	41	437	100	..
Mongolia	239	0	239	..	..
Montenegro	361	0	361	0	..
Morocco	401	0	401	17	13,769
Mozambique ³	55	23	32	23	..
Namibia	45	0	45	..	..
Nepal ³	4	2	2	2	..
Netherlands ²	..	..	..	4,307	..
Netherlands Antilles	360	0	360	7	..
New Zealand	1,533	404	1,129	818	9,317
Nicaragua ²	..	..	..	100	..
Niger	25	0	25	..	..
Norway	731	269	462	723	..
Office for Harmonization in the Internal Market	78,697	60,990	17,707	..	369,784
Pakistan	382	236	146	244	..
Panama	45	7	38	42	292
Papua New Guinea	5	1	4	1	5
Paraguay ²	..	..	..	8	..
Peru	381	93	288	101	1,486
Philippines	1,214	493	721	515	..
Poland	1,272	1,207	65	3,293	11,062
Portugal	310	291	19	1,029	4,187
Republic of Korea	39,858	36,645	3,213	40,427	213,566
Romania	907	781	126	860	1,206
Russian Federation	3,657	2,062	1,595	2,555	18,451
Rwanda ³	1	0	1	0	..
Samoa ³	6	0	6	4	9
San Marino ²	..	..	..	15	..
Saudi Arabia ²	..	..	..	96	..
Senegal	41	1	40	38	..
Serbia	382	44	338	57	6,967
Seychelles ²	..	..	..	24	..
Singapore	1,781	391	1,390	703	63,479
Slovakia	93	71	22	259	1,266
Slovenia	169	58	111	234	734

Name	Registrations by Office			Registrations by Origin	In Force by Office
	Total	Resident	Non-Resident	Total ¹	Total
South Africa ²	..	..	..	187	..
Spain	1,738	1,526	212	6,575	40,152
Sri Lanka	89	85	4	92	1,102
Sudan ³	51	51	0	51	..
Suriname	44	0	44	..	..
Swaziland ²	..	..	..	4	..
Sweden	584	561	23	3,208	8,780
Switzerland	2,287	1,150	1,137	10,999	8,907
Syrian Arab Republic	10	0	10	..	..
T F Y R of Macedonia	844	20	824	36	8,215
Tajikistan	8	0	8	..	41
Thailand ⁴	1,938	719	1,219	793	4,268
Trinidad and Tobago ²	..	..	..	1	..
Tunisia	418	0	418	15	..
Turkey	6,874	5,706	1,168	6,459	45,728
Ukraine	3,048	2,086	962	2,244	11,102
United Arab Emirates ²	..	..	..	84	..
United Kingdom	4,079	3,745	334	10,452	50,719
United States of America	25,565	13,713	11,852	32,546	229,581
Uzbekistan	67	44	23	45	262
Vanuatu ²	..	..	..	1	..
Venezuela ²	..	..	..	7	..
Viet Nam ²	..	..	..	2	..
Yemen ³	64	35	29	35	..

1. Industrial design registration by country of origin data are partial and incomplete, as some offices do not report detailed statistics containing the origin of all applications for which registrations were issued.

2. Resident registration data are missing, therefore origin data are partial and incomplete.

3. 2007 data.

4. 2007 data are used for industrial designs in force.

n.a. Not applicable

.. Not available

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