



The Development of Singapore's Intellectual Property Rights Regime

Lee Kuan Yew School of Public Policy - Microsoft Case Studies
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Case Title:
The Development of Singapore's
Intellectual Property Rights Regime

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The Development of Singapore's Intellectual Property Rights Regime

“I accompanied George Shultz on a visit to the Istana. Shultz made a pitch for Singapore to upgrade her IPR as it was in her long-term interest if Singapore wanted to attract firms from knowledge intensive industries. Singapore might one day also become a provider of intellectual property.

The collective thinking at that time was that Singapore was not ready. In fact, I spoke out of turn during the meeting by agreeing with Shultz ... I thought I would lose my job.”

Tommy Koh

Former Ambassador of Singapore to the United States of America¹

I.

Introduction

In 1984, United States Senator Patrick J. Leahy, member of the Subcommittee on Patents, Copyrights and Trademarks, described Singapore as “the piracy capital of the world”.² At the time, estimates of the cost of piracy in Singapore to American industry ranged from USD 60 million to USD 1 billion.³

In less than three decades, however, Singapore's intellectual property rights regime is consistently recognised as one of the best in the world by international surveys: Singapore was ranked second in the world in the World Economic Forum's Global Competitiveness Report (2013-2014).⁴ It was ranked fifteenth in the world and fourth in the Asia and Oceania region on the intellectual property rights pillar of the International Property Rights Index (2013).⁵

This case study describes the development of Singapore's intellectual property rights regime after independence and separation from Malaysia in 1965 – a period characterised by rapid economic growth and restructuring. Corresponding to its strategy of moving up the value chain and developing a knowledge-intensive economy, Singapore used the intellectual property rights system as a tool to achieve its economic goals based on a utilitarian approach and has reaped the benefits through higher inflows of foreign direct investment in the research and development (R&D) intensive sectors.⁶

The remainder of this case study has five sections. Section II provides a brief background on the development of international laws and conventions on intellectual property (IP) and the arguments for and against IP protection as stated by developed and developing countries. Section III describes the economic development of Singapore, which has three distinct phases. Between 1965 and 1989, the country attracted foreign multinational companies (MNCs) to build manufacturing capacity for exports and foster learning. In the mid-1980s, the United States started the practice of linking international trade with IP protection and pressured Singapore to enact a stronger copyright law – a move corresponding to the shift in the country's focus towards high technology industries. From 1990 to 1999, Singapore promoted the service sector and sought to deepen its technology base so as to create an ‘external’ economy, to benefit from globalisation.⁷

Section IV describes the evolution of the intellectual property rights regime in Singapore. During the 1990s Singapore's IP landscape was completely refurbished as the country fulfilled its political and diplomatic obligations to its trading partners in the World Trade Organization (WTO) by implementing the Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS). Since 2000, Singapore has been moving towards a knowledge-based economy by fostering its R&D-intensive industries and creative clusters. In 2003, the signing of the US-Singapore Free Trade Agreement (USSFTA) represented another milestone in the development of the IP regime. This was accompanied by the further development of the institutional framework for IP protection. Section V describes the institutions that were established for the civil and criminal enforcement of IP rights. These include, among others, the

Intellectual Property of Singapore (IPOS) and the Singapore Police Force (SPF). Section VI provides concluding observations.

II. About Intellectual Property

According to the World Intellectual Property Organization (WIPO), IP is the product or result of intellectual activity in the industrial, scientific, literary or artistic fields.⁸ IP is a generic term for seven subsidiary categories: patents, copyrights, trademarks, industrial designs, geographical indications, confidential information or trade secrets, and layout-designs of integrated circuits ([exhibit 1](#)). In theory, the protection of IP encourages investment in R&D and innovation. Nonetheless, too much legal protection, especially mistaken protection of products or service delivery methods that are not truly novel, can hinder innovation and entrepreneurship.⁹

International IP law is based on three principles – territoriality (circumscribed by the laws of the land within which these private property rights are created);¹⁰ national treatment (the country is to protect the IP of nationals of other countries in a manner that is no less favourable to the protection accorded to its own nationals)¹¹ and convention priority (priority filing for applications already registered in another member country).¹² Based on these concepts, the fundamental minimum standards of global IP protection were laid down in the Paris Convention for the Protection of Industrial Property of 1883 and Berne Convention for the Protection of Literary and Artistic Works of 1886.

Under the Paris Convention, signatories agreed to provide national treatment for foreign works under their domestic laws for patents, trademarks, industrial designs, trade names, appellations of origin and utility models. The Berne Convention set out similar provisions and minimum terms for copyrights. These conventions are administered by WIPO, which is a United Nations (UN) agency established in 1967. The Paris and Berne minimum standards were confirmed and in certain cases, raised by the TRIPS agreement in 1994.¹³ The TRIPS agreement introduced one more principle for IP legislation: most-favoured-nation treatment. According to this principle, WTO member countries are not allowed to discriminate between trading partners.¹⁴

Governments and corporations of developed countries pushed for the strict IP protection mandated by TRIPS, as there were a couple of weaknesses associated with the Paris and Berne conventions and with using WIPO as a multilateral forum for raising IP standards. Firstly, both conventions lacked strong enforcement provisions, a problem that was compounded by developing countries' reluctance to fully comply with their obligations or to sign the conventions in the first place. Secondly, attempts to strengthen the enforcement mechanisms of the Paris and Berne conventions failed due to WIPO's voting system, which enabled developing countries to use their numerical strength to protect their economic interests. In comparison, the TRIPS agreement supports the developed world's interests as it applies equally to all WTO members and can be enforced through the WTO's dispute settlement mechanism.

From a developed country's perspective, stronger protection for intellectual property is justified on the basis that right holders should be allowed to recoup the investment they have made in R&D and intellectual creativity. From a developing country's perspective, the misappropriation of IP rights is acceptable on several grounds. For example, developing countries often argue that they should have equal access to life-saving drugs and technology at affordable prices. Many use compulsory licensing and suggest that recoupment of R&D investment should be done primarily in markets in developed countries, where consumers can afford the higher cost of products protected by IP laws. Developing countries perceive IP rights as a means for developed countries to reinforce their economic power and to transfer wealth from developing to developed countries. A strong IP rights regime is also considered a hindrance to the acquisition of technology by developing countries, hence preventing them from catching up.¹⁵ In the 1960's Mr. E. W. Barker, then minister of law and national development of Singapore, expressed similar sentiments in parliamentary debates:¹⁶

“... though Singapore has attended many international conferences on protection of copyrights, designs and patents, we are not a signatory to any international convention on copyrights. We have not signed because it is the developed countries that have the know-how and knowledge of these matters. They have in the past refused or have been rather reluctant to help developing countries ...”

III. Singapore's Economic Development

In 2012, Singapore's per capita gross domestic product (GDP) measured on a purchasing power parity basis was USD 60,800. This was the fifth highest in the world, and second highest in Asia, behind Macao SAR, China (USD 86,341).¹⁷ Between 1965 and 2013 Singapore's real GDP grew at an average annual compound rate of 7.46%.¹⁸ Over that period the government has re-assessed and fine-tuned its economic strategy, most recently in 2010 through the Economic Strategies Committee.¹⁹

A major challenge for Singapore in the immediate post-independence years was transitioning from a re-export economy to an export economy. To this end, Singapore relied heavily on foreign direct investment (FDI) from developed countries to build its manufacturing base. Underpinning this approach were not only its traditional strengths such as shipping, ship-repair and petroleum refining and the light engineering skill base, but also constraints such as the dearth of entrepreneurs in Singapore, and regional markets that were likely to impose high tariffs on Singapore's exports to protect their own industries.

The key vehicles of growth were MNCs, which brought investments, technology and markets for their goods. Singapore's Economic Development Board (EDB), a development-oriented institution established by the government in 1961, was instrumental in attracting MNCs to establish their manufacturing facilities in Singapore.

State-owned enterprises (SOEs) also played a major role in Singapore's economic development and continue to be important today. They are now referred to as 'government-linked companies' since most of them have been privatised (however, with Singapore's sovereign wealth fund, Temasek, holding significant stakes).

At the early stage of development the focus was on job creation, or attracting low-skill, labour intensive industries such as electronics, textiles and garments. As then finance minister Goh Keng Swee observed in 1970: "The electronics components we make in Singapore probably require less skill than is required by barbers or cooks, consisting mostly of repetitive manual operations".²⁰ Therefore, in the 1960s, there was less emphasis on developing competitive strengths that would be especially attractive to capital- and skill-intensive MNCs. Instead the government ensured that Singapore was an attractive destination for FDI by offering financial incentives such as tax holidays and investing in high quality infrastructure. It ensured the availability of an adequately skilled and compliant labour force through education policies and the formation of the National Trade Union Congress (NTUC), which worked cooperatively with the government and employers.

From the 1970s Singapore has had to contend with challenges such as resource constraints in land and labour and a low indigenous technology base compared to developed countries. Singapore responded to these challenges by preserving its broad strategy of export-led growth supplemented with various government policies to encourage the transition to higher value-added activities. In the late 1970s and 80s, the emphasis was on industrial restructuring towards more capital- and skill-intensive industries such as engineering design, precision manufacturing and computer services.

In the 1980s there was increased competition in export markets from lower-cost neighbouring countries but more so from the increase in Chinese exports (exhibit 2). Thus planning for the 1990s included strategies to promote the service sector, to deepen the technology base by moving the manufacturing sector up the value chain and to foster the creation of an 'external' economy to benefit from globalisation.²¹ After the 1997 Asian financial crisis, there was a further push to transition toward a knowledge-based economy by encouraging innovation and entrepreneurship, expanding external ties by embracing globalisation through the multilateral trading framework of the WTO, as well as through regional and bilateral free trade agreements. As of 2013, there has been a renewed effort to sustain economic growth by fostering innovation, commercialising research and development, building a high quality living environment and striving to anchor Singapore as a global hub in Asia.²²

IV. Evolution of Singapore's Intellectual Property Regime

Singapore enacted only two IP laws in the 1960s: the Copyright (Gramophone Records on Government Broadcasting) Act 1968 and the Patents (Compulsory Licensing) Act 1969. The former act offers an interesting insight into Singapore's

attitude towards economic policy and intellectual property at the time. The Copyright Act 1968 was introduced to Parliament for two reasons. Firstly, to deal with the increase in import and sale of pirated records, which threatened the livelihood of local artists and the business of three newly established sound recording companies. Secondly, to exempt government broadcasting from infringement of copyright in musical works and gramophone records, in order to stop payment of royalties to UK-based organisations.²³ The motivation for introducing the Patents (Compulsory Licensing) Act 1969 was to reduce imports of pharmaceutical products and medical devices, so as to save foreign exchange and to make these products available at lower cost through domestic manufacturing.²⁴

It was not until 1987 with the passing of the Copyright Bill, that Singapore developed indigenous IP laws. However the issue of IP was raised as early as 1981, when in response to a question in parliament, then minister of law, Mr. E. W. Barker stated:²⁵

"The subject of patent law is highly technical in nature and involves complex legal ramifications. Singapore does not have the manpower - the experts required to set up our own independent patent system, involving a full examination by qualified examiners. An in-depth study, having regard to international conventions ... and more importantly, to our own economic needs, is necessary before decisions can be made on the manner in which our law should be amended."

Before 1987 the laws of the United Kingdom (UK) provided IP protection in Singapore.²⁶ The Imperial Copyright Act 1911, which came into force in Singapore on 1 July 1912, remained the statutory basis for copyright protection in Singapore until 10 April 1987 when it was repealed by the Copyright Act. Until 1994, the only way to obtain patent protection in Singapore was through the Registration of UK Patents Act 1937, which required an applicant to first obtain a patent in the UK before re-registering the patent in Singapore with the Registry of Trademarks and Patents (Registry).²⁷ The re-registration was a formality since the Registry did not conduct any independent examination into the substantive requirements for patentability. Instead, the Registry relied on assessments made by the British Patent Office.

Until 13 November 2000, protection of registered designs or designs used as models for the production of articles based on such designs was provided under the UK Designs (Protection) Act 1938. There was no system for registering designs in Singapore; therefore design protection was automatic and not dependent on re-registration once the design had been registered in the UK.²⁸ Until 1992, trademarks were protected by the registration system under the UK Trade Marks Act 1938. Unlike patents and designs, trademarks could be registered directly in Singapore at the Registry.

In the mid-1980s, governments of developed countries turned away from the Paris and Berne conventions due to their weak enforcement mechanisms. WIPO's framework also had limitations since the voting system enabled developing countries to use their numerical strength to protect their economic interests. Instead, developed countries, particularly the United States, shifted their focus to negotiating bilateral measures, while simultaneously shaping the global trade policy agenda through the

Uruguay Round of multilateral trade negotiations (1986-1994) and later, the TRIPS agreement.

Linking preferential trade privileges with IP rights protection at a bilateral level was a policy innovation widely used by the US in the 1980s.²⁹ This shift was in part due to the lobbying power of industry associations representing firms with a comparative advantage in IP-based products and processes.³⁰ The US government and businesses were motivated to incorporate a stronger IP protection component in trade agreements for two main reasons. Firstly, corporations such as IBM, Pfizer and Microsoft, which had large intellectual property portfolios, were worried about the loss of profits due to piracy. Secondly, Congress came on board with the business community's idea of developing an IP strategy because of the widespread fears in the 1980s about the loss of US competitiveness primarily to the emerging economic power of Japan.³¹

In 1984, the United States passed the Trade & Tariff Act, tying the trading privileges granted to developing countries through the Generalized System of Preferences (GSP), to their respect and protection of US-origin IP.³² In 1985, the United States Trade Representative, the US Patent and Trademark Office and the International Intellectual Property Alliance identified Singapore as a "problem country" with respect to IP rights. While there were domestic benefits of stronger IP laws, the US government exerted pressure on Singapore to enact a new copyright law before the completion of the US GSP Review in January 1987 or lose the benefits of GSP status.³⁴ Brigadier General Lee Hsien Loong, minister for trade and industry in 1988 emphasised the link in parliament:³⁵

"We showed the US our draft copyright legislation and pointed out that we had expedited our legislation ... because of the US GSP General Review. Secondly, that we had incorporated specific provisions which the US side had requested. The US studied this. They made further specific requests for changes. We took note.

The US delegation stressed that it would recommend a favourable GSP package described below if the new Copyright Act were passed with the changes ... by the end of 1986.

In other words, improve copyright, better GSP package ... It is quite unambiguous."

The decision to give in to US demands on creating a stronger IP regime was not easily made. As Tommy Koh, former Ambassador to the United States described: "The collective thinking at that time was that Singapore was not ready."³⁶ Short-term concerns over higher prices for consumers clashed with long-term development interests. Professor S. Jayakumar, second minister for law in 1988, argued in parliament for the long-term benefits:³⁷

"The improved copyright provisions will ... give an incentive to both local and foreign printing and publishing companies to expand their activities here. Major international computer companies and software houses

planning to set up software development centres in Singapore can be assured that the products will be adequately protected."

Other members of parliament alluded to the benefits to Singapore from strong trade and investment links with the United States. Mr. Chng Hee Kok, Member of Parliament for Radin Mas stated:³⁸

"... the other repercussion is that this may affect our efforts in attracting new investments into Singapore. The access to the US market through the GSP is a very important investment tool. Of the some 50 or so major exporters to the US under the GSP, about 70% are foreign-owned, mainly from the US, the European Community and Japan. Their export value is much higher than 70%. With the loss of this important investment tool, we will have to work much harder to be ahead of other developing countries."

In the end, the desire to attract American software companies and to benefit from the GSP privileges took priority, and Singapore passed the Copyright Act 1987.

Singapore joined WIPO in 1990 and reviewed its patent law, aided by the organisation's expertise. The new Patents Act was passed in 1994 and was modelled on the UK Patents Act 1977 with a special allowance for parallel imports. Singapore's patent registration relies on a self-examination system where grants are based on search and examination reports of designated foreign patent offices or the International Search and Preliminary Examinations Authorities under the Patent Cooperation Treaty (PCT). Using the British Patent Office for registration was considered too costly and time consuming and the Singapore Registry did not want to bear the costs of building examination capabilities. Thus, at the same time as the Patents Act of 1994 came into force in 1995, Singapore acceded to the PCT, the Budapest Treaty and the Paris Convention.³⁹

Singapore joined the WTO on January 1, 1995 ready to implement the minimum standards of the TRIPS Agreement. The timeline for full compliance with TRIPS depended on the member country's stage of economic development. Developed countries had one year from 1 January 1995, developing countries had five years while least developed countries had ten years (a period which has been extended twice by the Council for TRIPS).⁴⁰ Singapore had the status of a developing country, and during the five-year transition period, made the following legislative changes to meet its TRIPS obligations:⁴¹

- Patents (Amendment) Act 1995
- Trade Marks Act 1998
- Geographical Indications Act 1998
- Copyright (Amendment) Act 1998 and 1999 – after Singapore acceded to the Berne Convention in 1998.
- Layout Designs of Integrated Circuits Act 1999

By 1 January 2000, Singapore took the position that its IP laws were in compliance with the minimum standards imposed by TRIPS. Nevertheless, Singapore continued

to appear on the 'Watch List' of United States Special 301 Report for three reasons.⁴² Firstly there was the problem of optical disk piracy, or the continued availability of pirated CDs, VCDs and CD-ROMs at "notorious shopping malls" in Singapore. Secondly, the self-help approach to IP enforcement adopted by the Singapore government, which shifted the primary burden, and expense of investigating and prosecuting infringement on IP right owners was considered inadequate. Lastly, the US was of the view that insufficient efforts were made at the borders to stop the inflow and trans-shipment of infringing articles through Singapore. In other words, the reasons did not reflect the absence of IP rights, but rather, lax enforcement.

In 2001, Singapore did not appear on the 'Watch List' of the Special 301 Report. Instead the report alluded to pursuing a higher standard for the protection of IP than TRIPS, through the negotiation of (bilateral) free trade agreements (FTAs) with Jordan, Chile and Singapore. The report justified its approach on the basis that the TRIPS agreement did not reflect the technological changes that had taken place since the negotiation of TRIPS in the late 1980s and early 1990s.⁴³ As a result, the signing of the USSFTA on 6 May 2003 led to the latest significant developments in Singapore's IP regime.

Before the USSFTA, Singapore had already signed two other FTAs, one with the European Free Trade Association (June 2002) and another with Australia (February 2003), both of which contained TRIPS-plus provisions. While these treaties did not evoke much response in the IP community, the USSFTA was more controversial.⁴⁴ The USSFTA eliminated, parallel importation of pharmaceutical drugs (without the patent holder's consent);⁴⁵ limited the use of compulsory licenses; extended the minimum copyright term; enhanced enforcement and expanded protection for pharmaceutical and agricultural chemical products, including a period of data protection exclusivity for test data.⁴⁶ The latter two obligations were also part of the US-Jordan FTA signed in October 2000. The source of the controversy was that the IP chapter of the USSFTA contained obligations that were "TRIPS-and-WIPO-plus". These were contrary to the Doha Declaration (2001), which re-affirmed TRIPS to emphasize the primacy of public health over patent rights.⁴⁷

As a result of the USSFTA, Singapore once again undertook legislative reforms so as to harmonise its IP laws with those of the United States. This included amending Singapore's Copyright and Trade Marks Acts. Once again, what was perceived as giving in to US demands was not without controversy. Tommy Koh, Singapore's Chief Negotiator of the USSFTA, saw the process from both the perspective of the internal debate it caused in Singapore and the possibilities it afforded for the country: "We were pressured hard on IPR. The bureaucracy was reluctant to agree but George Yeo thought it presented us with the opportunity to develop the best IP regime, renown in Asia". Once again, long-term interests won in a later seemingly justified way: "History will vindicate George Yeo, had it not been for the USSFTA, we may not have received a lot of the FDI, especially from the pharmaceuticals". The gains of Singapore's adaptive IPR regime have been managed by a continuously improving institutional framework, which is discussed in the next section.

V.

Supporting Institutions

Singapore's IP rights regime is implemented through the cooperation of four institutions. The Ministry of Law is responsible for IP legislation, policy and strategy and it takes a leading role in coordinating the work of the various agencies involved in IP enforcement. The Intellectual Property Office of Singapore (IPOS), formerly known as the Registry of Trade Marks and Patents (1937-1999) is a statutory board under the Ministry of Law. IPOS was established as a separate and self-financing legal entity in 2001, prior to which it was a department of the Ministry of Law.⁴⁸ IPOS administers Singapore's IP regime. In addition, it promotes the use of IP for business competitive advantage and conducts public awareness and education programs. It operates the national IP registries, participates in international discussions on enforcement and builds expertise so as to facilitate the development of the IP ecosystem in Singapore.

IPOS works closely with two enforcement agencies – the Singapore Police Force and the Singapore Customs. The Singapore Police Force established its IPR Warrant Unit in 1995 to centralise the enforcement process for the execution of search warrants by IPR owners. In 2000, the unit was expanded and formally set up as the Intellectual Property Rights Branch (IPRB) with an enhanced approach in IPR enforcement and investigation.⁴⁹

Government agencies work closely together to combat violations using a '3E approach' – Enforcement; Education and Engineering.⁵⁰ Engineering refers to the creation of an environment where the public is exposed to genuine products readily.⁵¹

IPOS' educational efforts are aimed at the general public and various target groups – most importantly the business community, IP professionals, and students. In 2002, IPOS established the Honour Intellectual Property (HIP) Alliance - a group of government agencies and industry associations. The goal was to raise public awareness on IP through roadshows, rallies, concerts, short films and social media tools.⁵² In 2012, more than 72,000 people took part in various online activities and offline events.⁵³

IPOS has a variety of initiatives and programs targeted to the needs of different stakeholders. For example, it offers eSearch and eFiling services. The former allows searching of patent, trademark and design applications filed with IPOS and the latter allows for online filing. There are various programs, which help local companies to assess, safeguard and better utilise their intellectual property. IPOS has developed a diagnostic method called SCOPE IP, which helps companies to assess the strengths and weaknesses of their IP management systems. A number of grants are also available for small and medium scale enterprises and for companies seeking to expand internationally. In addition to enhancing their IP management strategies, these grants help companies to offset filing costs.⁵⁴ In 2002, a variety of educational programs and resources for businesses and professionals were provided through the IP Education and Resource Centre (IPERC).⁵⁵ In 2003, IPOS set up the IP Academy, a centre of excellence for executive IP education focusing on development of knowledge and capabilities in the protection, exploitation and management of IP.⁵⁶

More recently, in early 2014, IPOS established a one-stop service centre called IP 101, which provides information, education, training, advice and facilitates filing.⁵⁷

iperckidz was a spin-off from IPERC and sought to provide IP facts to the students and teachers in the form of a one-stop online resource centre.⁵⁸ Commenting on the student programs, Ms. Liew Woon Yin, Director General of IPOS (2001-2011) recalls: "The approach that we took for public education was to help the targeted group see the value in IP protection. We tried to make the programs fun for the schools. There were skits, camps and comics. At the time, there were rumours that it was okay to have children sell pirated VCDs/DVDs because the Police will let these minors off with nothing more than a warning. The Police were able to dispel this false notion through the skits".

Enforcement was based on a gradual and positive approach. Instead of immediate prosecution, the emphasis was on educating the public about the legal and security risks of non-compliance.⁵⁹ IPOS engaged with the Business Software Alliance (BSA) to conduct software asset management (SAM) seminars and encourage software audits for small and medium scale enterprises.⁶⁰ It partnered with Microsoft and other information technology companies to launch a Software Licensing Program, which offered, discounted prices for companies to purchase legitimate software.⁶¹ IPOS also collaborated with SPRING, a statutory board responsible for local enterprise development, to identify companies, which were 'ready' to protect or to leverage their IP.⁶²

Singapore's main IPR enforcement agency, the Intellectual Property Rights Branch (IPRB) of the Police conducts enforcement raids based on information received from the IP owners, through anonymous tips, referrals from other agencies, and proactive monitoring for IP infringement (exhibit 3). Ms. Tan Shing Shin, Deputy Head of IPRB emphasises the importance of close working relationship with IPR owners: "Singapore's approach in tackling IPR infringements is a collaborative one where the IPR owners display ownership and take the lead in enforcing their own rights while IPRB assists by executing the search warrants and ensuring law and order during the raids conducted".⁶³

While cross-agency collaboration took place from the beginning, public awareness programs, IPR schemes for businesses and the collaborative approach in IPR enforcement succeeded gradually and over time. Reflecting on the initial relationship between IPOS and its stakeholders, Ms. Liew Woon Yin remarked: "One of the biggest challenges was building trust with law firms, businesses, federations like FICPI (International Federation of Intellectual Property Attorneys) and schools".⁶⁴

In April 2013, the Singapore government accepted the recommendations of the IP Steering Committee to develop Singapore into a Global IP Hub in Asia.⁶⁵ Acknowledging that IP has become an increasingly important driver of business growth, the 10-year master plan recognises a window of opportunity for Singapore to become a hub for IP transactions and management, quality IP filings, and dispute resolution in the region leveraging its IP infrastructure, high quality workforce, and strategic geographical location.⁶⁶ To enable this goal, IPOS developed an IP Competency Framework (IPCF) - a set of competency standards to raise the quality

of IP training and education.⁶⁷ The master plan also underscores the importance of maintaining a conducive and progressive IP environment to encourage professionals and businesses to bring their IP activities to Singapore and create a rich and internationally visible IP ecosystem.

VI.

Conclusions

In the early stages of development, Singapore's assessment of the relative costs and benefits of a strong IP regime was no different from that of many present-day developing countries. Cost of medicines and public health considerations as well as the need to promote domestic manufacturing capabilities were the priorities. Later of course, as the country developed, it implemented indigenous laws as well as set up the supporting institutions required for a strong and enforceable IP regime. However, two factors, which are particular to Singapore, deserve mention. Firstly, Singapore is a small open economy and therefore was perhaps more susceptible to trade-related pressures to improve its IP regime. It had more to lose from compromising its trade and investment relationships with major trading partners such as the US. Secondly, in retrospect, Singapore appears to have been more forward looking than is generally the case; in other words, long-term benefits from a strong IP regime are likely to have been accorded a higher weight than short-term costs. Singapore recognised that a strong IP regime is not just about supporting indigenous innovation or attracting FDI. There are spillover effects in the economy such as the need for trained patent examiners and patent lawyers and the ability to attract IP litigation and management firms to locate in Singapore.

Singapore has clearly benefited from a strong IP regime and continues to build a reputable ecosystem, one that is recognised not just regionally but globally. While detailed sector-specific FDI data are not available, data on the FDI inward stock in the manufacturing sector show that the share of pharmaceuticals increased from 21.5% in 2001 to 32.4% in 2011.⁶⁸ At an aggregate level, the inward FDI stock in Singapore in 2012 was USD 682 billion and the inward FDI flows were USD 57 billion; the latter, 4.2% of world FDI inflows.⁶⁹ The average annual compound growth rate of the inward stock was 11.7% over the period 2009-12 while that of inward flows was 27.3% over the same period. Balance of payments data show that charges for the use of IP such as royalty and license fees payable to Singapore increased from USD 842 million in 2009 to USD 1.65 billion in 2012.⁷⁰

Strong IP protection is just one of many factors that influence FDI inflows, but it is well known that Singapore has always had a good business environment and has welcomed FDI. A strong IP regime influences not just the quantity of FDI inflows, but also the quality. In other words, it influences which activities MNCs choose to locate in Singapore. Stronger IP protection attracts R&D intensive activities and creates a demand for skilled workers and therefore higher-paid jobs. Singapore has not only attracted R&D intensive investment in the life sciences sector but also in digital media and aviation, among others. Examples include Pfizer, Novartis, Koei Entertainment, Electronic Arts, Ubisoft, Lucasfilm, ETH Zurich, Rolls Royce and Thales. IP Management companies include Thomson Reuters, Intellectual Ventures

Asia and Transpacific IP Management Group.⁷¹ In 2013 more than 300 new jobs were created in the IP sector including for lawyers, consultants and patent and trademark agents.⁷²

International comparisons (exhibits 4 and 5) of patenting activity and grants of IP show that Singapore compares very favourably with countries such as Denmark and outperforms others such as Norway, Ireland, Hong Kong and indeed on some metrics, even the United Kingdom and the United States. Singapore is an attractive location for both Singaporeans and non-Singaporeans for filing patents and registering trademarks and industrial designs (exhibit 6). Focusing on building an ecosystem has other advantages. In 2010, WIPO set up an Arbitration and Mediation Centre in Singapore. This was the first such centre to be established outside of WIPO's base in Geneva. In 2013 the IP Office of the United Kingdom (UKIPO) and the French National de la Propriété Intellectuelle (INPI) located their regional IP offices in Singapore.⁷³

The ASEAN (Association of Southeast Asian Nations) region is perhaps the most diverse in the world in terms of levels of prosperity. While there may be little incentive for countries such as Laos and Myanmar to devote much attention to IP, others such as Indonesia, Malaysia, Thailand, Vietnam and the Philippines may benefit from Singapore's example of a sure and steady approach to building a strong IP regime. While a strong IP regime may not be a necessary condition for attracting FDI, it is, for moving towards an innovation-based economy.

Exhibits



Exhibit 1 About Intellectual Property

Patent

A patent is an exclusive right granted for an invention, which is a product or a process that provides a new way of doing something, or offers a new technical solution to a problem. A patent provides protection for the invention to the owner of the patent for a limited period, generally 20 years.

Trademark

A trademark or brand-name is a distinctive sign which identifies certain goods or services as those produced or provided by a specific person or enterprise. The period of protection for a trademark varies, but can generally be renewed indefinitely.

Industrial Design

An industrial design - or simply a design - is the ornamental or aesthetic aspect of an article produced by industry or handicraft; registration and renewals provide protection for, in most cases, up to 15 years.

Copyright and Related Rights

Copyright is a legal term describing rights given to creators for their literary and artistic works (including computer software). Related rights are granted to performing artists, producers of sound recordings and broadcasting organisations in their radio and television programmes.

Geographical Indication

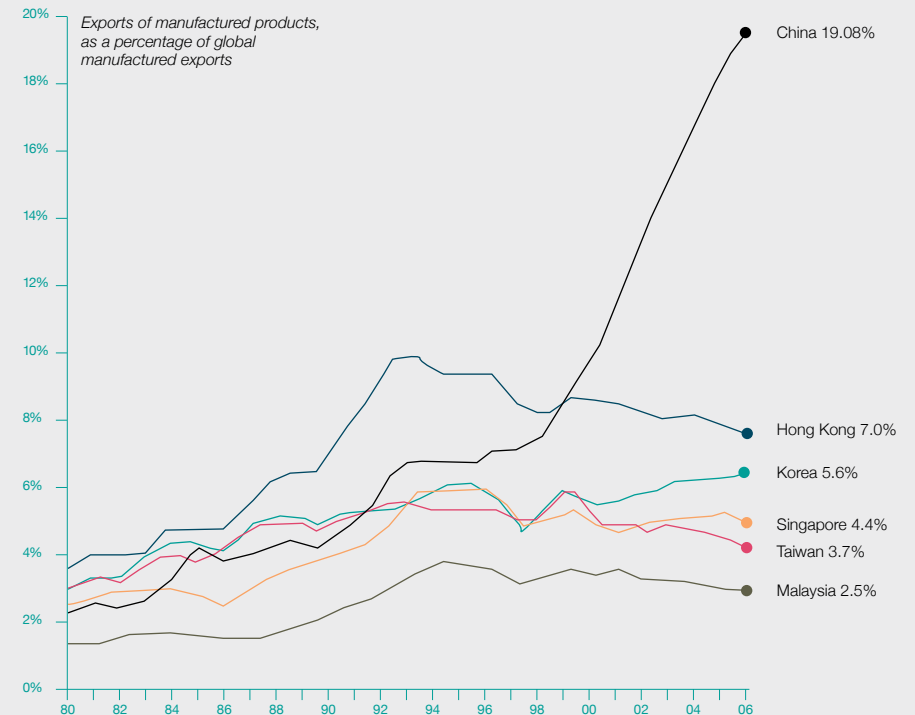
A geographical indication is a sign used on goods that have a specific geographical origin and often possess qualities or a reputation that are due to that place of origin.

Trade Secrets/Undisclosed Information

Trade Secrets/Undisclosed Information is protected information which is not generally known among, or readily accessible to, persons that normally deal with the kind of information in question, has commercial value because it is secret, and has been subject to reasonable steps to keep it secret by the person lawfully in control of the information.

Source: WIPO website, Intellectual property - Some basic definitions; http://www.wipo.int/about-ip/en/studies/publications/ip_definitions.htm (accessed 25 February 2014)

Exhibit 2 Comparison of Global Manufacturing Export Shares 1980-2006



Source: Singapore Competitiveness Report 2009: Figure 3.03: Comparison of Global Manufacturing Export Shares; based on WTO Statistics database provided by the World Trade Organization, retrieved Sep 1, 2009.

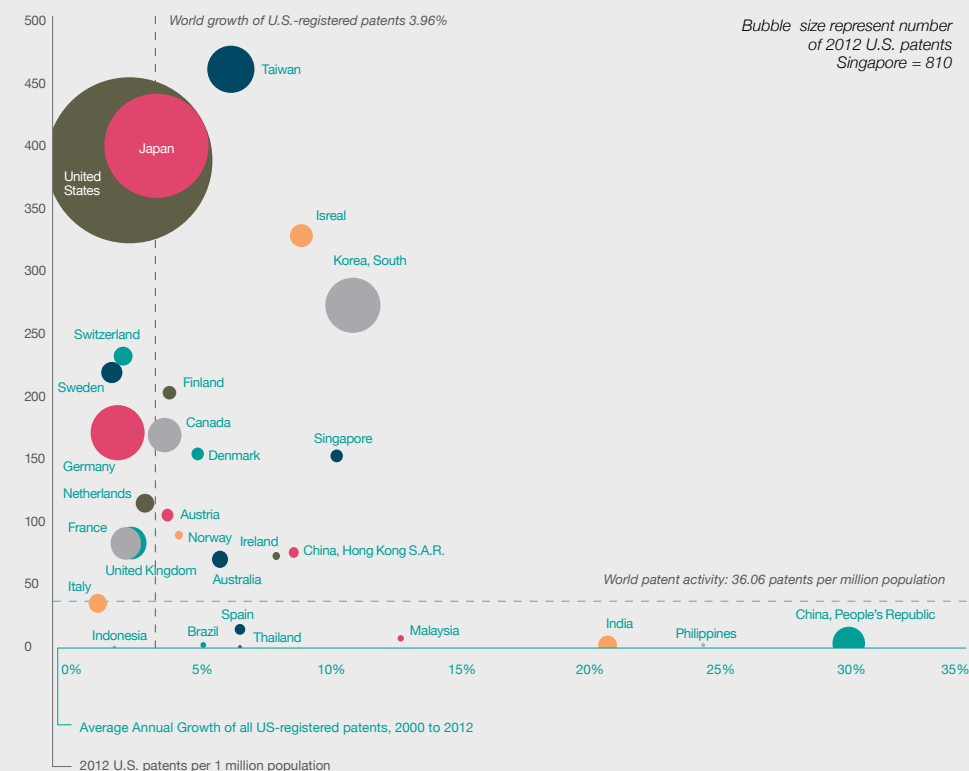
Exhibit 3 Number of Raids and Total Value Seized by Singapore Authorities 2000-2012

Year	Copyrights Raids	Trademarks Raids	Total Raids	Total Value Seized (SGD)
2000	308	146	454	16,310,436
2001	308	183	491	15,553,325
2002	284	207	491	9,415,266
2003	266	160	426	33,185,092
2004	126	190	316	12,665,969
2005	61	168	229	19,774,083
2006	57	144	201	9,952,296
2007	54	196	250	3,385,269
2008	60	122	182	3,325,283
2009	51	189	240	3,029,251
2010	60	194	254	6,618,794
2011	35	197	232	1,973,549
2012	30	224	254	2,023,057

Note: Total raids include police-led raids and collaborate raids.

Source: Intellectual Property Rights Branch, Singapore Police Force, 2014. Data from 2000-2004 are from Wee Loon Ng-Loy, "Singapore," in Intellectual property in Asia: law, economics, history and politics, ed. Paul Goldstein et al. (Berlin:Springer, 2009), 255.

Exhibit 4 International Comparison of Patenting Activity 1999-2012



Source: Singapore Competitiveness Report 2009; Figure 3.18: International Comparison of Patenting Activity; based on various databases provided by the United States Patents & Trademarks Office, updated to 2012.

Exhibit 5 Comparison of Granted Intellectual Property to Residents 2008-2012

Country	2008-2012 average			Per ten thousand population in 2012		
	Patents	Trademarks	Industrial Designs (counts)	Patents	Trademarks	Industrial Designs (counts)
Denmark	3,019	8,522	2,117	6.68	13.61	4.63
Finland	5,047	6,432	1,846	10.14	12.48	3.25
France	28,740	46,874	14,299	5.28	6.82	2.42
Germany	56,517	124,322	62,280	7.69	13.69	8.49
Hong Kong	647	11,567	2,995	1.22	18.86	3.56
Ireland	1,384	4,373	313	3.72	9.14	0.54
Japan	285,843	120,423	38,959	26.93	9.39	3.20
Netherlands	12,163	22,334	4,617	8.11	13.08	3.10
Norway	1,829	5,055	547	4.10	10.23	1.74
Singapore	1,798	8,839	954	4.21	17.41	1.81
South Korea	85,824	61,566	41,336	22.93	15.44	10.00
Sweden	8,781	13,968	3,387	10.90	14.34	3.62
Switzerland	13,608	53,411	24,928	20.68	65.85	29.84
United Kingdom	14,458	60,866	7,149	2.80	10.48	1.27
United States	183,704	275,275	31,105	7.22	9.31	1.08

Source: Based on Ashish Lall and Daryl Lim, "Singapore," in Intellectual Property, Competition Law and Economics in Asia, ed. R Ian McEwin (Oxford: Hart Publishing, 2011), 227.

Updated using: WIPO Patents, Trademarks, and Industrial Designs Database 2014; and US Census Bureau, Midyear Population and Density for Region Summary 2012

Exhibit 6 Intellectual Property filed in Singapore and by Singaporeans 2001-2012

Patents filed in Singapore				Patents filed by Singaporeans			
Top Country Applicants		Top Country Holders		Top Countries Applied		Top Countries Held	
USA	33.26%	USA	33.12%	USA	36.25%	USA	34.53%
Japan	12.50%	Japan	17.67%	Singapore	26.07%	Singapore	32.88%
Singapore	8.17%	Germany	5.58%	China	7.03%	Japan	7.20%
Germany	5.27%	Singapore	6.23%	EPO	6.50%	China	6.23%
Switzerland	4.21%	Switzerland	3.94%	Japan	4.90%	EPO	5.56%
All others	36.60%	All others	33.46%	All others	19.26%	All others	13.62%
Filed	108713	Approved	75273	Filed	34068	Approved	14256

Trademarks registered in Singapore				Trademarks registered by Singaporeans			
Top Country Applicants		Top Country Holders		Top Countries Applied		Top Countries Held	
Singapore	23.49%	USA	21.54%	Singapore	49.27%	Singapore	53.99%
USA	19.09%	Singapore	20.69%	China	14.56%	China	13.40%
Japan	8.55%	Japan	9.12%	Malaysia	3.52%	Australia	2.80%
Germany	5.45%	Germany	6.01%	Vietnam	2.72%	Malaysia	2.58%
Switzerland	4.15%	UK	4.58%	Australia	2.67%	Hong Kong	2.16%
All others	39.28%	All others	38.06%	All others	27.27%	All others	25.07%
Filed	223484	Approved	221431	Filed	106531	Approved	84846

Industrial Designs filed in Singapore				Industrial Designs filed by Singaporeans			
Top Country Applicants		Top Country Holders		Top Countries Applied		Top Countries Held	
Switzerland	25.27%	Switzerland	25.53%	Singapore	63.91%	Singapore	63.11%
Singapore	16.77%	Singapore	16.12%	OHIM (EU)	8.79%	OHIM (EU)	8.39%
Japan	12.71%	Japan	13.19%	China	7.46%	China	7.21%
France	8.57%	France	8.81%	USA	6.87%	Hong Kong	5.22%
USA	5.70%	USA	5.71%	Hong Kong	3.45%	USA	4.88%
All others	30.99%	All others	30.65%	All others	9.53%	All others	11.18%
Filed	34804	Approved	34243	Filed	9132	Approved	8748

Source: Based on Ashish Lall and Daryl Lim, "Singapore," in Intellectual Property, Competition Law and Economics in Asia, ed. R Ian McEwin (Oxford: Hart Publishing, 2011), 228.

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