Foreign direct investment, trade and intellectual property rights for multinational enterprises in emerging markets: an alternative approach through the lens of trademarks in Vietnam

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Abstract

While the current anti-globalisation wave is considered as a regional and cyclical relapse among Western countries, the new era of globalisation has shifted away from stagnant developed economies towards the rising prosperity of emerging Asia, where it is attracting substantial global inward foreign direct investment (FDI). Focusing on Vietnam, the country that is seen as Asia's next economic tiger, the question of how important intellectual property (IP) protection is in the international competition for FDI inflows is still unsettled, especially on the under-researched topic of trademarks. The evidence provided in the thesis is at multi-level analysis, drawing on trademark registrations data, with trade and FDI statistics between 1986 and 2016, also combining in-depth interviews, companies' archives, industry reports and related newspaper articles. This study adopts the mixed methods which integrates both qualitative (historical evidence through trademark archival research, multiple case studies, and in-depth interviews) and quantitative research (trademark and FDI data used in Poisson Pseudo Maximum Likelihood regression analysis) to allow for generalisation, yet also insightful understanding of the complex and evolving nature of multinational enterprises (MNEs) in the host country. The findings provide evidence of the dynamic co-evolution between trademarks and FDI inflows in Vietnam over time. Trademark protection strategies for MNEs and their patterns in Vietnam are addressed. In emerging markets with strong incentives for FDI like Vietnam, MNEs are not necessarily put off by weak IPRs, but rather create alternative strategies for dealing with the lack of IP protection in these emerging market settings. Moreover, the thesis emphasises the use of trademark data as an indicator for foreign knowledge transfer and local learning. It also proposes that the speed of learning is faster with trademarks compared to patents. The thesis highlights the important role of multinationals on strengthening the local trademarking activities and catching-up process, as well as improving the host country's innovation system. This research is among the first few attempts to look at the pharmaceutical and medicine industry through the lens of trademarks, moving away from that strand of research which tends to focus on patent data. The study argues that trademark protection appears as equally important as it is in patents for pharmaceutical foreign investors in emerging markets. It extends the understanding of OLI paradigm and highlights that MNEs need to possess Oa and Op advantages not only at the beginning of internationalisation process, but rather evolving through time in order to cope with imitation risks in the host country.

Keywords: *IPR, trademark, FDI inflow, knowledge transfer, learning, innovation, pharmaceutical, emerging markets, Vietnam, MNEs, international business.*

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List of Abbreviations

ASEAN	Association of Southeast Asian Nations
CSAs	Country-specific advantages
DAV	Drug Administration of Vietnam
EU	European Union
FDI	Foreign direct investment
FSAs	Firm-specific advantages
GDP	Gross domestic product
GSO	General Statistics Office of Vietnam
IB	International Business
IP	Intellectual property
IPRs	Intellectual property rights
MNEs	Multinational enterprises
MoH	Vietnamese Ministry of Health
NOIP	National Office of Intellectual Property of Vietnam
PPML	Poisson Pseudo Maximum Likelihood
PSR	Pearson standardized residuals
R&D	Research and development
TRIPS	Agreement on Trade Related Aspects of Intellectual Property Rights
UN	United Nations
UNCTAD	United Nations Conference on Trade and Development
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNIDO	United Nations Industrial Development Organization
WHO	World Health Organization
WIPO	World Intellectual Property Organization
WTO	World Trade Organization

Dedication

Dedicated to my parents and my sister,

with much love.

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My PhD journey amid the global pandemic was not always a smooth sailing, but thanks to many individuals, it has become a much more enjoyable ride. Wrapping up my thesis with the final acknowledgements, it is difficult to put together words meaningful enough to convey the depth of my appreciation towards these people who have helped along this special journey of my life.

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"In the midst of life's uncertainties,
Keep sailing with a soulful simplicity.
You shall find a peace of mind,
Because struggles are blessings in disguise."

- Nguyễn Thùy Linh (Amy)

York, November 2021.

Author's Declaration

I declare that this thesis was composed by myself, that the work contained herein is my own except where explicitly stated otherwise in the text, and that this work has not been submitted for any other degree at another university except as specified.

Parts of this work (research question 1 and research question 2) have been published in the Multinational Business Review by invitation from the top 3 best paper prizes at the Reading - United Nations Conference on Trade and Development (UNCTAD) International Business Conference in 2019: Nguyen, A.L.T. (2020). FDI inflows and intellectual property rights for MNEs in emerging markets: an alternative approach through the lens of trademarks in Vietnam (1986-2016). *Multinational Business Review*, 28(4), 483-519. DOI: https://doi.org/10.1108/MBR-10-2019-0140.

CHAPTER 1. INTRODUCTION

1. Research Background

The convergence of cross-border homogeneous market segments was once the premise behind "the world is flat", a period of rapid rise of globalisation in which Thomas Friedman referred in 2005. Over the past decade, the anti-globalisation movement has never been more advocated, especially after many turbulent events like the election of Donald Trump, the Brexit vote, and the rise of nationalism parties in Europe. However, it should be recalled that there was similar phase in the late 1970s (before globalisation came back as a norm again), with protectionism, manufacturing technology, diversified organisation capabilities, and demand on differentiated products as the key factors that tilted the balance of globalisation toward fragmentation (Doz, 1987; Morrison et al., 1991). Similarly, the current anti-globalisation wave is considered just as another regional and cyclical relapse among Western countries, and the new era of globalisation has shifted away from stagnant developed economies to the rising prosperity of emerging Asia (Jones, 2019; Wen, 2017; Wolf, 2016).

In the light of this so-called deglobalisation era, there are increasing trends in inward Foreign Direct Investment (FDI) in developing Asia which surpassed half a trillion dollars and remained the largest recipient destination for global FDI inflows (UNCTAD, 2018). FDI inflow refers to the value of inward investment made by foreign investors who exercise direct ownerships and controls over business operations in a host economy (OECD, 2018; Agarwal and Ramaswami, 1992). Through different FDI activities, multinational enterprises (MNEs) are striving to make use of their intangible assets like Intellectual Property (IP) beyond national borders as the backbone of economic globalisation. The World Intellectual Property Organization (WIPO) defines IP as the creations of the mind that are protected in law by its

Intellectual Property Rights (IPRs) (under five different types such as patents, trademarks, copyrights, industrial designs, and trade secrets), and enable the creators to earn the exclusive recognition or financial benefit (WIPO, 2018). The IPRs have increasingly become critical differentiators between Multinational Enterprises (MNEs), especially in terms of exploiting and augmenting the firm-specific advantages (FSAs) which allow those MNEs to remain competitiveness in host nations (Narula, 2014; Verbeke, 2013). Aside from contributing toward MNEs' sustainable competitive advantages and wealth creations, IPR can also play as a significant role in their performance resilience and recovery (Teece, 2018; Aggarwal, 2010).

However, globalisation and technological development are a twofold story. IPRs infringement or unauthorised use of such intangible asset in the host country has become a substantial risk factor that is threatening the survival of MNEs in several host countries. Dunning (1994) emphasises the need for host country governments to pay attention on regulatory environments in the era of globalisation, because different levels of IP protection across countries may influence where MNEs decide to locate. There are business risks for foreign investors arising from leakage of superior knowledge spillovers such as trademark counterfeiting, copyright infringement, and unrecognised patent rights (Casson and Lopes, 2013). In other words, the degree of internationalisation positively correlates with the degree of business risk of leaking IP to local entrepreneurs, as the result it may hurt the foreign subsidiaries in local market (Aggarwal, 2010). Imitations tend to proliferate in industries with low barriers to entry (Lopes and Casson, 2012). These IPR violations can also create unit cost reduction for local imitators, while MNEs need to face additional hidden costs associated with operating in host countries such as legal battle payments, damaging brand's reputation, losing loyal customers, forfeiting the first-to-market advantage, or in the worst scenario, losing entire lines of business to local competitors or counterfeiters (Gelinne et al., 2016; Zigic, 2000, 1997). Moreover, the smaller

the imitation risk in the host country, the larger the net demand for protected products which can assure MNE's technology from being leaked out to their local rivals, thus attracting greater levels of FDI (Mansfield, 1994; Seyoum, 2006). In contrast, the excessive imitation can lead to MNE's withdrawal from the market, changing their modes of entry, or location of headquarters, even the type of local entrepreneur in charge of the investment in that host country (Lopes, Casson and Jones, 2019). This is because foreign investors seek to reduce uncertainty and operational costs when deciding to invest abroad (Dunning, 1995). Therefore, MNEs in host countries with a relatively weak IPR system are not excluded from being affected but rather exposing themselves to the IPR infringement threats which eventually can discourage foreign investment.

Nevertheless, the previous trends observed that high-risk perceived markets with high level of IPR infringements in emerging Asia like China, Indonesia, Philippines, and Vietnam still attracted large amounts of FDI inflows (Lee et al., 2018). Vietnam, the country that is seen as Asia's next economic tiger (The Economist, 2016), is chosen for this study since it has become a standout location for recent global FDI inflows (see Figure 1.1 and Figure 1.2).

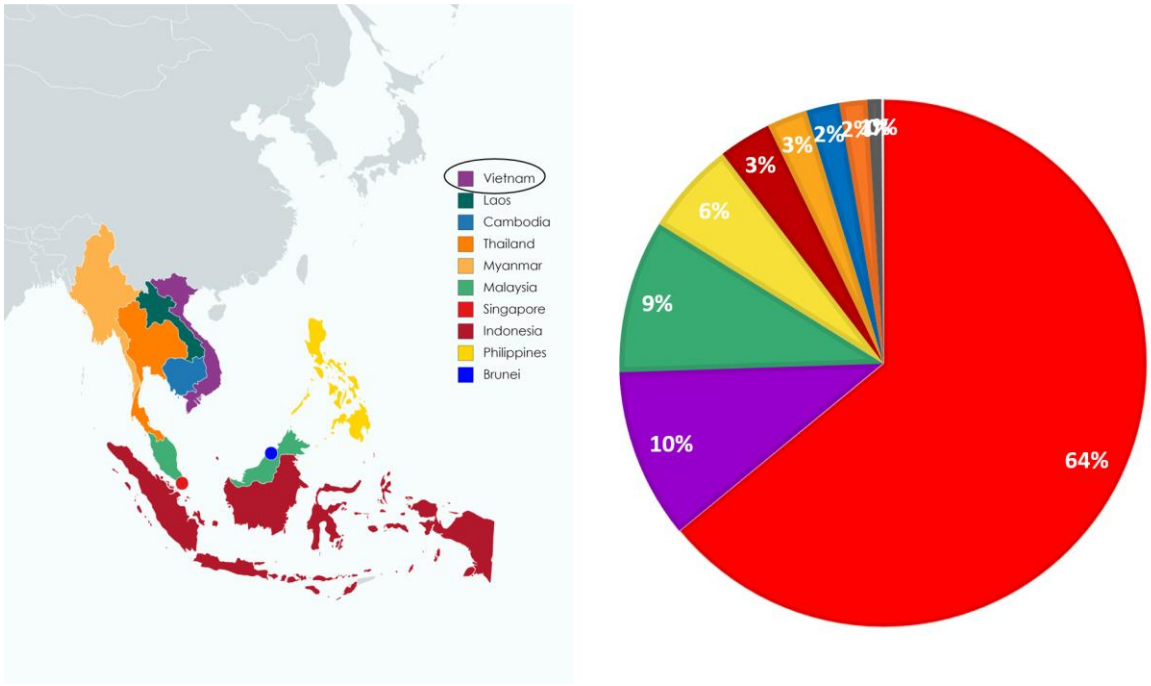


Figure 1. 1 FDI Inflows by ASEAN Host Countries in 2016 (%).

Sources: GSO (2018); UNCTAD (2018); ASEAN (2017).

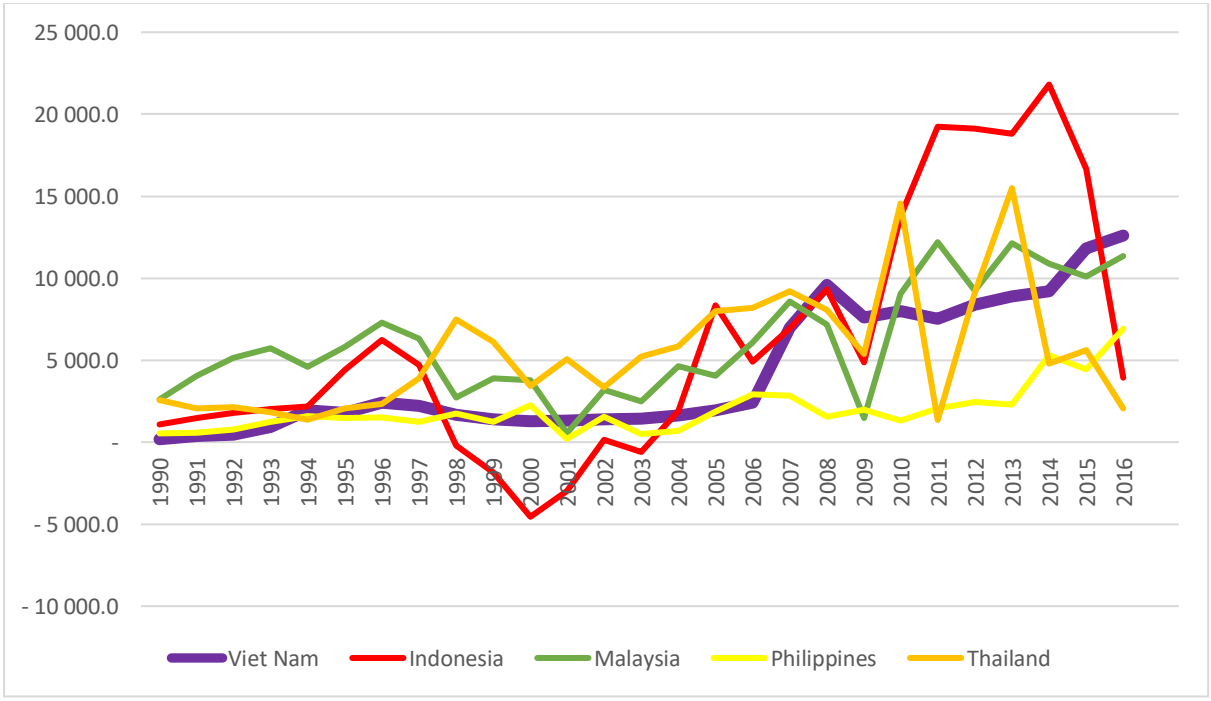


Figure 1. 2 FDI Inflows by Tiger Cubs Economies from 1990 to 2016 (Million $).

Sources: GSO (2018); UNCTAD (2018); ASEAN (2017).

Figure 1.1 presents the percentage of FDI inflows by ASEAN host countries in 2016, with Vietnam ranked the second highest recipient of inward FDI in the ASEAN region (only after Singapore). Figure 1.2 shows that Vietnam's inward FDI overtook or substituted the other countries and represented the highest level of FDI inflows within Tiger Cubs economies in 2016.

Given the current context of escalating trade war between the US and China, many companies shifted their supply chains to Vietnam in order to avoid American tariffs on Chinese goods (Reed and Romei, 2019). Also, on one hand, Indonesia and Philippines are facing challenges from their high levels of external debt as their currencies come under pressure from a rising US dollar (Jegarajah, 2018). Vietnam, on the other hand, offers the location advantages of a country with different factors that attract high levels of FDI inflows such as low-cost labour, improving infrastructure, favourable demographic dynamic, stable political environment, and being one of the fastest growing economies in the world in terms of GDI growth rate with its economy is predicted to be even bigger than the developed Singapore's economy size by 2029 (ASEAN, 2017; Anwar and Nguyen, 2010; Mirza and Giroud, 2004a; Mirza and Giroud, 2004b). The trade war has also helped Vietnam to be by far the largest country in the elite group of trade entrepôts or super-exporters (other countries including Luxembourg, Singapore, Hong Kong, Malta and Ireland) where exports exceed gross domestic product (GDP) (Johnson, 2019). Despite still attracting high levels of FDI inflows when others face trade struggles, Vietnam shares a common problem with these neighbour Asian countries of having a relatively weak IPR system (Yoon and Tran, 2011).

2. Research Gap

The IPRs protection is a prominent issue for many developing countries in terms of attracting inward FDI. Since the end of 1980s, the growing capacity of traditional manufacturing in developing countries forced developed countries to rely more heavily on their comparative advantages in producing IP goods such as high-tech products and so facing higher research and development (R&D) costs, resulted in the continuously free-riding imitation problems in developing economies (You and Katayama, 2005). There is potential business risk of local knowledge spillovers for foreign investors which is reflected through the leakage of technological knowledge creating unit cost reduction for imitators (Zigic, 2000, 1997; Casson and Lopes, 2013). Additionally, Dunning (1994) emphasises the need for governments to pay attention on regulatory environments in the era of globalisation, because different levels of IP protection across countries may influence where MNEs decide to locate. Nevertheless, the existing literature about the effect of IPR protection on inward FDI still meets theoretical challenges and is empirically contradictory (Saiz and Castro, 2017). This opens up the potential linkage between the growing inward FDI trend and the relatively weak IP protection in Vietnam. The question on how important IP protection is in the international competition for FDI inflows is still unsettled for the case of Vietnam.

Moreover, the topic of trademark protection is under-researched in International Business (IB) literature. Academic studies on IPRs have always been patent-focused, while other types of IPRs such as trademarks – remain relatively unexplored from past studies. Trademark is like the very first brick to build a brand. It gives firms the legal right to control over their brand names, domain names, symbols, typefaces, designs, colours, and symbolisms – in order to reinforce the brand value, to signal the quality and to protect the reputation against rival producers (Lopes and Casson, 2012). There are marks that can also be registered for their uses

of senses such as sound trademarks (e.g., MGM's Lion's Roar sound trademark), or scent trademarks (e.g., Play-Doh scent trademark) (Schilling and Shankar, 2019). Trademarks are particularly useful in signalling the value of nondurable goods in order to encourage repeat purchases and enhance the perceived status of consumers as memorable brands (Lopes and Casson, 2012; Aaker, 1997). Wilkins (1992) emphasised that trademarks were a neglected intangible asset and proposed that more research should be done on the critical role of trademarks such as brand name identification on the rise of MNEs. Mendonça et al. (2004) proposed that not only trademarks revealed new stylised facts and illuminated puzzles on innovation phenomena that were still in need of explanation, but also could be used as an empirical yardstick for measuring industrial dynamic evolution and structural change in contemporary economies. Lopes and Duguid (2010) started a new stream of research which used trademarks to explain different economic phenomena. The authors provided evidence of "healthy balance of trademarks", whereby countries with robust economies attracted foreign firms and trade in foreign markets with comparable vigour. Since then, several researchers have been using trademark data in economics and management studies, not only to analyse the impact of innovations on economics development, but also on the dynamic evolution of industries and on the society in general (e.g., Saiz & Perez, 2012; Gotsch & Hipp, 2012; Lopes & Guimarães, 2014; Suffia et al., 2018; Saiz & Castro, 2017; Lopes et al., 2019; Duguid, 2018; Saiz & Castro, 2018; Mollanger, 2018; Bellido & Bowrey, 2018; deGrazia et al., 2019).

To date, there is still an inherent gap within the literature of international business, business history, and business strategy on the topic of trademarks and inward FDI in emerging Asia in general. Thus, it is crucial and essential to examine the relationship between trademarks and FDI inflows in order to construct the IP protection or risk management strategy to help MNEs ensuring their competitiveness and long-run survivals in emerging markets like Vietnam,

especially in the high R&D intensive industries that have been patent-focus traditionally from past studies, such as pharmaceutical and medicine industry (also the main industry registered trademarks in Vietnam).

3. Research Questions and Research Objectives

Given the above gap, this thesis helps to redress the balance and aims to address the following main research question:

To what extent is the host country's intellectual property regime such as trademark likely to influence inward FDI activities in emerging markets over time?

The above key research question is to address the research problem in general and to express an overarching theme of the thesis. In order to answer this main research question, three research sub-questions of the thesis are proposed as follows:

Q1. *How can trademark data provide new insights on the evolution of inward FDI in emerging markets like Vietnam?*

Q2. *What trademark protection strategies have MNEs used to ensure their competitiveness and long-run survival in Vietnam?*

Q3. *How significant is the origin of foreign trademark activities on the evolution of Vietnamese pharmaceuticals and medicine industry?*

In order to answer the above research questions, the thesis sets out the following research objectives with multiple institutional levels of units of analysis (a multi-level analysis study):

- To study the chronology of IPR legal landscapes, the evolution of trademarks and FDI inflows in Vietnam, as well as their dynamic co-evolution at country-level analysis.

- To investigate the trademark protection strategies for foreign investors in pharmaceuticals and medicine industry at industry-level analysis and firm-level analysis.
- To analyse knowledge flows and learnings among foreign and local firms with regards to trademark protection at industry-level analysis, firm-level analysis, and brand-level analysis within class 05 pharmaceuticals and medicine industry in Vietnam.

The period of analysis in this study spans over 30 years, starts in 1986 when Vietnam shifted from a command economy into a market economy after major economic reforms of "Đổi Mới" (Renovation) program, and continues through the present day with the most recent data in 2016. This period marks an important turning point of Vietnam in the process of international economic integration, and in the competitive development of multinational business, especially after the war periods (like the Anti-French Resistance War, the Vietnam War, and the Sino-Vietnamese War) with the emergence of revolutionary innovations in the globalisation era.

The thesis follows the mixed methods which combines both qualitative and quantitative approach such as historical research, multiple case studies, in-depth interviews, and regression analysis. The evidence provided in this thesis draws on multiple primary sources of information, such as trademark registrations archives and official trademark gazettes published by The National Office of Intellectual Property of Vietnam (NOIP), exports statistics and inward FDI data from General Statistics Office of Vietnam (GSO), companies' archives, consultants' reports, public documents, and in-depth interviews. It also makes use of secondary sources like companies' biographies, industry reports and related newspaper articles.

4. Research Aims

The aim of this research is to deliver the originality and important values which will be shown through the thesis's contributions in terms of research significance, as well as in practical significance later. In relation to the research significance, the thesis hopes to provide both theoretical contributions and methodological contributions. For the theoretical contributions, this study aims to bridge the gap between the literatures of IB, strategy, and business history. By studying this topic, the thesis plans to add further knowledge into the Internalization theory and Emerging market catching-up literature. Regarding the methodological contributions, the study desires to implement a mixed method research approach which has been relatively rare over the past studies in this topic for combining both generalisation as well as rich subjective insights. The use of trademark data shall be highlighted, especially at multi-level analysis including industry-level, firm-level, and even brand-level analysis. The practical significance is the contribution towards industry implications and policy makers. This is where the study aims to deliver suggestions to improve the interplay relationships between MNEs and indigenous firms in emerging markets, in the light of improving the host country's IP environment and innovation system. The details of these contributions will be addressed in chapter 6 for conclusion.

5. Research Structure

The thesis shall be organised into six chapters. Following the Introduction in ***Chapter 1***, ***Chapter 2*** provides the rationales of the research context which includes the overview of emerging markets (section 2), focusing on the case of Vietnam (section 3), in the context of the host country's FDI inflows (section 4) and the IPR landscape and trademarks in Vietnam (section 5). ***Chapter 3*** revisits the past studies with three main literature sections to cover the

three research questions. In this chapter, section 2 aligns with the first research question, where the literature is about the mixed relationship between FDI inflows and IPRs, then the past studies on imitation of trademarks in FDI with the case of infringement and counterfeiting. Section 3 reviews the literature of trademark protection strategies to address the second research question, combining with the discussion on the characteristics of pharmaceutical and medicine industry, especially in terms of IP protection dilemma for MNEs in emerging markets with not only black market (counterfeits) but also grey market (parallel trading). Section 4 focuses on the literature of foreign knowledge transfers and local learning for the third research question. The key terminologies of this section are stated, follows by the literature for each hypothesis testing, then the summary of hypothesis development is also derived. ***Chapter 4*** elaborates the research methodology which explains the research philosophy, research approach, different methods are being used, the data and ethical consideration. ***Chapter 5*** provides the results and discuss the findings which is split into three main sections in order to cover the three research questions raised in the introduction. Section 2 shows the evidence of the co-evolutions between trademarks and FDI inflows in Vietnam, with the attributed factors towards the trademark rejection rate. Section 3 formulates the framework of different trademark protection strategies for pharmaceutical MNEs in Vietnam over time, as well as the discussion on the three representative case studies. Section 4 demonstrates the quantitative evidence of the origins of foreign knowledge transfers and local learning in Vietnam to support the hypotheses testing, in combination with the qualitative case studies from the trademark peaks at brand-level analysis. Finally, ***Chapter 6*** is the concluding remark which summarises the outcomes and contributions of this study in order to address the research questions, as well as provides a roadmap for the future research.

CHAPTER 2. CONTEXT

1. Introduction

To answer the proposed research questions, this chapter will first provide the essential background behind the research context of emerging market settings in section 2, before focusing on one of the rising emerging markets, Vietnam in section 3. Section 4 will then provide a broad overview of FDI inflows in Vietnam, the evolution of FDI throughout the history, and highlight what have been the key FDI motives for MNEs to invest in Vietnam. Section 5 shall explain the key motives for MNEs to protect their IPR in Vietnam, a chronology of IPR landscape in Vietnam, and explain the current legal trademark systems in Vietnam. Section 6 summarises and concludes this chapter.

2. Emerging Markets: Opportunities and Risks

Through the lens of international business strategy, emerging markets are increasingly seen as indispensable by MNEs in every industry (Jones, 2017). Emerging markets refer to the countries that are in "transition phase from developing to developed markets due to rapid growth and industrialization" and satisfy three conditions: "(a) started an economic reform process aimed at alleviating problems, for example of property, poor infrastructure and overpopulation; (b) achieved a steady growth in gross national income (GNP per capita); and (c) increased integration in the global economy" (Cavusgil et al., 2013). The shift toward emerging markets due to global production and global middle-class consumption has been well documented over the past decade (Kharas, 2010; Milanovic, 2016). Global FDI inflows kept injecting into those emerging economies because MNEs expanded their global strategies to take advantage of these business opportunities (Estrin and Meyer, 2004). This can explain why

emerging markets have attracted more inward FDI than developed economies, and even were in much better position during the global financial crisis in 2008-2009 (Sauvant et al., 2011).

Despite these huge potential opportunities, emerging markets are still considered as high-risk environments for foreign investors. According to Taleb (2007), "…*our world is dominated by the extreme, the unknown, and the very improbable*", where many random and unexpected "black swan events" of the objective risks result in extreme consequences for MNEs. Many foreign multinationals were triggered with great expectations and expanded to emerging markets – the "land of eternal promise" – in order to exploit new entrepreneurial opportunities (Lubinski and Kipping, 2015). Others struggled with unrealistic expectations about markets, and subsequently faced challenges in adapting to the host environments' needs, institutional voids, inconsistent regulation, and liabilities of foreignness (Khanna and Palepu, 1997; Guillen, 2000; Hoskisson, Eden, Lau and Wright, 2000; Gao, Zuzul, Jones and Khanna, 2017).

Among the different classes of risks that MNEs face in foreign markets, IB theory tends to regard business risks like infringement of IPR as a modern phenomenon generated by globalisation, but business history literature provides a useful antidote to this view and proofs that IPR risk (especially in emerging markets) is not a new phenomenon (Casson and Lopes, 2013). MNEs often internationalise into emerging economies by forming international joint ventures in partnership with local firms (Luo, Shenkar and Nyaw, 2002; Prahalad and Lieberthal, 2003; Park, Ha and Lew, 2015). Local suppliers in host developing countries tend to be involved in the process of manufacturing in sourcing parts or components, or manufacturing under sub-contracting arrangements (Iguchi, 2008). Especially in the light of IP protection, the safeguards through these alliances in emerging markets significantly lag those in advanced countries (Yang and Sonmez, 2013; Brandl et al., 2019). Specifically, foreign

multinationals face substantial business risks arising from leakage of superior knowledge spillovers like infringements and imitation risks in the host countries (Casson and Lopes, 2013; Eden, 2009; Meyer, 2004).

3. Vietnam

Physically shaped like an elongated ‘S’, Socialist Republic of Vietnam (or Vietnam) is a Southeast Asian country that stretches the length of the Indochinese Peninsula and covers a surface area of approximately 331,212 square kilometres (or 127,882 square miles), with China lies to the North, Laos, Thailand, and Cambodia to the West, and Philippines, Malaysia and Indonesia across the South China Sea to the East (Figure 2.1).

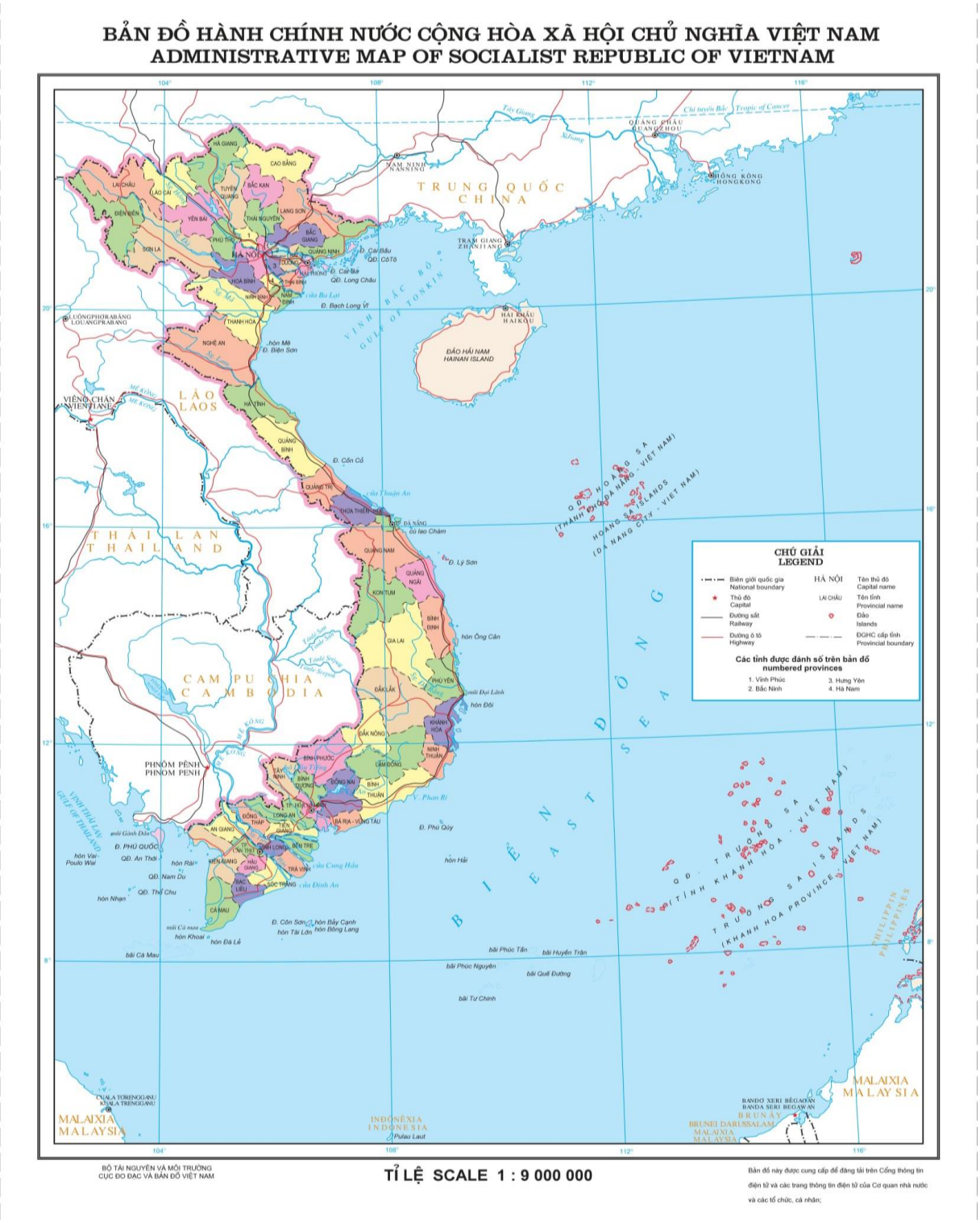


Figure 2. 1 Map of Vietnam.

Sources: DOSM Vietnam - Department of Survey, Mapping and Geographic Information, from Ministry of Natural Resources and Environment Vietnam (2020).

Hanoi has been Vietnam's capital since the reunification of the North and South of the country in 1976, while as Ho Chi Minh City is the biggest city in Vietnam. Despite the enduring political instabilities in the past such as First Indochina war (19 Dec 1946 – 1 Aug 1954), Second Indochina war (or so-called Vietnam War) (1 Nov 1955 – 30 Apr 1975), and Sino-Vietnamese War (17 Feb 1979 – 16 Mar 1979), Vietnam has remarkably transformed from one of the world's poorest nations into a country that is now seen as the Asia's next economic tiger. Shifting from a command economy into a market economy since major reforms of "Đổi Mới" (Renovation) program in 1986, over the past 30 years, Vietnam has achieved substantial successes on its economic development (Tran, 2013). Its recent GDP growth climbed up to 6.8% in 2017 reflecting the fastest economic expansion in the past ten years, as well as the highest growth compared to the other Tiger Cubs countries in 2017 (Philippines 6.7%; Malaysia 5.9%; Indonesia 5.1%; Thailand 3.9%) (The World Bank, 2017). In the same year, Vietnam's trade as a percentage of GDP reached over 200%, and this is by far the highest level for any country with over 50 million people in the World Bank's data in which goes back to 1960, making Vietnam the most globalized populous country in modern history (World Economic Forum, 2018).

Vietnam has one-party political system which is the Communist Party. Over the past decade, the country has actively and comprehensively engaged in international integration, with the diplomatic relations with over 170 countries, and trade relations with over 230 countries and territories. Vietnam is also the 15th largest country in the world by population and has one of the youngest demographics where nearly 40% of the country's 97 million population are under the age of 25, 60% of the population are of working age (CIA, 2018; IndexMundi, 2018). In term of education, Vietnam has impressive scores in OECD's PISA 2015 results in which Vietnam was ranked 8th out of 72 economies, ahead of more developed economies like Hong

Kong, China and South Korea (PwC, 2017a). Vietnam has emerged as a rising information and communications technology (ICT) manufacturing centre, with almost a third of its merchandise exports account for ICT products, largely due to the Samsung's investment in new production plants in the country (Sturgeon and Zylberberg, 2016; UNCTAD, 2019a). Additionally, Vietnam is projected to be the fastest-growing emerging economy before 2050 given its massive purchasing power from middle-class growth (PwC, 2017a). These economic potentials offer location advantages for Vietnam creating huge opportunities for the last cub of the Asian tigers to become one of the world's most attractive investment destinations.

Given the current global context of escalating trade wars between US and China, while as Indonesia and Philippines are facing their challenges from the high levels of external debt as their currencies come under pressure from a rising US dollar, Vietnam appears to standout despite its neighbours' trade struggles and emerging market pressures (Jegarajah, 2018). Vietnam remains "a darling of globalists and frontier-market investors" for a refuge from the Sino-American trade-and-technology war (The Economist, 2020a). Vietnam can hedge such political risk and the close geographical proximity to China - where is facing cost pressures created by the US trade tariffs, and so Chinese manufacturers are shifting their productions to Vietnam (Jegarajah, 2018). In fact, the Vietnamese economy has benefitted from many redirections of FDI from China due to a combination of rising wages in China, a shrinking domestic labour force, and trade tensions (Dapice, 2019). At the same time, South Korean, Japanese, and Taiwanese MNEs have already invested in Vietnam and they are the biggest inward FDI players in the country (GSO, 2018). This creates a huge potential opportunity for Vietnam to attract additional FDI inflows despite the common business risk of IPR infringement among different emerging nations.

4. FDI Inflows in Vietnam

Inward FDI in Vietnam has a relatively short history of development compared to other countries in the region (Mirza and Giroud, 2004a; Mirza and Giroud, 2004b; Trinh and Nguyen, 2015). Shifting from a command economy to a market economy after major economic reforms known as the "Đổi Mới" (Renovation) program in 1986, the very first law on foreign investment was only introduced in December 1987 to permit and welcome FDI into Vietnam (Tran, 2013; Delaunay and Torrisi, 2012). Back then, there were just around 200 FDI projects in the early days, with a total value of $1.6 billion USD from 1988 to 1990 in Vietnam (GSO, 2018). Although there were several periods of declines or stagnations in the past (for FDI projects: 1995-1998, 2002-2004, 2008-2011; for FDI values: 1996-2003, 2008-2011), overall there was an upward trend over the past 30 years and recently hit the new level of record high with investment reaching $11.3 billion USD in the first half of 2016, up by 105% from the same period the year before, making the total registered FDI in 2016 $26.8 billion USD from more than 2600 projects (The Economist, 2016; GSO, 2018). Figure 2.2 illustrates increasing inward FDI trends in Vietnam from 1988 to 2016.

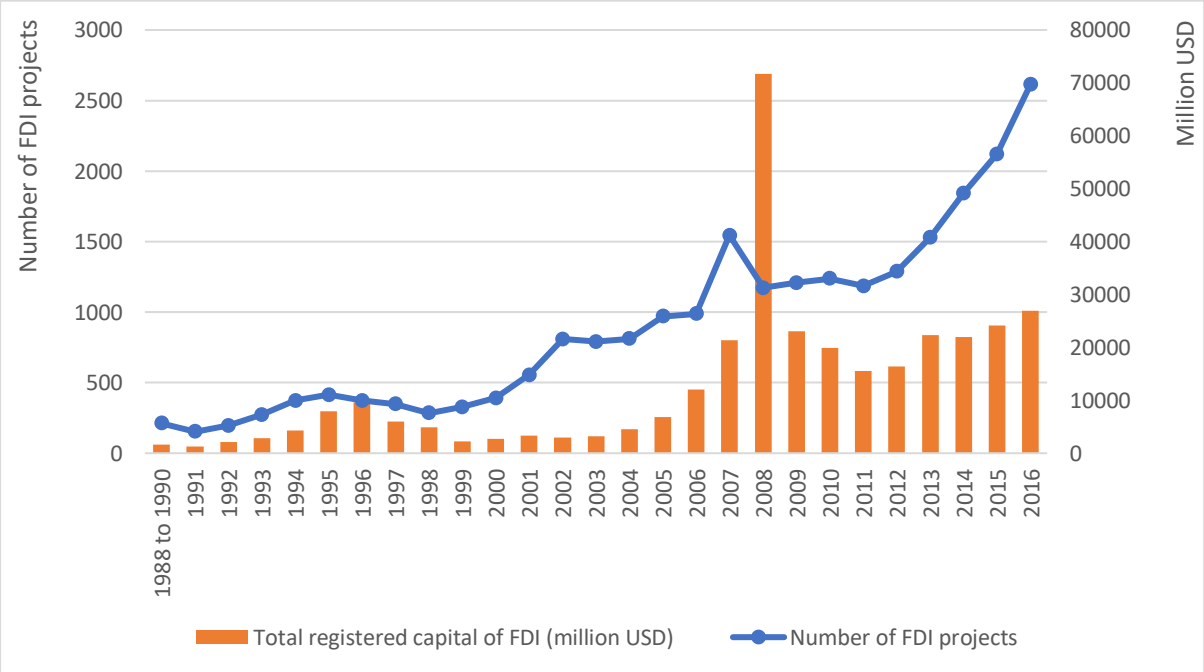


Figure 2. 2 FDI Inflows in Vietnam from 1988 to 2016 (Million $). *Source*: GSO (2018).

Among several variation periods mentioned above, it is worth mentioning that despite the global financial crisis between 2007 and 2008, there was a peak in FDI inflows in Vietnam. The main reason for that is because Vietnam received the highest inward FDI value in the history of $71.7 billion USD from two giant MNEs with the major steel projects contributing to the peak (GSO, 2018). One is worth $9.8 billion USD from Malaysia's Lion Industries, and the other capitalised at $7.8 billion USD from Taiwan's Formosa, reflecting the international business community's growing confidence in Vietnam's business environment (The Saigon Times, 2008). Between 2009 and 2011, the inward FDI in Vietnam reduced as part of the post-financial crisis across the world, or in some cases, the investment changed from foreign to domestic when major shareholders became Vietnamese citizens, similar to the case of US in the 20th century (Wilkins, 2004). Since 2012 onwards, the increasing trend of FDI inflows into Vietnam has filled the gap between the little available domestic savings and the large investment demand. Currently, Vietnam is a member of a number of free trade agreements and its wide range of networks is presented in Appendix A. Notably, Vietnam's recent entry into the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) and the EU and Vietnam FTA (EVFTA) have also provided significant opportunities for both inbound and outbound investment in Vietnam (Vietnam Briefing, 2019).

As mentioned earlier, the on-going intensified Sino-American trade-and-technology war has also boosted foreign investment in Vietnam, because many MNEs find Vietnam as a refuge and shifted their supply chains to Vietnam in order to avoid American tariffs on Chinese goods (Reed and Romei, 2019; The Economist, 2020a). The Coronavirus (Covid-19) has accelerated the trend by exposing multinational's vulnerabilities if they are over reliant on Chinese consumers (market) or suppliers (supply chain); as a result, MNEs like Apple, Nintendo, and Google have moved some of their production into Vietnam to pivot and restructure to diversify

the global value chain (Reed, 2020). Similarly, Covid-19 has also given Vietnam a hard lesson about being dependent (or overreliance) on China, especially for Vietnam's manufacturing sector like textiles, footwear and electronics, the country's key exports, because Vietnamese factories' outputs were constrained by a lack of material supplies from China (Pham, 2020; Gao and Ren, 2020). Therefore, there may be a risk that if either the US or China choose to close their economies, Vietnam would be left in a difficult position or 'swimming naked' (Dapice, 2019). Countries of similar wealth such as Nigeria and Philippines are insulated from the economic whims of global powers because they are more focused on their domestic markets (World Economic Forum, 2018). The tide is currently high in Vietnam and many problems in the economy can be ignored, but once the influx of FDI slows down, the inefficiencies of resource allocation and private sector weaknesses will weigh heavily on the country's economy, because private sector will not grow and FDI will subside as wages rise (Dapice, 2019).

Over time, the number of projects increased even though the amount of FDI grew only slightly. There were 24,005 projects with a total registered capital value of $341,598.2 million that were injected in the Vietnamese economy by foreign investors between 1988 and 2016 (GSO, 2018). In Vietnam, the top presence of foreign MNEs in 2016 is in the banking sector in terms of amount invested, but the majority of the biggest MNEs are industrial firms, especially in heavy industries such as chemicals, steel and industrial machinery (ASEAN, 2017). Similarly, the number of each industry's projects increased even though the amount of FDI inflows grew by only similar amounts. In 2016, top MNEs from South Korea, Japan, and Singapore were among the biggest FDI investors in Vietnam (GSO, 2018).

The key motivations for these MNEs to invest in Vietnam over time have been widely analysed by academic researchers, and they can be summarised by drawing on the typology of motives of FDI as follows (Saleh et al., 2017; Cuervo-Cazurra and Narula, 2015; Nguyen, 2014; Mirza and Giroud, 2004b; Dunning, 1993):

- ***Natural resource seeking***: foreign MNEs can acquire cheaper raw materials and abundant agricultural products in Vietnam with higher quality compared to their home country;
- ***Market-seeking***: multinationals can exploit the Vietnamese market directly given the country's growing population and consumer demand fed by its rising middle-class, so they can secure market share and sales growth through market size and market potential;
- ***Efficiency seeking***: MNEs can minimise the operational costs by expanding their scales and scopes as Vietnam possesses a skilled workforce at relatively low wages, impressive growth figures, politically stability, and open government policies such as FDI promote policies, trade agreement, tax incentives;
- ***Strategic asset seeking***: Vietnam has many advantages for agricultural development, but its potential has not been fully utilised. Foreign investors who advance in high-tech agriculture experience can then invest in Vietnam and bring into play their strengths to promote their long-term strategic objectives and gain R&D capabilities in Vietnam;
- ***Escape investment***: MNEs may see Vietnam as a tax haven destination as there are many tax incentive policies that potentially could help MNEs to escape all the austere and restrictive legislation in their home countries;
- ***Trade-supportive investment***: foreign MNEs can promote and facilitate their exports and imports of goods and services in the rising market of Vietnam,

especially when the Vietnamese Government has currently offered many benefits such as FDI promote policies and supportive trade agreements; also at this time when the trade war between the world's biggest markets – China and the US has escalated;

- ***Finance-supportive investment***: multinationals can support the purchasing of foreign produced goods and services from investing firms, and can thus establish domicile in Vietnam for regulatory and tax reasons;
- ***Management-supportive investment***: foreign investors can support the control and coordination function in Vietnam regional offices or branch offices on behalf of the MNE headquarters;
- ***Passive investment***: MNEs can arbitrage by buying and selling firms or assets with some involvement of direct managerial inputs such as private equity capital firms or asset stripping.

These FDI motivations are constructed based on Eclectic (OLI) Paradigm by John Dunning's classical framework in which proposed MNEs must have Ownership (O), Location (L), and Internalisation (I) advantages for their FDIs to be beneficial (Dunning, 1979; 1993; 2004). This literature is evolved from the Hymer's monopolistic advantage (1960), then the Internalization theory stream of thought by Buckley and Casson (1976), followed by Rugman's Firm-Specific Advantages (FSAs) in 1981, and later the Porter's competitive advantage (1985). Furthermore, Lopes (2010) emphasised the role of Ownership advantages with additional level of institutional analysis including "asset ownership advantages – O_a" and "product-specific ownership advantages – O_p" in order to highlight the capabilities of firms to differentiate their products and services for obtaining product innovation. For successful internationalisation in an institutionally challenging environment, MNEs must initially possess O_a (advantages in

superior technology, scale economies, product differentiation, distribution networks and privileged access to financial capital), and O_p (advantages specific to product like IP and differentiation capability, or the ability of keeping strategic assets inimitable). While the Bain- and Hymer-type advantages O_a are sufficient for MNEs to cross borders in the periods that are characterised by fragmented markets and local competition, the O_p advantages are sufficient for foreign growth and survival at the earlier stages of globalisation (Lopes, 2010). Given this assumption, the OLI paradigm can serve as an initial platform for this study.

Nevertheless, it should be noted from Rugman (1981)'s Firm-Specific Advantages – Country-Specific Advantages Matrix (FSAs-CSAs Matrix) that MNEs can in fact enter foreign markets even without FSAs (i.e., O and I advantages) and only based on the CSAs (i.e., L advantage). As a result, these MNEs are in the position of the first quadrant (see Appendix B) with a resource-based and/or at a mature stage, and being globally-oriented to produce a commodity-type product from their cost leadership strategy. But given that the host country of this study focuses on emerging markets, the cost leadership strategy that relies totally on low price through the pursuit of cost reductions – may not be feasible for MNEs given the nature of emerging market settings, specifically Vietnam. Thus, it is important for MNEs in Vietnam to possess FSAs (essentially prioritising O advantages) under this context. Therefore, this thesis shall pay attention on the role of O advantages in the context of IPRs protection, ceteris paribus, as the key driver of inward FDI in Vietnam.

5. Intellectual Property Rights and Trademarks in Vietnam

IPR is an intangible asset of MNEs that has increasingly become critical in terms of Dunning's O advantages, or in exploiting and augmenting Rugman's FSAs, in order to maintain MNEs' competitiveness in host nations (Narula, 2014; Verbeke, 2013). MNEs are motivated to protect

their IPRs in Vietnam which can be summarised into five different motives (Reitzig, 2004; Blind et al., 2006):

- ***Protective motive***: MNEs' protections from imitation and counterfeiting in Vietnam;
- ***Blocking motive***: blocking Vietnamese competitors defensively and offensively, using IPRs to increase switching costs for existing consumers and raise barriers to entry for local rivals;
- ***Reputation motive***: multinationals improve their images through brand's names and increase their values in Vietnam;
- ***Exchange motive***: MNEs improve position in co-operations and access to the capital market, exchange potential, licensing income;
- ***Incentive motive***: motivation of staff and internal performance indicators like a carrot and stick approach.

It is important to understand the overview of the IPR landscape in Vietnam, drawing on the history of institutional development and its connection to the current IPR laws in Vietnam. There is a popular misconception among scholars and practitioners that IP law in Vietnam only existed after the Đổi Mới economic reforms in 1980s (Tran, 2015). In fact, a recent study argued that the IP law has emerged in Vietnam since at least 1864 under the auspices of authors' rights law, before then no information was recorded (Tran, 2017). Nevertheless, its evolution in Vietnam remains a special case among other countries in the region. The reason behind this is that almost no single country in Southeast Asia has had more foreign influences from abroad than the existing legal system in Vietnam (Fowler et al., 2017). The contemporary legal transplants derived from the principles of Confucianism in the fifteenth century, to the borrowed colonial laws from France under a semi-feudal society in the mid-1800s, then later the imported Soviet doctrine of socialist legality in the mid-1940s, and more recently from the

Western legal systems (Gillespie, 2001). These historical legal transplants have divided the IP evolution in Vietnam into three main periods as follows: phase 1 from the Principles of Confucianism to the French Colonial laws; phase 2 after the French Colonial laws to the Soviet doctrine of Socialist legality; and finally phase 3 continues until the current adaptation of Western legal systems.

It all began around 1858 to 1862 when France captured Southern Vietnamese provinces, the French colonial rule began, and the Treaty of Saigon was signed. As a result, the very first IP law in Vietnam, dated 1864, when France passed a decree in Article 37 in which at least three important French statutes on copyright must have come into effect i.e., the 1791 Act; the 1793 Literary and Artistic Property Act; and the 1852 International Copyright Act (Tran, 2017). However, colonisation did not always result in the automatic imposition of IP laws, especially in its early days. Not until the mid-1800s did the French introduce respect and legal ownership of IP with a strong emphasis on droit d'auteur (copyright) and the commercial value of patents, which even Karl Marx appreciated (Fowler et al., 2017). Then 1933 saw a significant development of IP law in Vietnam, when France brought the country along with its Southeast Asian colonies into the international IP community, by extending the application of the Berne Convention and the Paris Convention to its overseas territories (Tran, 2017).

The colonial French law can be seen as the root in the Vietnamese IP legal system, but it was gradually supplemented or evolved to become socialist law, starting with the first Constitution in 1946 on initial IP rights of North Vietnam (Thinh, 2017). Following the First Indochina War (Anti-French Resistance War) which resulted from political divisions between two rival states, North Vietnam (Communist-ruled, Democratic Republic of Vietnam), and South Vietnam (Non-communist-ruled and U.S. ally, Republic of Vietnam); the Supreme Court issued

Directive No.772-TATC in 1959 which ordered the suspension and abolition of all previous colonial and feudal laws in North Vietnam, replaced them with an entirely new and instable socialist legality imported from Soviet doctrine considering its centrally planned economy in North Vietnam (Tran, 2017). The IP law inherited from the French like the copyright legal ownership still existed in South Vietnam and only came to an end in 1975 after the collapse of the Republic of Vietnam in the South during the Second Indochina War (so-called Vietnam War). On 30th April 1975, the North and the South were united under one regime of a Communist government but remained impoverished and politically isolated. During the wars, the entire Vietnamese legal system got disrupted; once the wars ended, the inherited French IP law was also demolished, making room for the introduction of inventor's certificates and exclusive patents following the Soviet model (Pham, 2004). This transitional period was a steppingstone for the turning point of the Vietnamese IPR system by mid-1980s, because some industries then no longer felt burdened by the costs or the turbulent legal requirements for novelty. By 29 June 1984, the first 12 trademark certificates were granted through the NOIP in Vietnam (NOIP, 2018).

Following the Đổi Mới economic reforms from a closed economy to an open economy in 1986 and the introduction of the first FDI law in late 1987, Vietnam started considering the essential aspects of IP rights to move forward the open-door-policy goal. This is also the period of analysis for this study. From an economic aspect, the role of IP law can help create barriers to entry, restrict competition within the local market, protect innovation and create temporary monopoly power to favour rightsholders (Ilie, 2014). Vietnam also wanted to create a good environment for businesses to flourish, and so the issuance of an Ordinance on Industrial Property in 1989 was considered as one of important movements to attract foreign investment in Vietnam (Nguyen et al., 2018a). Vietnam marked another milestone in IP protection when

the government issued Decree No.142/CP which highlighted copyright protection in compliance with bilateral and international IP and free trade treaties (Thinh, 2017). Nevertheless, it did not always result in an automatic implementation of the socialist IP law in the transition toward a market-based economy, not until the Congress promulgated the Civil Code of 1995 (and renewed later in Civil Code 2005) to officially enforce a comprehensive IP system and to enhance it effectively in Vietnam (Pham, 2004; Thinh, 2017, Nguyen, 2017). Vietnam started to recognise the important role of IP rights in the context of globalisation, trade and investment flows, as well as the collaboration and cooperation within IP-related fields among countries (Fowler et al., 2017). Vietnam used to promote export-oriented investment in the 1990s, but the new emphasis on development of key industries emerged after the mid-1990s with a strong intention of using FDI for industrial policy objectives (Fujita, 1999). To establish a standard for international law on IP, the country acceded to most of the major IPR multilateral treaties such as the Paris Convention (1949), the Agreement on Trade Related Aspects of Intellectual Property Rights TRIPS (1994), and the Berne Convention (2004) (Nguyen, 2017). Together with the efforts of joining ASEAN in 1995, APEC in 1998, and WTO in 2007, the Vietnamese government has been establishing a stronger IP legal system, strengthening the multiple trade agreements between countries, and attracting more FDI inflows (Fowler et al., 2017). These IPR legal improvements in Vietnam have benefited many MNEs who were not in the country but then have gained more confidence in their internationalisation process as well as in registering their trademark brands in Vietnam for the first time, such as in 1986: Coca-Cola (US), British-American Tobacco (UK), and Haw Par Brothers International (Singapore). However, given the interrupted history of institutional development in Vietnam explained above, the country unavoidably made several shortcomings in its simplistic and relatively new Vietnamese IP laws, which explains the ambiguity in current IPR laws in Vietnam (Nguyen, 2017; Yoon and Tran, 2011). Despite the country's effort to improve its

legislation, the complexity of enforcement system in Vietnam makes it difficult and challenges right holders to take effective action against IPR infringements, and so can deter firms to innovate (Zhao, Papanastassiou, Pearce, and Iguchi, 2020).

Among different types of IPRs, trademarks received the highest filling application in Vietnam throughout all the periods (Figure 2.3). The growing use of trademarks is an indicator of a profound changing business system in terms of retailing and marketing and the development of consumer markets (Lopes and Duguid, 2010).

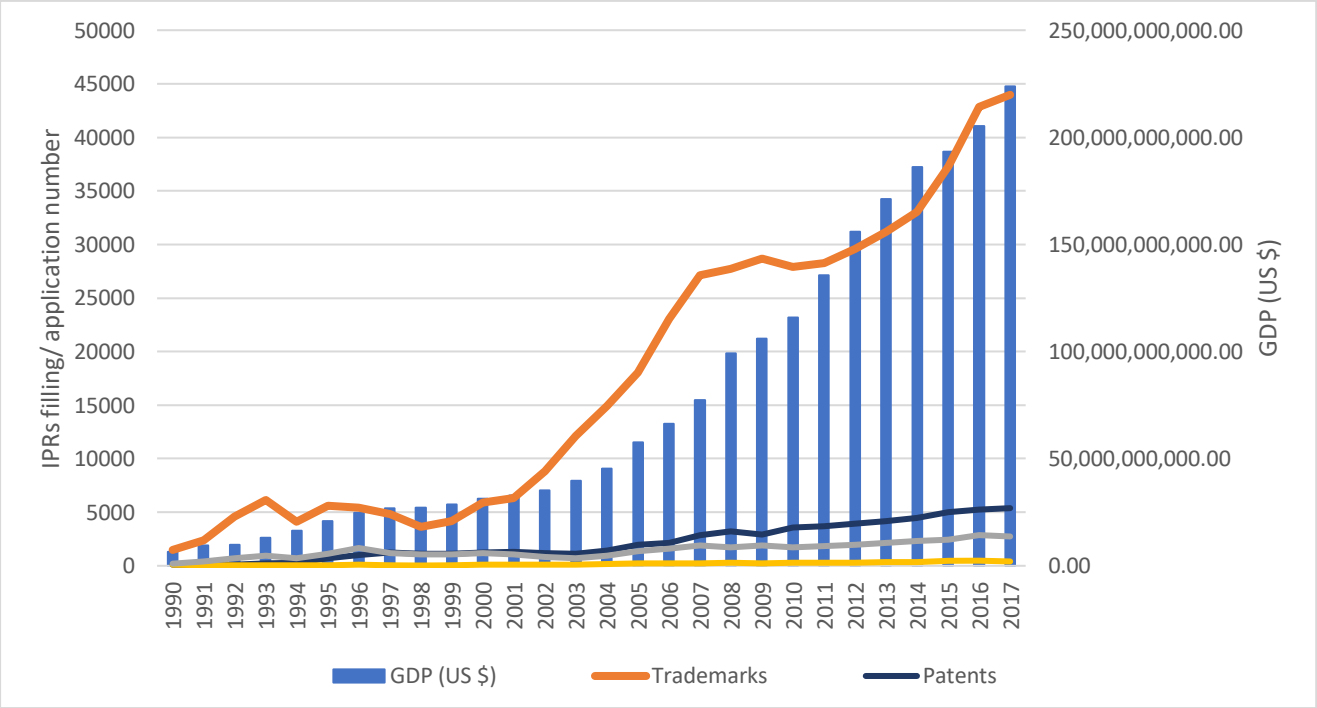


Figure 2. 3 IPRs application and GDP in Vietnam from 1990 to 2017.

Sources: NOIP (2018); World Bank (2018).

From figure 2.3, trademarks also shared the rising co-evolution with GDP in Vietnam from 1990 onwards, reflecting the potential positive impact of innovation activity on economic growth. Firms made a large and increasing use of brands as a dynamic competition tool in the era of globalisation, explaining why high level of applications for trademarks boomed in Vietnam in the 2000s. This trademark trend was led by technology-oriented products like

pharmaceuticals and medicines; marketing-oriented products like coffee, tea, cocoa, rice; and even by information-based or knowledge-intensive services such as business consultancy, business management and advertising sectors. This led to the initial curiosity for the researcher to understand why in Vietnam, trademarks (which tend to associate with marketing-intensive industries) received the highest applications in R&D-intensive industries like pharmaceuticals and medicines (which should normally associate with patents more often). The rationale for choosing this industry for the study is explained in detail later in section 3.1 of the thesis.

Despite the popularity in the use of trademarks among businesses, past literature studying the roles of IPR have traditionally been patent-focused rather than trademark-focused, in other words, trademarks have always been under-researched (You and Katayama, 2005; Blind et al. 2006; De Rassenfosse, 2012). Unlike patents which are a key source of competitive advantage in technology-oriented industries, active in R&D intensive industries; trademarks are more central and active in marketing-oriented or advertising-intensive industries (Vries et al., 2017). While patents normally expire after a fixed number of years, the life of trademarks can be indefinite or so-called the eternal life of brands (Lopes, 2019; Lopes and Casson, 2012). Marketing knowledge referred here is understood as the way that the intelligence and skills within MNEs concerning the management of brands and distribution channels (Lopes, 2007). Like all (natural) monopoly does, trademarks can serve to exclusively increase efficiencies through MNE's brand names or reputation. Specifically, MNEs (with monopoly power) can be more efficient than new-comer firms in terms of cost reduction (well-known MNEs with strong financial viability can access cheaper borrowing compared with unknown names); talent acquirer (a familiar firm is more likely to attract and retain talented personnel); lower unit costs via economies of scope and scale (a large modern corporation with a familiar trademark and a

sizeable market can draw more customers, open the way for added production, and reduce unit costs, increasing returns to scale) (Wilkins, 1992).

Regarding the current trademark system in Vietnam, a complete procedure of trademark registration to guide businesses in Vietnam is presented in a flowchart from Appendix C. Vietnam has adopted the principle of "first-to-file" for trademark registrations (NOIP, 2018). This means that any trademark with an earlier filing or priority date can be granted a single valid application, while for those identical or confusingly similar trademarks with later filings are excluded from trademark protection. In other words, the party who files for registration first and satisfies all required conditions gets the trademark, even if they are not the original innovator or creator of that mark. In the case of two or more applications having the same earliest priority or filing date, and satisfying all the conditions, then the registration may only be granted to a single application out of these applications under an agreement by all applicants; without such an agreement then all these applications can be refused the grant of a trademark registration (NOIP, 2018).

There are two popular trademark registration systems that are widely used around the world: "first-to-file" and "first-to-use" principles. The "first-to-file" system (used in countries like Vietnam, China, France, Germany, Japan and Spain) is opposite to the "first-to-use" principle (being used in countries like the US, Philippines, Australia, and New Zealand), in such a way that a party filing for a trademark has to show that it either used the mark in business or intends to use the trademark in the future for business (Bryer, 2015). There are some issues arising from first-to-file system, for example, anyone can grab IPs with no related interest, strictly from a standpoint of owning IPs as potential investment (Lee and Yee, 2012). This practice is considered unethical, but not illegal by law, and so can lead to a number of unresolved lawsuits.

A representative case for this is Coca-Cola in Latin America, where Coca-Cola was frustrated with the largest Colombian beverage company, Postobón, for its resistance to invest in the development of Coca-Cola over its pre-existing and often competing brands (Ciafone, 2018). Specifically, the Coca-Cola Company suspected that Postobón had courted its franchise in order to protect its own Colombian soft drink business and restrain Coca-Cola's expansion into the country (Moreno, 2013). Next, Zhao, Papanastassiou, Pearce, and Iguchi (2020) pointed out that Vietnam's enforcement system is problematic because of its highly complexity that can challenge the right holders for taking effective action against IPR infringements and can discourage innovation (Zhao et al., 2020). Additionally, it should be noted that the Global Competitiveness Report for 2017-2018 period by the World Economic Forum provided the ranking for IP protection index, and Vietnam only ranked number 99 with value of 3.6 out of 137 countries. Table 2.1 can be used as a benchmark to compare the Vietnamese IPRs across other comparable economies that have a stronger IPR system.

Table 2. 1 Global Competitiveness Report: Intellectual Property Protection Index Ranking 2017-2018. *Source:* World Economic Forum (2017).

Country	*Ranking*	*Value*
Singapore	*#4*	*6.2*
Japan	*#18*	*5.8*
Malaysia	*#26*	*5.3*
Indonesia	*#46*	*4.5*
China	*#49*	*4.5*
Korea	*#54*	*4.4*
Philippines	*#71*	*4.1*
Laos	*#85*	*3.8*
Vietnam	***#99***	***3.6***
Thailand	*#106*	*3.5*
Cambodia	*#130*	*3.1*

It should be noted that within the ASEAN region, Singapore has the strongest IPR protection, followed by Malaysia with an improving state of IPR, then Vietnam and Thailand are considered as weak IPR protection (Zhao et al., 2020). Therefore, these typical characteristics of emerging markets, such as institutional voids in the context of institutional barriers and legal voids in Vietnam, reflect the relatively weak position of Vietnamese IPR protection in general, and of Vietnam's current trademark system specifically, which can pose substantial challenges for foreign investors in Vietnam.

6. Conclusion

This chapter intended to provide an overview of the research context in terms of the emerging markets, Vietnam, FDI inflows, IPRs and Trademarks in Vietnam. There are some key findings as followed. Although emerging markets provide many opportunities, there are risks that foreign investors need to consider before deciding for their internationalisation. Since the major economic reform "Đổi Mới" program in 1986, Vietnam has remarkably transformed from one of the world's poorest nations into a country that is now seen as the Asia's next economic tiger. Vietnam is the highest recipient of inward FDI among Tiger Cub economies and the second highest within the ASEAN region, with substantial FDI inflows being injected more and more into the economy given the deglobalisation context and the escalating trade wars. The existing IPR system in Vietnam has evolved from Principles of Confucianism to Colonial laws from France, then Socialist legality and now the adaptation of Western legal systems, with significant movements in IPR legislation since 1994 of signing the TRIPs agreement. The country's current IPR and Trademarks system is considered relatively weak due to the disrupted periods from the wars before 1986, but this does not discourage MNEs from entering Vietnam and invest substantial inward FDI into the country.

CHAPTER 3. LITERATURE REVIEW

1. Introduction

Having reviewed the setting of emerging markets and overviews of Vietnam in term of FDI inflows and IPRs/ Trademarks in the previous chapter, this chapter's goal is to understand the potential link between them (section 2.1), before exploring further the existing frameworks and theories of trademarks imitation in FDI, in particular issues around infringement and counterfeiting (section 2.2). Section 3 provides the review of literature on the trademark protection strategies for pharmaceutical multinationals. It will first offer an overview of pharmaceutical and medicine industry (section 3.1), before analysing the impact of IPRs on emerging markets (section 3.2). Section 3.3 reviews the parallel trading of grey market in IP/Trademarks protection, followed by section 3.4 with various IP/Trademarks protection strategies for pharmaceutical MNEs. Section 4 moves on the literature of knowledge transfers and local learning. It will first explain the definitions of the key terminologies (section 4.1), before providing the review of literature on trademarking activities by foreign and local firms (section 4.2). The literature of knowledge transfer and local learning is evaluated in section 4.3 with four sub-sections. An overview of foreign knowledge flows from different entry modes is presented (section 4.3.1). The foreign licensing knowledge flow is also discussed with the local patenting (section 4.3.2), and subsequently local trademarking (section 4.3.3), followed by regional factors (section 4.3.4). The rationale for using trademark at product-specific level is proposed in section 4.4. Section 4.5 shall summarise all the developed hypotheses of the third research question. The conclusion for this chapter is addressed in section 5.

2. Literature on Intellectual Property Rights, Trademarks, & Foreign Direct Investment Inflows

2.1. Intellectual Property Rights & Foreign Direct Investment Inflows: A Mixed Relationship

Since the end of 1980s, IPR protection has become a prominent issue for many countries especially in terms of FDI, where the growing capacity of traditional manufacturing and offshoring in developing countries have forced developed countries to rely more heavily on their comparative advantages in production of IP goods, and the developed countries have faced high R&D costs, while the free-riding imitation problems continuingly discouraged inward FDI in developing countries (You and Katayama, 2005). Nevertheless, the linkages between IPR protection and inward FDI from the past literature are still ambiguous due to its theoretical challenges and empirical contradictions (Saiz and Castro, 2017; Hsu and Tiao, 2015; Awokuse and Yin, 2010) which shall be addressed below.

On one hand, strengthening IPR protection can stimulate innovation which attracts higher FDI inflows (Hsu and Tiao, 2015; Lopes and Duguid, 2010; Mendonça et al., 2004; Helpman, 1993; Chin and Grossman, 1998). This is because a strong IPR system such as strong foreign patent protection can help MNEs to expand markets by increasing the fraction of goods with monopoly power produced, to reduce imitation threats by local firms, and thereby to ensure high returns on investment in R&D for MNEs (Hsu and Tiao, 2015; Helpman, 1993; Maskus and Penubarti, 1995). In host countries with weak imitative abilities, strong patent rights can enhance market power of foreign exports (especially in pharmaceutical, medicinal, and botanical industries which rely extensively on patenting); but in host countries with strong imitative abilities, foreign investors can stimulate market expansion across countries (like biological products) (Smith, 2001; 1999).

On the other hand, an increase in IPR protection may discourage inward FDI into emerging markets because of the high monopoly power of foreign firms (Awokuse and Yin, 2010). When MNEs face less competition from locally produced imitation products, they may attempt to maximise profits by reducing affiliate output and sales; or can just change the mode of entry into licensing instead of FDI, or withdraw from the market, or sue all the imitators (Smith, 2001, 1999; Maskus and Penubarti, 1995). This leads to the debates of the ambiguous relationship between IPR protection and FDI inflows. It is worth pointing out that past academic studies on IPRs have always been patent-focused, while the other popular IPR among businesses such as trademarks has remained a relatively unexplored area and the topic has always been under-researched. So, the next section focuses on the importance of trademarks protection for foreign investors through the issues of trademark imitation.

2.2. Imitation of Trademarks in Foreign Direct Investment: Infringement and Counterfeiting

This section analyses the issues of trademarks imitation in FDI by revisiting the literature on infringement and counterfeits of global brands. Given that consumers may not be savvy enough (especially those with impulse buying behaviours) and tend to be left confused among different brand imitations, MNEs should be cautious because not all trademarks imitation are illegal and are eligible to be sentenced in courts. This can be explained by the theory of Two Dimensions of Imitation Strategy (Table 3.1) by Lopes and Casson (2012) which shall be summarised as follows.

Table 3. 1 Two Dimensions of Imitation Strategy. *Source:* Lopes and Casson (2012).

Two Dimensions of Imitation Strategy

Imitate Trademark	*Imitate Product*	
	No	*Yes*
No	No imitation	Imitation without trademark infringement
Yes	Trademark infringement	Counterfeiting

Table 3.1 reflects the two dimensions of imitation strategy available to an imitator (imitate trademark or imitate product) in response to FDI investor (product innovator) with trademark protection. There are four scenarios which can be addressed below.

- Scenario 1: (top left) Lopes and Casson (2012) suggested that if the imitator neither copies trademark nor product of the innovator, there will be *no imitation*, reflecting the successful outcome for multinationals.
- Scenario 2: (bottom left) If the imitator decides to sell its own product, but still copies the innovator's trademark name, this refers to *trademark infringement*, or unauthorised brand extension (Lopes and Casson, 2012).
- Scenario 3: (top right) The authors also indicated that if the imitator decides to copy the innovator's product, but uses its own trademark name, then this is *imitation without trademark infringement*. This is a representative case that is normally discussed in the economics literature (Lopes and Casson, 2012).
- Scenario 4: (bottom right) Finally, if the imitator copies both the innovator's product and name, then this is called *counterfeiting*. Counterfeiting is the most damaging scenario for multinationals, because the imitator's aim is to confuse consumers and take trade away from the innovator (Lopes and Casson, 2012).

From these four scenarios of imitation strategy, let's focus on the two scenarios having trademarks imitation of global brands: *trademark infringement*, and *counterfeiting*. Trademark infringement is when the imitator copies the mark only, with the design resembles or incorporates aspects of a registered trademark by the innovator. However, trademark infringement may occur intentional or inadvertent by the imitator, and so courts may rule on technical grounds that the presence of means and thus trademark infringement is *not illegal* (Lopes and Casson, 2012). On the other hand, counterfeiting occurs when the imitator copies

both the mark and the product. The innovator's trademark is replicated, and applied to products not of the trademark-owner's manufacture, and so counterfeiting is *illegal* (Lopes and Casson, 2012).

It is important for FDI investors to understand these differences between trademark infringement and counterfeiting in order to come up with risk mitigation or prevention strategies from their global brands' trademarks imitation. From the imitator's point of view when imitating foreign trademarks, product modifications are made to avoid from producing exact copies, in a way, an inexact copy is preferable to an exact copy in order to avoid being sued by the innovator, improve shortcomings of the original designs, and exploit the profits from free-riding innovation (Lopes and Casson, 2012). However, Teece (1986) argued that the following three conditions decide if the innovator, or the imitator can capture the fruits of innovation: (i) appropriability regime; (ii) dominant design paradigm; (iii) nature of complementary assets (Teece, 1986). For instance, the appropriability regime refers to the degree which an innovator can prevent imitation, and this depends on the nature of the technology (tacit vs. explicit knowledge), or on the efficacy of the existing legal systems of protection (Hennart, 2009). Multinationals' FSAs with poor appropriability can become easier to be imitated by local firms (Teece, 1986). The emergence of a dominant design also makes it easier for imitators to compete with the innovator, while the technology- or reputation-exploiting MNEs requires the combination of complementary assets held by local firms (e.g., manufacturing, distribution, after-sales services or complementary technologies) for successful commercialisation of innovations (Hennart, 2009). From here, the bundling model suggested that if multinationals experience difficulties in these three conditions, their footprints in the foreign markets may shrink, either because MNEs end up selling their knowledge through licensing contracts or embedded in exports, or because local firms will copy it and MNEs will

lose the market (Hennart, 2012; 2009; Zeng and Williamson, 2007). Therefore, the strategies multinationals use to protect their brands against trademarks imitation in foreign markets can largely lead towards the success or the failure of any global brands (Lopes and Casson, 2012). Many times, these strategies do not involve the use of the law, as the regulatory institutional environment may be weak.

Nevertheless, it should be noted that the theory of Two Dimensions of Imitation Strategy by Lopes and Casson (2012) is addressed from the imitator's point-of-view, and later expands towards the Two Dimensions of Counterfeiting Strategy (focusing on quality and price of imitation). This theory did not explain the process of trademark appraisal through the lens of the government intellectual property bodies in order to explain why some of multinational trademarks are being rejected and the others are not throughout the trademark application process. Through that, FDI investors can shape their trademark protection strategies in foreign host countries like emerging markets in order to ensure their competitiveness and long-run survival. This bridges to an opportunity for theory extension in which shall be addressed later in the results chapter 5 with the application of Vietnam context.

Overall, section 2 in this chapter provides an in-depth review of the literature on the mixed relationship between IPRs and FDI, then analyses the importance of trademarks protection for foreign investors through the issues of trademark imitation with the issues of infringement and counterfeits on their global brands. Next section shall focus on the literature of trademarks protection strategies at industry-specific level, specifically, pharmaceutical and medicine industry (traditionally patent-focused) through the lens of trademark and proposes the rationales behind.

3. Literature on Trademarks Protection Strategies for Pharmaceutical Multinationals

3.1. An Overview of Pharmaceutical and Medicine Industry

According to the UNCTAD's World Investment Report in 2019, MNEs in the global top 100 account for more than one third of business funded R&D worldwide, with pharmaceutical, technology, and automotive MNEs are the biggest spenders (UNCTAD, 2019b). IB literature has traditionally studied these R&D intensive industries like pharmaceutical and medicine from a patent-focused perspective (Cantwell, 1992, 1993; Almeida and Phene, 2004; Castellani and Zanfei, 2007; Cantwell and Piscitello, 2013; Edris, 2019). According to the European Federation of Pharmaceutical Industries and Associations, the world pharmaceutical market was worth an estimated € 845,235 million (or $ 998,223 million) at ex-factory prices in 2018 (EFPIA, 2019). Figure 3.1 illustrates the breakdown of the pharmaceutical market at a global scale in 2018.

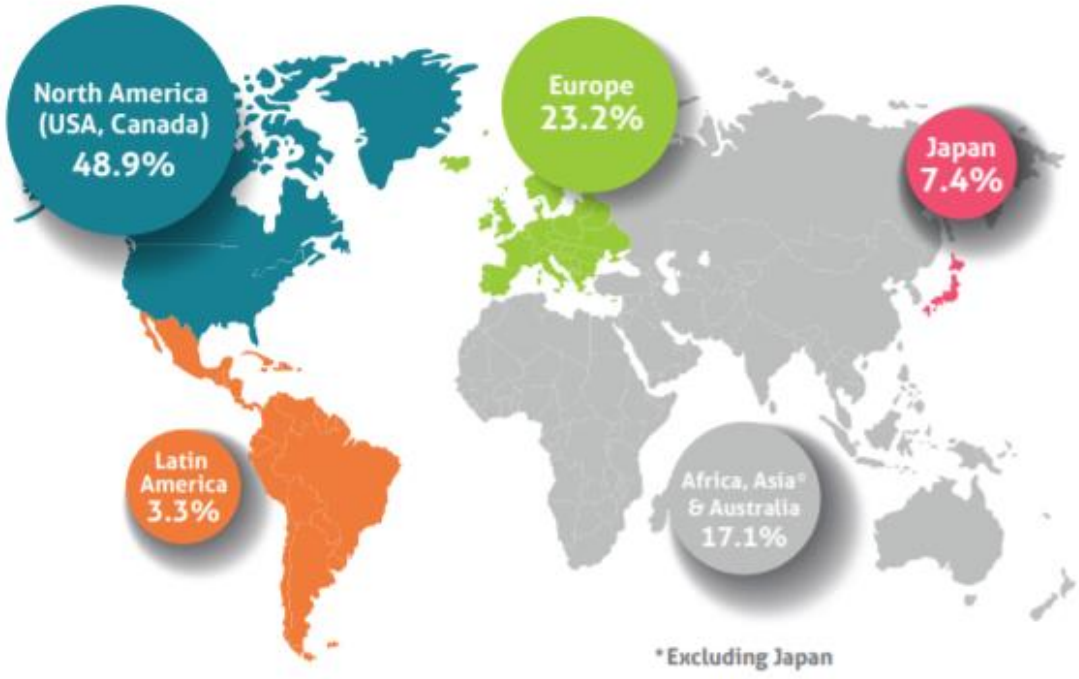


Figure 3. 1 Breakdown of the world pharmaceutical market in 2018.

Sources: EFPIA (2019).

Figure 3.1 shows that North American market (USA and Canada) remained the world's largest market and accounted for 48.9% share of the world pharmaceutical sales; compared with 23.2% for Europe; 17.1% for Africa, Asia (excluding Japan) and Australia; Latin America for 3.3%; and Japan alone with 7.4% (EFPIA, 2019). The top ten MNEs by market share in this pharmaceutical and medicine industry in 2019 are illustrated in figure 3.2.

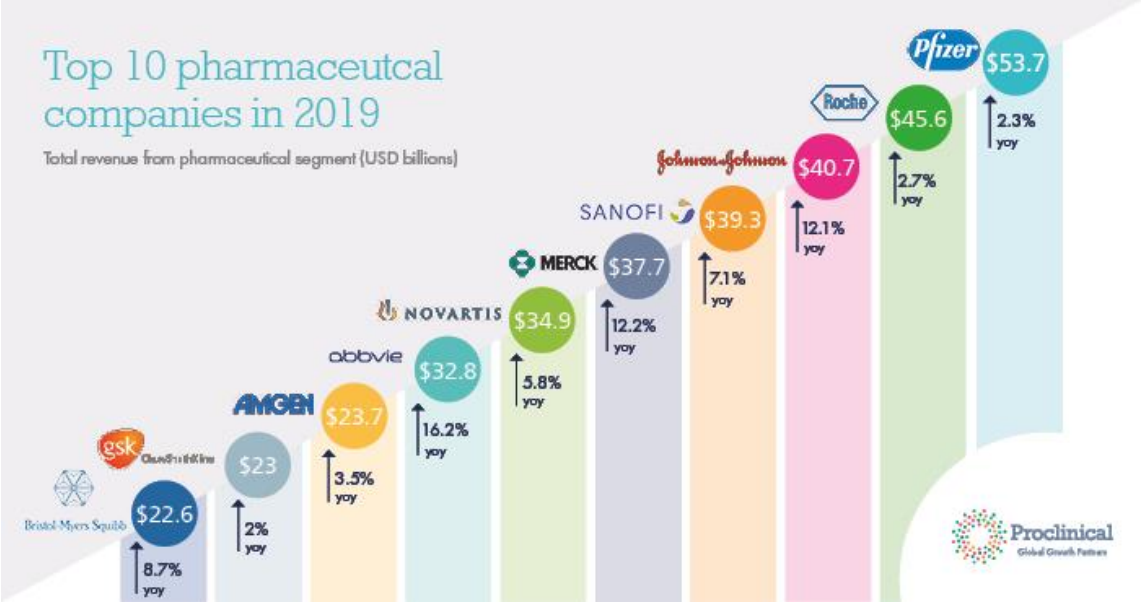


Figure 3. 2 Top 10 pharmaceutical MNEs in 2019.

Sources: Proclinical (2019).

According to Proclinical report, the world's top 10 pharmaceutical MNEs in 2019 are presented in figure 3.2, with the according order: Pfizer (USA), Roche (Switzerland), Johnson & Johnson (USA), Sanofi (France), Merck (USA), Novartis (Switzerland), Abbott/AbbVie (USA), Amgen (USA), GlaxoSmithKline GSK (UK), and Bristol-Myers Squibb (USA). All these pharmaceutical multinationals have invested in Vietnam and have registered their trademarks here. These multinationals' price structures in the foreign markets are normally broken down into four steps, so on average 66.6% of the retail price of a medicine goes to the manufacturer, 5.3% to the wholesaler, 17.8% to the pharmacist, and 10.3% to the government via VAT and other taxes (EFPIA, 2019). This implies that approximately one third of the retail price of any

medicine on average goes into non-manufacturer bodies such as local distributors (wholesalers and pharmacists), and the government. However, a recent newcomer to the pharmaceutical industry with consumer-directed approach for increasing patients' influence on prescription drug market like Amazon-PillPack (USA) or Amazon Pharmacy (UK) can challenge this traditional pricing structure and increase pricing competition among the distributors. The competition can be intense especially given the Coronavirus post-pandemic context where prescription refill delivery is no longer a new practice. While change is the only constant, pharmaceutical multinationals are not only required to adapt to the evolving environment, but also need to be prepared to different IP risks in host countries. This is why the next section 3.2 shall discuss in detail the importance of IPRs such as patents and trademarks for pharmaceutical MNEs in developing countries.

In Vietnam, pharmaceuticals and medicines industry is regulated by The Drug Administration of Vietnam (DAV), an agency of the Vietnamese Ministry of Health (MoH). In order to be offered for sale in Vietnam, all pharmaceutical and medicine products require registration with the DAV to acquire a drug market authorisation number, and the process takes around 12 to 30 months on average. Drugs in state-owned hospitals are provided through either "internal pharmacy departments" (which supply drugs to doctors for treatment of patients and they are normally public health insurance drugs); or "hospital pharmacies" (which provide drugs directly to patients and they are at the patients' own expense) (Tilleke and Gibbins, 2015). In lieu of the trials, foreign pharmaceutical manufacturers must provide sufficient safety and efficiency clinical data for the products that they plan to introduce to the Vietnamese market, and have marketed them in at least one other country (Pacific Bridge Medical, 2018). FDI legislation established that foreign pharmaceutical firms are not allowed to directly distribute pharmaceutical products in Vietnam, and so they must contract with licensed domestic

pharmaceutical distributors (Angelino et al., 2017). Typically, foreign investors enter the Vietnamese domestic pharmaceutical market by establishing a joint-venture with a local partner, or as a wholly foreign-owned enterprise. For instance, Adamed Group (Poland) spent $50 million USD to acquire 70% of Vietnam's Dat Vi Phu Pharmaceutical; Abbott Group (US) owns 51.69% of Vietnam's Domesco; Taisho Group (Japan) spent $97 million USD to buy 24.5% of Duoc Hau Giang Pharmaceutical and become the biggest shareholder of this Vietnamese drug manufacturing firm in 2016; Daewon Group (South Korea) owns 15% of Vietnamese Traphaco Pharmaceutical (HQ Online, 2019).

3.2. Impact of Intellectual Property Rights on Emerging Markets

An upward harmonisation of IP laws based on promoting global IP protection and enforcement in both developing and developed countries has always been the mission of the World Intellectual Property Organization (WIPO) since its Convention Establishing in 1967. However, this goal has met some major challenges made by different international organisations. For instance, all United Nations (UN) agencies have joined the World Trade Organization (WTO) in criticising the uniformity of the US-led international IP regime; and the World Health Organization (WHO) and the United Nations Educational, Scientific and Cultural Organization (UNESCO) expressed concern that IPRs run counter to human rights, particularly with regard to access to essential medicines (Benoliel, 2017). For poor nations and developing countries, IPRs such as patents and trademarks for pharmaceutical products can be too expensive and so hinder the access to life-saving drugs of patients in these countries. Similarly, the United Nations Industrial Development Organization (UNIDO) has argued for a deal favouring the transfer of technology to the least developed countries, while the United Nations Conference on Trade and Development (UNCTAD) critiqued the wearing down of least developed countries' flexibilities in IP norm-setting, particularly under TRIPS agreements

(Benoliel, 2017). This explains why many international organisations and governments have relaxed in IP law and be flexible on IP protection in poor and developing markets, essentially down to the ethical and moral reasons.

This creates the dilemma for policy makers because on one hand, protecting IPRs like patents or trademarks for pharmaceutical products can reduce free-rider problems for the innovators, foster R&D, enhance incentives for innovation, and improve economic growth. But on the other hand, by doing so then patients in poor and developing countries may not be able to get access from life-saving medicines, thus affect the economic development. Moreover, increasing patents do not necessary guarantee increase innovation given the "patent puzzle" phenomenon (Boldrin and Levine, 2013). Specifically, despite enormous increase in the number of patents and in the strength of their legal protection, the US economy witnessed neither a dramatic acceleration in the rate of technological progress nor a major increased in the levels of R&D expenditure, so there was no correlation with measured productivity (Boldrin and Levine, 2013). Last but not least, the use of IPRs is not always efficient, in the sense that by giving the innovators the exclusive rights to use such innovative knowledge, they also create the monopoly position in the industry for these IPR holders. The nature of the monopoly means that the goods will be provided at higher price and in lower quantities than in the competitive market. This might not be desirable and economically speaking, not achieving social welfare maximisation.

Looking into what happened during the Covid-19 pandemic, as Professor Simon J. Evenett pointed out during the AIB Webinar 2020, there was the risk of supply chain repatriation policies for pharmaceuticals, medical devices, and personal protective equipment in which have been outsourced to developing countries, on top of a number of localisation policies that

have already been implemented before the pandemic (e.g., US-China trade war), and these aspects can influence exports to developed countries and may accelerate in the era of post-pandemic. Moreover, he also pointed out that once the Coronavirus vaccine is developed, there will be threat to the pharma IP and pharmaceutical MNEs, because there have been calls from different campaigns for compulsory licensing of the potential vaccine (Evenett, 2020). While pharmaceutical MNEs are being pushed back against the initiative by the WHO to pool IP on Covid-19 and to make sure poor countries can have the access, there will be criticism by producing the Covid-19 vaccine without profit for the time being as eventually investors will want to reap the rewards (The Economist, 2020b). These pharmaceutical MNEs may also find the practice of vaccine nationalism as 'nerve-racking challenge' as the result of political risk between different countries in order to 'bully' drug makers and secure supplies for their own countries (The Economist, 2020b).

This leads to an interesting discussion between two opposing streams of thoughts on innovation-led growth of developing countries with the questions of "Are poor economies catching up with those already innovatively advanced (and thus richer)? Or, instead, are they caught in some innovation-related poverty trap?" (Benoliel, 2017). The first view rooted in Neoclassical equilibrium economics, with the convergence hypothesis that poor economies may catch up with richer ones, given that there are no central barriers to the function of market processes. The second view embedded on Club convergence theory, with the regional divergence hypothesis that poor countries can be expected to remain caught in a model of poverty trap.

Nevertheless, there are economists arguing that strong IPRs can benefit both the richest and the poorest nations, but not the middle-income countries such as the emerging markets. Falvey,

Foster and Greenaway (2006) found evidence of positive effect between IPRs and economic growth for both low-income and high-income countries, but not for middle-income countries. However, their later work showed that the positive relationship between IPR and economic growth in low-income countries cannot be explained by the potential fostering of R&D and innovation. Instead, this relationship should be clarified by the idea that stronger IPR protection promotes imports and inward FDI from high-income countries without negatively affecting the national industry based on imitation (Falvey, Foster and Greenaway, 2009).

While developing countries can utilise the IP bargaining theory, at the same time, having a strong IPR protection may lead to significant negative consequences for them. According to Benoliel and Salama (2010), IP bargaining theory refers to the analysis of bargaining power possessed by developing countries in lieu of their propensities to innovate, especially focuses on different negotiations between patent-sensitive industries (such as pharmaceutical industry) and developing countries over legal endowments and access conditions in these industries. However, the paradox is based on the notion that innovation weakens, rather than boosts, the countries' bargaining power in regard to the prospect of bargaining retaliations, like issuing compulsory licenses over pharmaceutical patents (Benoliel, 2017). This practice of bargaining dynamic would then lead to the reduction in the practical significance or the perks of being a least developed country. A fairer distributive justice policy contained in TRIPS should be geared toward a broader group of weak developing countries extending beyond the group of least developed countries, for example, three types of developing countries defined based on their bargaining power can arise: high-, medium-, or low-bargaining power countries.

3.3. Parallel Trading in Pharmaceutical and Medicine Industry

The exhaustion doctrine related to the IPRs protection and parallel trading is one of the most complicated regulations of International Business (Fink, 2005). Over the past decades, parallel trading has been debated by many economists in relation to its welfare implications and its impact over the trademark owners and their territorial rights after the first sale. Parallel trade (or parallel import, or grey market import) is referred to trade in genuine products (under protection of IPRs such as trademarks) *after* their first sales, *outside* official channels of distribution and *without* the consent or authorisation of the trademark owners (Fink, 2005). Although these goods are authorised for original sale and they are *not* counterfeit or imitated products (since they are identical to legitimate or authentic products), they may be packaged differently and may not carry the original manufacturer's warranty (Maskus, 2001). Interfering with discriminatory price setting by manufacturers, maintaining vertical control setting within distribution systems, and limiting licensing revenues are the key attributes towards parallel imports (Maskus, 2001). If unrestricted, parallel trading can be categorised into two main forms: (i) passive parallel imports – arbitrageurs buy goods in a foreign country and sell them in the domestic market; and (ii) active parallel imports – a foreign licensee (or distributor) of the IPR holder enters the domestic market to compete with the IPR holder or his or her official domestic licensee (Fink, 2005).

According to Chaudhry and Walsh (1995), the evolution of grey markets for pharmaceuticals requires three prerequisites: (1) grey marketers must have a source of supply; (2) trade barriers between countries must be low enough to provide easy access from one market to another; and (3) price differentials must be large enough to appeal to the profit motives of grey marketers (Chaudhry and Walsh, 1995). There is continuous and unabated interest in parallel trading in pharmaceutical sector across the globe, especially within the EU where the principle of regional

exhaustion of IPRs (i.e., rights end upon original sale within a group of countries, thereby allowing parallel trade among them, but are not exhausted by first sale outside the region) holds (Kanavos et al., 2004). Figure 3.3 presents turnovers of parallel import in relation to medicine market in the EU between 2010 and 2018.

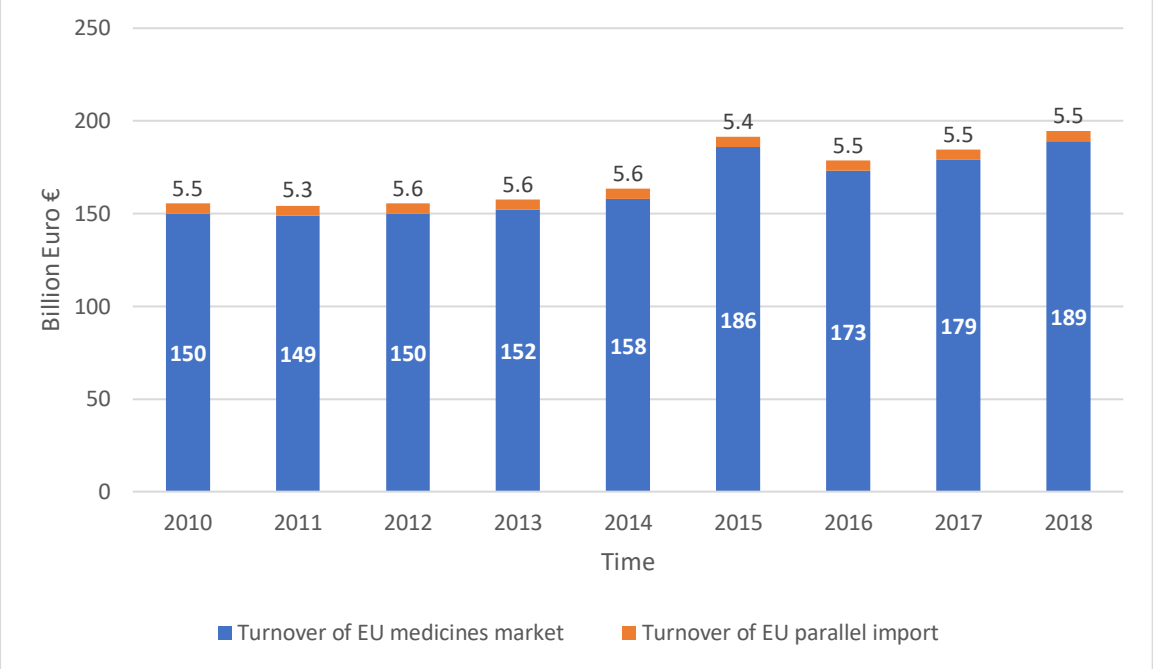


Figure 3. 3 Turnovers of parallel import in relation to turnover of medicine market in the EU. *Sources*: Affordable Medicines Europe (2020)

Figure 3.3 illustrates the significance and the consistent role of parallel import in the trading system, reflecting through the turnover trend of parallel import compared to medicine market in the EU from 2010 to 2018. For instance, the 'grey' market for prescription drugs in the EU was worth about € 5.5 billion by 2018. Most studies show that these middlemen parallel traders, not healthcare payers nor drug manufacturers – benefit the most (PwC, 2020). Interestingly, due to the prevailing shortages of generic medicines around the world, the origin of parallel imports in the pharmaceutical sector are not necessarily only travelling from low-income countries to high-income countries, but can also be parallel trade flows among high-income

countries (e.g., 51.3% of parallel import values originated from high-income EU countries like from UK to Denmark, or from Germany to Poland) (Affordable Medicines Europe, 2020).

In the US, parallel trading is subject to "common-control exception" under US trademark law in which allows trademark owners to block parallel traders if both foreign and US trademarks are in a parent-subsidiary relationship (Maskus, 2001). For many developing countries, parallel import has long been considered as an effective antidote to the high price of innovator drugs (Tilleke and Gibbins, 2015). In Vietnam, parallel imports are generally allowed under the Article 20 and Article 125.2 of the IP law, and are further detailed in Decision No. 1906/2004/QD-BYT of the Ministry of Health that regulate the provisions to restrict the parallel imports in case without the trademark owner's consent (Ageless, 2020). Although having its nature as a centre of trade entrepôts group (similar to Hong Kong and Singapore), Vietnam does not prefer an open regime of parallel trade like Hong Kong and Singapore (but rather views it as partial permission, not fully permission) because: (i) IP regulation in Vietnam still limits parallel trading of drugs that are radiopharmaceuticals, vaccines or biologicals; (ii) parallel import prices are still being regulated (the intended wholesale price must be at least 20% lower than the successful bid for the proprietary drug having certificate of registration in Vietnam); (iii) parallel trading products must meet certain technology requirements such as having country-of-origins from member state of the ICH or Australia where having high quality production processes and standards (Investip, 2020). The following Table 3.2 can illustrate the principles of price differentiation behind the parallel trading comparing Vietnam with other countries. It uses an illustration of 'Herceptin', a monoclonal antibody drug used to treat breast cancer patients, and the retail price for monthly treatment of this medicine is reflected as below.

Table 3. 2 Monthly retail price of "Herceptin" in different countries. *Sources:* Investip, 2020; Bloomberg, 2015.

Country	US	Germany	Brazil	Australia	UK	France	China	India	South Africa	Vietnam	Japan	Russia
Retail price (USD)	$5,593	$3,185	$3,155	$3,141	$2,678	$2,527	$2,310	$2,196	$2,086	$1,970	$1,731	$1,556

Table 3.2 presents the retail price of Herceptin across countries, with US having the highest price, nearly 3.6 times higher than that in the lowest price country – Russia. Aside from Russia, Herceptin in Vietnam and Japan also is set at a lower price compared to other countries. In Vietnam, the brand "Herceptin" belongs to Genentech, Inc. in class 05 and its trademark is granted on 20 July 2004. So, this represents the movements of homogeneous goods or identical drugs like Herceptin produced exactly by the same MNE – Roche Holding AG – across borders and arises due to price differentiation among markets. When the same medicines have exporting prices lower than importing prices, by practicing parallel trading of circulating and moving these homogenous drugs from the exporting country (the country of origin, with a lower price) to the importing country (the destination country) – can generate profits for the parallel traders even if transaction costs (tariffs, transportation costs, repackaging costs) arise.

There are two famous dispute cases about parallel trading in pharmaceutical sector in Vietnam that can demonstrate the complicated 'jungle' of IPRs exhaustion. *The first case* is about a major European pharmaceutical innovator learning that a Vietnamese parallel trader imported diabetes drugs into Vietnam in which the MNE had manufactured for the Turkish market. While these drugs were genuine products of the original manufacturer, and drugs under the same trademark name had been authorized for circulation in Vietnam, the markets were not truly "parallel" (Tilleke and Gibbins, 2015). This is because Turkey requires different standards for drug storage than in Vietnam, and the quality of the drugs could deteriorate more rapidly in

Vietnam's tropical climate. This could lead to the negatively impact towards consumer health and the original manufacturer's reputation, this European MNE decided to work with Tilleke and Gibbins law firm to crack down on the parallel trading (Tilleke and Gibbins, 2015). *The second case* is related to the dispute between the giant American pharmaceutical company, Abbott, and a Vietnamese parallel trader, Song Nam, over the distribution of Abbott's signature Ensure products in Vietnam. Abbott accused Song Nam of fabricating the licensing agreements for being an authorised distributor to import and sell Abbott's Ensure products (nutrition powders) which specifically written "not to be sold in Vietnam or Mexico" in Vietnam (Vietnam Investment Review, 2013). However, Song Nam claimed that they imported these Ensure products from the US according to the parallel trading from the IP law that both Vietnam and the US have agreed in the Trans-Pacific Partnership negotiations (TPP), and that their intention was to give Vietnamese consumers more choices for quality products at lower prices (Mai Anh, 2016). The Abbott's Ensure price per bottle are varied in the Vietnamese market: Song Nam's parallel imported price = 22,000 VND (or 0.94 USD); Song Nam's market price = 38,000 VND (or 1.63 USD); Abbott's official and sole distributor in Vietnam – 3A Nutrition Vietnam Co., Ltd. = 45,000 VND in 2013 (or 1.93 USD) (Thanh Huong, 2013). The price of Ensure by 3A Nutrition is almost twice the original price that was withdrawn from distribution in Vietnam. In the end, the Vietnamese authorities decided to stop allowing the import of this kind of product ("not to be sold in Vietnam") in the parallel trading into Vietnam, however this import ban further strengthen the monopoly position of the 3A Nutrition Vietnam and consumers faced much higher price than before (3A Nutrition increased Ensures price by 63%) (Vietnam Investment Review, 2013).

The economic significance of the IPRs exhaustion doctrine and parallel trading in pharmaceutical industry are difficult to evaluate because of the conflicts of interests among

different parties from different countries. Academic scholars such as Maskus (2001); Fink (2005); and Kanavos et al. (2004) propose many benefits of parallel imports which shall be summarised as follows:

- ***From the parallel traders' point-of-view***: The existence of profitable differences in international third-degree price discrimination for the homogenous drug (and when it exceeds the transaction costs) can create the imperfect arbitrage opportunities for parallel traders to exploit and generate abnormal profits. It should be highlighted that this practice is different from pure competition between different firms producing the same drug, and this is when IP protection like patents or trademarks for medicines are still supposed to give monopoly power to the drug originators. Medicine prices in some countries may be cheaper but not necessarily just because of parallel trading, but rather because of pure local competition.
- ***From patients' point-of-view***: By permitting public health authorities like pharmacists, hospitals, and insurance services to purchase drugs from cheaper international sources through parallel traders, prices of trademarked drugs are directly reduced, and presumably this reduction can be passed on to final consumers i.e., patients. This can be particularly helpful in developing countries where it can fulfil basic human needs, and can avoid problems with high prices charged in low-volume products, so patients can get the cheapest medical sources possible.
- ***From policy-makers' point-of-view***: Parallel imports can be a complement to price control programs and create competition. This is because the threat of getting accessed to lower price and yet branded drugs may be sufficient enough for negotiating leverage with original drug manufacturers – that they would accept lower prices. These MNEs are no longer be in a monopoly-like position and so they must be more willing to apply non-pricing strategies such as more expenditure on branding, marketing, promotion

etc... as a measure to prevent parallel traders. In the US, parallel import is one of the policies that the FDA adopt in order to cut the medicine price these days. In many developing countries, policymakers prefer to place a higher weight on affordability of medicines through parallel trading than on promoting R&D aboard.

- ***From local pharmaceutical firms' point-of-view***: parallel imports can be a source of technology transfer that it could make products available on markets where firms could reverse engineer their compositions and the rise of me-too products.
- ***From original manufacturers' or MNEs' point-of-view***: Parallel imports can increase incentives for the development of more innovative products in the pharmaceutical sector or breakthrough drugs by reducing the attractiveness of imitated drugs. To some extent these original manufacturers can enjoy the free-riding on marketing expenses and help to protect brand's reputation.

However, there are many concerns on the downside of parallel imports. Past studies like Peiravian (2014); Schlaepfer (2008); and Maskus (2001) address some critical issues in the global trading system which can be summarised as follows:

- ***From the parallel traders' point-of-view***: Parallel imports only can arise under the basic condition of parallel traders maximising the resources used in the transaction costs (e.g., transportation costs, tariffs, and repackaging costs, etc…). However, there are some cases that such costs may take up a substantial portion of any potential price advantages. Also, there are the possibilities that some high-elasticity and low-demand countries might eliminate parallel trading as export markets under uniform pricing.
- ***From original manufacturers' or MNEs' point-of-view***: Many multinational pharmaceutical original manufacturers concern that parallel traders engage in no R&D activities, and so this could lead to diminished profitability of original manufacturers

and thereby disincentive R&D efforts and slowdown in innovation of new drugs, especially on breakthrough or blockbuster drugs. Moreover, parallel trading undertakes very little in terms of marketing investments, and so these distributors are permitted to (and relied on) free ride on the marketing expenses of the original manufacturers and their licensees. Therefore, this could reduce parallel traders' willingness to supply certain markets and products, so basically no marketing benefits for the original manufacturers in potentially new markets.

- ***From the WIPO or advocates of strong IPRs' point-of-view***: Similar to IPRs, the regulation of parallel trading across different countries involves trade-offs between short-run static costs of market power and long-run dynamic benefits of faster product introduction. Extensive regimes of parallel trading in drugs in developing countries could discourage any incentives for more R&D emerging from the TRIPS Agreement.
- ***From patients' point-of-view***: Some may argue that even though the prices are cheaper for parallel import drugs, there are unregulated me-too products that can confuse buyers and put public health at risk.
- ***From policy-makers' point-of-view***: Parallel imports could make it difficult for health authorities in different countries to sustain differential price controls and regulatory regimes. Moreover, original manufacturers can set prices according to local demand elasticity and market size, integrating the markets through parallel imports can raise prices in exporting countries by reducing available medicines in the supply chain there. This leads to the possibility that firms could refuse to supply small markets altogether.

To sum up, the impact of parallel trading on global welfare is ambiguous and it depends on the balance of consumer surplus created in some areas and eliminated in others. From the original manufacturers or pharmaceutical MNEs' position, there are important rationale for restricting

parallel exports of medicines from low-income countries to high-income countries through a former group that could remain opened to parallel traders (Schlaepfer, 2008; Scherer and Watal, 2001; Ganslandt, Maskus, and Wong, 2001). This idea could be supplemented by regimes of regional exhaustion among poor countries in order to increase market size within which prices are integrated (Maskus, 2001). These discussions are drawn upon arguments of the two-sided effects from parallel imports in order to help policymakers fully understand the differences and to harmonise the interests of pharmaceutical MNEs in developing countries like Vietnam. To some extent, parallel trading is similar to TRIPS agreement that is discussed in the previous section (section 3.2). It is in the sense that pharmaceutical MNEs are being forced to relax in term of their IP protection such as patents or trademark by different international organisations (in this case they are the parallel traders). From the drug innovators' perspective, parallel trading can be seen as an alternative market entry arising from the grey area of distribution, and so a potential source of threats for the innovators' IP protection. In response, pharmaceutical MNEs will need to develop a mitigation strategy to protect their IPRs such as patents or trademarks from these potential threats and to compete in the grey markets. The next section shall explore different protection strategies from the literature.

3.4. Intellectual Property/Trademarks Protection Strategies for Pharmaceutical Multinational

- **Counterfeiting in Pharmaceutical and Medicine Industry:**

While previous section analyses the complex issues of parallel trading in grey market, this section shall address counterfeiting in black market, especially for the pharmaceutical and medicine industry. Figure 3.4 illustrates the global threat caused by counterfeit drugs through trade incidents involving fake pharmaceuticals by region.

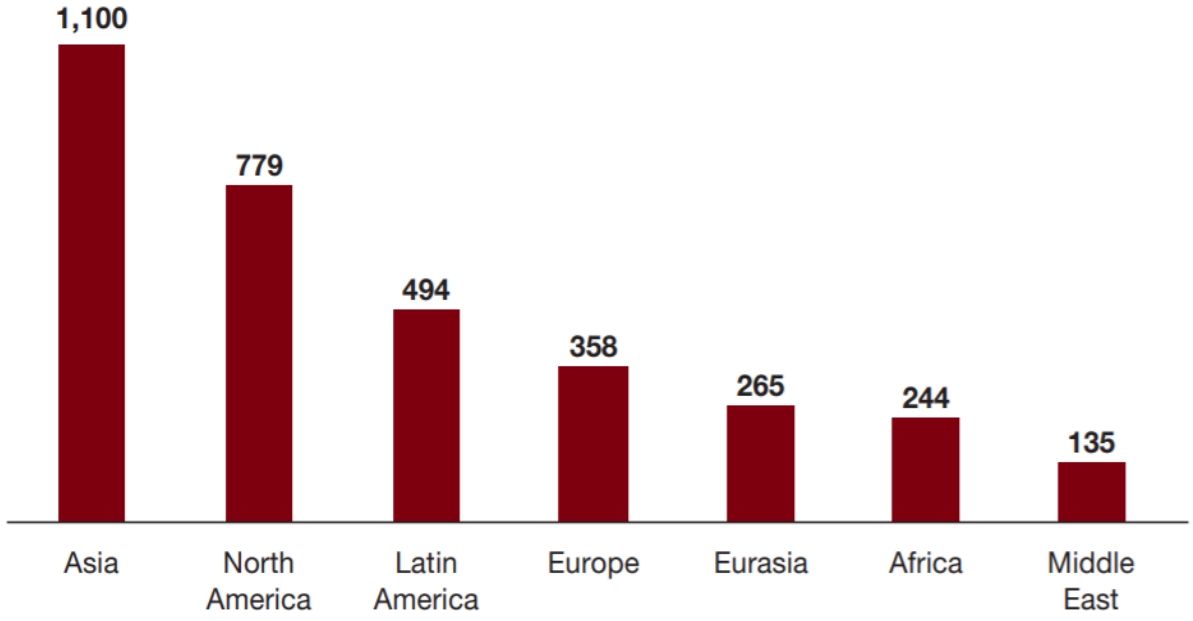


Figure 3. 4 Trade incidents involving counterfeit drugs in 2015 by region.

Sources: PwC (2017b), Interpol (2017).

Figure 3.4 presents the global pharmaceutical counterfeit incidents across the world in 2017, with Asia being the location that involves the highest counterfeit drug cases. It suggests that Asia has the highest number of cases that involves counterfeit drug trading. This is then followed by North America and Latin America. Other regions like Europe, Eurasia, Africa and Middle East are also in the targets of these pharma counterfeiters. Hence, pharmaceutical MNEs in foreign markets do not only need to be cautious of the parallel trading, but also on this counterfeiting that are happening at a global scale. Trademark protection strategies for pharma multinationals therefore are needed in order to protect themselves from the grey market as well as the black market in foreign host countries.

- **How Trademark Protection is as important as Patent Protection in Pharmaceutical Industry?**

Before revisiting the literature on different IP/Trademarks protection strategies, the thesis shall now address the rationales behind the choice of trademarks (rather than patents) for pharmaceutical and medicine industry. Although this is an R&D intensive industry and is usually associated with studies that rely on patent data (while trademark data is on marketing-based industries), it would be interesting to understand the pharmaceutical and medicine sector from another angle, specifically, through the lens of trademarks. The thesis shall propose how IP protection strategy for pharmaceutical MNEs in emerging markets like Vietnam can be as important in trademarks as it is in patents. The key factor attributed to the importance of this non-traditional approach in pharmaceutical commercialisation is imitation in trademarks that involves either infringement or counterfeiting of medicines.

From academic literature, when an imitative use of trademark even though the imitator use the same brand name but in a completely unrelated product category or different trademark classes to that of the originator (e.g., Kodak pianos, Dupont shoes, and Buick aspirin), such practice is so-called *'Trademark Dilution'* (Peterson, Smith, and Zerrillo 1999). Trademark dilution not only causes confusion among consumers about product origin, but also create asymmetric effects of dilution on retrieval probabilities (i.e., weaken the strength and uniqueness of mental associations created by consumers between the imitated brand names and the original product categories), thus can harm the value of trademark for the originator (Morrin, Lee and Allenby, 2006). This links to the concept of *'Liability of Reputation'* in which good reputation could be a disadvantage and an organisational liability, because expectations about product quality are more likely to be violated by defects in highly reputed products, so highly reputed firms may suffer more market penalty as the result of their product recalls (Rhee and Haunschild, 2006;

Gao et al., 2017). The consequences of such asymmetric information in an imperfect market can be even more severe, especially in pharmaceutical and medicine sector, due to the characteristic of this industry that relates with saving human life.

As a member of WTO and WIPO, Vietnam's laws on pharmaceuticals comply with the TRIPS Agreement, however, counterfeit drugs and IP compliance problems still persist in Vietnam (UKABC, 2019). The differences between counterfeit drugs and generic drugs not only concern the wrong doses or having no active ingredients, but also involve the practice of renewing expiry dates to expired medicine products, or labelling generic products as products from well-known pharmaceutical firms (Ha, 2017). VN Pharma scandal on counterfeit anticancer drug scam to cure breast cancer or colorectal cancer is the most recent example of this. The Supreme People's Procuracy of Vietnam prosecuted the Vietnamese pharmaceutical firm VN Pharma which had been importing and advertising its product called H-Capita 500mg Caplet in Vietnam since 2013 as an anticancer drug manufactured from Canadian based Helix Pharmaceuticals Inc., through Hong Kong-based supplier Austin Pharma Specialities Co., but it was later discovered that Helix Pharmaceuticals Inc. did not exist, and all the ostensibly Canadian-issued certificates, signatures or stamps of the Vietnamese Embassy in Canada turned out to be fake (VnExpress, 2019). From the MoH's assessment, 97.5% of the H-Capita imported batch consisted of low-quality Capecitabine, a chemotherapy drug, of unknown origin and not permitted for human treatments. While the total consignment was worth around VND 5.3 billion Dong (or USD 230,000$) with the selling price of H-Capita (USD 75$) more than double the original imported price per box (USD 27$), cancer patients suffered not only on high prices, but also on low quality and counterfeit drugs (CongAn, 2019). Counterfeit trade also brings profits towards organised crime gangs at the expense of innovative firms and governments, as well as jeopardising consumers' health and safety (OECD, 2019). It is reported

that most drug sales in Vietnam are not achieved through regulated pharmacies but via private dealers that handle drugs worth an estimated USD $450 million per year (UKABC, 2019).

There are many factors to blame for counterfeit drugs such as poor-quality control for drugs, doctor moral hazards, limited buyer's knowledge, and corruption practices in drug prescribing (Vietnam Investment Review, 2018a; Nguyen et al., 2018b). But this research specifically focuses on the aspect of asymmetric information in the pharmaceutical and medicine sector in Vietnam, especially among consumers (can be either patients or doctors) who have little to no knowledge of medicine. This group perceives foreign drugs being better quality because they are familiar with the brand or the trademark of the product through different forms of marketing, such as repeated advertising on television, word-of-mouth among consumers, highly skilled medical communication specialists/representatives who promote the pharmaceutical product to doctors for the treatment of patients (Nam, 2013). It could also be that patients are not able to afford the authentic patented medicine due to its high price, so they just buy similar counterfeit drugs without a prescription at a lower price (UKABC, 2019). Thus, consumers would purchase this counterfeit drug not because of its ingredients or patent of the medicine product as they have little to no knowledge about this, but rather because of the good marketing strategy of drug firms. So, trademarks can be the key source of competitive advantage not only in marketing-oriented or advertising-intensive industries, but in this case, also in the technology-oriented or R&D intensive industries such as pharmaceutical and medicine sector.

In a way, by protecting trademarks persistently in an imperfect market with asymmetric information, firms can reduce transaction costs such as search and information costs and so can protect their reputations when entering foreign markets. Gao, Zuzul, Jones and Khanna (2017)

proposed a reputation-based view model which emphasises on the role of reputation (consisting of prominence, perceived quality, and resilience) as a mechanism for firms to survive and to overcome institutional voids in emerging markets over time (Gao et al., 2017). To this extend, the IP protection strategy for pharmaceutical MNEs for the case of Vietnam is as important in trademarks as it is in patents. The next paragraph shall address academic literature that are related to trademark protection strategies, especially in the pharmaceutical and medicine sector.

- **Literature of Trademark Protection Strategies:**

Past literature studying IP or trademark protection strategies has highlighted several points. Aggarwal (2010) suggested that MNEs should develop proactive IP protection strategies and strategic structures for global R&D so that the leakage of proprietary IP to local imitation is minimised. Lopes and Casson (2012) proposed that the choice of countering imitation strategy for MNEs depends on the location of foreign markets and its institutional environment, and on the importance of the brand to the firm's portfolio of products. This is because MNEs must decide whether to incur trademark registering costs in foreign markets, or to spend money on litigation in countries where they are unfamiliar with local laws and can face discrimination against foreigners in local courts, or to negotiate with their imitators for ceasing imitation activities (Lopes and Casson, 2012). MNEs can always change their mode of entry to reduce the risks of imitation in foreign markets (Casson and Lopes, 2013). Otherwise, if foreign firms decide to stay in the host country, prevention strategy (when countering a potential problem before it occurs) and mitigation strategy (for reducing the impact of a problem once it has already occurred) should be implemented (Casson and Lopes, 2013). Although counterfeiting presents a global threat from which no company, industry, or country is immune, there are different strategies in which pharmaceutical MNEs can detect the presence of counterfeits, such as actively monitoring their supply chains through mass serialization method, often combined

with track-and-trace requirements (Mages and Kubic, 2016; PwC, 2017b). While mass serialization encodes each drug package with a unique identifier, usually a scannable barcode and is entered into an online database, track-and-trace technologies like handheld scanners or drug containers can be monitored and checked against the database at each point of the value chain, from manufacturer through wholesaler, repackager, and pharmacist (PwC, 2017b).

The grey market increases the opportunity for the entry of black-market goods (Lowe and McCrohan, 1989). Not only counterfeit drugs from the black-market that pharmaceutical MNEs need to cope with, they also should address the parallel imports from the grey market to prevent potential threats. Scholars studying on strategies to protect trademark owners from parallel trading (see Lowe and McCrohan, 1989; Clarke and Owens, 2000; Huang, Lee and Ho, 2004; Baroncelli, Krivonos and Olarreaga, 2007; Saiz and Castro, 2018) have raised several important points. Prominently, Huang, Lee & Ho (2004) emphasized on price-quality inference (as most grey market goods are sold at lower prices) and risk averseness (arise from post-purchase stage includes loss of warranty/service from the legitimate distributor) that negatively affect to consumer attitude and reduce their purchase intention toward grey market goods.

Moreover, a comprehensive trademark strategy includes before registration (trademark planning), during registration (trademark implementation), and after registration (trademark control) should be adopted by foreign investors for a successful implementation (Cohen, 1986; Cohen, 1991). It should be noted here that in lieu of just depending on the legal actions (reactive strategy), MNEs should also develop their own management practices (proactive strategy) for trademark protection (Saiz and Castro, 2018). Rugman (2003) and Nguyen (2014) proposed that foreign MNEs follow regional strategies rather than the global ones in order to tailor to the preferences of customers in local markets. They explained that R&D activities of multinational

subsidiaries depend on the host country and regional regulations, so consequently not all products developed through R&D processes in the one region can be sold in the rest, or all the other regions around the world. The most viable option can be achieved by combining both elements of standardisation and adaptation to create a 'glocal' marketing strategy (Svensson, 2001). Gao et al. (2017) addressed how firms compete in institutionally weak settings such as emerging markets can survive over the long run, and their key finding highlighted the role of firms' reputation which consists of prominence, perceived quality, and resilience. Reputation is a meta-resource that can help firms mitigate and capitalize on institutional voids to attain longevity. However, the most comprehensive work on trademark strategies for MNEs is by Yang, Sonmez and Bosworth (2004) who formulated three anti-piracy strategies: proactive strategy, defensive weapon, and networking means. While proactive approach is to prevent piracy, defensive weapon is to cure/mitigate it, and networking mean is for long-run protection; the most effective method is by using a combination of all these three strategies.

Taking into consideration of all the points addressed above, this thesis shall synthesise and replicate all these studies to provide a systematic and practical analysis of trademark protection strategies, emphasizing the aspects of dynamic changes over time of the top MNEs in the pharmaceutical sector, in emerging markets with weak IPRs like Vietnam. Its application for the case of Vietnam will be analysed via the use the three case studies of Taisho, Abbott, and Bayer that invested substantial inward FDI in Vietnam and learning about their trademark protection strategies throughout the time, the results are summarised in the result chapter. These representative cases adopt different trademark protection strategies throughout different stages of their activities in the host country, and the evidence shall provide various examples of imitations from those who infringed their trademarks and how they responded, prevented, or mitigated the imitation risks over time in the Vietnam.

4. Literature on Foreign Knowledge Transfers and Local Learning

4.1. Definitions of the Key Terminologies

Before reviewing the literature of the third research question, there are some key terminologies that should be clarified for their definitions as follows. ***Knowledge transfer*** is defined as the transmission of advanced organisational knowledge (technological, managerial or operational) contributed by MNEs to a potential recipient and absorption of the knowledge by that recipient via four dimensions of acquisition, assimilation, transformation, and exploitation (Kogut and Zander, 1992; Zahra and George, 2002; Davenport and Prusak, 2000; Sun and Anderson, 2010; Gutiérrez, Sánchez and Molina, 2012). This process is different from the knowledge exchange where there are mutual exchanges of information, skills and expertise among foreign firms and local recipients (Lopes and Simões, 2017; Caraça and Simões, 1995). Essentially, knowledge transfers were studied to assess the role of MNEs on upgrading host countries' economies, with beneficial linkages act as mechanisms for the positive spillovers (Giroud, 2011; Jindra, Giroud and Scott-Kennel, 2009; Giroud, 2007; Rasiah, 2004; Lall, 2003; ResLall, 1994; Lall, 1980).

A successful foreign knowledge transfer depends on ***organisational learning's absorptive capacity*** in which refers to the ability of the recipient to recognise the value of new and external knowledge, assimilate and apply it to the commercial ends (Cohen and Levinthal, 1990; Winter, 2000; Luo, 2020). Zahra and George (2002) extended the concept further that absorptive capacity has four dimensions – acquisition, assimilation, transformation, and exploitation – where the first two form the potential absorptive capacity, and the latter two form the realised absorptive capacity. It should be clarified that the internalisation of knowledge here is not referred to the explicit type of knowledge management between headquarters and subsidiaries, but rather to the implicit type of knowledge-based view and inter-organisational knowledge spillover where multinationals develop networks once entering

a foreign market. This is because there is an intermediate level of internalisation through licensing agreement or so-called "hybrid mode" of internalisation that can be linked to licensing (Lopes, Casson and Jones, 2019).

Innovation is the ability of a firm to generate higher or equal quality products at a lower unit cost than its competitors; and innovation can be technology-based or marketing-based that associated with the type of IP protection such as patents and trademarks accordingly (Lopes and Guimarães, 2014). Often, patent data is used in internationalisation literature as a proxy for innovation and can track knowledge flows which will be discussed in detail later. The main differences between innovation and knowledge transfer lie within the interactions of both foreign and local firms. Specifically, innovation occurs when both local and foreign firms launch new products; while knowledge transfer happens when the foreign launched new product and the local follows (that can lead to imitation in some cases in which subsequently require foreign IP protection strategies). Local heterogeneous firms may not introduce any new products (innovate), but rather just expanding the ranges of close substitute products that are vertically differentiated from foreign product line (imitate) (Brambilla, Hale and Long, 2009).

Depending the absorptive capacity of the indigenous firms, the following literature shall focus on the aspect of how foreign knowledge transfers can improve local learning, in the realm of innovation and IPR development such as more patenting and trademarking activities resulting in new product innovation and commercialisation. Unlike many existing studies looking at the effect over time or for a specific historical period, this study aims to understand the origins of knowledge transfer and local learning, thus only the first traces at the beginning of the period of analysis in Vietnamese pharmaceutical and medicine industry shall be considered. The following sessions shall evaluate the positive effect (direct / indirect) of foreign knowledge

transfer, with local firms recognise the (intentional or embedded / unintentional or non-embedded) learning opportunities from organisational knowledge (technological, managerial or operational) contributed by MNEs for improving local IP activities and host countries' innovation systems.

4.2. Trademarking: Foreign and Local

Past literature has studied the effects of foreign IP activities on host-country's innovation and IPR development. Building upon *the transaction costs economics theory* by Williamson (1979) (where foreign multinationals involve themselves in local environments to pressure the domestic governments for reducing their local operations' transaction costs), and *the internalisation theory* by Buckley and Casson (1976) (with the efficient form of organisation for knowledge-intensive activities), scholars have started *the developing country catch-up literature* (e.g., Acemoglu and Robinson, 2000; Awate, Larsen, and Mudambi, 2012; Kumaraswamy, Mudambi, Saranga, and Tripathy, 2012; Brandl and Mudambi, 2014; Brandl, Darendeli, and Mudambi, 2019; Anand, McDermott, Mudambi, and Narula 2021).

Initially, Acemoglu and Robinson (2000) proposed that the presence of MNEs facilitate emerging markets' host countries to develop the stronger local innovation system, and at the same time positively affect the catch-up process to global institutional and legal standards (Acemoglu and Robinson, 2000). Recently, Brandl, Darendeli, and Mudambi (2019) focused further into the realm of IPRs within this stream of thoughts literature, where they investigated the influence of advanced country MNEs (AMNEs) and supranational organisations on the regulatory strengthening of developing countries' IP protection standards that adapt to the global institutional environment standards. The authors used empirical study of two-step mixed instrumental variable estimation approach at country-level analysis for 60 developing nations

that signed the TRIPS agreement in 1994. They measure the dependent variable through the number of patents from the USPTO database and the IPR score from Park (2008) as a proxy for their initial stage of the innovation capability and IPR strength of the TRIPS agreement adoption. The findings demonstrated that AMNEs have a dominant presence in the local innovation systems of developing countries, and can result in a fast and stringent regulatory adoption of TRIPS agreement (moderated by supranational organisation's dependency) and push the developing countries to reach a higher IP protection standards prevalent in advanced countries (Brandl et al., 2019). Thus, multinationals can help reshaping the local IPR environment, push indigenous firms for higher IP protection standards prevalent in advanced countries, and improving the domestic innovation system and influence on the emerging markets' catching-up process.

Specifically, research on this field has heavily been patent-focused among different types of IPRs, with the view that foreign patenting can stimulate domestic patent applications and local industries' innovation development. For instance, in China (where uses similar first-to-file IP registration system as in Vietnam), Hu and Jefferson (2009) studied the paradoxical phenomenon of why there was a significant surge in local patent applications despite the country's weak record of IPR protection. Using a firm-level dataset from large- and medium-size industrial enterprises between 1995 and 2001, the authors employed Poisson Quasi Maximum Likelihood estimator, Zero Inflated Poisson, and Poisson fixed effect estimator as their empirical methods. Their results confirmed that the competition threats from foreign patent applications via FDI, and the institutional changes induced by China's transition from command economy into market economy - have led to Chinese patent boom (Hu and Jefferson, 2009). Shi and Pray (2012) made use of the number of inventions or patent applications as a proxy for innovation in their paper in order to study firms' decisions on innovation or imitation

in the Chinese pesticide industry. Similar efforts are reported by Hu (2010), Thoma (2013), Dang and Motohashi (2015) where they confirmed that patent count is a good indicator of innovation and economic development, as well as patenting by foreign firms can increase the propensity to patent among domestic innovators. The reasons for that are because local firms need larger patent portfolios in order to create market barriers, or to achieve better positions in cross-licensing negotiations, so this is purely classic competitive threat between foreign and local firms in China (Hu, 2010; Thoma, 2013; Dang and Motohashi, 2015). In relation to pharmaceutical and medicine industry, patent counts and patent citations have been used extensively in industrial economics' innovations (Comanor and Scherer, 1969; Gambardella, 1992; Henderson and Cockburn, 1994; Grabowski, 2002; Nesta and Saviotti, 2005; Cantwell, Marra, Edris, and Athreye, 2019; Thakur-Wernz, Cantwell, and Samant, 2019). Hence, foreign entries can positively affect the local innovation and their marketing activities, resulting in more IP applications.

While past studies mostly used patents to capture the effect of foreign entries, other types of IPRs such as trademarks have not equally been paid attention as much and only a few efforts have been made on studying trademarks data. In particular, Mendonça, Pereira, and Godinho (2004) suggested that not only trademarks reveal new stylised facts and illuminate puzzles on innovation phenomena that is still in need of explanation, but also can be used as an empirical yardstick for measuring industrial dynamic evolution and structural change in contemporary economies. Prominently, Lopes and Guimarães (2014) investigated the impact of trademark registrations on the monopolistic economic rents phenomena of the British consumer goods industries before the First World War. The authors employed mixed methods at industry and firm-level analysis, with both quantitative evidence from Poisson regression analysis, and qualitative archival research from abnormal peaks of trademarks between 1876 and 1914.

Notably, the paper proposed the use of trademarks as proxies for economic phenomena such as technological and marketing innovations, economic development, dynamic evolution of industries, and on society in general (Lopes and Guimarães, 2014). Similar works in management studies using trademark data to explain other economic phenomena are Lopes and Duguid (2010); Saiz and Perez (2012); Gotsch and Hipp (2012); Suffia et al. (2018); Saiz and Castro (2017); Lopes et al. (2019); Duguid (2018); Saiz and Castro (2018); Mollanger (2018); Bellido and Bowrey (2018); deGrazia et al. (2019).

To a certain extent, the use of trademarks can be complementary, or even substitute to patents (Castaldi, 2020). First, patents data have some limitations regarding the measurements, such as they refer only to tangible or codifiable manifestations of a firm's ideas, and because not all innovative ideas are patented (Decarolis and Deeds, 1999; Cantwell et al., 2019). Hall (2007) also pointed out that most innovation nowadays depend on previous knowledge, so if good A's invention depends on previous technology B held by a third party, then its invention is deterred because the innovator has to pay for patents, thus, having patents actually deter innovation, or patent is not a good proxy for accumulative innovation. Second, the use of trademarks as alternative measurement of IP protection is important to the extent of corporate reputation. Multinational capability to expand is shaped not only by the direct consequences of the technology itself, but also by the potential halo effect on the reputation of adopters (Westney, 1989). Reputation is associated with a time lag effect concerned with the speed and costs of learning information flows (Shapiro, 1983). Unlike other forms of IPRs such as patents or copyrights which expire after a limited number of years in order to facilitate the diffusion of new knowledge, trademarks have the capacity to have "eternal lives" securing monopoly power to brands and firms forever (Lopes, 2019). While technology ownership of patent is not easily attained, reputation performance is also hard to build quickly (Buckley and Ghauri, 1999),

especially in marketing-based industries (Lopes, 2007). This is because it is culturally and socially impeded, and so system dependent and less product observable (Zander and Kogut, 1995; Wong et al., 2002).

Nevertheless, this study argues that not necessary only in marketing-based industries, trademarks can also be as crucial as patents even in high R&D intensive industries (especially in the context of counterfeits) such as pharmaceutical and medicine industry. Counterfeit medicine is a global issue, for example, with the fake anticancer drug made from paracetamol in Europe and the US, or made from bamboo charcoal powder from Asia, or the latest with Pfizer confirms fake versions of Covid-19 vaccines in Poland and Mexico (BBC, 2021; Boseley, 2019; VIR, 2018). Often, this problem is due to the confusion of the drug's name, label, design, or symbol (trademarks), rather than its active ingredient or invention (patents). Specifically, the issues occur as the results of poor drug controls, consumers' willingness to purchase the imitate medicine at lower price as they cannot afford the expensive authentic version, or lack of public awareness about drug commercialisation. Counterfeit drug can get worse in emerging markets that possess typical characteristics of institutional voids, weak IPR systems, inconsistent regulation, and consumers' asymmetric information. To the best of my knowledge, this research is among the first to study the typical R&D intensive industries like pharmaceutical and medicine through the lens of trademarks. Given all the reviewed literature above, the paper proposes that the same arguments of patents can apply for trademarks data, i.e., multinationals can reshape the emerging markets host country's IPR environment, push indigenous firms for higher IP protections, enhance the innovation, improve the economic development in pharmaceutical and medicine industry, as well as influence on the catching-up process of emerging markets like Vietnam. Thus, the study predicts:

Hypothesis 1: ***Trademarking by foreign firms can increase the propensity to trademark among local applications at the initial period.***

4.3. Foreign Knowledge Transfers and Local Learning

4.3.1. Overview of Foreign Knowledge Flows from Different Entry Modes

Past studies on knowledge transfers generated from the foreign to the local firms through inbound knowledge flows often discuss the aspect of host country IPRs infringement. Knowledge spillovers can result in losing proprietary knowledge by excessive local's absorptive capacities. Appropriability hazards are highly explicit and when knowledge is less complex as it is easy to misappropriate and imitate, while as for tacit knowledge with the complex nature is more difficult to articulate and imitate, so reduces appropriability hazards (Teece, 1986). At a micro level, when such tacit knowledge embedded in MNEs is superior to that of the domestic firms in host countries with low IP protection, the local may act opportunistically and lead to free-riding on innovative efforts of their foreign counterparts (Hamel, 1991; Teece, 1998; Teece and Pisano, 1998; Oxley and Sampson, 2004; Lin and Saggi, 2005). At a more macro level, states have not only established systems of IPRs system at national and international level for the benefit of their innovative "national champion' firms" but also have actively sought to undermine the IPRs of firms headquartered in rival states by sponsoring technology transfers through industrial espionage (via diplomacy, foreign universities, or military force) (Casson, 2020). Innovation internalised through inbound knowledge flows according to different international modes of entry, such as (order from low to high risks and ownership controls): exporting/importing, contractual agreements (franchising/licensing), international collaborative ventures (alliances/joint ventures), wholly-owned subsidiaries (FDI) (Martin and Salomon, 2003; Hennart, 2009; Almodóvar, Nguyen, and Verbeke, 2021). A higher level of foreign ownership in host-country firms implies a higher propensity to transfer knowledge-based firm-specific advantages (FSAs) from abroad (Almodóvar, Nguyen, and Verbeke, 2021). This study shall go to the overview literature of each entry modes, then will review in-details of the ***licensing*** mode and its rationale later.

Regarding the learning from ***exporting*** literature, Salomon and Shaver (2005) investigate innovation outcomes as measurement of learning by employing Nonlinear Generalized Method of Moments Estimator with a panel data of Spanish manufacturing firms from 1990 to 1997. The authors used product innovation and patent application counts as proxies for innovation outcomes. They found that indigenous firms can access to foreign technological knowledge and increase patent applications subsequent to exporting, thus improve innovation outcomes (Salomon and Shaver, 2005). Because it takes time for firms to absorb technological knowledge needed to realise patents, this effect is more pronounced with further lags implying the time-bound nature of knowledge transfer. Engaging in knowledge transfer activities can help foreign firms minimise sourcing price and increase competition in upstream industries (Blalock and Gertler, 2003). Similar results for learning by exporting confirmed by Almodóvar, Saiz-Briones, and Silverman, 2014, and Wang and Tao, 2019.

In relation to ***international collaborative ventures***, many studies found that alliances and joint ventures between MNEs and local partners can upgrade local skills as the result of knowledge spillovers, as well as can develop into dynamic co-learning processes (Park, Ha and Lew, 2015; Bresman, Birkinshaw and Nobel, 2010; Lane, Salk and Lyles, 2001; Park and Ungson, 1997; Doz, 1996; Inkpen and Crossan, 1995; Hamel, 1991; Westney, 1988). These local learnings can occur by hiring multinational employees, or by imitating foreign strategies when host countries possess low IP protection (Hertzfeld, Link and Vonortas, 2006; Ganco, 2013).

The presence of ***FDI inflows*** can create positive knowledge spillovers to local firms in emerging markets and affects their product innovation which is usually measured by patent citations. Blomström and Kokko (1998) examined spillover effects of multinationals' activities

and found that the positive effects where inward FDI inflows are likely to increase with the level of local innovation capability. Next, using a cross-sectional data of 301 Korean firms between 2000 and 2003, Choi, Park, and Hong (2012) observed that foreign ownerships have a positive significant effect on the local firms' technological innovation measured by patent counts. Using Korean Innovation Survey and patent data, Ha (2021) found that MNEs' eco-innovation activities in host countries can increase local firms' attentions to environmental issues and accelerate their eco-innovation implementation. However, Zhang, Li and Li (2013) argued that this positive trend is not linear (but rather at a diminishing rate) because the learning opportunities for locals will gradually dry up as entry tenure of foreign firms in an industry continuously increases. In contrast, there are some studies which argued that FDI can result in negative knowledge spillovers and cannot improve the domestic innovation. This is because rather than teaching indigenous firms, multinationals often spend much time and efforts on protecting their knowledge from being imitated by the local firms in emerging markets with low IP protection systems (Aitken and Harrison, 1999; Kang and Seo, 2005; Buckley, Clegg, and Wang, 2007; Zhao, Papanastassiou, Pearce, and Iguchi, 2020). Many examples illustrated when multinationals face substantial business risks arising from leakage of superior knowledge spillovers like infringements and imitation risks in the host countries (Ha, 2016, Casson and Lopes, 2013; Eden, 2009; Meyer, 2004). Additionally, Brambilla, Hale and Long (2009) proposed that increased FDI presence can lead to more imitation but not necessarily more local innovation, because the domestic firms may not introduce any new product (innovate), but rather just expanding the ranges of close substitute products that are vertically differentiated from the foreign product line (imitate). Whether MNEs allowing for such knowledge spillovers depend on their opportunity costs of sharing the knowledge between the foreign and the local, and the transaction costs of the establishing barriers to the knowledge flows (Meyer, 2004).

4.3.2. Foreign Licensing Knowledge Flow and Local Patenting

Licensing refers to a contract agreement where the owner of intangible assets (the licensor) grant another firm (the licensee) the right to use that IP (patents, trademarks, etc…) for a certain period in exchange for compensation or royalty fees (i.e., a percentage of gross sales generated from the use of the licensed asset) (Cavusgil, Knight, and Riesenberger, 2017). This licensing strategy among other entry modes is relatively inexpensive approach for foreign firms to gain a presence in the local market and test the viability of the host country, because licensing does not require substantial capital investment, so it is less risky than equity-based strategy like FDI. Through licensing agreements, foreign investors can protect their IPRs in the host country, receive royalty fees in lieu of their initial capital contributions, as well as learn about the local market that entails some kind of reciprocity (Dunning, 1995; Cantwell and Smeets, 2013). Simultaneously, local licensees can improve competitiveness by gaining access to the key innovative knowledge at lower costs, reduce the gestation time from upstream innovation to downstream product, and lead to lower uncertainties associated with developing new knowledge (Eapen, 2012; Elia, Munjal, and Scalera, 2020; Almodóvar et al., 2021). Also, licensing agreements can help local firms to learn how to protect their IP the same way as their foreign partners. Local firms can benefit from knowledge spillovers through different approaches of learning, such as knowledge application, knowledge replication, knowledge adaption, or knowledge sharing (Lopes and Simões, 2017). However, the downside of licensing is that foreign licensors can only have moderate levels of ownerships and controls, especially towards how their IP asset is used. If the local licensee produces a substandard product, the foreign licensor's reputation can be harmed. Finally, the licensor must rely on the licensee's sales and marketing process in order to earn adequate royalties. The interrelationships between foreign licensor and local licensee can be summarised in Figure 3.5.

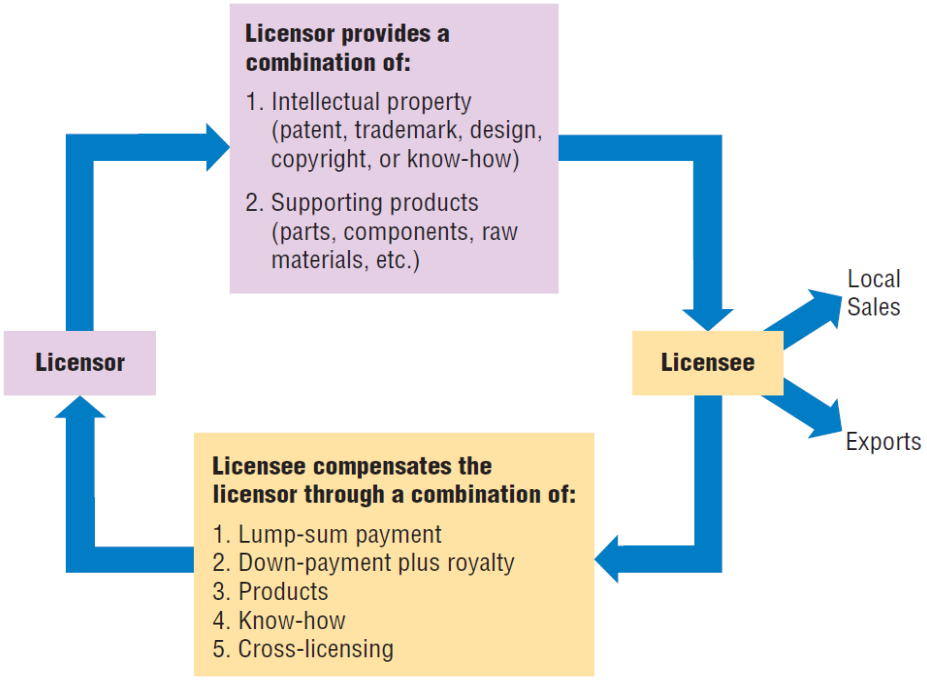


Figure 3. 5 The interrelationships between foreign licensor and local licensee.

Sources: Cavusgil, Knight, and Riesenberger (2017).

Compared to other modes of entry, licensing through the use of licensing contracts/ agreements sometimes can be crucial. Licensing agreements are viewed as a source of knowledge exploration because they allow local firms to source external technologies and develop new products (Almodóvar, Nguyen, and Verbeke, 2021; Sikimic, Chiesa, Frattini, & Scalera, 2016; Somaya, Kim, and Vonortas, 2011). Learning-by-licensing has been a favourable approach for latecomers to catch-up, learn from international advanced technology licensors, and develop new capabilities via licensing agreements (Katrak, 1990; Hobday, 1995; Pitkethly, 2001; Johnson, 2002; Wang, Zhou, Ning and Chen, 2015). Sahasranamam, Rentala, and Rose (2019) studied how changes in the innovation ecosystem after adopting TRIPS agreements (via product-related patent protection) affected firms' international business activity and accessing knowledge sources. The authors distinguished between internally-sourced knowledge (that firms can source knowledge internally through R&D investment (Kumar and Aggarwal, 2005)), and externally-sourced knowledge (that firms can source knowledge externally through

licenses, trade agreements, or blueprints against a royalty fee (Bhat and Narayanan, 2009; Lane and Probert, 2007)). The findings suggested that in the post-TRIPS period, the externally-sourced knowledge is more important than internally-sourced knowledge, for Indian pharmaceutical firms' international business activity (Sahasranamam et al., 2019). Depending on the industries, licensing can be a good starting internalisation strategy. For instance, many countries' FDI legislations (including Vietnam) established that foreign pharmaceutical firms are not allowed to directly distribute pharmaceutical products and must contract with licensed domestic pharmaceutical distributors (Angelino et al., 2017). Patents data have been always used in internationalisation literature as a measure of innovation and can track knowledge flows (Almeida, 1996; Jaffe, Fogarty, and Banks, 1998; Song and Shin, 2008; Almodóvar, Saiz-Briones, and Silverman, 2014; Almodóvar, Nguyen, and Verbeke, 2021). Unlike the previous literature covering inbound knowledge flows from most of the foreign entry modes, studies on licensing and innovation are relatively scarce and yield conflicting results (Almodóvar et al., 2021; Moreira, Klueter, and Tasselli, 2020). Even the use of licensing data in different IP literature remains sceptical and overlooked (Barnett, 2017).

This leads to the need of further understanding on knowledge transfer and local learning through licensing mode of entry especially in the narrow realm of IPR development. Past literature proposed that licensing may not improve host country innovation and domestic patenting activities. This is because the foreign knowledge transfer via licensing depends on the local recipient's absorptive capacity, as well as the ability of delivering this knowledge from the foreign licensor (Mowery and Oxley, 1995). Sometimes, asymmetric information, communication issues arising from language differences, or even geographic distance can deter post-agreement licensor involvement (Buenstorf and Geissler, 2012). Moreover, studies on knowledge spillovers are often *negatively* associated with losing proprietary knowledge by the

excessiveness of local's absorptive capacities, especially in the context of local imitation rather than innovation. Appropriability hazards are high when knowledge is less complex as it is easy to misappropriate and imitate, while as for tacit knowledge with the complex nature is more difficult to articulate and imitate, so reduces appropriability hazards (Teece, 1986). When such tacit knowledge embedded in MNEs is superior to that of local partners in host countries with low IP protection, local firms may act opportunistically and lead to free-riders on innovative efforts of their foreign counterparts (Hamel, 1991; Teece, 1998; Teece and Pisano, 1998; Oxley and Sampson, 2004; Lin and Saggi, 2005). However, empirical works studying the effect of licensing on patenting cannot prove this negative effect. They rather found mixed results (Arora and Ceccagnoli, 2006), and even no relationship between licensing and innovation (Kneller, Pantea, and Upward, 2009).

Nevertheless, the positive effect of licensing and patenting are demonstrated by both qualitative and quantitative studies. For example, using inductive approach with historical evidence from the archives (1960s–1980s), single case study and interviews sources, Pérez (2017) suggested that Spanish MNEs benefitted from Japanese knowledge transfer to enter Asian and American healthcare markets. Specifically, the leading Spanish pharmaceutical, Laboratorios Almirall, initiated contact with Japanese firms through product license contracts in 1973, and developed very enduring relationships with them that have lasted up until today (Pérez, 2017). The training in licence agreements and the networks established with the Japanese 'paved the way' to the sale of the first Almirall product in Japan which is "Cleboril" (Pérez, 2017). Regarding empirical studies, Moreira, Klueter, and Tasselli (2020) utilised the Two-Stage Least Squares regression and examined the licensing deals listed between 1989-2004 of 1,974 firms in the US. They found that licensing-in increases is motivated by competitive pressures and is a firm's capacity to innovate in areas where competitors have exerted pressure, particularly in the

presence of cumulative R&D investments in the global biopharmaceutical industry (Moreira, Klueter, and Tasselli, 2020). Recently, Almodóvar, Nguyen, and Verbeke (2021) investigated the impacts on host country innovation of three knowledge inbound flows: imports, inward licensing, and FDI inflows. Using a firm-level panel data of manufacturing firms in Spain from 1994 to 2015, the paper employed Quasi-differenced generalized method of moment estimation. The authors made use of the number of patents and the number of innovative products as proxies for their dependent variable of indigenous firms' innovativeness. For licensing, they measured the total value invested in foreign technological licenses (in euros), specifically as the Ln(inward licensing in euros+one) for lagged values. Their results reported a negative effect of inward FDI on patenting, but significant positive effects of imports as well as inward licensing on the decision to patent. Similar positive effect of licensing on patenting is also confirmed by Fisman, Branstetter, and Foley (2004); and Yasar and Paul (2007). Thus, the relationship between licensing and patenting or innovation yield conflicting results.

4.3.3. Foreign Licensing Knowledge Flow and Local Trademarking

Given that no consensus from past studies on the relationship between licensing and patenting or innovation, perhaps by bringing in an alternative IP data such as trademark can resolve this conflicting results. From here, one may wonder how trademarks can be an alternative option for patents in terms of innovation and IPR development. It is because trademark data can capture the branding and marketing strategies of firms, the soft type of innovation or non-technological like organisational innovation and marketing innovation (Lopes and Guimarães, 2014). Also, trademarks can flag the market introduction of innovation such as new product launch in the market, prolong other IP rights which is predominantly patents, and enable the contractual agreements of innovative concepts (Castaldi, Block, and Flikkema, 2020). Few studies from different literature attempted to empirically prove the use of trademark data as an

indicator of innovation. For example, by using empirical data of community trademarks from Portuguese manufacturing and services firms, Mendonça, Pereira, and Godinho (2004) initiated trademark as a complementary indicator of innovation and industrial change beside from patent data. Later, Flikkema, De Man, and Castaldi (2014) confirmed that trademark counts can be a valid standalone measurement of innovation rather than just a complementary proxy combining patent. The authors utilised a sample of 660 Benelux trademarks registered by SMEs, and their empirical evidence revealed that most of the trademarks used to signal innovative offers are filed close to its market introduction without combining them with other IPRs (Flikkema, De Man, and Castaldi, 2014). However, this paper gives us little knowledge about the relatedness of trademarks to innovation in more mature firms like MNEs who can have more experience in internationalisation process in foreign markets than SMEs.

In relation to foreign inward licensing entry mode, there are lack of studies utilised trademark licensing data as a mechanism of inward knowledge flows through foreign presence (Barnett, 2017). Even when patent licensing data is employed to study this topic, one may argue that not all licensing agreements are patented, and there can be trademark licensing as well. Local licensees can learn from foreign licensors on marketing innovations such as strategies of how to improve their new trademarks, brand building and product recognition, or how to reinforce the differentiation of their products or services for maintaining customer loyalty. Given the great considerations paid to study patent licensing reviewed earlier, there is an inadequate empirically effort to investigate the trademark licensing. Ferrucci, Leone, Romagnoli, and Toros (2019) seems to be the first and only paper from past literature to date studying the use of trademark data for licensing mode of entry in order to understand innovation phenomenon. Using trademark licensing data gathered from the United States Patent and Trademark Office (USPTO), the authors analysed the evolution of trademark licencing agreements in the US

during the 2003–2017 period. Nevertheless, this paper goal is about the impact of innovation but not knowledge transfer and local learning effect.

To the best of my knowledge, no studies have yet to examine trademarks as a proxy for knowledge transfer and local learning via the use of trademark licensing data. Hence, it is essential to examine trademark licensing in the context of foreign marketing knowledge flows impacting on local firms' trademark activities. Therefore, this paper is the first attempt to investigate the impact of foreign trademark licencing knowledge flows on local trademarking activities in order to understand knowledge transfers and local learning in emerging markets. Specifically, trademark licensing can provide an alternative view to understand issues concerning the direction of host country IPR development, with Vietnam in this case, and the role of foreign knowledge spillovers on domestic product innovation in pharmaceutical and medicine industry. So, this leads to the following hypothesis 2:

Hypothesis 2: ***Trademark licensing knowledge flows can increase the propensity to trademark among local applications at the initial period.***

Specifically, there are four *directions* or *flows* of the licensing agreements in the trademark licensing data as follows: trademark licensing from Foreign to Local (F-L); from Foreign to Foreign (F-F); from Local to Local (L-L); and from Local to Foreign (L-F). However, only the flows from foreign licensors into the host country (F-L ; F-F) shall be considered (as the aim is to understand thoroughly the main effect in respect of foreign knowledge transfer and local learning). The other flows (L-L; L-F) refer to the second stage when the local learned from the foreign then passed such knowledge to other local firms. Once foreign licensors transferred their inbound trademark licensing agreements into the host country (to both local and foreign licensees), the local trademark applications are expected to rise as the results of knowledge

transfers and local learning *simultaneously*, respectively under the forms of: direct knowledge transfer and intentional local learning (F-L); and indirect knowledge transfer and unintentional local learning (F-F). Hence, the *two sub-hypotheses* (H2a; H2b) for the hypothesis 2 are also proposed with their rationales as follows.

- **H2a. Direct foreign knowledge transfer & Intentional local learning (F-L):**

Anand, McDermott, Mudambi, and Narula (2021) suggested that multinationals play unique roles as instigators of innovation, as conduits for new knowledge, and can redefine the FSAs of local firms. ***Licensing knowledge flow F-L*** is proposed as ***direct foreign knowledge transfer***, because foreign licensors transferred the inbound marketing knowledge and downstream capabilities to the domestic licensees that can lead to the local learning such as the creation of local new products or local brand extensions/brand modernisation, thus can motivate the indigenous firms for more trademarking activities, and so directly improve host country innovation and industry development.

At the same time, it should be stressed here that the common approach of understanding 'learning' has rather been limiting our perspectives on its label in the way that it only captures the organisation's intention of receiving information, then systematically processing information, and so consciously adapt the new information into its current routine and decision making (Cohen and Levinthal, 1990; Kogut and Zander, 1992; Winter, 2000). However, there is the missing link in the aspect of receptivity or 'intent to learn' (Hamel, 1991). Particularly, there is a lack of attention paid to the process by which absorptive capacity is developed, or how local firms' (learners') expectations/aspirations about technological and market opportunities that can attribute towards the development of absorptive capacity, so without prospects the intention to learn will be minimal (Davids, Tjong and Tai, 2009; Lane, Koka and

Pathak, 2006; Audia and Greve, 2006; Zahara and George, 2002; Huber, 1991). This leads to the need of a more systematic approach to address the new theoretical framework of intention to learn. Specifically, the terminology of local learning can be either understood as intentional local learning (conscious), and unintentional local learning (unconscious), as the results of the dynamic interactions between foreign and local from direct and indirect foreign knowledge transfers accordingly.

In the case of F-L, ***intentional local learning*** is indicated as the results of direct foreign knowledge transfer, because domestic firms consciously intent to catch-up from their foreign counterparts for developing new capabilities from the international knowledge. This is proved via the learning-by-licensing literature, where there is an intentional type of learning through direct interfirm embeddedness (Katrak, 1990; Hobday, 1995; Pitkethly, 2001; Johnson, 2002; Uzzi and Gillespie, 2002; Wang, Zhou, Ning and Chen, 2015). Another reason adding up to intentional local learning and results in the rise of local trademarking is down to innovation motive by indigenous firms, with leading foreign firms provide stronger incentives for local followers to learn how to innovate without having IPRs infringements. Some good observations of how some emerging-economy firms have successfully transitioned from imitators to innovators (e.g., South Korean tire makers), whileas others persist in imitation and sometimes even resulting in IPR violations (e.g., Chinese tire makers) (Kim and Mudambi, 2020). This transition occurs when the embedded local firms are willing to innovate and effectively reduce IP infringements as they are motivated or inspired by the foreign keystone leading firms within their ecosystems (Mathews, 2002; Iansiti and Levien, 2004; Luo and Tung, 2007; Mudambi, 2008; Tang, 2011; Nambisan and Baron, 2013; Kim and Mudambi, 2020). In this ideal world of a well-functioning ecosystem, the leading keystone organisation can offer more benefits to the innovators while push following embedded firms to invest more in innovation activities,

and so such innovation motive-driven relationships can help followers to operate complementarily and support each other to a common goal, like building a critical mass of innovation capabilities and IP stocks rather than just violating IPRs (Smits and Kuhlmann, 2004; Iansiti and Levien, 2004; Adner and Kapoor, 2010; Kim and Mudambi, 2020). Thus, learning-by-licensing motive and innovation motive can both contribute towards intentional local learning and direct knowledge transfer, affecting the main effect. So, this study predicts:

H2a: ***The F-L type of trademark licensing can increase the propensity to trademark among local applications, indicating the direct foreign knowledge transfer and intentional local learning at the initial period.***

- **H2b. Indirect foreign knowledge transfer & Unintentional local learning (F-F):**

In respect of the ***licensing knowledge flow F-F***, the direction flow of marketing knowledge is from foreign licensors to foreign licensees in the host country. This form of trademark licensing agreements is dubbed as ***indirect knowledge transfer***, because it is a sequence of foreign entries before inducing competition for local trademarking. This implies a type of alliances between foreign MNEs in order to complement their skills in the host country. For example, foreign licensor X can transfer its licensing agreement to foreign licensee Y who is already in the host market. After a time being, foreign firm Y can then provide its updated marketing know-hows of the host country (originally from licensor X) via another trademark licensing agreement - to a local licensee Z for royalty fees. This sequence although starts with F-F, but eventually can turn into F-L as above where the demand for trademark applications will increase by the local firms, since the first foreign entry triggered the later foreign entry then followed by the next local entry, implying the indirect form of knowledge transfer. Another possibility could be that local brands already existed in the market long ago (even before foreign entry), but they did not register for trademarks to protect their intangible assets, and only realised the need to do so

given the competition fear after the foreign entry with trademarked brands. This leads to the registrations of new local trademarked brands, and later the creation of new local knowledge thanks to the presence of foreign entry, thus indirectly improve host country innovation and industry development.

Simultaneously with indirect knowledge transfers, ***unintentional local learning***, or learning-by-observing (drawing on the interfirm non-embedded learning) should be addressed with its imitation and competition motive. Sometimes, there can be changes that indigenous firms go through without consciously learning via the form of imitation and competitive reaction (Ha, 2020; Zhang, Li and Li, 2013). This is because the presence of the foreign rival firms can trigger the local to catch-up with the fierce foreign competition, otherwise they may fall behind even in their own home market. However, counterargument can claim that such imitation may not necessarily lead to innovation (Brambilla, Hale and Long, 2009). Nevertheless, one cannot deny the fact that trademark imitation is not always counterfeit (illegal) but can be trademark infringement (legal) (Lopes and Casson, 2012), so depending on IP regulation system of each host country, such local learning by imitation and competitive reaction practice may not affect their trademark appraisal process, and can still increase their domestic trademarking anyway. So, the study anticipates:

H2b: ***The F-F type of trademark licensing can increase the propensity to trademark among local applications, indicating the indirect foreign knowledge transfer and unintentional local learning at the initial period.***

Overall, by framing additional theoretical levels for these foreign knowledge transfer & local learning, with direct or indirect knowledge transfer, and intentional or unintentional local learning, the thesis can develop further the understanding of the interplaying relationship

between multinationals and domestic firms in the realm of IPR protections in emerging market host countries. To summary, hypothesis 2 and its sub-hypotheses 2a and 2b are presented again:

Hypothesis 2: ***Trademark licensing knowledge flows can increase the propensity to trademark among local applications at the initial period.***

***H2a:** The F-L type of trademark licensing can increase the propensity to trademark among local applications, indicating the direct foreign knowledge transfer and intentional local learning at the initial period.
***H2b:** The F-F type of trademark licensing can increase the propensity to trademark among local applications, indicating the indirect foreign knowledge transfer and unintentional local learning at the initial period.

4.3.4. Regional Factors

In order to understand the hypothesis 2 further in terms of trademarks' country-of-origins, this research shall take into account the region factor. The importance of region as geography of innovation have been highlighted in various literature with the uses of MNEs as international networks for geographically dispersed innovation, other works involve clusters, distances, local buzz, global pipelines, and proximities (Castellani, 2018; Cantwell, 2017; Boschma, 2005; Bathelt, Malmberg, and Maskell, 2004; Gertler, 2003; Cantwell 1989).

Specifically, by implementing regional factor into consideration, we can learn about where the knowledge transfers originated from, and which foreign region actually fostered the local trademarking activities. For instance, Jaffe, Trajtenberg, and Henderson (1992) found evidence of knowledge spillovers in patent citation patterns; and they also indicated that such geographic localisation of knowledge transfer fades over time. Bahar, Hausmann, and Hidalgo (2014) also confirmed similar effect of the role of regional factor in knowledge transfers. Thus, by adopting

regional factors into this study can help assisting the main effect and enriching the insight of knowledge spillovers.

There are six regions in total in the trademark database for Vietnam that are Africa, Asia, Europe, North America, South America, and Home Region (Vietnam). By adding this regional factor in the main relationship, we can understand the dynamic connectedness between local trademark development, knowledge transfer and local learning, and trademarking activities in each region, as well as the changes of trademark registrations in each region after licensing agreements taking placed. So, this study predicts:

Hypothesis 3: ***Combining licensing knowledge flows and foreign trademark applications with regional factors consideration can increase the propensity to trademark among local applications at the initial period.***

4.4. Product-Specific Groups

Previous sessions have reviewed the literature at the analysis of country-level, industry-level, and firm-level, on how multinational IP activities can help reshaping the local IPR environment, upgrading domestic innovation system, pushing for emerging markets' catching-up process, and resulting in knowledge transfers and local learning. This session adds into the theoretical understanding of the overall effect of trademark registrations on the Vietnamese pharmaceutical and medicine industry, by taking one step further at the brand-level analysis with different product-specific groups in trademark class 05 (via the study of trademark abnormal peaks which will be explained below).

Notably among the existing trademark literature, Lopes and Guimarães (2014), as mentioned earlier as the key paper to this research, examined the impact of trademarking activities on the

British industrial performance. One important aspect from their paper which can be applicable to this session is their approach of detecting the most unusual changes in trademark activities. Specifically, by calculating the Pearson standardized residuals (PSR) of the Poisson regression models for each trademark class (50 classes in total representing different sectors/industries that trademarks are registered), the authors can statistically identify the years and the trademark classes associated with the abnormal peaks in trademarking. The authors created a model with the number of trademark registrations in each class from a quadratic time trend, and the number of all other trademark registrations for that year to capture the cyclical movements that affect all categories alike. From this Poisson regression model for each class, they then created an index of PSR measuring all outlier values to each class (if the absolute value of PSR > 2.5 then it is considered an outlier). The higher the number (in absolute terms), the greater the evidence of an abnormal value that captures the irregular movement of trademark application series. From here, Lopes and Guimarães (2014) found that trademarks tend to cluster in groups of classes when registering in multiple classes, implying that led to the abnormal peaks in some classes. Other observations include that firms with the highest number of trademark applications can lead to innovation because their strategies were followed by the competitors which indirectly results in the peaks (Lopes and Guimarães, 2014). This implies the potential industry innovation development as the results of the indirect knowledge transfers from foreign firms and the local imitation with competitive motive learning.

By adopting similar approach designed by Lopes and Guimarães (2014) but with one further step of studying additional level of product-specific analysis for class 05 (pharmaceutical and medicine), this research can capture all the abnormal peaks of trademarking activities in pharmaceutical and medicine industry, then identify which types of pharmaceutical products received the highest tendency of trademark applications. So, abnormal trends of all the sub-

classes or the product-specific groups of trademark Class 05 will be the focus of this session. More information on the uses and active ingredients of all the registered pharmaceutical and medicine products from class 05 trademarks are required, in order to allocate them into different product-specific groups. In the case of Vietnam, there are 45 product-specific groups under the trademark class of pharmaceutical and medicine (Appendix E). These 45 groups belong to class 05 and can be generally understood as two types: either the *soft knowledge type* (more imitable, more generic like over-the-counter drugs); or the *hard knowledge type* (less imitable as it is more sophisticated ingredients that require R&D efforts, more like prescription only drugs). Moreover, a detailed analysis of the main peaks should also be carried out via case studies afterwards to look at these product types, the firms and their strategies, and the context in which they operated. Specifically, which trademarks, which pharmaceutical products they are, which brands by which prominent foreign and local firms in particular time - that led to the tendency of higher trademarking activities, and thus contribute towards the pharmaceutical industry innovation, as well as the IPR development in Vietnam.

Hence, this research proposes:

Hypothesis 4: ***Abnormal peaks of pharmaceutical trademarking tend to cluster in product-specific groups with soft knowledge rather than hard knowledge at the initial period.***

4.5. Hypothesis Development Summary

Hypothesis 1: *Trademarking by foreign firms can increase the propensity to trademark among local applications at the initial period.*

Hypothesis 2: *Trademark licensing knowledge flows can increase the propensity to trademark among local applications at the initial period.*

- **H2a:** *The F-L type of trademark licensing can increase the propensity to trademark among local applications, indicating the direct foreign knowledge transfer and intentional local learning at the initial period.*
- **H2b:** *The F-F type of trademark licensing can increase the propensity to trademark among local applications, indicating the indirect foreign knowledge transfer and unintentional local learning at the initial period.*

Hypothesis 3: *Combining licensing knowledge flows and foreign trademark applications with regional factors consideration can increase the propensity to trademark among local applications at the initial period.*

Hypothesis 4: *Abnormal peaks of pharmaceutical trademarking tend to cluster in product-specific groups with soft knowledge rather than hard knowledge at the initial period.*

5. Conclusion

In summary, chapter 3 provided the in-depth review of relevant past literature in order to address the three research questions. Regarding the first research question, section 2 discussed the on-going mixed relationship between IPRs and FDI inflows, then analysed the importance for multinationals to protect their trademarks given the issues of trademark imitation such as infringement and counterfeits on their global brands. In relation to the second research question, section 3 started with the overview of IPRs in emerging markets, highlighted the grey-area of parallel trading, then focused on the literature of trademarks protection strategies especially in pharmaceutical and medicine industry (which is traditionally patent-focused) through the lens of trademark and proposes the rationales behind. Session 4 wrapped up the literature review to address the final research question on foreign knowledge transfers and local learning. From this section, we learned that multinationals help reshaping the local IPR environment, push indigenous firms for higher IP protection standards prevalent in advanced countries, and improving the domestic innovation system and influence on the emerging markets' catching-up process via (direct/indirect) knowledge transfers and (intentional/unintentional) local learning. Regional factors and additional level of analysis in the peaks of product-specific groups trademarking in class 05 pharmaceutical and medicine are also considered to derive hypotheses. These hypotheses are then summarised in section 5. Overall, this chapter 3 lays out and discusses the relevant theoretical foundations in order to investigate the three research questions of the thesis. Next chapter will move on to the methodology of this research.

CHAPTER 4. RESEARCH METHODOLOGY

1. Introduction

This chapter presents the research methodology employed by the thesis. It is organised as follows. Section 2 provides the research philosophy and explains the position of the research within the research paradigms. Section 3 presents the research approach and research method of the study. Section 4 explains the research design, data collection, and data sources for the thesis to address the research questions. The ethical consideration is presented in Section 5, follows by the summary of the chapter in Section 6.

2. Research Philosophy

According to Burrell and Morgan (1979), all theories "…are based upon a philosophy of science and a theory of society" (Burrell and Morgan, 1979:XIII). Although the authors wrote *Sociological Paradigms and Organisational Analysis* a few decades ago, their work still remains prominently influential because of the way of approaching research and representing established standards, especially in the "four paradigms" (Figure 4.1). Before positioning the thesis into one of these four paradigms, it is important to understand the four sets of assumptions about social science, including: *ontology*, *epistemology*, *human nature*, and *methodology*. These sets of assumptions can map knowledge of research and theory, as well as can locate different views or belief systems to guide or shape researchers as a compass from their starting points. While the ontology refers to the nature of being (what is reality?), the epistemology considers the theory of knowledge (how we know knowledge?). The human nature asks how humans relate to our environment (how do they react or behave?), and the methodology represents the ways of investigating knowledge (how we study the world?). Given these assumptions, the four-paradigm model by Burrell and Morgan is illustrated in

figure 4.1. It is constructed by two axes of social theories emphasising regulation and stability vs. those emphasising radical change; and subjective (individualistic) theories vs. objective (structural) theories. The thesis takes on the position of the *functionalist paradigm* (the bottom right quadrant) which is the traditional paradigm for many social scientific researchers.

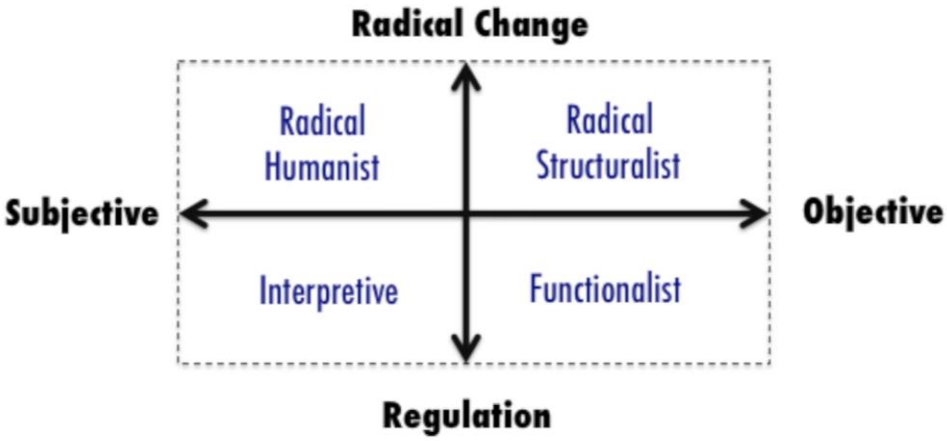


Figure 4. 1 Four Paradigm Model of Social Theory. *Source*: Burrell and Morgan (1979).

According to Burrell and Morgan (1979:29) "functionalist research seeks to provide essentially rational explanations for social affairs", in other words, researchers in this paradigm looks at the status quo, they study things the way they are currently. Functionalist sees the world as a concrete or objective reality that is out there just waiting to be discovered through systematic study and to provide rational explanations for concrete phenomena. The main strength of this paradigm lies within its pragmatic orientation of problem-oriented approach, as it concerns to provide practical solutions to practical problems and looks at the society in the context of producing useful knowledge. This paradigm also supports the research process in which the scientist is distanced from the subject matter by the rigour of the scientific method (Hassard, 1991). Examples of prominent researchers that fit into this paradigm are Frederick Taylor, Max Weber, Alfred Chandler, and Lex Donaldson.

3. Research Approach and Research Method

There are two types of approaches for researchers in social sciences when consider theory. They are referred as inductive approach and deductive approach. The inductive approach is associated with the process where theory emerges from the research as a bottom-up approach. This is the process involves drawing generalizable inferences out of observations, or theory is the outcome of research (Bryman and Bell, 2011). Researchers using this approach tend to start by collecting qualitative data, then discover the theory or generate hypothesis through the data analysis process. In contrast, the deductive approach is the process where theory guides research as a top-down approach, or using theory to test observations as a linear process (Bryman and Bell, 2011). Under this approach, researchers usually put forward an existing theory, create hypotheses that either support or reject the theory, then collect quantitative data before empirically test these hypotheses and confirm the findings.

Given the nature of my research, this thesis follows the inductive approach *initially*, specifically, business history approach which allows rich evidence from the dynamic and evolving natures of MNEs to drive the research process, so that international business scholars can generate theory through data analysis process. International business history tends to be research-driven (rather than theory-driven), which refers as the study of archives or text filtered through historian's imagination to see its possibilities (Burrow, 2007). A distinctive feature of business history is the use of archives and primary data, as well as the longitudinal study and the methods of comparative statics (Buckley, 2009). The approach of co-evolutionary theory by Murmann (2013) is also adopted here, which helps to offer a bridge between the present adaptationist and ex post selectionist. Moreover, the mutual causal influence in a coevolutionary relationship (under both types of its structure: deviation-countering, or deviation-amplifying (Maruyama, 1968)), can support in explaining how one party affect the

other, as well as in capturing the dynamic elements at different historical points in time. This research follows the methodological footsteps of the key pioneers in the field who promote business history and bring more valuable insights to international business theories, such as Chandler, 1962, 1977; Wilkins, 1970, 1992, 2004; Dunning, 1979, 1993, 2001.

The underlying research paradigm of the thesis takes into account of the objectivism aspect of ontological spectrum to understand the realism where foreign investors are motivated (or deterred) by weak IPR system in host country. Furthermore, on the epistemological orientation, this thesis also embraces the positivism which believes in empiricism and the idea that observation and measurement are the essence of scientific endeavour (Eriksson and Kovalainen, 2008). Therefore, this thesis adopts *mixed methods* by integrating both qualitative analysis and quantitative analysis into the study. The thesis starts with qualitative method initially for generating theory and hypotheses that can be used to test later through quantitative method such as regression analysis.

The differences between qualitative and quantitative analysis are proposed in figure 4.2.

Quantitative	Qualitative
Numbers	Words
Point of view of researcher	Points of view of participants
Researcher distant	Researcher close
Theory testing	Theory emergent
Static	Process
Structured	Unstructured
Generalization	Contextual understanding
Hard, reliable data	Rich, deep data
Macro	Micro
Behaviour	Meaning
Artificial settings	Natural settings

Figure 4. 2 Qualitative vs. Quantitative Method. *Source*: Bryman & Bell, 2011, p. 410.

It should be highlighted that by employing mixed methods, this study can be beneficial from understanding the comprehensive complexity on human experience, but also confirming the findings through empirical models and statistical methods like regression analysis to deliver objectively reliable results. Both qualitative analysis and quantitative analysis can be used to complement each other and that is why the mixed methods would be the best fit for the thesis and is particularly an appropriate research method here.

4. Research Design and Data Source

A research design is a plan and structure of investigation using a set of methods and procedures to obtain evidence to address a research question (McMillan and Schumacher, 1997). Following the adoption of mixed methods (both qualitative and quantitative), this section explains in detail the research design of four key chosen methods for the thesis: for **qualitative** – *historical/archival research*, *multiple case studies research*, *in-depth interviews*, and for **quantitative** – *regression analysis* with an application of the econometric model so-called *Poisson Pseudo Maximum Likelihood*. Each of these methods will be explained in detail later of this section together with their data sources used for each method. The period of analysis in this study spans over 30 years, starts in 1986 when Vietnam shifted from a command economy into a market economy after major economic reforms of "Doi Moi" (Renovation) program, and continues through the present day with the most recent data in 2016. This period marks an important turning point of Vietnam in the process of international economic integration, and in the competitive development of multinational business, especially after the war periods (like the Anti-French Resistance War, the Vietnam War, and the Sino-Vietnamese War), with the emergence of revolutionary innovations in the globalisation era.

4.1. Historical/ Archival Research

The first method is the historical or archival research which belong to the business history approach. The increasing role of history in international business has been evidenced and prominently used (Buckley, 2021). Business history refers to the historical evolution study of business systems, entrepreneurs and firms; their growth and development of business as an institution; as well as their interaction with their political, economic, and social environment (Wilkins, 2004; Jones and Zeitlin, 2008). To some extent, business history is like archaeology where scholars timelessly excavate and interpret evidence or objects of historical interests in order to inform readers facts or narratives of the past. Business history tends to be research-driven (rather than theory-driven), which refers as the study of archives or text filtered through historian's imagination to see its possibilities (Burrow, 2007).

Archival research is the inductive (bottom-up) approach study of historical documents and textual materials produced by and about organisations (Ventresca and Mohr, 2017). This process involves drawing generalisable inferences out of observations, or theory is the outcome of research (Bryman and Bell, 2011). This approach is opposite to deductive approach where researchers usually put forward an existing theory, create hypotheses that either support or reject the theory, then collect quantitative data before empirically test these hypotheses and confirm the findings (so-called a top-down approach). The use of archives and primary data, as well as the longitudinal study and the methods of comparative statics are the key distinctive features of business history approach (Buckley, 2009). With longitudinal design, not only researchers can understand the differences between various members of the population under study, but also can capture the dynamic element of panel-data analysis or trends over a period of time of that population, which is something that the cross-sectional method does not offer.

Originally, the key pioneers who promote business history and bring more valuable insights to IB theories are Chandler, 1962, 1977; Wilkins, 1970, 1992, 2004; Dunning, 1979, 1993, 2001; Jones, 1988, 2005. There have been some modern perspectives on MNE evolution by IB and business history scholars to promote business history more within the IB research, especially on the detailed historical analysis of firm-level cases to augment extant MNE theory, and in the realm of strategic decision-making and governance adaptation (Casson, 1997; Hennart, 1986; Jones and Khanna, 2006; Buckley, 2009; Casson and Lopes, 2013; Narula and Verbeke, 2015; Lopes, Casson, and Jones, 2019; Verbeke and Fariborzi, 2019). Employing historical research at industry-level or firm-level over long term can generate unique insights on evolving corporate structures, economic and social impact, and policy responses (Friedman and Jones, 2011; Jones, 2010; Hausman, Hertner, and Wilkins, 2008; Lopes, 2007). According to Saiz and Castro (2018), although business historians have begun to stress the relationship between branding and innovation through longitudinal trademark datasets and case studies of trademarks use in commerce, there is a clear opportunity to expand studies on trademark, international trade, and innovation processes from the past, especially using newly released data (Saiz and Castro, 2018). This leads to the two rationales behind the researcher's choice of historical/ archival research.

First, historical evidence can allow IB scholars to avoid spurious labelling of some phenomena as 'new' and so may challenge their current explanations (Jones and Khanna, 2006). Specifically, while IB literature tends to regard IPR risks as a modern phenomenon generated by globalisation, business history evidence can provide a useful antidote to this view (Casson and Lopes, 2013). For instance, similar to the modern MNEs that IP threats from countries pursuing 'catch-up' industrialisation policies like India and China, 100 years ago the early MNEs in Britain and France (who were the leading countries in the development of patents and

brands) faced problems from the 'catch-up' economies of the time like the US, Germany, and Japan (Casson and Lopes, 2013). Today's leading countries were once in the 'catch-up' phase, so this is not a 'new' phenomenon, and MNEs in emerging markets like Vietnam can draw lessons from the past. For example, IB researchers can take into account the complexity of the environment, monitor where multinationals invest, the IP protection strategies they use and the success that they achieve in foreign markets as a pattern in different stages of their internationalization process.

Second, business history approach can help understanding the 'longue durée', the historical long run, and analysis of discontinuities or changes over time (Verbeke and Fariborzi, 2019). This can be linked to the theory of co-evolutionary by Murmann (2013) that offers a bridge between the present adaptationist and ex post selectionist. Moreover, the mutual causal influence in a coevolutionary relationship (under both types of its structure: deviation-countering, or deviation-amplifying (Maruyama, 1968)), can support in explaining how one party affect the other, as well as in capturing the dynamic elements at different historical points in time. For example, business history not only can allow IB researchers to capture the co-evolutions of IP registrations and FDI trends from the past, but also can move beyond the element of time to explore how these IP protection strategies as well as inward FDI (a staple of the IB literature) can reshape the long-run local business development.

Thus, the use of historical research can help to address all the research questions: "*How can trademark data provide new insights on the evolution of inward FDI in emerging markets like Vietnam?*"; "*What trademark protection strategies have MNEs used to ensure their competitiveness and long-run survival in Vietnam?*"; and "*How significant is the origin of foreign trademark activities on the evolution of Vietnamese pharmaceuticals and medicine*

industry?". This historical research approach will be supported and complemented further by the other three research methods (multiple case studies research, in-depth interviews, and regression analysis) which will be explained later.

In terms of the data sources used for this method, business historians need to remain truthful to their core competences by conducting well-grounded archival-based research, taking into account of uniqueness of the firms and the complex of the environment (Lopes, 2019). Public record office (created by central government, its civil service departments, or individual entrepreneurs) is the single most important repository for sources when it comes to this type of research (Armstrong, 1991). In the light of that, the data used in this thesis is collected from multiple primary sources of information, such as trademark registrations archives published by The National Office of Intellectual Property of Vietnam (NOIP), exports statistics and inward FDI data from General Statistics Office of Vietnam (GSO), companies' archives, consultants' reports, and public documents. The thesis also makes use of secondary sources like companies' biographies, industry reports and related newspaper articles.

Nevertheless, as Armstrong (1991) pointed, the main problem for business history researchers wishing to use these records is the practical once of accessing them (Armstrong, 1991). The researcher did find challenges during the data collection process in terms of the accessibility and involving many time-consuming tasks. The trademark registrations archives (at firm-level data) published by NOIP is the most representative example. They include data such as trademark registration application, trademark protection certificates, country of origin, foreign applicant or local applicant, etc… of all trademark registration companies in Vietnam from 1984 to 2016. The researcher initially needed to collect these data from the British Library in person - for the period 1984-2007 as they are official gazette in text format and the NOIP did

not store this period online at the time, and the researcher must obtain these data via photo format for future transcribing task (to electronic excel version). This process took more than three months because it also required sending these archives physically via multiple trips from British Library London to British Library Boston Spa, travelling from York to Boston Spa to collect them in person, and taking photos of these gazettes before transcribing them. For the remaining period 2008-2016, the researcher can download directly from the NOIP website, but they are only available under pdf picture format, so the transcribing task must repeat again for this period.

Moreover, there was a substantial challenge of transcribing all these text format (picture format of Vietnamese language) one-by-one into excel electronic version for processing the data as there was no available software to do the job at the time, so all steps require manual tasks. Given this large amount of dataset, the researcher managed to finish the first ten years of manual transcribing data, but for the remaining years due to the time constraint and to prevent wasting research time only on transcribing task, the researcher decided to use electronic data from the experimental website of IPPLATFORM.VIPRI.GOV.VN for the remaining twenty years. The source is also from the Government website and under the same NOIP office in Vietnam, it is under-testing but is more user-friendly and allows for the public access as well as electronic/excel format download. Nevertheless, the researcher needed to relax the criteria and allowed for some limitation from this data. For instance, missing values: between 01/01/1984 and 05/05/2020, the total number of trademarks of class 05 on the IPPLATFORM = 91,714 applications, while the official number = 129,206 applications. Despite the missing values, the use of this electronic available database IPPLATFORM can help researcher to work effectively and still allow the historical element or study MNE' archives from the most representative firms.

4.2. Multiple Case Studies Research

Multiple case studies research will be the second research method for this study. The case study research refers to the analysis of a phenomena that can provide an analytical frame of an object within which the study is conducted and which the case illuminates and explicates (Thomas, 2011). The rationale of case study research in business and management is to use empirical evidence from real people in real organizations, of most which change in their nature over time, to construct explanatory middle range theory and to make an original contribution to knowledge (Myers, 2009; McCutcheon and Meredith, 1993; Frederickson, 1983). Case study is adopted in this study in order to critically test the theoretical framework and understand the unique phenomenon, for example, the trademark protection and mitigation strategies that have been adopted since their beginning of internalisation in Vietnam, through the lens of policy makers' and managerial perspectives.

The choice of case study design can further assist researchers for holistic and in-depth investigation through single case or multiple cases, in order to bring better understanding of a complex phenomenon that could not have been revealed through purely using quantitative generalisation only. However, the architecture of multiple case studies research is preferred over single case study and it is a more dominant method in qualitative IB research (Werner, 2002; Pauwels and Matthyssens, 2004). Multiple case studies or collective case studies investigate several cases (rather than one single case) that can provide rich insights into an issue or a theme (Yin, 1994).

Nevertheless, any method can have its own limitation, including this case study research method. Specifically, case study approach has been plagued by a lack of rigour and methodological vagueness in which 'aimed at nothing more than a rich yet exploratory

description of events or at providing partial support of a particular theory (theory testing) with an (implicit) inappropriate objective to generalize findings across a population' (Pauwels and Matthyssens, 2004). To over-come these issues, the thesis shall adopt multiple case studies research (rather than single case study), and at the same time will attempt to minimise its generalisation limitation by complementing three other methods of archival research (covering dynamic long period of time), in-depth interviews (capturing complex real-life phenomenon), and regression analysis (capturing larger number of observations via statistically generalisation).

The multiple case studies approach is conducted to help addressing the two research questions of "*What trademark protection strategies have MNEs used to ensure their competitiveness and long-run survival in emerging markets like Vietnam?*", and "*How significant is the origin of foreign trademark activities on the evolution of Vietnamese pharmaceuticals and medicine industry?*". Specifically, the researcher can critically test the theoretical framework and understand the unique phenomenon, for example, the explanation and theory building of the top multinationals' trademark protection and mitigation strategies that have been adopted since their beginning of internationalization in Vietnam through the lens of policy makers' and managerial perspectives, as well as the prominent firms that led to the origin of knowledge transfer and local learning in the Vietnamese pharmaceutical and medicine industry over time.

The case studies research on multinational's trademarks are conducted within the pharmaceutical sector in Vietnam and are not randomly selected. Similar to Lopes and Casson (2012), the researcher follows the criteria of: (i) the association with long established brand or large-scale pharmaceuticals MNEs in Vietnam; (ii) earlier or present rank among the world's top pharmaceutical brands; (iii) the existence of accessible records. As a result, the cases are

chosen from these criteria are from top 5 pharmaceutical MNEs in Vietnam (Vietnam Investment Review, 2018b). The top largest foreign pharmaceutical MNEs in Vietnam by 2018 are Taisho (Japan), Abbott (US), Bayer (Germany), Nipro (Japan), Sanofi (France), and B.Braun (Germany) (Vietnam Investment Review, 2018b). This thesis shall investigate the first three cases (***Taisho, Abbott, Bayer***) later in order to identify, compare and find patterns among different trademark protection strategies carried out by these foreign pharma giants in Vietnam over time. These multinationals from the pharmaceutical sector are selected because of their significantly large investments that created substantial spillovers in the host country until the current context. Also, they are the representative of a long historical success, demonstrating survival value, facing more severe trademarks imitation than unsuccessful cases, and still remain competitive in relations to their local counterparts in the Vietnamese market. In relation to the local learning as the results of the origin of foreign knowledge transfers, the thesis shall investigate the most representative case studies of the product-specific groups from the highest abnormal trademark peaks (***Panadol vs. Pancidol vs. Paracetamol***; ***Decolgen Forte vs. Dehanogen Forte***; ***Homtamin Ginseng vs. Liptamin***). Regarding data collection for multiple case studies research of the thesis, these three cases are drawn on their companies' archives, industry reports, and related newspaper articles between the period of analysis.

4.3. In-depth Interviews

Individual in-depth interview is one of the most important data gathering technique in qualitative research methods in which is referred by classic ethnographers as the 'conversations with a purpose' (Myers, 2013; Burgess, 1984; Webb and Webb, 1932). This technique allows for individual's unique from one-to-one interviews, richness of data, flow of storylines, more flexible for busy executives or experts, and prevents potential dominant effect of focus groups (Robinson, 2014). In-depth interview technique can help further addressing the research

question "*How can trademark data provide new insights on the evolution of inward FDI in emerging markets like Vietnam?*". Specifically, the researcher can understand trademark rejection rate issue from managerial perspectives and reputable experts with relevant work experience in the field of IPRs like trademarks protection, and / or in pharmaceutical industry in Vietnam. To ensure for unexpected facts, versatilities of improvising questions while minimising the risks of losing exciting insights (Myers, 2013), semi-structured interview with open-ended questions will be used to collect the data.

In term of interviewee selection, the researcher respects the process of identifying and contacting qualitative interviewee according to Robinson (2014)'s approach in which involves different stages of selection, such as setting sample universe, selecting sample size, devising sampling strategy and sourcing sample. First of all, the inclusion criteria in setting sample universe include being knowledgeable, expert, and having long-term work experiences in the areas of international trade, and IP or trademark protection, especially in pharmaceutical and medicine sector in Vietnam. Second, a small sample size (or an idiographic approach) of three candidates is selected with different background levels are chosen for this interview to help partially address one part of the first research question aside from archival research. The list of interviewees and their positions are as followed: Mr Nguyen Duc Xuan who is the President and IP attorney of Ageless IP firm; and Mr Do Nguyen Hiep who is the Director and IP representative of Phoenix Law Co. Ltd. Only one participant prefers to have his name as anonymous: Mr Hoang (pseudonym) who is a civil servant staff from the National Office of IP (NOIP) in Vietnam and work directly as trademark appraisal process officer. Due to the nature of the civil service jobs, only this NOIP officer prefer to have his name as pseudonym, and the other interviewees are identifiable.

Next, regarding the devising sampling strategy, these interviewees shall be invited to take part in the study via non-probability sampling strategy in favour of timing and flexibility for busy interviewee candidates. Specifically, to source the sample here, the researcher needs to establish close rapport and well-inform with these candidates about the research intention (i.e., strictly for academic reasoning and no commercial interests), about the option of choosing to use of pseudonyms to protect identity and confidentiality, in which help reaching a consensual decision to participate (Robinson, 2014). The participants can also choose to reveal their names and positions if they want. Via transcription of words (the researcher transcribes the interviews herself and can also take on the role of a translator if needed), new insights can be found. Establishing close rapport also opens doors for enriching data-sharing, because the interviewee would not be 'on his guard' in the interview, or most of the material would be obtained indirectly through conversations rather than by direct questions (Palmer, 1928:115). Nevertheless, the research is aware of this technique's limitation i.e., the potential risks of being bias, 'go native', forgo the academic role, credibility and generalisation (Marshall, 1996; Fontana and Frey, 1994). There will be no direct benefits to participants in term of receiving incentive payments or reimbursement of expenses. However, they can consider this interview as a knowledge sharing.

The schedule of carrying out these in-depth interviews was pending to the undergoing Coronavirus pandemic in both the UK and Vietnam, and so the researcher (who is based in the UK) decided to undertake different internet research methods to allow for versatility and flexibility in data collection from distance, such as communication via email, online Messenger, and Skype interview. It should be noted that the original plan was to conduct face-to-face in-depth interview in Vietnam which would not deprive researcher of seeing respondent's informal or nonverbal communication (Creswell, 1998; Sturges and Hanrahan,

2004). Nevertheless, Skype interview using web camera can still allow for some comparable interaction in which captures some nonverbal interaction and social cues (Janghorban, Roudsari, and Taghippour, 2014; Sullivan, 2012; Stewart and Williams, 2005). Participants can choose one of the following formats: emails, phone calls, or Skype interviews – that can allow for flexibilities and meet your busy schedules. For phone calls and Skype interviews, semi-structured interviews are set and typically last around one hour. The researcher shall keep the emails and transcriptions of voice recorded of the participants for phone calls and Skype interviews to analyse evidence for the research. After the transcription of words, the data from the interview shall be analysed using Glaser and Strauss (1967)'s Grounded Theory where researcher can follow a set of systematic procedures including theoretical sampling, coding, theoretical saturation, and constant comparison (Schmidt and Hollensen, 2006; Bryman and Bell, 2011). Unlike Thematic Analysis which only aims to summarise data into themes without an epistemological position, Grounded Theory can provide a clear conceptualisation in developing novel theories to describe the findings (Ryan and Bernard, 2000). However, there may be the risks of oversimplification by researcher's subjective views or interpretations on objective world (Bryman and Bell, 2011). Again, the research shall combine this in-depth interview method with other three methods including both qualitative and quantitative in order to overcome this issue.

4.4. Regression Analysis

The final research method used in the thesis is quantitative research method's regression analysis. It refers to the statistical approaches in order to investigate and establish relationships between variables (Sykes, 1993). Specifically, the regression analysis is employed in this case for addressing the last research question of "*How significant is the origin of foreign trademark activities on the evolution of Vietnamese pharmaceuticals and medicine industry?*". To

investigate this research question, let's recall the proposed hypotheses (for full discussion of hypothesis formulation, please check the literature review):

Hypothesis 1: *Trademarking by foreign firms can increase the propensity to trademark among local applications at the initial period.*

Hypothesis 2: *Trademark licensing knowledge flows can increase the propensity to trademark among local applications at the initial period.*

- **H2a:** *The F-L type of trademark licensing can increase the propensity to trademark among local applications, indicating the direct foreign knowledge transfer and intentional local learning at the initial period.*
- **H2b:** *The F-F type of trademark licensing can increase the propensity to trademark among local applications, indicating the indirect foreign knowledge transfer and unintentional local learning at the initial period.*

Hypothesis 3: *Combining licensing knowledge flows and foreign trademark applications with regional factors consideration can increase the propensity to trademark among local applications at the initial period.*

Hypothesis 4: *Abnormal peaks of pharmaceutical trademarking tend to cluster in product-specific groups with soft knowledge rather than hard knowledge at the initial period.*

Statistical method: Poisson Pseudo Maximum Likelihood (PPML) regression model

The choice of a statistical approach for this study is initially based on the methodological footstep of the key paper by Lopes and Guimarães (2014), who worked on similar areas of trademarks and economic development (but in the consumer goods industries). In this paper, the authors made use of a *Poisson regression model* given the discrete nature of the trademark data and the fact that some trademark classes had a relatively low number of registrations (Lopes and Guimarães, 2014). This regression model derives from the Poisson distribution and possess the count models' data-characteristics such as intrinsically heteroskedastic, right skewed, and have a variance that increases with the mean of the distribution, in order to explain the number of occurrences or counts of an event (Hilbe, 2011).

An attempt was made to run regression analysis using the Poisson model. However, this model requires a set of assumptions where the data of this study fail to meet. Specifically, Poisson model carries the following assumptions (Roback and Legler, 2021):

-*Assumption 1*: The dependent variable consists as count data (Y is a count per unit of time) and Y conditional on X follows a Poisson distribution.

-*Assumption 2*: The observations must be independent of one another.

-*Assumption 3*: The mean of a Poisson random variable must be equal or identical to its variance.

-*Assumption 4*: The log of the mean rate, log (λ), must be a linear function of independent variable X.

The data of this study did not follow a Poisson distribution (assumption 1) when running the One-sample Kolmogorov-Smirnov test on the dependent variable conditional on independent variable, also the mean and the variance of this model is not identical (mean = 6.13 ≠ variance = 73.949) (assumption 3). The violations of these assumptions lead to an overdispersion problem that can affect the model fit, cause standard errors of the estimates to be underestimated, and appear to be a significant predictor when it is in fact not significant (Hilbe, 2011). Given these issues, an alternative model will be considered for this study instead of the Poisson regression of the count data.

There are some other count response models from the discrete response regression family (i.e., non-negative integer response models for count data) e.g., *Negative binomial regression model*, *Zero-inflated regression model*, and *Poisson Pseudo Maximum Likelihood (PPML) model*. After careful consideration based on the consistent results and assumptions checking among these statistical methods, the ***Poisson Pseudo Maximum Likelihood (PPML) model*** is the

most desirable approach and is selected for this research. The rationales for choosing this statistical method rather than others are explained below.

The PPML model is advocated by J.M.C. Santos Silva and Silvana Tenreyro in their highly cited econometric paper '*The Log of Gravity*' in 2006 (Santos Silva and Tenreyro, 2006). In this paper, the authors suggested for an upgraded estimation method from the Poisson regression for count data in order to address the potential bias in gravity models in the presence of heteroskedastic errors. Building on the early works of Goldberger (1968), Gourieroux, Monfort and Trognon (1984), Papke and Wooldridge (1996), and Manning and Mullahy (2001), Santos Silva and Tenreyro (2006) successfully challenged the long-established practice of estimating constant-elasticity models in their log-linearized forms and recommended the use of the PPML estimator instead. Their recent follow-up work '*The Log of Gravity at 15*' (Santos Silva and Tenreyro, 2021) provided an up-to-date review of this statistical method after 15 years of its introduction.

The rationales behind the choice of the PPML model are explained as follows. First, the PPML is the best fit for the dataset as there is no assumptions constrained when using this estimation model (Santos Silva and Tenreyro, 2006). In other words, all the proposed assumptions of the Poisson model will not be violated under this model, and there will be no need to specify a distribution for the dependent variable. At the same time, the PPML has a similar characteristic of a Poisson model where the dependent variable can include nonnegative values. The only assumption required is the correct specification of the conditional mean of the dependent variable in the light of consistency (Guimarães, 2020). This estimation method is presented in the format of mathematical functions and will be presented later. In addition, the PPML is a natural way to deal with zero values on the dependent variable compared to the Zero-inflated

model, and yet provided more consistent results than the Negative binomial regression model (Burger, Oort, and Linders, 2009). In the presence of heteroskedasticity, unlike log linear OLS, the PPML is a robust approach (Raihan, 2016). While the Poisson regression model is often seen as too restrictive in terms of its assumptions testing, the PPML is a more flexible alternative method and yet coincides with the Poisson regression estimator (Santos Silva and Tenreyro, 2021). Although the use of the PPML estimator could be challenging some years ago due to computational coding issues of the statistical software, the introduction of the Stata command by Correia, Guimarães and Zylkin (2020) made it more approachable to estimate (Raihan, 2016; Santos Silva and Tenreyro, 2021). The Stata command for the PPML estimation is defined as **poisson *dep_var exp_var,* robust**. Thus, the PPML regression is the best fit model of this study and the most up-to-date statistical approach here.

Method of data collection and Data sources

Given the aim of the third research question is to understand the origin of foreign trademark activities on the development of local pharmaceutical industry, the period of analysis shall focus on the early stage of IPR development and is randomly selected, so the initial 15 years of trademark registrations in Vietnam from 1984 to 1998 are chosen to avoid any bias. This origin period of analysis also marks the first stages of the rising inward FDI in Vietnam, so it would be relevant to understand how multinationals reshaped the local business environment. Similar to Cohen, Mashruwala and Zach (2010), the use of monthly data in this research allows to study the explicit timing of trademark filling choices within the fiscal period, as well as permits the estimation of abnormal trademarking activities.

The historical data used to test the hypotheses via the PPML regression method are drawn from the trademark licensing agreement archives, and the trademark registration archives, both published by The National Office of Intellectual Property of Vietnam (NOIP) from the Vietnam trademark gazettes. Similar efforts of manual data transcribing (as explained to get the trademark registration data - session 4.1) are made here to achieve extra data on the trademark licensing agreements. Given the difficulties in gathering and processing these data under the time constrained, the sample of this regression method is relatively modest and the total number of observations in the database is N=180 (15 years x 12 months). Additional information on each type of all the registered pharmaceutical and medicine products from class 05 trademark is systematically researched, aggregated, and allocated into different product-specific sub-groups in the database (data aggregation). The product details are mainly from the Pharmaceutical Data Bank of the Drug Administration of Vietnam under the Ministry of Health in Vietnam (https://drugbank.vn/), the World Health Organization (WHO) Model Lists of Essential Medicines (https://www.who.int/), and other pharmacy websites such as Nhà thuốc An Khang (https://www.nhathuocankhang.com/). Other secondary data for this product specific groups are companies' archives, consultants' reports, public documents, companies' biographies, industry reports and related Vietnamese and English newspaper articles. The details of these product-specific groups are summarised in Appendix E, and there are 45 sub-groups in total. These groups can help enriching the data, providing more information not only at industry- level or firm-level like Lopes and Guimarães (2014)'s work, but taking a further step to understand trademark at brand-level or product-specific level.

The final database is built to run the PPML regression models, and includes the following information of all trademark registration companies in Vietnam from 1984 to 1998: trademark registration dates, trademark registration application, country of origin, foreign applicant or

local applicant, product-specific group, licensing issued dates, trademark has licensing agreement or not, the flows of trademark licensing agreements (foreign signed with local F-L, foreign signed with foreign F-F, local signed with local L-L, or local signed with foreign L-F). For regression to work, Stata MP (v13) is employed as the statistical software to perform the analysis on collected data, and to provide meaningful outcomes for the third research question.

Estimation method, Econometric functions, and Variable specifications

In order to examine the last research question via regression analysis of PPML model, the following estimation functions and variable specifications including the list of variables and their measurements are presented here. It should be emphasised that this study follows the methodological footsteps of Santos Silva and Tenreyro (2006, 2021), as well as following the similar measurement of the dependent variable and the key independent variable as used by Lopes and Guimarães (2014), but at a further step at brand- or product-specific level analysis.

There are four key models (56 sub-models in total) that shall be tested according to the four hypotheses. From model 1 to model 3: the dependent variable is the count of the number of trademark registrations filed by local firms; while as the independent variables are the count of the number of trademark registrations filed by foreign firms, the number of each type of trademark licensing agreement flows (foreign signed with local F-L, foreign signed with foreign F-F, local signed with local L-L, or local signed with foreign L-F), and the region variable based on the trademark's country-of-origin. The variable of the count of the number of trademark registrations filed by foreign firms is tested for the moving-average of 12-month, 6-month, and a quarter 3-month, because it is likely to take time for foreign trademark registrations to influence on the local applications. A similar reason is applied to the variable

of the number of each type of trademark licensing agreement flows, with the cumulative sum is taken into account to allow better analysis of the temporal relationship between these variables. For Model 4: the dependent variable is the count number of trademark registrations in each product-specific group from class 05 pharmaceutical and medicine; the independent variables are the count of the total number of trademark registrations excluding the number of each product-specific groups, and the general long-term trend of the series. The four models are defined as follows:

1. Model 1 (3 sub-models 1a, 1b, 1c):

$$E(n_{L_t}) = \exp(\beta_0 + \beta_1 \overline{MA_i n_{F_t}})$$

- Dependent variable: n_{L_t} is the number of trademark registrations by local in the given time of month and year t.
- Independent variable: $\overline{MA_i n_{F_t}}$ is the average of the number of trademark registrations by foreign of the given month t and the i-1 preceding months (computes the i-month moving-average for the past i-1 months from the time t and make a forecast for the i^{th} month).
- Note:

$$\overline{MA_i n_{F_t}} = \frac{1}{i}\sum_{j=0}^{i-1} x_{t-j}$$

or $\overline{MA_i n_{F_t}} = \frac{x_t + x_{t-1} + x_{t-2} + \cdots + x_{t-(i-1)}}{i}$; $x_t =$ is the number of trademark registrations by foreign in the given time t ; $i \in \{12, 6, 3\}$ stands for moving-average of 12-month, 6-month, and a quarter 3-month.

In order to get the most robust results, AIC and BIC statistics are the most commonly used measurements employed for the purpose of assessing comparative fit and choose the best model output (Hilbe, 2011). The parameterizations of AIC and BIC are defined as:

$$AIC = \frac{-2(\mathcal{L}-k)}{n} \qquad \text{and} \qquad BIC = \frac{-2(\mathcal{L} - k\times\ln(k))}{n}$$

with $\mathcal{L}$ is the model log-likelihood, k is the number of predictors including the intercept, and n represents the number of model observations. In both parameterizations, $2k$ is referred to as a penalty term which adjusts for the size and complexity of the model. Therefore, the study shall use these parameterizations of AIC and BIC for comparative purposes and checking model validations.

2. Model 2 (4 sub-models 2a, 2b, 2c, 2d):

$$E(n_{L_t}) = \exp(\beta_0 + \beta_1 \overline{MA_\iota n_{F_t}} + \beta_2 S_{jt})$$

- Dependent variable: n_{L_t} is the number of trademark registrations by local in the given time of month and year t.
- Independent variable 1: $\overline{MA_\iota n_{F_t}}$ is the average of the number of trademark registrations by foreign of the given month t and the i-1 preceding months (computes the i-month moving-average for the past i-1 months from the time t and make a forecast for the i^{th} month).
- Independent variable 2: S_{jt} is the cumulative sum of the total number of trademark registrations of each type of the licensing knowledge flow j in the given time t.
- Note:

$$S_{jt} = \sum_{i=1}^{t} s_{ji}$$

with $t \in \{1, \dots, 180\}$; $s_j =$ is the monthly total number of trademark registrations of each type of the licensing knowledge flow j in the given time t.

3. Model 3 (4 sub-models 3a, 3b, 3c, 3d):

$$E(n_{L_t}) = \exp(\beta_0 + \beta_1 \overline{MA_\iota n_{F_t}} + \beta_2 S_{jt} + \beta_3 R_{1t} + \beta_4 R_{2t} + \beta_5 R_{3t} + \beta_6 R_{4t} + \beta_7 R_{5t})$$

- Dependent variable: n_{L_t} is the number of trademark registrations by local in the given time of month and year t.
- Independent variable 1: $\overline{MA_\iota n_{F_t}}$ is the average of the number of trademark registrations by foreign of the given month t and the i-1 preceding months (computes the i-month moving-average for the past i-1 months from the time t and make a forecast for the i^{th} month).
- Independent variable 2: S_{jt} is the cumulative sum of the total number of trademark registrations of each type of the licensing knowledge flow j in the given time t.
- Independent variable 3: R_{1t} is the number of trademark registrations by Africa Region in the given time of month and year t.
- Independent variable 4: R_{2t} is the number of trademark registrations by Asia Region in the given time of month and year t.
- Independent variable 5: R_{3t} is the number of trademark registrations by Europe Region in the given time of month and year t.
- Independent variable 6: R_{4t} is the number of trademark registrations by North America Region in the given time of month and year t.
- Independent variable 7: R_{5t} is the number of trademark registrations by South America Region in the given time of month and year t.
- Note: The number of trademark registrations for all regions are included in this regression except for the variable of Home Region (Vietnam) to avoid aggregation bias and Type IV error in statistics (as the dependent variable is also counted local trademark registrations). Home Region variable will still be presented in the summary statistics for references.

4. Model 4 (45 sub-models/ test 45 sub-samples by product):

$$E(n_{kt}) = \exp(\beta_0 + \beta_1 t + \beta_2 t^2 + \beta_3 N_{kt})$$

- Dependent variable: n_{kt} is the number of trademark registrations in product-specific group k from pharmaceutical and medicine (class 05) in the given time of month and year t.
- Independent variables 1 and 2: t and t^2 capture the general long-term trend of the series.
- Independent variable 3: N_{kt} is the total number of trademark registrations in the given time of month and year t excluding group k (to capture the cyclical movements that affect all product-specific groups alike).
- Note: To capture the irregular movements of the series, an index specific to each product-specific group is created. This index is the Pearson standardized residual of the Poisson Pseudo Maximum Likelihood regression for each group. By calculating these Pearson standardized residuals, it is statistically possible to identify all outlier values, which are considered here to be an indication of abnormal trends across different groups of trademark activities. The Pearson standardized residuals for these regressions are calculated as follows: $PSR_{kt} = \frac{n_{kt} - \hat{n}_{kt}}{\sqrt{\hat{n}_{kt}}}$; $\hat{n}_{kt}$ = is the regression fitted value (FV) to predict the number of trademark registrations in product-specific group k from pharmaceutical and medicine (class 05) in the given time t. Asymptotically these residuals follow a standardized normal distribution.

4.5. Summary of Mixed Methods

Overall, despite all the inherent difficulties involved in getting the trademark data, as well as the Covid-19 pandemic disruptions in travelling and obtaining historical archives, court cases, and in-depth interviews in Vietnam, the thesis still manage to overcome these issues and pursuit the mixed-methods as initially planned at the beginning of PhD. The mixed methods combining

all of the above four methods which are *historical research*, *multiple case studies research*, *in-depth interviews*, and *regression analysis*. The following table 4.1 summarises the choices of methods for each of the thesis's research questions. For each sub-research question, at least two research methods are employed to complement one another, and are executed as a mixture of both parallel and sequential.

Table 4. 1 Summary of Mixed Methods according to Research Questions. *Source*: Created by the author.

Research Questions	**Qualitative and Quantitative Methods**			
	Historical/ Archival Research	*Multiple Case Studies*	*In-depth Interviews*	*Regression Analysis*
RQ1. How can trademark data provide new insights on the evolution of inward FDI in emerging markets like Vietnam?	✓		✓	
RQ2. What trademark protection strategies have MNEs used to ensure their competitiveness and long-run survival in Vietnam?	✓	✓		
RQ3. How significant is the origin of foreign trademark activities on the evolution of Vietnamese pharmaceuticals and medicine industry?	✓	✓		✓

These methods can be employed together to complement the weaknesses of each method and can provide a verdict for the research triangulation. Triangulation refers to the combination of multiple methods or data sources in studies that combine both quantitative and qualitative research to develop a comprehensive understanding of the same phenomenon (Patton, 1999; Denzin, 1978). The rationale behind triangulation is to test validity and to offer rich description through the convergence of information from different sources, and so increasing the transparency as well as the credibility of this research.

5. Ethical Consideration

The researcher morally obligates and abides by the university's ethical codes and guidelines, at the same time the researcher also respects and protects participants' interests. In general, ethical issues may arise from different practices such as no consent informed, privacy invaded, leaking respondents' confidentiality and anonymity, deception of participants and misuse of data (Saunders, Lewis and Thornhill, 2012; Flick, 2009; Bryman and Bell, 2011). The research addressed all these points in the ethic form and this research received ethic approval from the University of York's Economics, Law, Management, Politics and Sociology Ethics Committee (ELMPS) to carry out data collection for the thesis. For instance, all participants are given a consent form (appendix F) to assure that their confidentialities and anonymities are safeguarded through the use of pseudonyms if needed, and the researcher must explicitly gain their consents if they are happy to reveal their names and positions before the interviews taking place.

Regarding the procedures of gaining consent form, the researcher asked the participants if they decided to take part, and they were given an information sheet to keep and asked to sign two copies of the consent form (one copy is for participant to keep). If the participants decided to take part, they still be free to withdraw and their data would be destroyed as long as they ask for this within 30 days of the interview. If they withdraw from the study, the researcher will destroy all their related data and would not use it in any way. After the interview taking place, the researcher also carried out the role of translator (if needed) and so the issue of confidentiality would not be a problem here. With the permission from the participants, the interviews are audio recorded with a voice recorder. Pseudonyms may be used if required by participants when transcribing. The researcher encrypted the transcript text files using Microsoft Office's encryption tool to encrypt them with password. For the audio files, the researcher used RAR encryption tool to encrypt them with password. The laptop is password

protected and has up-to-date anti-virus protection. It is also set to automatically lock the screen after no activity for certain time. The data is also backed up by the researcher at the University's cloud storage like Google Drive with password protected. The data is stored at this server only until the research process is completed and afterwards, it is deleted in order to prevent any data risks. The back-up is done on a regular basis (every month) during the project. The data is used for the purposes of the research only and is kept confidential or is not disclosed to any third parties. By following these approved ethical practices, the researcher sought to minimise all ethical risks to participants, researcher and the university institution.

6. Conclusion

To sum up, chapter 4 provides the research methodology of this thesis. Given the research philosophy of functionalist paradigm, the thesis chooses mixed methods of both qualitative and quantitative in order to bring a holistic study and generalisation, yet also provide an in-depth investigation and a better understanding of the complex phenomenon. The data collection and data sources are fully explained to address the research questions. The four key research methods employed from mixed methods are historical or archival research, multiple case studies research, in-depth interviews, and regression analysis. The combination of these research methods allows for a research triangulation that can enhance transparency and credibility of this study. The thesis also takes into account of ethical consideration by complying with the university's ethical codes and guidelines, at the same time respecting participants' interests.

CHAPTER 5. RESULTS AND DISCUSSION

1. Introduction

Having proposed the mixed method approach in the previous chapter, this chapter shall present the quantitative and qualitative results of the thesis and discuss the main findings in order to address the three research questions. This chapter is organised as follows. Section 2 provides the answers to the first research question "*How can trademark data provide new insights on the evolution of inward FDI in emerging markets like Vietnam?*" by demonstrating the relationship between trademarks and FDI inflows in Vietnam, with sub-section 2.1 on the historical evidence of their co-evolutions, and sub-section 2.2 on the trademark rejection rate. Section 3 addresses the second research question "*What trademark protection strategies have MNEs used to ensure their competitiveness and long-run survival in Vietnam?*", with sub-section 3.1 summaries the frameworks of different trademark protection strategies for pharmaceutical MNEs in Vietnam over time, and sub-section 3.2 explains the frameworks in-details by covering three main case studies of Taisho, Abbot, and Bayer in Vietnam. Section 4 in this chapter presents the evidence for the third research question "*How significant is the origin of foreign trademark activities on the evolution of Vietnamese pharmaceuticals and medicine industry?*". Sub-section 4.1 performs the empirical evidence with discussion from the regression analysis on the origins of foreign knowledge transfers and local learning in Vietnam in order to address the four proposed hypotheses. Sub-section 4.2 explores qualitative side of the local learning from such foreign knowledge transfers in details with the prominent case studies from the highest trademarking activities at brand-level analysis in Vietnam. Last but not least, the key findings for this research from section 2, section 3, and section 4 are summarised section 5 for the conclusion of chapter 5.

2. The Relationship between Trademarks and Foreign Direct Investment Inflows in Vietnam

2.1. Historical Evidence: Co-evolution of Trademarks and Foreign Direct Investment Inflows

The growing inward FDI trend and the relatively weak IP protection in Vietnam had been reviewed individually in previous sections (Chapter 2 section 4 and section 5 accordingly). This section shall discuss the potential link between them, specifically, the dynamic co-evolution between trademarks and FDI inflows in Vietnam. The following evidence is drawn on historical trademark data, and international trade data like imports, exports, and also inward FDI in Vietnam.

There is an increasing trend in the number of inward FDI projects in Vietnam, similar to imports and exports over the past 30 years, as illustrated by figure 5.1.

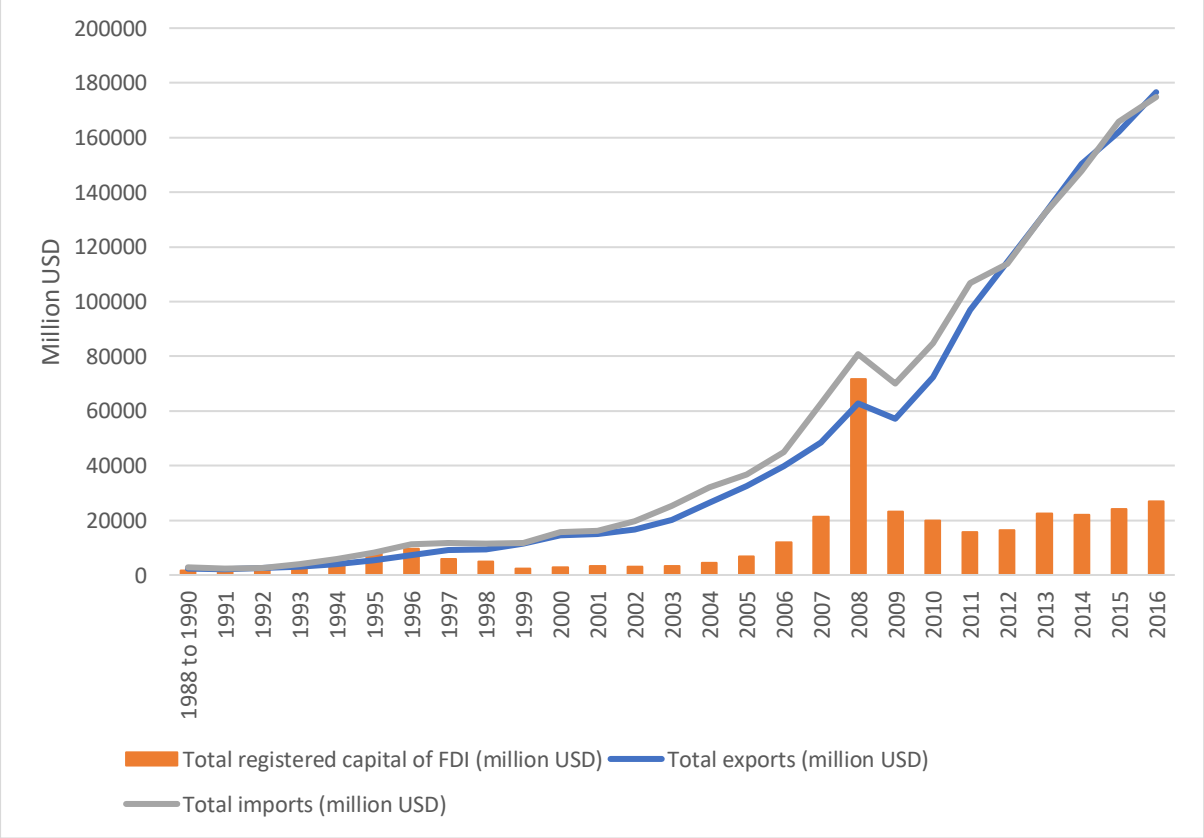


Figure 5. 1 The trend of inward FDI, export, import in Vietnam from 1988 to 2016.
Source: GSO (2018).

The period of analysis from the mid-1980s until now marks an important turning point of Vietnam in the process of international economic integration and in the competitive development of MNEs, especially given the aftermath of the war periods like the Anti-French Resistance War (19 December 1946 – 1 August 1954), the Vietnam War (1 November 1955 – 30 April 1975), and the Sino-Vietnamese War (17 February 1979 – 16 March 1979), with the emergence of revolutionary innovations in the globalisation era. Although Vietnam's economy offers the openness, favourable policies, and trade liberalisation environment to attract foreign investors, the corresponding advantages towards Vietnamese local enterprises remain limited. Many MNEs want to stay and compete in Vietnam because they receive more preferential tax rates and more favourable tax benefits (such as reduction or even exemption from corporate income tax, import tax, and land use tax) compared to their rival domestic enterprises, while as Vietnamese local enterprises are tied with less favourable regulations, and may not make good uses of integration opportunities (Pham, 2019). As much as 70% of the export bill in Vietnam was accounted for by FDI firms based in Vietnam, and a good example for this is South Korea's Samsung Electronics, for instance, accounts for 25% of Vietnam's total exports (Asia Times, 2019; VnEconomy, 2019). This reflects the difficulties and challenges faced by many domestic firms in Vietnam. The slow growth and the weakness in core business of these local firms compared to their foreign counterparts are also partly due to their starting point, because after the wars, some Vietnamese firms just started their businesses from scratch set up by entrepreneurs with no education, no business skills, or no experience background, and they run the business in inceptive approaches and are still nascent (Pham, 2019). Therefore, foreign investors are relatively more favourable than local entrepreneurs in this extent.

Among different FDI projects in Vietnam, the top 5 sectors of these inward FDI are presented in figure 5.2.

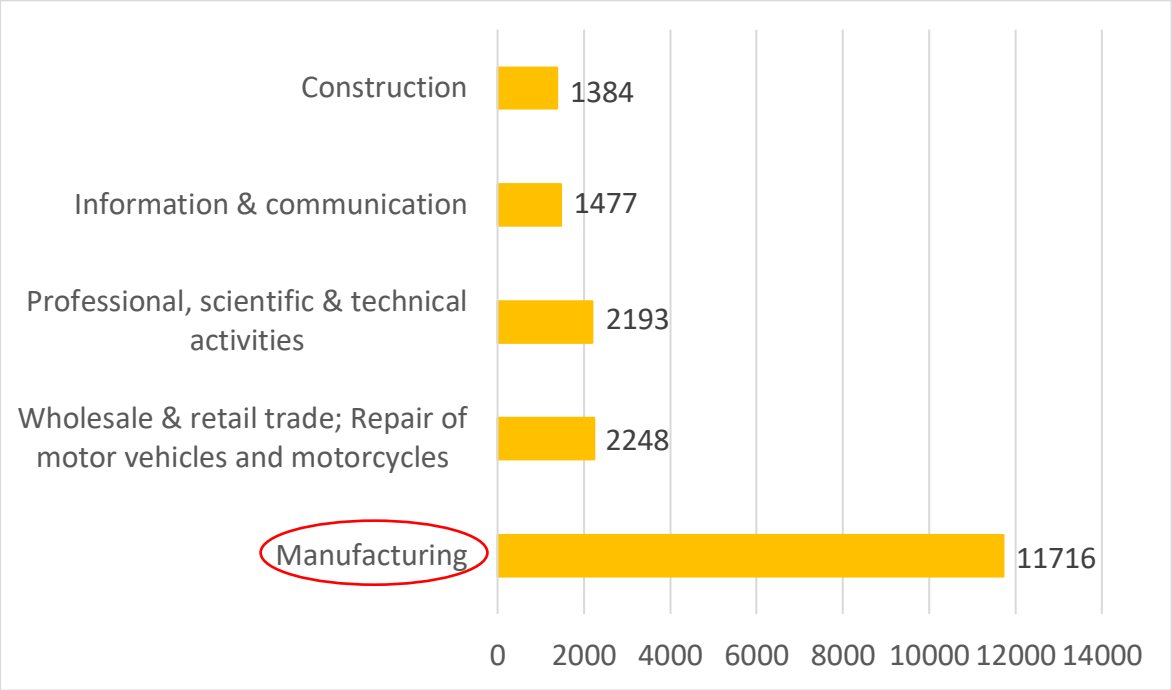


Figure 5. 2 Top 5 sectors of total inward FDI projects in Vietnam from 1988 to 2016. *Source*: GSO (2018).

In figure 5.2, the highest investment is from manufacturing sector, followed by wholesale and retail trade, repair of motor vehicles and motorcycles. Vietnam's Ministry of Planning and Investment has been prioritising in their FDI strategies all of the inward FDI projects that offer the long-term focus on manufacturing sector, especially on manufacturing of pharmaceuticals and medical equipment in particular (Vietnam Briefing, 2017). This could explain why there was such a big difference between the total inward FDI projects of manufacturing sector and the other sectors' as it is posed by the country's strategic planning. Moreover, this hints the important role of pharmaceuticals within manufacturing in attracting FDI inflows in Vietnam.

Next, the trend of total trademark applications and total granted trademark certificates in Vietnam from 1982 to 2017 are presented in figure 5.3.

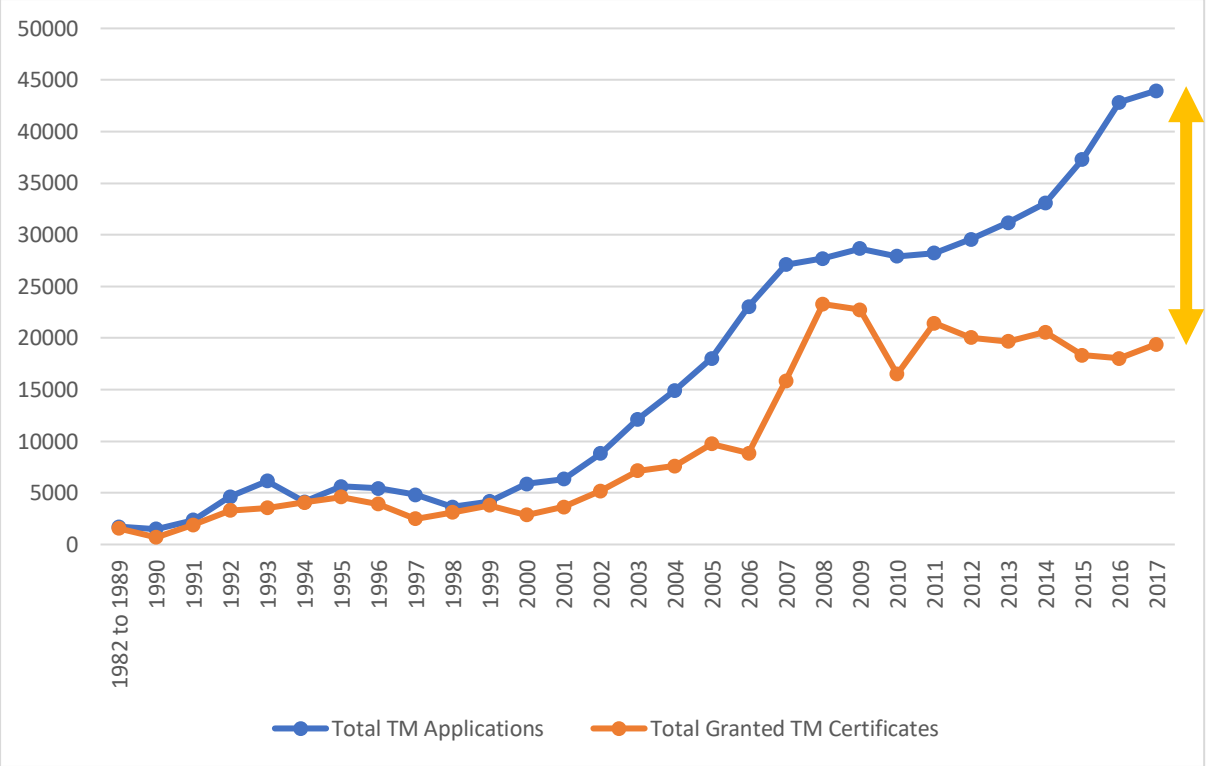


Figure 5. 3 The trend of total trademark applications and total granted trademark certificates in Vietnam from 1982 to 2017. *Source*: NOIP (2018).

From figure 5.3, it is observed that the total trademark application shares a similar trend to the number of inward FDI in Vietnam, as illustrated in figure 5.1, with a gradual increase in the number of trademark application filled, and a peak during the global financial crisis. Thus, this implies that the weak IPR system in Vietnam does not seem to reduce the growing trend of inward FDI in Vietnam. The gap between the number of trademark applications and trademark granted (highlighted with a yellow arrow) represents the number of rejections of trademark applications. By looking closer at the rejection number from figure 5.3, figure 5.4 below presents the rejection rate of trademark application in Vietnam between Vietnamese entrepreneurs and foreign investors.

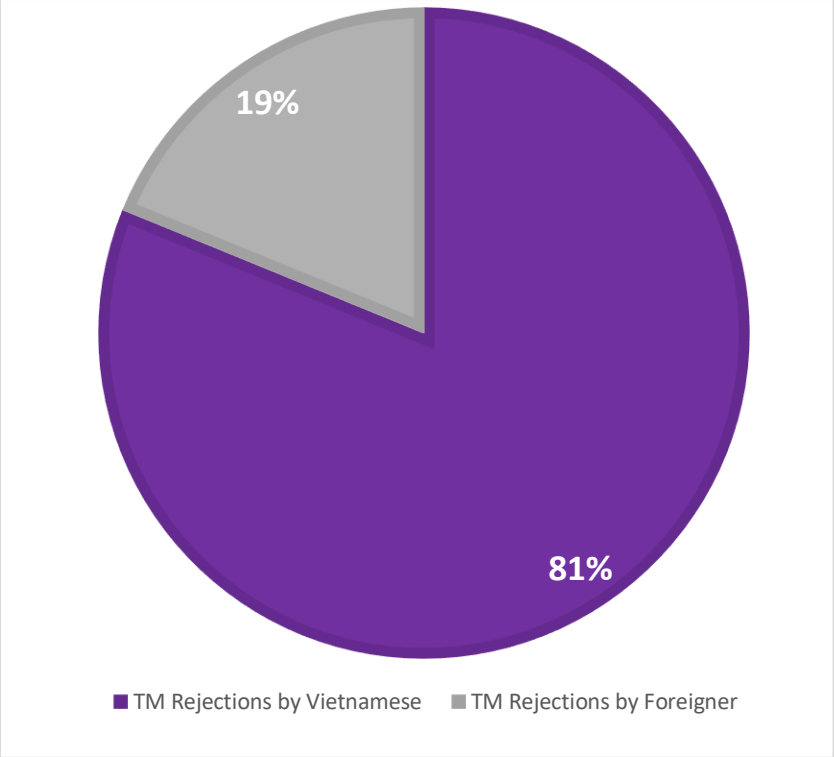


Figure 5. 4 Trademark rejection rates in Vietnam from 1982 to 2017. *Source:* NOIP (2018).

From figure 5.4, it seems to be advantage for foreign investors again, as the rejection rate are much higher for local applicants (81%) compared to the foreigners (19%). At the first glance, this also reflects the disadvantage for local applicants with the huge local imitation problem, counterfeit, or trademark-infringing products among Vietnamese entrepreneurs. For instance, between 2012 and 2015, the Vietnamese authorities handled 18,329 cases with signs of trademark infringement and counterfeiting, with administrative fines up to 73 billion VND (equivalent to nearly £2.5 million GBP) (Pham, 2017). Other reasons from this high rejection rate are because local entrepreneurs did not look up to the trademark search database and their trademarks were accidentally identical to the inherent registered trademarks; or these trademarks cannot be registered due to generic names or inherent distinctiveness. In other countries especially in pharmaceutical sectors, the high rejection rate for the case of patents is down to the difficulties in securing required paperwork from the originators and proving the bioequivalence that the generics (copy versions) are as effective as the innovator brands, if the

local pharmaceutical firms decide to produce or import generic versions of drugs. However, given the existing laws in Vietnam, this explanation is not valid with the case of trademarks in pharmaceutical sector in Vietnam. More profound reasons to reveal the attributed factors towards the rejection rate in Vietnam shall be discussed further in the next section (section 2.2). Overall, the high trademarks rejection rate for domestic enterprises reflects the greater opportunities for FDI investors to ensure their competitiveness and long-run survival within Vietnam business environment.

The top 5 trademark applications by region in Vietnam in 2017 are illustrated in figure 5.5 as follows.

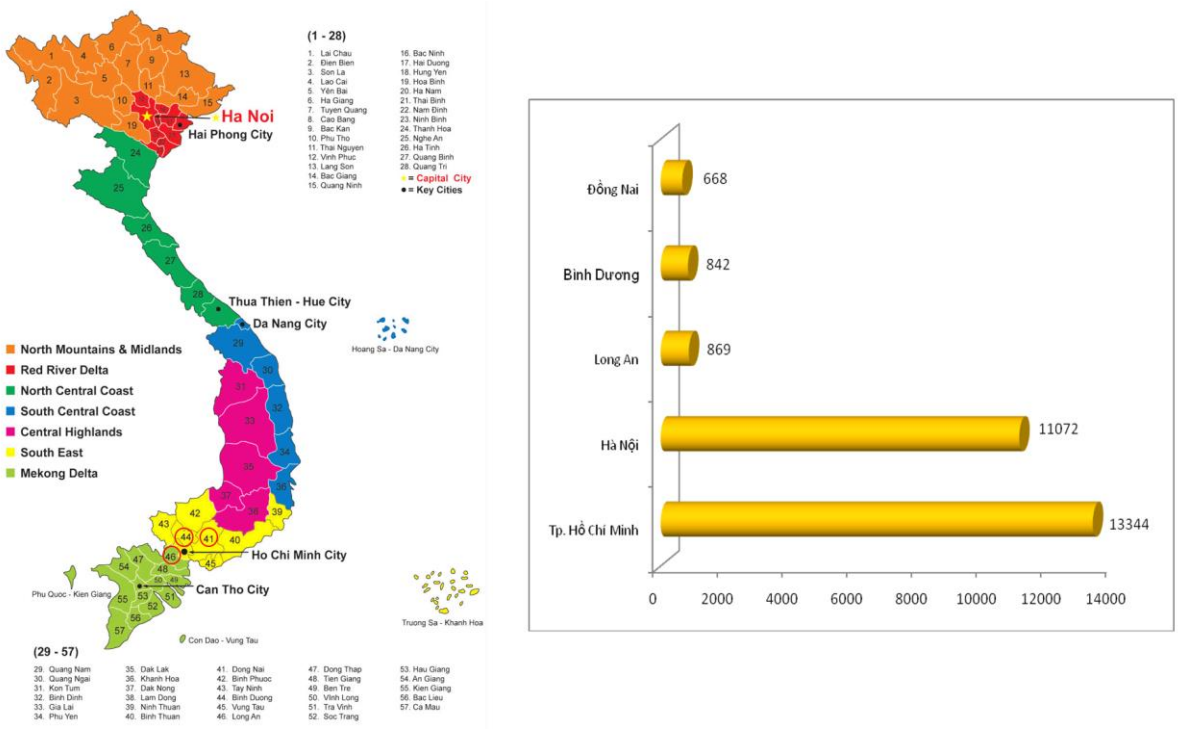


Figure 5. 5 Top 5 trademark applications by region in Vietnam in 2017. *Source*: NOIP (2018).

From figure 5.5, the highest trademark applications by region in Vietnam are from Ho Chi Minh city (the largest city in Vietnam) in the South, and not from the capital of the country – Hanoi. The remaining three cities (Dong Nai, Binh Duong, and Long An – number 41, 44, and

46 accordingly from the map) in the top 5 also come from the Southeast and Mekong Delta region – the areas that are nearby to Ho Chi Minh city.

One may question why the capital does not have the highest trademark application numbers. One reason is because of the better transport and logistics, other are down to the cheaper land and labour costs in the South Vietnam, while as Hanoi is more like the main political centre of Vietnam. It could also be explained that MNEs in those areas are tapping into diverse knowledge clusters (perhaps tacit knowledge) and transfer it within the local buzz and global pipelines (Castellani and Zanfei, 2006, Cantwell and Santangelo, 1999); creating institutional proximity that allows connections between knowledge sharing across locations despite of geographical distance (Cano-Kollmann et al., 2016; Gertler, 2003).

The total trademark application by classes in Vietnam from 2001 to 2017 across all classes are presented in figure 5.6 below.

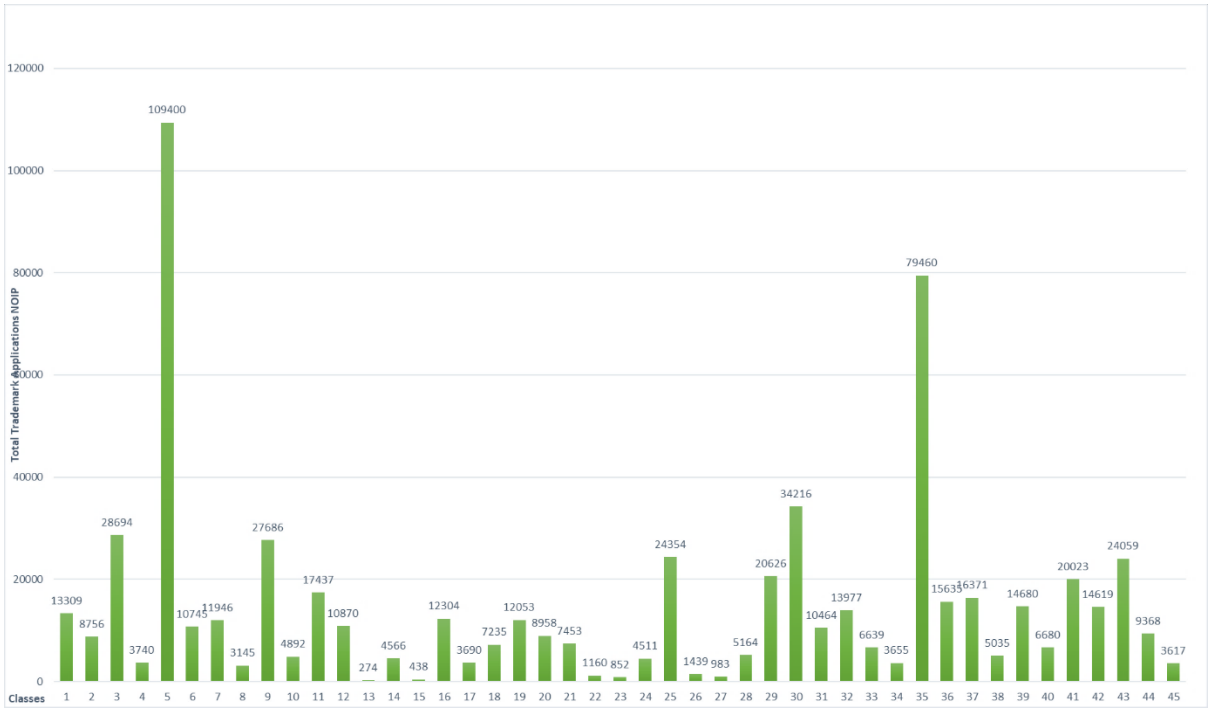


Figure 5. 6 Total trademark applications directly filled with NOIP by classes from 2001 to 2017. *Source*: NOIP (2018).

Since 2001, Vietnam adopted NICE classification system from WIPO which consists of 45 classes (see appendix D). The top 5 classes of trademark applications in Vietnam (see figure 5.7 below) have not changed much since 2001 until now, with pharmaceuticals and medicines are the highest, followed by service sector of advertising and business management, then the sector of coffee, tea, cocoa and rice. There was a slight changed from the remainder of top 5: computer software sector in 2001; vs. food & drink service, temporary accommodation in 2017.

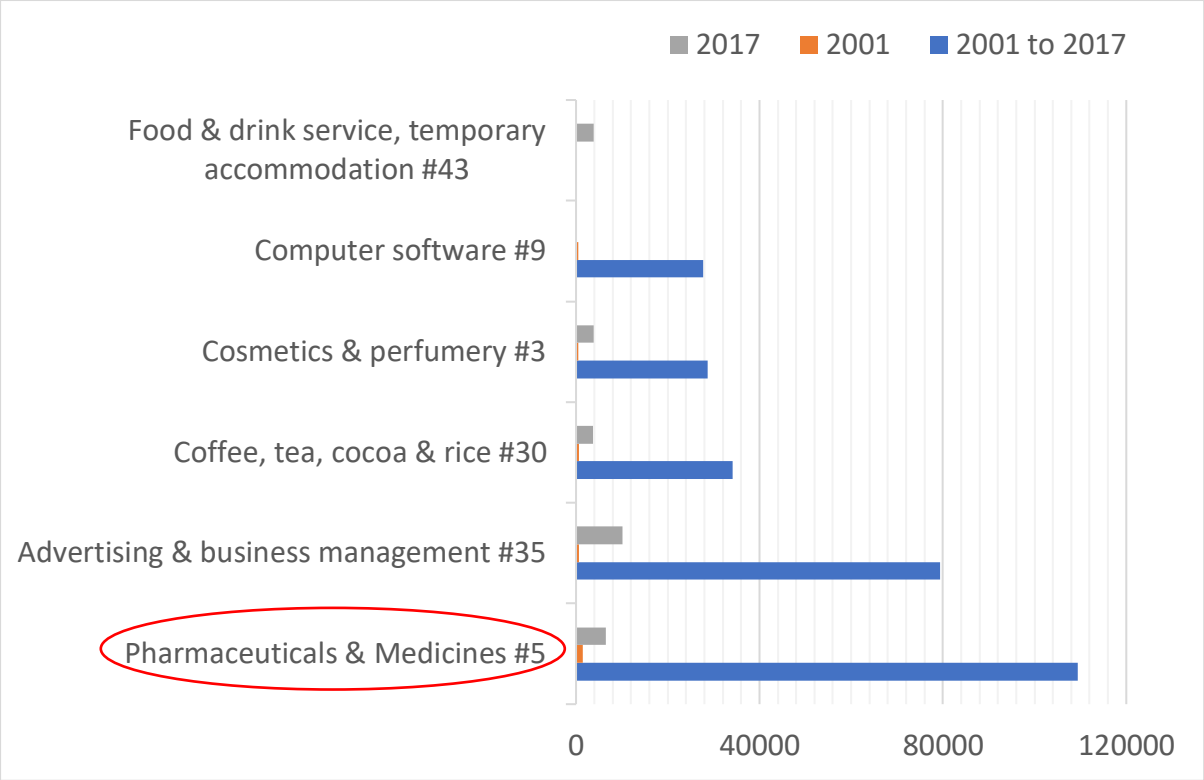


Figure 5. 7 Top 5 Classes of total trademark applications in Vietnam. *Source*: NOIP (2018).

It is observed from figure 5.2 and figure 5.7 that the highest number of trademark fillings by sector over time is pharmaceutical and medicines, reflecting the potential correlation with manufacturing sector – which has the highest FDI projects in Vietnam.

Overall, the Vietnamese trademarks data provides new insights on the impact of inward FDI evolution in Vietnam. This shows that the relatively weak IPR system does not discourage FDI inflows in Vietnam, and that there is a rather high rejection rate of trademark applications on local firms, hinting on the favourable position of foreign investors in Vietnam. This also reflects a more favourable position and a greater chance for FDI investors compared to the local entrepreneurs in order to ensure their competitiveness and long-run survival within Vietnam business environment.

The situation implies a prevailing adverse effect of FDI inflows on local entrepreneurship, as MNEs attract scarce domestic resources like talented and skilled workforce and thus create competitive pressures in local labour markets, as well as enjoy the benefits of knowledge diffusion in transformative and service industries. This negative spillover effect is much more pronounced in developed than developing economies, and notably in the manufacturing industry (Danakol et al., 2016).

However, the cross-cultural issues should also be considered here. The Vietnamese local entrepreneurs may perceive that trademark imitation is not a huge problem, as they can enter the market via 'hit and run' strategy. Therefore, the negative spillover effect here might be neglected by these firms, as they do not consider the consequences of IP infringements. In fact, areas with greater foreign business influence in the labour market are likely to have seen local firm birth rates remain higher and recover more quickly, and so this would turn into a positive impact of foreign-owned firms on local entrepreneurial resilience after all (Thompson and Zang, 2018). Either case, there is no deny about the contributions of both local entrepreneurs and foreign investors into the Vietnamese economic development.

2.2. Trademark Rejection Rate: The Attributed Factors

The trademark rejection rate of foreign investors and local entrepreneurs in Vietnam over time had been evidenced (see figure 5.3 and figure 5.4) and briefly explained from the previous section (section 2.1). It is found that FDI investors is in a more advantageous position compared to their local counterparts when it comes to trademark application rejection rate, with the rate is much lower for foreign applicants (19%) vs. local applicants (81%). This section shall provide a more profound explanation and reveal a number of attributed factors towards the high rejection rate in Vietnam over time.

The evidence is drawn on primary sources such as the national legislations on IP, as well as interviews with IP experts such as IP civil servant, leading IP lawyers and managers from the top IP law firms in Vietnam. The researcher has gained their permissions and consents to reveal the participants' identities such as name, position, and company to cite below. Specifically, there are three interview participants include: Mr Nguyen Duc Xuan who is the President and IP attorney of Ageless IP firm; and Mr Do Nguyen Hiep who is the Director and IP representative of Phoenix Law Co. Ltd. Only one participant prefers to have his name as anonymous: Mr Hoang (pseudonym) who is a civil servant staff from the National Office of IP (NOIP) in Vietnam and work directly as trademark appraisal process officer. Due to the nature of the civil service jobs, only this NOIP officer prefer to have his name as pseudonym, and the other interviewees are identifiable. The following evidence and analysis are based on the interview records.

Before investigating all the attributed factors explaining for the high rejection rate of trademarks in Vietnam, first it would be good to understand an overview of the trademark

appraisal process in Vietnam. The reason for this is because by understanding this complicated process, FDI investors can mitigate any liability of foreignness and can then shape their trademark protection strategies in the host countries like emerging markets to ensure their competitiveness and long-run survival compared to the local rivals. According to the Law on Intellectual Property 2005 in Vietnam, if two firms registering for trademarks have identical or/and have somewhat similar in terms of their trademarks or/and their products, the letter of consent for granting or approving the inherently distinctive trademark will have to go through the trademark appraisal method. Mr Hoang who has many experiences working directly as trademark appraisal officer at the in Vietnam suggested that:

> "*If that* [if two trademark applicants have identical or/and have somewhat similar in terms of their trademarks or/and their products] *is the case, I can only grant or approve the following cases: they are either trademark applicants that are identical in trademarks and somewhat similar in products; or somewhat similar in trademarks and identical in products; or somewhat similar in trademarks and in products. Those applicants that are identical in both trademarks and in products will not be approved or will be rejected, even if the two products are from the same firm or applicant*" (Hoang, NOIP Officer).

Therefore, the decision of trademark appraisal process for trademark applicants in Vietnam can be summarised and formulated by table 5.1 below.

Table 5. 1 Summary of trademark appraisal decisions. *Source*: Created by the author.

TRADEMARKS \ PRODUCTS	≈	≡
≈	1 ✓	3 ✓
≡	2 ✓	4 ✗

Note:
≈ Different/ Just somewhat similar
≡ Completely identical
✓Approve
✗ Reject

Table 5.1 addresses the process and the decisions of trademark appraisals, with two dimensions of the level of imitating trademarks or/and imitating products, and the decision to reject or approve trademark application by the NOIP in Vietnam. There are potentially four scenarios:

- Scenario 1: If firm B applies to register trademark for its product in Vietnam, but both of its trademark and product are different/just somewhat similar to the trademark and product of firm A that has been granted trademark previously, the NOIP will still grant a letter of consent to approve firm B's trademark.
- Scenario 2: If firm B applies to register trademark for its product in Vietnam, but its trademark is completely identical to firm A's trademark, and its product is different/just somewhat similar to firm A's product, then the NOIP will still grant a letter of consent to approve firm B's trademark.
- Scenario 3: If firm B applies to register trademark for its product in Vietnam, but its trademark is different/just somewhat similar to firm A's trademark, and its product is completely identical to firm A's product, then the NOIP will still grant a letter of consent to approve firm B's trademark.

- Scenario 4: If firm B applies to register trademark for its product in Vietnam, but both of its trademark and product are completely identical to the trademark and product of firm A that has been granted trademark previously, then the NOIP will NOT grant a letter of consent to firm B because it is not inherently distinctive from firm A's both trademark and product (illegal). Thus, no trademark protection is granted for firm B's application, or the NOIP will ***reject*** firm B's trademark's application. Even if firm A and firm B are from the same owner, the NOIP will still reject the later trademark application due to the first-to-file trademark registrations system in Vietnam.

Recalling table 3.1 from the Literature Review (see Chapter 3, section 2.2), Lopes and Casson (2012) address the theory of Two Dimensions of Imitation Strategy from the imitator's point-of-view, and later expand towards the Two Dimensions of Counterfeiting Strategy which focus on quality and price of imitation. Nevertheless, this theory did not explain the process of trademark appraisal through the lens of the government IP bodies in order to explain why some multinational trademarks are being rejected and the others are not throughout the trademark application process. Thus, table 5.1 here can help understanding trademark rejection through another angle and also can formulate a theoretical extension to this theory with an application to the context in Vietnam specifically, and consequently in emerging markets in general.

By combining table 3.1 and table 5.1, it is suggested that scenario 1 is the case of no imitation, scenario 2 is the case of trademark infringement, scenario 3 is the case of imitation without trademark infringement, and scenario 4 is the case of counterfeiting. Only trademark applicants from scenario 4 of counterfeiting will be considered as illegal according to the Vietnamese law and shall be rejected by the NOIP through their trademark appraisal process, while as trademark

applicants from the remaining scenario 1 to 3 can still be approved on technical grounds for the presence of means for being inherently distinctive in Vietnam. This also implies that not all of trademark imitations are illegal and are subjected to be rejected by NOIP via their trademark appraisal process. Trademark rejection is purely only applied for the case of trademark counterfeiting in Vietnam whereas imitators' trademark names and products are identical to those of the innovators. The Vietnam trademark appraisal process is similar to the system in the UK as Lopes and Casson (2012) documented on the strategies pursued by both imitators and counter-measures adopted by British firms, and the interactions between trademark protection and other strategies that were designed to exert control over foreign entries (Lopes and Casson, 2012).

The trademark rejection rate of foreign investors (19%) and local entrepreneurs (81%) in Vietnam over time from previous section (see section 2.1) suggested that FDI investors is in a more advantageous position compared to their local counterparts when it comes to trademark application rejection rate. This evidence is opposite to what was found by Baroncelli, Krivonos and Olarreaga (2007) in which suggested that trademark registration process can be used as a protectionist tool in developing countries to discriminate against foreign trademark applicants as behind-the-border barriers to trade (Baroncelli et al., 2007). Furthermore, when paying attention to the global business leadership and the interplay of MNEs, politics and military powers between nations, Casson (2020) also emphasised similar idea of IPR protectionism as a political motive. Interestingly, he proposed that "states have not only established systems of IPRs for the benefit of their innovative 'national champion' firm's but have actively sought to undermine the IPR of firms headquartered in rival states by sponsoring industrial espionage" (Casson, 2020). Nevertheless, local firms in fact are being disadvantaged compared to the foreign applicants in this case in Vietnam.

Although Vietnam portraits many characteristics of an emerging market (see chapter 2), but this rejection rate indicates a different trait that goes beyond the usual characteristic of one – liability of localness. There have been documented from the literature that foreign multinationals can suffer from liability of foreignness in most emerging markets, or local government may be biased in favour of domestic firms who often have the advantage of being insiders that can help overcoming institutional voids like weak IPRs protection (Zaheer, 1995; Khanna and Palepu, 1997). However, liability of localness, at a parallel issue, suggests that local firms may incur such liabilities in innovation, or face a competitive disadvantage in product innovation compared to foreign firms in their country, in which results in the negative local firm performances (Un, 2015; Jiang and Stening, 2013). In this case, the Vietnamese firms suffered from the liability of localness in innovation, but also in terms of the IP catching up progress. Specifically, it is the foreign applicants that are having advantages and have greater opportunities to ensure competitiveness and survival, but this also implies the huge imitation problem among domestic applicants in Vietnam. Yang and Meyer (2020) explained that in the context of competitive dynamics between foreign and local firms in an emerging economy, while liability of foreignness can result in weaker government ties and hinder aggressiveness of competitive actions by multinationals, liability of localness can lead to weaker technological capabilities and inhibit competitive aggressiveness of domestic firms (Yang and Meyer, 2020). According to Mr Nguyen Duc Xuan who is the President and IP attorney from Ageless IP firm, there is no law that differentiates or favours foreign applicants over domestic ones in Vietnam:

> "*Both parties [foreign and local trademark applicants] are treated equally in terms of legal procedures and legislation. Currently in IP law in Vietnam, there is no provision or clause suggested that any party can get distinguished or favourable than others when it comes to trademark applications*" (Nguyen Duc Xuan, President & IP attorney of Ageless IP).

This leads to the question of what factors can attribute towards the high rejection rate in Vietnam over time. First of all, as mentioned briefly in section 2.1 previously, the main reason comes down to the huge local trademark counterfeit products among Vietnamese trademark applicants. Mr Xuan also emphasised on this point:

> "*In my opinion, the key reason is that Vietnamese businesses often deliberately imitate foreign brands' labels, but they do it too identical to the originators, and so these trademark applicants will be rejected. This means that they did not look up the trademark search database online prior to their applications to check for their eligibilities for trademark register. Therefore, it can be either accidentally or unintentionally (or not), that their trademarks are too similar or identical to the registered trademarks, or their trademarks do not meet the requirements of inherent distinctiveness such as descriptive name, place name, or too generic name etc...*"(Nguyen Duc Xuan, President and IP attorney of Ageless IP firm).

In other countries especially in pharmaceutical sectors, the high rejection rate for the case of patents is down to the difficulties in securing required paperwork from the originators, and in proving the bioequivalence that the generics (copy versions) are as effective as the innovator brands, if the local pharmaceutical firms decide to produce or import generic versions of drugs. Nevertheless, this does not apply for the case of Vietnam, but rather is due to the inexperience of applicants as Mr Xuan further addressed that:

> "*Given the existing IP laws in Vietnam, this explanation [the difficulties in securing required paperwork from the originators] is not valid with the case of trademarks in the pharmaceutical sector in Vietnam as far as I am aware of. However, there can be many cases that firms or innovators are entangled in local bureaucratic paperwork or time-consuming administrative procedures when registering for their trademark applications in which they do not have any experience and did not make uses of IP law firms.*" (Nguyen Duc Xuan, President and IP attorney of Ageless IP firm).

Moving on to the next point, Mr Do Nguyen Hiep (Director and IP representative, Phoenix Law Co. Ltd.) also explained that there are two types of trademark rejections (formality rejection, and content rejection) in which can help explaining the high rejection rate among local applicants aside from the huge local imitation problem. Regarding the first type of trademark rejection, formality rejection, he suggested that:

> "*The formality rejection applies to those self-submitted applications that normally do not go through IP agents and so are inexperience, unable to meet the initial basic criteria, and make procedural errors. Local entrepreneurs may not look up the trademark search database and their trademarks are accidentally identical to the inherent registered trademarks. So, submitting via specialised IP agents in Vietnam can contribute towards a higher success rate than those who are self-submitted trademark applicants*" (Do Nguyen Hiep, Director and IP representative of Phoenix Law Co. Ltd).

For the second type of trademark rejection, content rejection, Mr Hiep explained that there are further two subcategories under content rejection which includes absolute content rejection, and relative content rejection. And the relative content rejection is in line with what Mr Xuan addressed earlier:

> "*The absolute content trademark rejection refers to the inability to distinguish in terms of addresses, country of origins, descriptions, or including deceiving elements. The relative content trademark rejection applies to the similarity to the previously registered trademark applicants from other owners, sometimes even from their own re-registration (e.g., owner's errors from repeated applicants or they applied twice). From the content point of view, these trademarks cannot be registered due to generic names or lack of inherent distinctiveness. Local entrepreneurs may try to copy or duplicate the strong rival brands in order to take advantage of the existed reputational brands in that particular field, so that practices are counterfeiting and the applications will be rejected*" (Do Nguyen Hiep, Director and IP representative of Phoenix Law Co. Ltd).

Finally, local trademark applicants can be rejected because they did not pay required trademark application fees on time (can be unintentional) for the issuance of trademark protection. Mr Hoang (trademark appraisal officer, NOIP) explained that:

> "*In Vietnam, the Notice of Payment for Trademark protection will be sent only via mail guaranteed* [but not electronically like other developed

countries] *for those applicants that are self-submitted, and will be sent to IP agents for those who applied through IP agents. However, there are many local SMEs registered their addresses in the applications differently from their actual addresses that lead to the mails lost. They could have registered their initial addresses from the applications based on their Business License addresses, or ID cards, etc… but they forget to adjust their address information in the applications after they moved. Thus, these applicants cannot receive the notice of payment and do not pay fees in time according to the current NOIP regulation is within 3 months*." (Hoang, NOIP Officer).

To sum up, the key factors that characterised the high trademark rejection rate for local applicants in Vietnam are down to inexperience in trademark applications, formality rejection, content rejection, and do not pay required trademark application fees on time, aside from the huge local trademark counterfeit problems among local applicants. Overall, these factors do not only explain for the high trademark rejection rate for local applicants, but they also imply that foreign applicants are in a more advance stage compared to their local counterparts when it comes to granting a trademark application. This leads to the next section of how foreign investors are managing to protect their trademarks in Vietnam once they got their trademark applications approved by the NOIP. More specifically, what trademark protection strategies have MNEs used over time to ensure their competitiveness and long-run survival within the business environment in Vietnam.

3. Trademarks Protection Strategies for Pharmaceutical Multinationals in Vietnam

3.1. Trademark Protection Strategies for Pharmaceutical MNEs in Vietnam over time

As discussed earlier, the highest number of trademark applications over time is in the pharmaceutical and medicine sector that attracts a high number of FDI projects in Vietnam (see section 2.1 chapter 5). It should be noted that this is an R&D intensive industry, and is usually associated with studies that rely on patent data. Although patent rights are traditionally essential within such industry, this thesis has introduced the concept of how trademark protection should be treated as equally important in pharmaceutical and medicine industry as it is in patents through the role of asymmetric information in an imperfect market (see section 3.4 chapter 3). In order to address the thesis's second research question: "*What trademark protection strategies have MNEs used to ensure their competitiveness and long-run survival in Vietnam?*", this section aims to gather all the historical evidence through different case studies and analyse the relevant patterns in order to generate a theory for MNEs' trademark protection strategies in pharmaceutical and medicine industry in emerging markets. Especially, this theory formulated here is not only a synthesis to the key prior theories on this area (see section 3.4 chapter 3), but also is an extension and a replication with an application in emerging markets with relatively weak IPRs system like Vietnam throughout the time, especially in terms of the patterns.

It should be noted that pharmaceutical domestic production is still nascent in Vietnam because the local drug firms typically only focus on producing generic products and other simple areas of drug production rather than investing in new compounds or R&D capabilities (Pacific Bridge Medical, 2018). As the result, this creates a huge market for imported drugs and the Vietnamese remain largely reliant on foreign pharmaceutical MNEs. For instance, in 2017, Vietnam spent about $2.1 billion USD on imported pharmaceutical products for local consumption, while Vietnam exported only $113 million USD worth of pharmaceutical products (Pacific Bridge

Medical, 2018). Thus, the pharmaceutical and medicine market in Vietnam is a favourable playground for foreign investors who can seize these vast opportunities. The top largest foreign pharmaceutical MNEs in Vietnam to date are Taisho (Japan), Abbott (US), Bayer (Germany), Nipro (Japan), Sanofi (France), and B.Braun (Germany) (Vietnam Investment Review, 2018b). The thesis shall investigate the first three cases (Taisho, Abbott, Bayer) in order to identify and to compare different trademark protection strategies carried out by these foreign pharma giants in Vietnam over time. These multinationals from the pharmaceutical sector are chosen because of their significantly large investments that created substantial spillovers in the host country. The following Table 5.2 can illustrate and construct the theory for MNEs' trademark protection strategies over time.

INSERT TABLE 5.2 ABOUT HERE

Table 5. 2 Historical trademark strategies of Taisho, Abbott, and Bayer in Vietnam over time. *Source*: Synthesised and created by the author.

Evidence	Approach	Pros	Cons	Strategy	Pattern
Buy potential rival/ imitated firms	Acquiring strategy	Prevent future imitation, cheaper productions with quality control, enhance brand's reputation	These acquired firms must have real potential threats, otherwise would be financial loss	*Defensive weapon*	*Initial stage*
Understand trademark law and take legal action if needed, strike a financial compensation with imitators	Commercial settlement strategy	Immediate financial returns and can stop imitation	Negotiation can be length and imitators may be unwilling to pay money		
Network with other aggrieved firms to share experience and take joint measures to stop imitators and pressurise authorities to take action	Communicating with aggrieved firms	Sharing and learning curve to all firms, strengthening pervasive power to government by joint efforts and cost-sharing	Needs good organisation and coordination	*Networking mean*	*Second stage*
Seek support from the local government	Government hand energy	Improve relations through working with government	Bureaucratic, time-consuming and costly to collect evidence and prove the case, also potential corruption		
Advertising, shopping centre display, promotion advertising (guarantee free return product) on TV	Consumer campaign	Brand building, educate consumers to give up fakes voluntarily, improve customer relations and other networks, stress on quality standards would differentiate itself in a grey market such as pharmaceutical sector in Vietnam	Costly, time-consuming		
Effective labelling and featured packaging	Technical solution	Prevent infringed goods from entering the official channel and licensing overturn	Financial backup such as established such monitoring units such as trade research department, human power for checking, research the capacity of replication	*Proactive strategy*	*Overtime*
Tight quality contract and supervision	Contractual supervision	Prevent product overrun and abide by contractual agreement	Lengthy negotiation with partners		
Lower price to allow little space to compete with imitators	Narrowing price gap	Attract consumers to give up fakes and buy authentic product	Not very attractive strategy for such a high R&D pharmaceutical product		
Field and virtual monitoring of manufacturing and distribution	Monitoring and private eye	Keep fakes checked with take immediate legal actions with evidence	Costly and online transactions or cash payment can be difficult to trace when there are fake addresses		

Table 5.2 presents the key findings of trademark protection strategies from the top pharmaceutical MNEs in Vietnam over time. This formulated theory provides a systematic and practical analysis of trademark protection strategies, and allows for the dynamic element of changes over time from the top MNEs in pharmaceutical and medicine industry in Vietnam. The three case studies (with evidence from Taisho, Abbott, and Bayer) capture the biggest pharmaceutical MNEs and allow for representativeness of substantial FDI investors throughout different stages of their activities in emerging markets like Vietnam. In response to the threats of weak IPR systems from emerging market host countries, pharmaceutical MNEs can equip themselves by following this mitigation strategy in order to protect their trademarks from different degrees of risk from grey market of parallel trading, to black market of counterfeiting (see Chapter 3 Literature Review for grey market and black market of pharma industry).

These representative cases adopt different trademark protection strategies throughout different stages of their activities in the host country, and the evidence shall be discussed in detail in the next section. These MNEs faced different types of imitators from those who copied their trademarks and added to their own brand names to pure counterfeiting of MNEs' trademarks. The findings are based on available information from Taisho, Abbott, Bayer reports, and their local rivals, past archives, and relevant news on the Vietnamese articles. These three cases provide different examples of imitations and how MNEs responded, prevented, or mitigated such imitation risks over time in the host country.

3.2. Case Studies: Foreign Pharma Multinationals in Vietnam – Taisho, Abbott, and Bayer

❖ **Case 1: Taisho**

As mentioned earlier, foreign investors entered the pharmaceutical market in Vietnam by establishing a joint-venture firm with a local partner or as a wholly foreign-owned enterprise. And for Taisho, one of the Japanese leading pharmaceutical corporations, they chose joint-venture with one of the biggest domestic drug manufacture firms in Vietnam Duoc Hau Giang or Hau Giang Pharmacy (DHG) (Table 5.3). On 4 July 2016, Taisho acquired 24.5% of DHG's shares, and became the biggest shareholder of this local Vietnamese drug manufacturer firm (Vietnam News, 2016). Taisho group has a total asset of $6.9 billion and net revenue in 2017 of $2.5 billion, with 34 subsidiaries and 4 affiliates across the world (Taisho, 2017). Taisho Vietnam Company was established in Vietnam since 1999 as a subsidiary of its parent company Taisho Pharmaceutical Group from Japan. The manufacturing factory was built in Khanh Hoa province which is in the south-central coast of Vietnam. Taisho's core brands in the Vietnamese market includes Lipovitan, Counterpain, Ezerra, Ellgy, Vitacilina (Taisho, 2017).

Table 5. 3 List of biggest domestic pharmaceutical firms in Vietnam.
Source: Angelino et al. (2017).

Company	***Revenue Growth (2009-2013) (%)***	***Profit Growth (2009-2013) (%)***	***Total Turnover (2013) (mil. USD)***
Duoc Hau Giang Pharmacy	19.2	13.1	168
Traphaco	22.5	35.3	80
Domesco	7.6	8.9	68
IMEXPHARM	6.3	-2	40
OPC	11	3.3	27
Cuu Long Pharmacy	4	-14.4	32
SPM	14.7	-27.2	21
Pharmedic	16.5	23.9	17
Phong Phu Pharmacy	19.3	n.a.	5

Taisho started a **Defensive Weapon** in the early stage between 1999 and 2000. In line with the OLI paradigm discussed earlier, Taisho possessed O_p advantages which were sufficient for its survival and growth in Vietnam in the early stage. Before the internationalisation into Vietnam, Taisho already had a strong R&D capability profile with wide range portfolio of different pharmaceutical products covering broad segments back home, and experienced in IPR protection, especially with its trademarks. The Japanese firm was aware of its brand image when it associated with the firm's reputation, so Taisho's first trademark of an eagle logo design was registered and adopted in 1955 (see Appendix G) (Taisho, 2018). After entering Vietnam, Taisho stood out with different ranges of its signature pharmaceutical products like the Lipovitan series as a steppingstone to become the expert in the manufacture and sales of energy drinks now in Vietnam. In fact, the defensive weapon strategy (specifically *Acquiring strategy*) has been adopted by Taisho even outside of Vietnam and in other emerging markets such as Philippines. For instance, the Japanese giant acquired intangible brand assets including trademarks for the anti-inflammatory analgesic Flanax® in Philippines from the Roche Group (Taisho, 2018). This acquiring strategy implies Taisho's trademark protection strategy, specifically, for preventing the potential imitation threat from its rival brand.

From 2001, Taisho moved toward a **Networking Mean** strategy for marketing its trademarks in Vietnam. This is precisely when the WIPO system was introduced in the host country, Vietnam. Taisho was able to benefit from the use of a single international classification system, independent language, terminology or jargon, and the simplified search process can also be applied to Vietnam that helped enhancing the firm's reputation in that market. It fostered Taisho's O_a advantages, especially given that the setting time of international economic integration in Vietnam had just started ticking. This was done by seeking support from the local government to improve its 'Bain- and Hymer-type advantages' in distribution networks and

privileged access to financial capital. Essentially, the importance of networking mean strategy played a role in Taisho's successful internationalisation in Vietnam during the periods that were characterised by fragmented markets. An example for that is when the Vietnamese government had relaxed the previous restrictions of foreign ownership limit from 49% to 100%. Taisho has benefited directly from this and has been under discussion to raise its foreign ownership further to 50.78% with the local DHG firm (Vietnam News, 2019). This is an indication of *Government hand energy* in the second stage of Taisho.

Nevertheless, the **Protective Strategy** has been Taisho's core survival strategy in Vietnam over time. To mitigating risks, Taisho has a rigorously internal quality control system managed by the 'Quality Assurance Management Section' department which constantly monitors products manufactured and distributed of Taisho Pharmaceutical Group companies in Japan and oversea markets like Vietnam for quality assurance and safety management (Taisho, 2017). Furthermore, the Japanese giant also constructed the Groupwide quality assurance framework to guarantee products, services and information that are reliable to all consumers. In Vietnam, Taisho has effective labelling and featured packaging aside from the quality controls in order to protect its trademarks from the local rivals, especially with its core healthy energy drinks Lipovitan products through its own manufacturer and distributor Taisho Vietnam, the oversea subsidiary of Taisho Pharmaceutical Group. This is an illustration of *Monitoring and private eye* approach. So, these risk management strategies have helped Taisho to prevent and mitigate the trademark counterfeits and imitation issues in Vietnam.

- **Case 2: Abbott**

The US decision to lift the embargo in Vietnam on 11 July 1995 had led to the internationalisation of many American multinationals into the country, and the US-based

multinational healthcare Abbott was one of them. Abbott established in Vietnam in 1995, and similarly to Taisho, Abbott chose the joint-venture route with the third largest local pharmaceutical manufacture firm in Vietnam – Domesco (Table 5.3). Abbott's subsidiary, CFR International SpA, transferred its entire ownership of 51.69% to its parent company Abbott in September 2016 and so Abbott become Domesco's largest shareholder (BrandsVietnam, 2017). In 2016, Abbott obtained $434 million net revenue in Vietnam, increasing by 31% compared to the previous year's, making Vietnam ranked number 9 (even higher than markets like the UK, Canada, Brazil, or Italy) in the list of highest revenue markets for Abbott (Abbott, 2016). The American giant's leading brands include Brufen® (ibuprofen brand), Klacid® (macrolide antibiotic), and Ensure® (nutrition powder) (Abbott, 2020).

First, Abbott began the **Defensive Weapon** in Vietnam in the 90s with its ability to keep strategic assets inimitable and strong capabilities of IP differentiation by adopting local trademark legislations. Specifically, the NOIP recorded 238 trademark registrations made by the American multinational after its internationalisation into Vietnam until 1999; while its foreign rival Taisho had a modest registration of only 15 trademarks in the early days. Abbott's signature trademark logo of a letter "a" next to the brand name (Appendix H) was important to indicate the reputation of the company through its varied ranges of pharmaceutical products in Vietnam. These approaches made by Abbott followed the *Commercial settlement strategy* in the initial stage in Vietnam. Secondly, similar to Taisho, Abbott moved towards the second stage of trademark protection strategy after 2001 with the **Networking Mean** strategy. Abbott invested heavily on television advertising and advertising on other digital channels for brand building to educate consumers for buying authentic products and stress the brand's quality standards. One of the *Consumer Campaigns* was a short film called "Khi ba mẹ nói dối" ("When parents tell lies") launched in 2015 to promote Abbott's Ensure Gold (nutrition powder

for the elders). The campaign was a success for Abbott in the context of rising local competition as the video went viral and the sales of Ensure jumped over 20% after the consumer campaign (BrandsVietnam, 2015). Finally, Abbott's **Proactive Strategy** can be demonstrated through its persistent role over time in Vietnam via *contractual supervision, narrowing price gap, and monitoring and private eye*. In fact, the American giant carried out regular checks of distribution partners' activities for its products to prevent imitation with lower prices gaps, and to take immediate legal actions with evidence for protecting its trademark. For instance, Abbott sent a letter to the Ministry of Industry and Trade, and Ministry of Health in Vietnam in 2013, accusing a local firm Song Nam that had fabricated documents to register imports and sell Abbott's Ensure products in Vietnam (this resulted in the Vietnamese authorities' bans later on such parallel imports) (Vietnam Investment Review, 2013). At the same time, Abbott mitigated the risks via advertising and recommended that consumers only buy genuine certificated Abbott products from its exclusive and certified distributor in Vietnam, 3A Nutrition, which can be identified through a "3A label" on the top and the side of the bottles - in order to maintain its control of distribution in Vietnam (Vietnam Investment Review, 2013).

- **Case 3: Bayer**

Bayer HealthCare Pharmaceuticals is another leading multinational in the pharmaceutical industry. The German giant started in Vietnam in 1994 (the earliest among the three cases investigated) by forming a joint-venture with the local partner Bayer Agritech Saigon, and by 2003 it merged with Aventis CropScience into Bayer Vietnam Ltd. which was then a 100% Bayer subsidiary (Bayer, 2020). Bayer's factories were built in Dong Nai province and Binh Duong province which belong to the Southeast region of Vietnam. Although Bayer focuses on prescription drugs, especially on cardiovascular and specialised therapies or diagnostic imaging of cancers, the multinational also includes a consumer healthcare division to sell over-

the-counter (OTC) drugs (Bayer, 2020). For example, Bayer's best-selling products include Xarelto, Aspirin, Claritin, and Nexavar (Bayer, 2017).

At the beginning, the **Defensive Weapon** strategy was applied by Bayer through the approach of *Commercial Settlement* to protect its trademarks in Vietnam. Since its internationalisation in 1994, the German multinational has registered different trademarks and its core logo of "Bayer" (Appendix I) through NOIP system. However, the web domain under Bayer's name in Vietnam (www.bayer.vn) was pre-exiting before and was registered by the local printing firm Khoa Thy Ltd. (i.e., a type of 'trademark dilution'), so the pharmaceutical giant could only register the longer version of its domain name (www.bayer.com.vn) instead (BrandsVietnam, 2014; VNNIC, 2020). This linked to the issues around the 'first-to-file' trademark registration system, as the local printing firm's intention was just for profiteering from Bayer's domain name, and this could damage Bayer's reputation in Vietnam. To cope with the issue, Bayer took legal action through Invest Consult and sent a complaint letter to the Vietnam Internet Network Information Centre (an administrative body under the Ministry of Information and Communications of Vietnam) and struck financial compensation towards Khoa Thy in the second stage (VNNIC, 2020) implying networking mean strategy. As a result, the domain name disputes were sorted, and Bayer can finally use both domain web names.

Similar to the Taisho case in the second stage with **Networking Mean**, Bayer also sought the support from the local government which fostered its 'Bain- and Hymer-type' or Oa advantages in Vietnam (*Government Hand Energy*). Over time, Bayer mastered the **Proactive Strategy** by adopting a *Technical Solution* strategy. Specifically, Bayer received the Good Manufacturing Practice (GMP) certification in 2011 for consistently produced and controlled high quality product standards (Bayer, 2020). All Bayer's pharmaceutical products are labelled

and featured with the GMP certification to prevent imitation drugs from entering official channels. Simultaneously, like Abbott, Bayer also carried out *Monitoring and Private Eye* approach frequently to protect its trademarks, even outside Vietnam and in other emerging markets as the prevention strategy. For instance, the German giant combated counterfeit and illegal crop science products through the use of security features, and Bayer identified trademark violations in 2017 in China and Brazil in which it successfully asserted its legal rights (Bayer, 2017).

- **Summary and Implication:**

Overall, the three case studies of Taisho, Abbott, and Bayer demonstrate the variety of trademark protection strategies employed by the top foreign pharmaceutical multinationals that invested substantial inward FDI and created spillovers to Vietnamese pharmaceutical sector, as well as how these strategies changed over time given the political background and economic context of Vietnam over the past thirty years. Defensive weapon, networking mean, and protective strategy are the three key trademark protection strategies carried out by these MNEs in the pharmaceutical and medicines market in Vietnam, but can also be applicable for other similar ASEAN countries with relatively weak IPRs. The evidence from these three cases also implies that even in a traditional R&D intensive industries like pharmaceuticals, trademarks are just as important as patents, or even more crucial in term of IP protection strategies for MNEs to survive and compete in emerging markets, especially under the pharmaceutical and medicine sector in Vietnam. So, trademark protection should be treated as equally important as it is in patents in this industry specifically, as well as in others in general.

Furthermore, these pharma multinationals have had a successful internationalisation in the relatively challenging and weak IPR environment, but still be able to protect their trademarks through O_a and O_p advantages. As mentioned earlier from the Chapter 3, the thesis only focuses

on the role of O advantages in the context of IPRs protection as the key driver of inward FDI in Vietnam, with other elements of the OLI paradigm like the L advantages and the I advantages remain constant (ceteris paribus). The findings of this trademark protection strategies also extend the understanding of the OLI paradigm literature, and highlight that MNEs need to possess the O element (specifically Oa advantages and Op advantages) not only at the beginning of the internationalisation process, but in fact, rather evolving through time in order to cope with imitation risks in the host country.

For pharma multinationals, it is important to learn lessons from the past, but they also need to address and embrace the future trends across the world. From the 8th Annual Pharma Anti-Counterfeiting and Serialisation virtual conference 2020 on 5th March 2020 in London, speakers including the top pharma CEOs and managers like Abbott, GSK, Bayer, Sanofi, Roche, and Bristol-Myers Squibb addressed new approach of coping with counterfeiting in pharmaceutical industry. For instance, MNEs can now adopt serialisation, extra securities on packaging, and tracking of medicines using unique identifiers like barcodes to increase the interoperability technologies and advance the traditional track and trace systems. The Artificial intelligence algorithms can also assist to crack down on fake pharmaceutical products throughout this process. Globally, firms have been employing these extra steps of innovative technologies to detain illegitimate drugs from supply chains for protecting their trademarks.

The world has become more and more competitive, uncertain, and risky, in order to stay and cope with uncertainties and succeed in high-risk environments where legal systems are not yet adequately prepared, MNEs need to carry out their own strategic risk management in foreign markets to prevent and to mitigate the IPR infringement risks, specifically to counter the imitation of trademarks. Defensive weapon, networking mean, and protective strategy can be useful trademark protection strategies over time for other MNEs investing in Vietnam.

4. Foreign Knowledge Transfer and Local Learning in Vietnam

4.1. Empirical Evidence: The Origins of Knowledge Transfers & Local Learning in Vietnam

4.1.1. Descriptive Statistics

In order to investigate the origins of foreign knowledge transfer and local learning from pharmaceutical industry in Vietnam, this study focuses on the first 15 years (1984-1998) of trademark registrations to the National Office of Intellectual Property in Vietnam after the war periods, as this period of analysis can demonstrate the initial foreign and local trademarking fluctuations. Another way to explain for this period of analysis is by looking at the overall trends of trademark applications in Vietnam over time. Figure 5.8. demonstrates the evolutions of the overall number of trademark applications by foreign and local firms from 1984 to 2016.

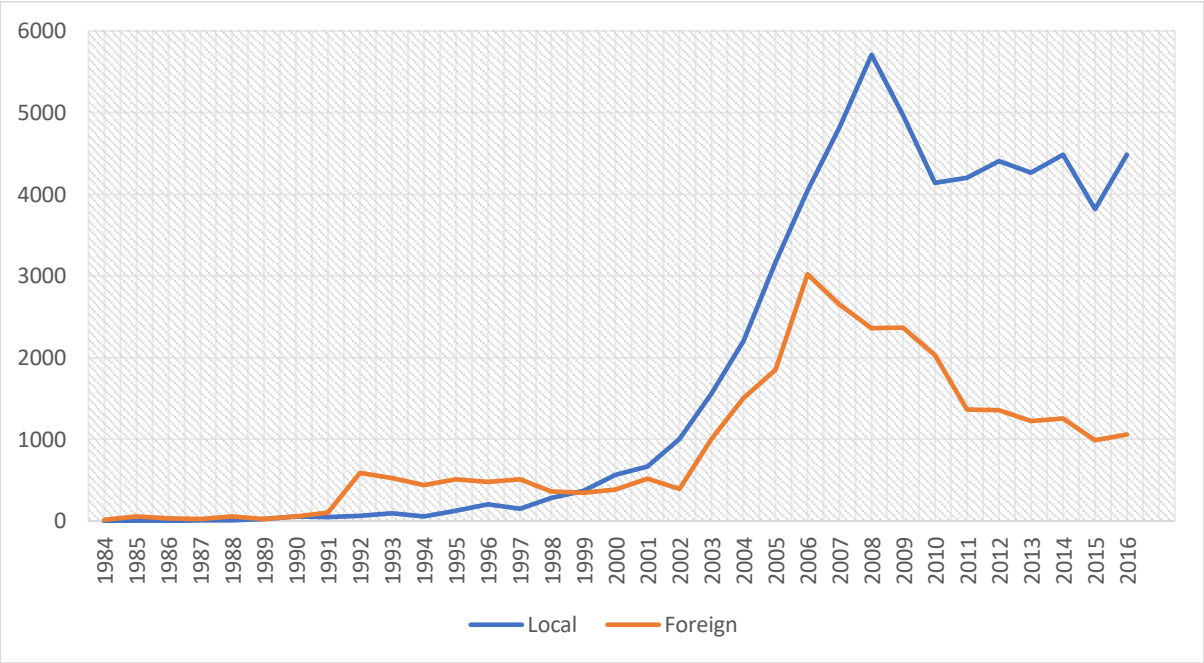


Figure 5. 8 Class 05 trademark applications in Vietnam: Foreign vs. Local (1984-2016).
Source: NOIP (2018).

From this figure 5.8, we observed the evolution of the increasing trends in both local and foreign trademarking in Class 05 over time. Notably, by the end of 1998 and the beginning of 1999 marks the crucial turning point of a consistently rise in the local trademarking activities at a faster pace more than the foreign trademark applications, up until the present day. This

leads to the research question 3's period of analysis in Vietnam, starting from 1984 (when there was the first 15 foreign trademarks registered in Vietnam), and finishing by 1998 (just by the turning point). Figure 5.9 can illustrate the trademarking activities by the foreign and the local better by looking closer into the period of analysis 1984-1998.

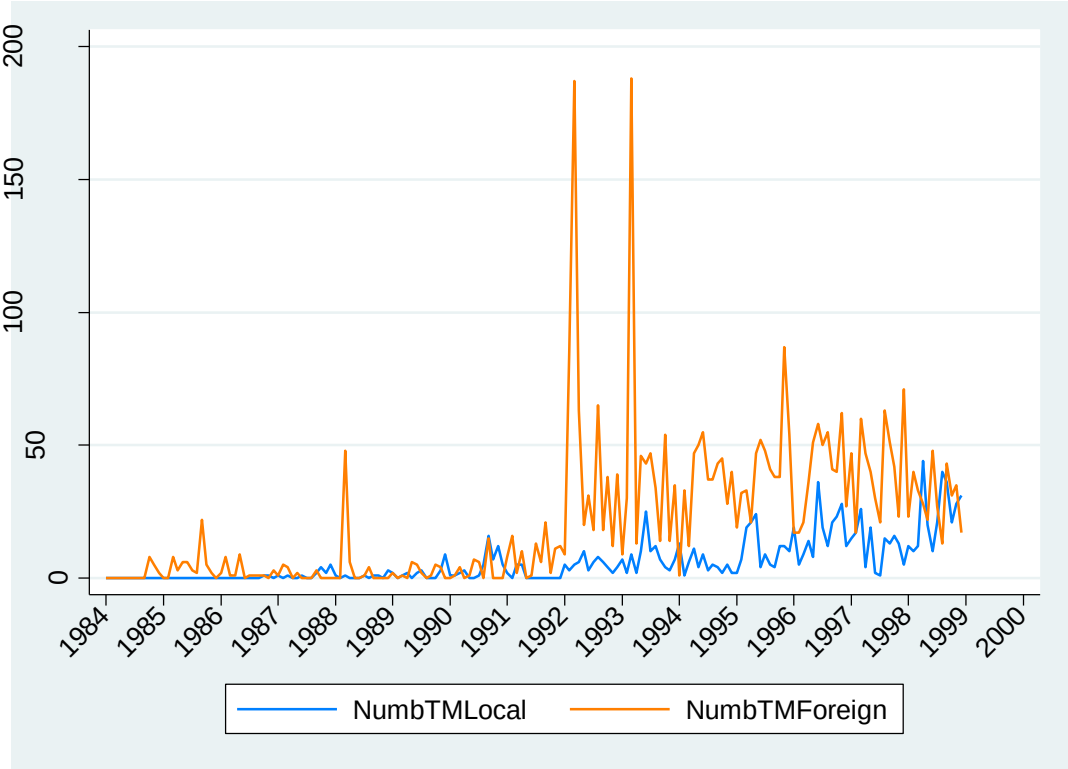


Figure 5. 9 The first 15 years of Class 05 trademark applications in Vietnam: Foreign vs. Local (1984-1998). *Source: NOIP (2018).*

Figure 5.9 presents the fluctuations in details of the overall number of trademark applications in class 05 pharmaceutical and medicine by foreign and local firms in the period of analysis from 1984 to 1998 in Vietnam. Looking into these volatilities can help measuring the initial foreign knowledge transfers and local learning via trademarking activities in Vietnam.

The following table 5.4 shows the summary of descriptive statistics for all the variables used in the regressions to test hypotheses 1 to 4 and helps for a better understanding of the dataset.

Table 5. 4 Summary of descriptive statistics. *Source:* Created by the author.

Variable	*Obs*	*Mean*	*Std. Dev.*	*Min*	*Max*
Numb TM Local	180	6.1333	8.5993	0	44
Numb TM Foreign	180	20.7388	27.3216	0	188
F-L Licensing	180	0.1555	0.9020	0	9
F-F Licensing	180	0.8944	4.0048	0	37
L-L Licensing	180	0.0055	0.0745	0	1
L-F Licensing	180	0.0166	0.2236	0	3
Africa Region	180	0.0500	0.2647	0	2
Asia Pacific Region	180	7.2444	9.9729	0	56
Europe Region	180	7.4777	9.6128	0	42
North America Region	180	5.9555	12.7742	0	118
South Latin America Region	180	0.1055	0.5441	0	6
Home Region	180	6.0388	8.6038	0	44
Product-Specific Group 1	180	0.4055	1.1708	0	7
Product-Specific Group 2	180	0.9944	1.8805	0	13
Product-Specific Group 3	180	0.2833	0.6539	0	3
Product-Specific Group 4	180	0.6666	1.6646	0	14
Product-Specific Group 5	180	1.5388	2.7490	0	22
Product-Specific Group 6	180	0.8888	0.3551	0	3
Product-Specific Group 7	180	2.4611	3.6910	0	22
Product-Specific Group 8	180	0.2444	0.6396	0	4
Product-Specific Group 9	180	0.1444	0.4622	0	3
Product-Specific Group 10	180	0.6222	1.5066	0	13
Product-Specific Group 11	180	0.0500	0.2427	0	2
Product-Specific Group 12	180	0.9833	2.0672	0	11
Product-Specific Group 13	180	0.5888	1.4212	0	13

Product-Specific Group 14	180	0.3166	0.9122	0	7
Product-Specific Group 15	180	0.4055	1.0554	0	8
Product-Specific Group 16	180	0.4222	1.1863	0	12
Product-Specific Group 17	180	0.7722	1.4331	0	7
Product-Specific Group 18	180	0.9388	1.8434	0	11
Product-Specific Group 19	180	0.1333	0.4534	0	4
Product-Specific Group 20	180	0.9722	1.7188	0	11
Product-Specific Group 21	180	0.7333	1.3395	0	7
Product-Specific Group 22	180	0.3833	1.3423	0	12
Product-Specific Group 23	180	0.1333	0.4774	0	3
Product-Specific Group 24	180	0.6888	1.9152	0	19
Product-Specific Group 25	180	1.7888	2.7805	0	12
Product-Specific Group 26	180	0.5555	0.2937	0	3
Product-Specific Group 27	180	0.3388	0.8266	0	6
Product-Specific Group 28	180	1.4888	2.0994	0	10
Product-Specific Group 29	180	0.7833	1.3506	0	6
Product-Specific Group 30	180	0.0777	0.3073	0	2
Product-Specific Group 31	180	0.0833	0.3149	0	2
Product-Specific Group 32	180	0.0500	0.3040	0	3
Product-Specific Group 33	180	0.4888	1.0329	0	5
Product-Specific Group 34	180	0.1666	0.6558	0	6
Product-Specific Group 35	180	0.2388	0.5919	0	3
Product-Specific Group 36	180	0.8000	1.5728	0	10
Product-Specific Group 37	180	0.1333	0.4409	0	3
Product-Specific Group 38	180	0.1944	0.6262	0	4
Product-Specific Group 39	180	0.1388	0.4699	0	3
Product-Specific Group 40	180	2.6111	3.8814	0	22
Product-Specific Group 41	180	0.2055	0.6136	0	4
Product-Specific Group 42	180	0.4611	0.9992	0	6
Product-Specific Group 43	180	0.2055	0.6825	0	6
Product-Specific Group 44	180	1.7944	3.9390	0	26
Product-Specific Group 45	180	0.1722	0.5267	0	3

The descriptive statistics of all variables that have been used in the thesis are summarised in table 5.4. This study draws on all firm-level trademark registrations data in Vietnam from class 05 pharmaceutical and medicine industry between 1984 and 1998, with a total of 4,943 single trademark registrations at monthly level data, and so the number of observations for the regressions are N=180 (time points of observation is calculated as 15 years x 12 months).

From table 5.4, it is observed that the standard deviation of all the variables is much more than the mean value of each variable. This implies the use of a vast range of data series for each variable and rightly so for the case of panel data. Since this is count data with a highly right skewed distribution, the minimum value is always 0 implying no trademark has been registered for that specific month and year.

The highest number of trademark registrations by foreign applicants is 188 trademarks (in March 1993), while by local applicants is 44 trademarks (in April 1998). In terms of licensing knowledge flows, on average, the number of licensing trademarks is the highest for the flow from foreign to foreign (F-F; mean = 0.894), followed by the flow from foreign to local (F-L; mean = 0.155), then flow from local to foreign (L-F; mean = 0.016), and the lowest is for the flow from local to local (L-L; mean = 0.005).

Similarly, among different regions by foreign applicants, on average the highest number of filling trademarks is from Europe, then Asia, followed by North America, and South Latin America is the lowest mean. In terms of product-specific groups among 45 groups of pharmaceutical and medicine products registered in class 05, on average, group 40 Vitamin supplements and energy drinks receives the highest number of trademark applications in

Vietnam, followed by group 7 which is Pesticide products, and group 44 Veterinary medicine, then group 25 Gastroenterology. This is confirmed by the illustration in figure 5.10 below.

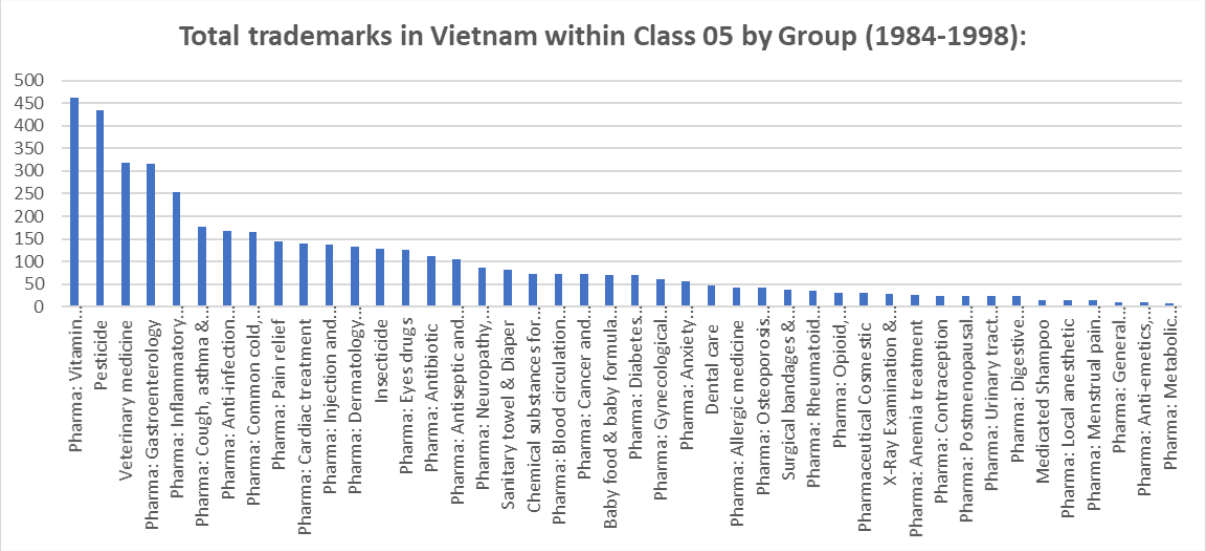


Figure 5. 10 Total Class 05 trademark applications in Vietnam by Product-specific Groups (1984-1998). *Source: NOIP (2018)*.

Figure 5.10 presents the total trademark applications for each product-specific groups of the trademark class 05 pharmaceutical and medicine from the initial 15 years in Vietnam. The next section shall provide the evidence of hypothesis testing and regression results for the final research question.

4.1.2. Hypothesis Testing and Regression Results

By employing Poisson Pseudo Maximum Likelihood (PPML) model via statistical software Stata MP (v13), the overview of the results for all regressions are described as follows. Table 5.5 presents the regression results for hypothesis 1, hypothesis 2, and hypothesis 3.

Three models are tested for ***hypothesis 1 (model 1a, 1b, 1c)*** according to the time taken (moving-average of 12-month, 6-month, and a quarter 3-month correspondingly) for the foreign trademarking activities to influence on the local applications. This is consistent with the prior research to take into account of timing effect. Moreover, the use of moving-average helps one step further from using lagged value only, because it can calculate the average values of the lagging periods and filter out the noises from random fluctuations as well as adding the stabilities into the series. Parameterizations of AIC and BIC measurements are employed for the purpose of assessing comparative fit, checking model validations and verifying the robustness testing, and choosing the best model output. From here, the model of 12-month moving-average is determined and is subsequently used for the remaining models of hypothesis 2 and hypothesis 3.

Next, different models containing four types of licensing knowledge flows are incorporated and run for ***hypothesis 2 (model 2a, 2b, 2c, 2d)***, with the focus on the effect of direct and indirect knowledge transfers tested for hypothesis 2a and 2b. The cumulative sum is taken into account for each licensing knowledge flow in order to allow for time-effect of continuous monitoring of trademark licensing.

Furthermore, regional factors are also incorporated into the full set of variables for the ***hypothesis 3*** according to each type of licensing knowledge flows. The full regressions are presented in ***model 3a, 3b, 3c, 3d***.

For ***hypothesis 4***, table 5.6 constructs the regression results for each product-specific groups of trademark class 05 pharmaceutical and medicine industry, while table 5.7 shows the number of abnormal values or the outliers based on Pearson Standardized Residuals from these PPML

regressions. All the hypotheses tested will be recalled and the highlights of all regression results for each hypothesis will be reported below.

INSERT TABLE 5.5 ABOUT HERE

Hypothesis 1: ***Trademarking by foreign firms can increase the propensity to trademark among local applications at the initial period.***

In order to test the hypothesis 1, model 1a, 1b, 1c regress the count number of local trademark applications against the moving-average of number of foreign trademark applications for 12-month, 6-month, and a quarter 3-month respectively. These regressions are employed for a comparison purpose as explained in section 4.4 of chapter 4. The smallest values of the AIC and the BIC indicate model 1a as the best model to select. The model 1a indicates a statistically significant result at 1% level, with a subsequent 12 months on average for the foreign trademarking activities to positively influence on the local applications. Specifically, for every one extra unit of trademark filled by foreign firms, after 12 months, the number of the Vietnamese trademark applications is increased by 5.36% on average. This result supports the H1 as trademarking by foreign firms can increase the propensity to trademark among domestic applications, and the finding is also consistent with those of the previous studies in the case of patents (Hu and Jefferson, 2009; Hu, 2010; Thoma, 2013; Dang and Motohashi, 2015).

Hypothesis 2: ***Trademark licensing knowledge flows can increase the propensity to trademark among local applications at the initial period.***

***H2a:** The F-L type of trademark licensing can increase the propensity to trademark among local applications, indicating the direct foreign knowledge transfer and intentional local learning at the initial period.
***H2b:** The F-F type of trademark licensing can increase the propensity to trademark among local applications, indicating the indirect foreign knowledge transfer and unintentional local learning at the initial period.

Regarding the hypothesis 2, four models including four types of trademark licensing knowledge flows are incorporated into model 1a, and the results of knowledge transfers and local learning are shown in model 2a and 2b. Each licensing knowledge flow is in the form of total cumulative sum for allowing the time-effect of continuous monitoring of trademark licensing. Overall, trademark licensing knowledge flows across model 2a to model 2d share the similarity in having the positive effect on the local trademarking activities at 1% significant level. Let's now look closer into our model 2a and model 2b for addressing H2a and H2b. It is observed from model 2a and model 2b that (controlling for the number of foreign trademark application variable), for each unit increase on the cumulative sum of trademark licensing flow from foreign to local (F-L), and from foreign to foreign (F-F), the number of trademark applications filed by local grows by 3.91%, and 0.96% respectively (significant at 1% level). This implies a stronger effect of direct foreign knowledge transfer (intentional local learning) than indirect foreign knowledge transfer (unintentional local learning) to the Vietnamese trademark applicants. Thus, these results support H2a, H2b, and the overall hypothesis 2, as well as confirm the previous findings from Almodóvar, Nguyen, and Verbeke (2021); Fisman, Branstetter, and Foley (2004); and Yasar and Paul (2007) in the case of patents.

Hypothesis 3: ***Combining licensing knowledge flows and foreign trademark applications with regional factors consideration can increase the propensity to trademark among local applications at the initial period.***

Similarly, hypothesis 3 with four models (3a, 3b, 3c, 3d) are based on hypothesis 2 models but adding extra regional factor variables (Africa, Asia Pacific, Europe, North America, and South America) into consideration. The empirical evidence of regional factor supports hypothesis 3 and suggests that the main effects from hypotheses 1 and 2 are unchanged in terms of sign (positive effect) or significance (1% level), but reveals some interesting facts regarding the trademarking activities by each region (although they are not statistically significant). For instance, both model 3a and model 3b observes that the increase in the Vietnamese trademarking activities is the results of an increase on the average of the foreign applicants 12 months before, and an increase in the cumulative sum of trademark licensing knowledge flow F-L or F-F, as well as an increase in the number of trademark applicants from Europe and North America, but a reduction for those from Africa, Asia Pacific, and South Latin America. This implies that the (direct or indirect) knowledge transfers are more likely to originate from Europe and North America trademark applicants in which led to the rise in local applicants.

INSERT TABLE 5.6 ABOUT HERE

INSERT TABLE 5.7 ABOUT HERE

Hypothesis 4: ***Abnormal peaks of pharmaceutical trademarking tend to cluster in product-specific groups with soft knowledge rather than hard knowledge at the initial period.***

The hypothesis 4 is empirically tested using two-steps similarly to Lopes and Guimarães (2014), by first regressing the PPML model for each product-specific group from trademark class 05 pharmaceutical and medicine industry in Vietnam (table 5.6), then calculating the Pearson standardized residuals (PSR) for each of these regressions in order to statistically identify the abnormal peaks in trademarking of each group (table 5.7). There are 45 product-specific groups in total (appendix E) and can be generally understood as two types: either the *soft knowledge type* (more imitable, highly explicit knowledge, less complex and more generic like over-the-counter drugs); or the *hard knowledge type* (less imitable, highly tacit knowledge, more complex like prescription only drugs). Table 5.6 presents the regression models with the number of trademark applications in each product groups from a quadratic time trend, and the number of all other trademarks filled for that given year and month to capture the irregular movements of trademarking activities in pharmaceutical and medicine industry in which affects all groups alike. From these PPML regression models, their PSR results can be identified, and then the total number of such outliers for each group is summarised in table 5.7 in order to detect the which types of pharmaceutical products received the highest tendency of trademark applications. It should be noted that if the absolute value of PSR > 2.5, then it is considered an outlier or abnormal value which captures the irregular movement of the trademark application series.

The results from table 5.7 shows the evidence of these outliers for each group in order, with the top 10 highest abnormal peaks are as follows: Group 7 (*Pesticide*), Group 4 (*Insecticide*), Group 40 (*Vitamin supplements and energy drinks*), Group 20 (*Cough, asthma and chronic bronchitis*), Group 2 (*Chemical substances for drugs*), Group 9 (*Anemia treatment*), Group 12 (*Anti-infection drugs*), Group 18 (*Common cold, flu and fever*), Group 36 (*Pain relief*), and Group 44 (*Veterinary medicine*). Note that almost all these top 10 groups belong to the soft knowledge type which is more imitable products or more generic like over-the-counter drugs (rather than the hard knowledge type, e.g., cancer drugs, etc…). Thus, the results indicate that abnormal peaks of pharmaceutical trademarking cluster in product-specific groups with soft knowledge rather than hard knowledge type, and so supports the hypothesis 4. The trademark activities in some of these groups are selected for illustrations of their abnormal trends over the initial period in Vietnam (figure 5.11), and in-details for individual medicine groups filtered by foreign vs. local applicants (such as figure 5.12, figure 5.13, figure 5.14, figure 5.15).

INSERT FIGURE 5.11 ABOUT HERE

INSERT FIGURE 5.12, 5.13, 5.14, 5.15 ABOUT HERE

Table 5. 5 PPML Regression Results for H1, H2, H3. *Source:* Created by the author.

VARIABLES	***HYPOTHESIS 1***			***HYPOTHESIS 2***				***HYPOTHESIS 3***			
Dependent variable =*Numb TM Local*	Model 1a	Model 1b	Model 1c	Model 2a (H2a)	Model 2b (H2b)	Model 2c	Model 2d	Model 3a	Model 3b	Model 3c	Model 3d
Numb TMForeign_MA	0.0536***	0.0367***	0.0232***	0.0471***	0.0419***	0.0537***	0.0478***	0.0449***	0.0403***	0.0508***	0.0448***
	(0.0048)	(0.0037)	(0.0038)	(0.0053)	(0.0055)	(0.0052)	(0.0053)	(0.0061)	(0.0062)	(0.0062)	(0.0061)
LICENSING FLOWS:											
F-L Licensing_Cul				0.0391***				0.0395***			
				(0.0070)				(0.0068)			
F-F Licensing_Cul					0.0096***				0.0099***		
					(0.0015)				(0.0015)		
L-L Licensing_Cul						1.2345***				1.2106***	
						(0.1942)				(0.2101)	
L-F Licensing_Cul							0.2316***				0.2448***
							(0.0650)				(0.0661)
REGIONS:											
Africa								-0.1684	-0.2437	-0.1770	-0.2394
								(0.4028)	(0.4452)	(0.3641)	(0.4431)
Asia Pacific								-0.0090	-.0106	-0.0001	-0.0084
								(0.0080)	(0.0080)	(0.0083)	(0.0083)
Europe								0.0158	0.0130	0.0114	0.0180
								(.0105)	(0.0105)	(0.0099)	(0.0112)
North America								0.0026	0.0064	-0.0002	0.0020
								(0.0053)	(0.0054)	(0.0054)	(0.0057)
South Latin America								-0.1036	-0.1588	-0.0610	-0.1257
								(0.2833)	(0.3189)	(0.2033)	(0.3049)
Constant	0.2833	0.7851***	1.1735***	0.2191	0.1938	0.1542	0.2771	0.1970	0.1715	0.1390	0.2556
	(0.1859)	(0.1559)	(0.1439)	(0.1883)	(0.1933)	(0.1954)	(0.1836)	(0.1931)	(0.1991)	(0.1985)	(0.1868)
Observations	180	180	180	180	180	180	180	180	180	180	180
Pseudo R2	0.3723	0.2753	0.1910	0.4575	0.4710	0.4520	0.4208	0.4701	0.4863	0.4579	0.4364
Akaike's AIC	1416.561	1634.924	1824.553								
Bayesian's BIC	1422.947	1641.309	1830.939								

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table 5. 6 PPML Regression Results for H4. *Source:* Created by the author.

HYPOTHESIS 4

Product Group k	***t***	t^2	N_{kt}	***Constant***	***Product Group k***	***t***	t^2	N_{kt}	***Constant***
Grp 1	0.0437	-0.0001	0.0181***	-4.6177**	***Grp 24***	0.0937***	-0.0003**	0.0094**	-7.1200***
Grp 2	0.0177	0.0000	0.0085***	-2.7391**	***Grp 25***	0.0266**	-0.0000	0.0153***	-2.3187***
Grp 3	0.0908***	-0.0002**	0.0159***	-8.3796***	***Grp 26***	0.0588	-0.0001	-0.0015	-7.2675***
Grp 4	0.0063	0.0000	0.0103***	-1.5293	***Grp 27***	0.1655***	-0.0005***	0.0124***	-14.004***
Grp 5	0.0373***	-0.0001***	0.0115**	-2.1602***	***Grp 28***	0.0497***	-0.0001***	0.0067***	-2.5067***
Grp 6	0.2000***	-0.0008**	0.0055	-13.951***	***Grp 29***	0.0833***	-0.0002***	0.0105***	-6.3838***
Grp 7	0.0503***	-0.0001***	0.0102***	-2.4344***	***Grp 30***	0.0061	0.0000	0.0033	-3.3753***
Grp 8	0.1761**	-0.0006**	0.0135***	-13.959***	***Grp 31***	-0.0098	0.0001	0.0165***	-3.6504***
Grp 9	-0.0346*	0.0002**	0.0170***	-2.4050***	***Grp 32***	0.0922	-0.0003	0.0082	-8.4043
Grp 10	0.0991***	-0.0003**	0.0176***	-7.4731***	***Grp 33***	0.0354	-0.0000	0.0113***	-4.0780***
Grp 11	0.1283	-0.0003	0.0246***	-13.977*	***Grp 34***	0.1289	-0.0003	0.0101*	-12.194
Grp 12	0.0815***	-0.0002**	0.0170***	-6.2044***	***Grp 35***	0.0355	-0.0000	0.0174***	-5.4727***
Grp 13	0.1562***	-0.0006***	0.0160***	-10.344***	***Grp 36***	0.0317*	-0.0000	0.0177***	-3.2761***
Grp 14	0.0339**	-0.0000	0.0215***	-4.7384***	***Grp 37***	0.0335	-0.0000	0.0190***	-5.9059**
Grp 15	0.0837**	-0.0003*	0.0184***	-6.9643***	***Grp 38***	0.0273	-0.0000	0.0150***	-3.8704***
Grp 16	0.0358	-0.0001	0.0194***	-4.3412***	***Grp 39***	-0.0058	0.0000	0.0207***	-3.5772**
Grp 17	0.0221	-0.0000	0.0162***	-2.9524***	***Grp 40***	0.0484***	-0.0001***	0.0106***	-3.0201***
Grp 18	0.0187	-0.0000	0.0164***	-2.8126***	***Grp 41***	0.0901**	-0.0003**	0.0197***	-8.5479***
Grp 19	0.0836**	-0.0002*	0.0190***	-8.9940***	***Grp 42***	0.0579***	-0.0002**	0.0083***	-4.7177***
Grp 20	0.0280	-0.0000	0.0124***	-2.7284***	***Grp 43***	0.0958*	-0.0003*	0.0091**	-7.3179**
Grp 21	0.0437*	-0.0001	0.0142***	-3.9376***	***Grp 44***	0.1668***	-0.0006***	0.0101***	-10.294***
Grp 22	0.3014**	-0.0010**	0.0053	-22.621***	***Grp 45***	0.0531	-0.0001	0.0082*	-5.9627**
Grp 23	0.0285	-0.0001	0.0165***	-4.2038**					

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table 5. 7 No. of Outliers (based on Pearson Standardized Residuals) of each Product Group for H4. *Source:* Created by the author.

HYPOTHESIS 4

Product Group	No. of Outliers	Product Group	No. of Outliers
Group 7	17	*Group 28*	7
Group 4	14	*Group 43*	7
Group 40	13	*Group 14*	6
Group 20	12	*Group 31*	6
Group 2	11	*Group 32*	6
Group 9	11	*Group 35*	6
Group 12	11	*Group 38*	6
Group 18	11	*Group 39*	6
Group 36	11	*Group 10*	5
Group 44	11	*Group 11*	5
Group 5	10	*Group 13*	5
Group 25	10	*Group 15*	5
Group 29	10	*Group 19*	5
Group 30	10	*Group 23*	5
Group 42	10	*Group 37*	5
Group 17	9	*Group 41*	5
Group 33	9	*Group 6*	4
Group 45	9	*Group 8*	4
Group 1	8	*Group 26*	4
Group 24	8	*Group 34*	4
Group 16	7	*Group 27*	3
Group 21	7	*Group 3*	2
Group 22	7		

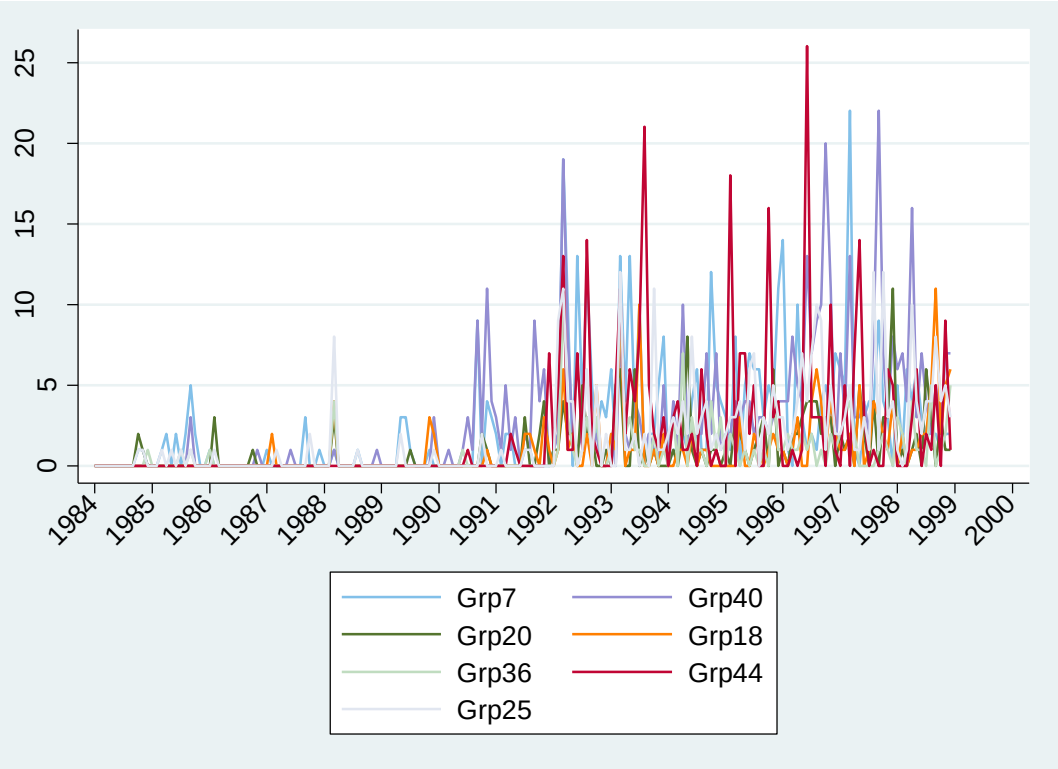


Figure 5. 11 Selected top groups with abnormal trademark trends in Vietnam (1984-1998). *Source:* Created by the author.

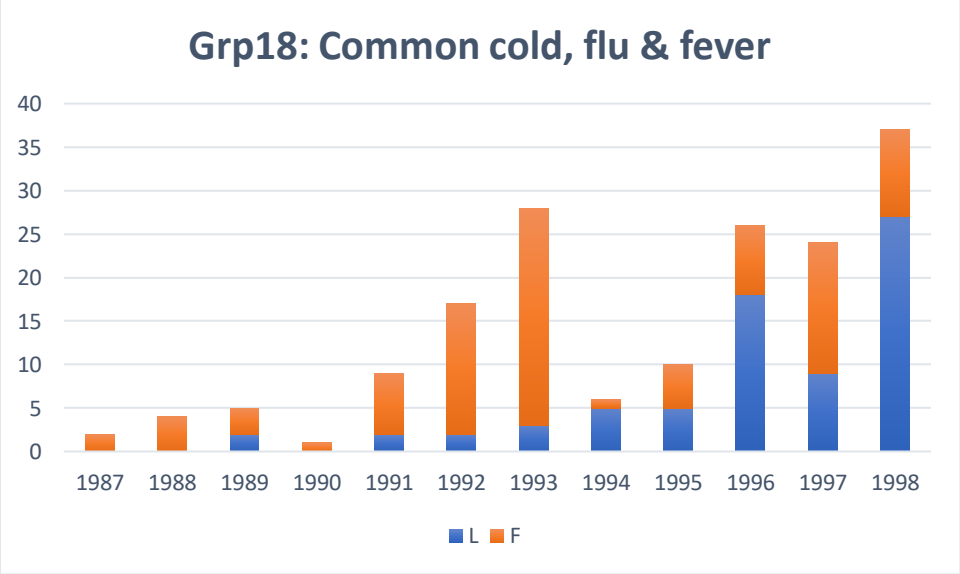


Figure 5. 12 Trademark trend of Group 18: Foreign vs. Local. *Source:* Created by the author.

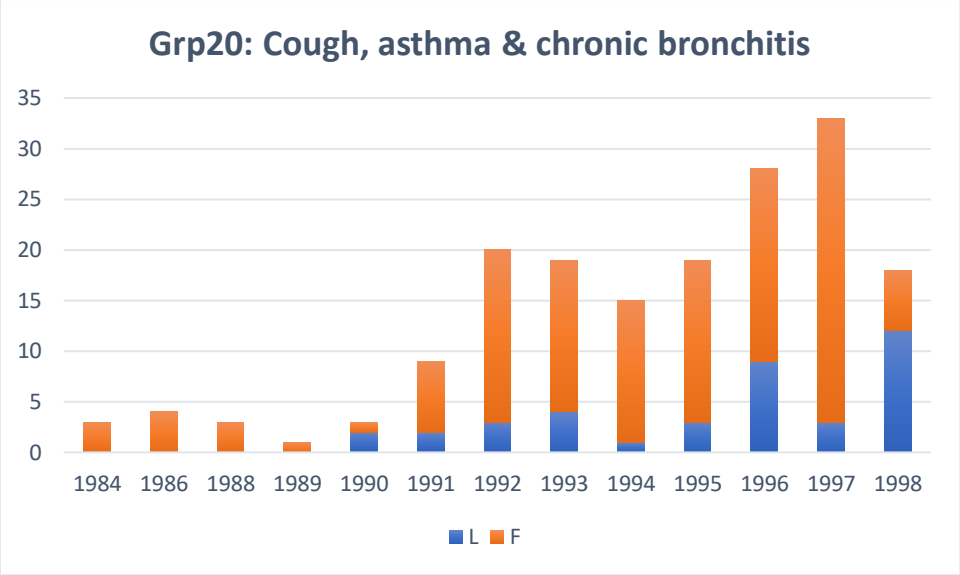


Figure 5. 13 Trademark trend of Group 20: Foreign vs. Local. *Source:* Created by the author.

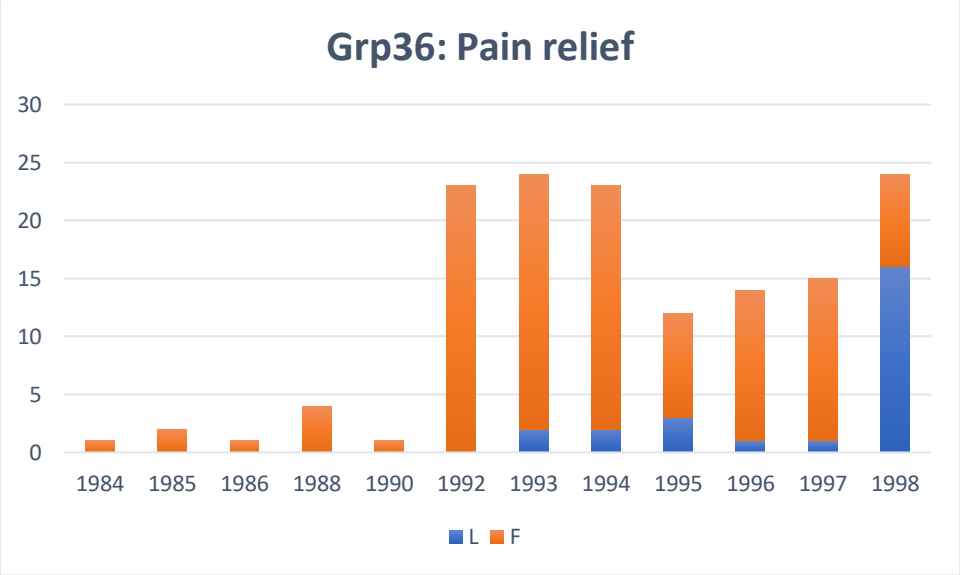


Figure 5. 14 Trademark trend of Group 36: Foreign vs. Local. *Source:* Created by the author.

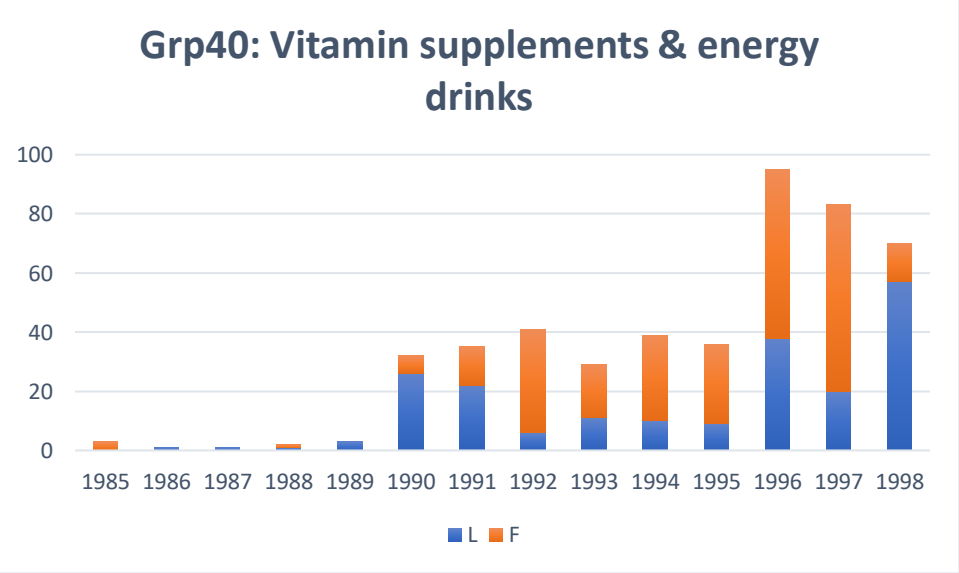


Figure 5. 15 Trademark trend of Group 40: Foreign vs. Local. *Source:* Created by the author.

4.1.3. Analysis and Discussion

Given the above empirical results, this section will analysis and discuss these findings in lieu of the previous literature review in order to address the third research question of "**How significant is the origin of foreign trademark activities on the evolution of Vietnamese pharmaceuticals and medicine industry?**".

Regarding the ***hypothesis 1***, the empirical evidence proposes that trademarking by foreign firms indeed increased the propensity to trademark among local applications at the initial period. The rationale behinds this result can be explained by the classic competitive threat between foreign and domestic firms that was discussed in the literature review by Hu (2010), Thoma (2013), and Dang and Motohashi (2015). Specifically, foreign trademarking can stimulate the local patent applications because indigenous firms may need larger trademark portfolios in order to create market barriers for new entrants, or to achieve better positions in cross-licensing negotiations later on. This implies that the foreign firms reshaped the IPR environment in Vietnam as they pushed the local firms for higher trademark protections and enhanced their marketing innovation, and thus led to the Vietnamese economic development. Furthermore, this result enriches the emerging markets catching-up literature by highlighting the influence of multinationals on strengthening the host country's trademark protection standards that helps reaching the global institutional and IPR legal standards, and thus developing a stronger local innovation system.

Next, the empirical results of ***hypothesis 2*** suggests further understanding of knowledge transfer and local learning through licensing mode of entry in the realm of trademarking activities. Precisely, the propensity to trademark among local applications are increased by combining licensing knowledge flows with foreign trademark applications at the initial period,

whereas the effect of direct foreign knowledge transfer (intentional local learning) is stronger than the indirect foreign knowledge transfer (unintentional local learning) to the Vietnamese trademark applicants. This finding means that foreign licensors transferred the inbound marketing knowledge and downstream capabilities to the domestic licensees, thus motivated the indigenous firms consciously intent to catch-up from their foreign counterparts for more trademarking activities that can lead to the intentional local learning such as the creation of local new products or local brand extensions/brand modernisation. Moreover, as Almodóvar, Nguyen, and Verbeke (2021) explained in the case of patents, licensing knowledge flows can help local firms to acquire new knowledge in order to develop higher-level FSAs in innovation and improve their intangible assets. The results contribute towards the exhausted literature of licensing and innovation, especially with the use of trademark licensing data. This research is among the first attempt to investigate the impact of foreign trademark licencing knowledge flows on local trademarking activities in order to understand knowledge transfers and local learning in emerging markets. Last but not least, this study emphasises the use of trademark counts as a good indicator for (direct or indirect) knowledge transfer and (intentional or unintentional) local learning via the use of trademark licensing data.

In relation to the results of ***hypothesis 3***, the study found that combining regional factors with the above licensing knowledge flows and foreign trademark applications increased the propensity to trademark among local applications at the initial period. The insights provide a better understanding for the origins of foreign knowledge transfers in Vietnam, as well as which foreign region (in this case, Europe and North America trademark applicants) fostered the local trademarking activities at the beginning period. This result may be applicable for other emerging markets that also share the transformation period from a command economy into a market economy like Vietnam.

Finally, ***hypothesis 4***'s findings confirm that abnormal peaks of pharmaceutical trademarking tend to cluster in product-specific groups with soft knowledge rather than hard knowledge by observing the irregular movements of trademarking activities across all groups. While the above findings contribute to different studies at industry-level and firm-level, this result adds further into the theoretical understanding of the overall effect of trademark registrations on the Vietnamese pharmaceutical and medicine industry, by taking one step further at the brand-level analysis with different product-specific groups in trademark class 05. Additionally, those abnormal trademarking trends for each group imply the industry innovation development as the results of the knowledge transfers and local learning, in which shall be investigated further via the case studies later. Furthermore, the use of mixed methods with the aid of the up-to-date quantitative regression such as the PPML models counts towards this study's methodological contribution, as it opens up a new direction of research and provides an appropriate statistical method to access the evolution of trademarking activities. Last but not least, trademarks can be useful aside from patents, even in the patent-focused industry such as pharmaceutical and medicine, as trademarks can give complementarity values and enhance downstream innovative knowledge aside from technological innovation.

There are some limitations that should be addressed in this study. Given the time-consuming and challenges in obtaining trademark data, the sample used for the empirical evidence of research question 3 is relatively small (N=180). The econometric model design can be improved in future studies by adding more control variables in the data to capture unobserved factors and autocorrelation bias. Finally, the future research can perhaps also incorporate patent data, as well as include more countries into the research for the comparative purposes. These technical limitations can be addressed by the qualitative observation of causality and mechanism in the below case studies.

4.2. Case Studies: Local Learning from the Trademark Peaks of Product-Specific Groups

This section shall investigate the origins of the highest abnormal peaks in class 05 trademark applications in Vietnam between 1984 and 1998. By looking further into the above evidence of the top outliers in different product-specific groups (table 5.7), this study can identify the possible trends of the local learning as the results of the origin of foreign knowledge transfers in Vietnam. As suggested earlier, the abnormal peaks of pharmaceutical trademarking tend to cluster in product-specific groups with soft knowledge rather than hard knowledge. Noted that Vietnam follows the NICE classification system, so class 05 here are not only about medicines, but also include trademarks of other categories such as pesticides, insecticides, sanitary pads, medical gauze and cotton, veterinary, detergent liquid disinfectant and antiseptics, and baby nutrition powdered milk. There are also uncategorised and same name with logo groups where their trademarks are unable to trace back to distribute into certain product-specific group. Thus, this section shall purely focus on these top outlier cases from the medicine products only (specifically soft knowledge type) in order to understand how local firms learnt from foreign licensors associated with their new entries in the market and their applications of new marketing innovations at the beginning of the period in pharmaceutical industry in Vietnam.

- **Case 1 - Group 36 (Pain relief): *Panadol vs. Pancidol vs. Paracetamol***

The following case selected the local brands that became the real imitators of the leading foreign trademark in the industry as the results of the abnormal peaks of trademark registrations found earlier. Product group 36 - 'Pain relief' has a particular high peak of trademark applications from table 5.7. The classic case study in this product group for demonstrating local imitation and local learning is *Panadol vs. Pancidol vs. Paracetamol*. The British pharmaceutical giant GlaxoSmithKline Consumer Healthcare (GSK) filled its well-known pain relief and fever treatment, '*Panadol*', for the trademark application first time in Vietnam on

March 1988 (trademark number: 4-1988-01010) (IPPLATFORM, 2021). This foreign brand was later transferred to the local firm Sanofi-Synthelabo Vietnam on June 2000 via trademark licensing, and its trademark status is currently still alive after three times trademark renewal (expired in March 2028) and exists under the same ownership (NOIP, 2018). The success of '*Panadol*' triggered many late comers with the large number of local imitations in the same product group, and '*Pancidol*' and '*Paracetamol*' are the most representative case in Vietnam. Both of these local brands share many similarities in terms of names, packaging, as well as the uses of pain relief (Figure 5.16).

Figure 5. 16 Panadol vs. Pancidol vs. Paracetamol. *Source*: Lac, 2009.

Although there may be many similarities between these three brands, there are some distinctive features that make the later brands not counterfeits and not illegal (they may be considered as imitations, but were still legal and approved by the National Office of Intellectual Properties in Vietnam - check session 2.2 from the literature review for this). These late comers come from different local firms. For instance, while '*Pancidol*' had the Vietnamese trademark applied on April 2000 by the local firm Công ty cổ phần dược phẩm Trà Vinh (TV.Pharm pharmaceutical

joint stock company) (trademark number: 4-2000-47906), '*Paracetamol*' filed for trademark application much later on August 2009 by another local firm Công ty Cổ Phần Dược Phẩm Quảng Bình (Quang Binh Pharmaceutical Joint-stock Company) (trademark number: 4-2009-16202) (IPPLATFORM, 2021).

This demonstrates the applications of learning by local firms from the foreign MNE GSK. Their brand '*Panadol*' entered the Vietnamese market first, followed by the later local brands registered trademarks in the same product group such as '*Pancidol*' and '*Paracetamol*' (Lac, 2009). Local latecomers may recognise the values of external foreign marketing knowledge, assimilated and applied it to their commercial ends with a lower price compared to their foreign leading firm, only with a few changes in the active ingredients. On one hand, this competition benefited consumers as there are more diverse choices in the market with competitive ranges of prices; but imitated drugs may turn into counterfeit drugs that eventually can be harmful to consumers' health. Nevertheless, in this case of imitation medicines only, given the direct foreign knowledge transfer (F-L) of '*Panadol*', other local rivals like '*Pancidol*' and '*Paracetamol*' intended to learn how to apply trademarks to stay competitive in the market, as well as catching-up with the newest marketing innovations in the industry. These patterns are the evidence of local learning, and are considered as the trademark imitation strategies by the local firms as they were triggered their learning by the first-mover foreign counterpart.

These competitive sequences led to the dynamic and new trademark registrations by both foreign and local players in the later period, implying the innovation and industry development. Specifically, Sanofi-Synthelabo Vietnam with the success of '*Panadol*' continued with the line extensions in 2008, such as: '*Panadol Paracetamol Analgesics*', '*Panadol Extra*', and '*Panadol EXTRA Giảm Đau*'. The local rivals also extended further brands, for instance, Công

ty cổ phần dược phẩm Trà Vinh introduced their extensions '*Pancidol Analgesic - antipyretic*', and '*Pancidol EXTRA Analgesic - antipyretic*' in the same year. These increasing local trademarking activities are the results of their intentional learning, and motivated by the leading from foreign firms to innovate without having trademark infringements. Thus, MNEs helped reshaping domestic IPR environment as they pushed indigenous firms for higher trademark protections, improved local innovation system as well as affected their catching-up processes.

❖ **Case 2 - Group 18 (Common cold, flu &fever): *Decolgen Forte vs. Dehanogen Forte***

Another example of the local learning from the high peaks of trademark registrations is in the group 18 - 'Common cold, flu and fever', with the case of *Decolgen Forte vs. Dehanogen Forte.* The '*Decolgen Forte*' product was originally first internationalised the Vietnamese market by the Singaporean company - United Life Sciences Pte. Ltd. and was filed for its trademark application in July 1991 (trademark number: 4-1991-04311), then later licensed to the Vietnamese local partner named United Pharma Việt Nam via the trademark licensing knowledge flow F-L (IPPLATFORM, 2021). Given the initial success, United Pharma Việt Nam continued to introduce many line extensions of this brand later, such as '*Decolgen Extra*' (in 2002), '*Decolgen Ace Headache*' (in 2008), and '*FORTE Decolgen Cảm & Cúm*' (in 2011). Similar to the case 1 above, the well-established brand reputation of this flu medicine triggered the local entries of late comers with different domestic imitation drugs in this product group, prominently, '*Dehanogen Forte*' filed for its trademark in February 1998, and 'Dehanogen Forte Pmhn Pm Hn Pa Hanoipharma' in March 2002 by the Công ty Cổ phần Dược phẩm Hà Nội (Hanoi Pharma Joint Stock Company) (trademark number: 4-2002-01584) (figure 5.17) (IPPLATFORM, 2021).

Figure 5. 17 Decolgen Forte vs. Dehanogen Forte. *Source*: IPPLATFORM, 2021.

As demonstrated in figure 5.17, both 'Decolgen Forte' (1991) and 'Dehanogen Forte' (1998) share the similarities in the brands' names, come from the same product group of Common cold, flu and fever medicine with comparable formulation, and even have the similar form of presentation with the packs of 20 yellow tablets (Quang, 2006). This indicates the imitation strategy by the local firm Công ty Cổ phần Dược phẩm Hà Nội with the attempts to create the confusions in the brand names for consumers, and reveals their intentional local learning with the imitated drugs that are not illegal in the trademark application process.

One may raise the question that why this local firm only imitate trademark but not the other IPRs like patent of its rival? This is because, first, while patents with active ingredients may be difficult to imitate, trademarks with brand's name, packaging and marketing distribution can be easily attained for the local firm, especially given the characteristic of pharmaceutical and medicine industry that relates with saving human life (so less risky for health) (Do Nguyen Hiep, Director and IP representative of Phoenix Law Co. Ltd, 2021). Second, this is also precisely applied when Vietnam follows the 'first-to-file', not 'first-to-use' trademark registration system (NOIP, 2018), so local firms can just register trademarks in advance as potential investments (explained in chapter 2). Third, imitating trademark is better than patent's because it can secure a brand with "eternal lives" forever, as its reputation is "associated with

the time lag effect concerned with the speed and costs of learning information flows" (Shapiro, 1983; Lopes, 2019). Essentially, trademarks can easily be imprinted in the minds of consumers compared to patents, so trademarks can spread more widely, and have a faster speed than patents in terms of learning (Do Nguyen Hiep, Director and IP representative of Phoenix Law Co. Ltd, 2021). Finally, the cost of imitation is cheaper with trademarks compared to patents. This is because while trademark is valid for 10 years in Vietnam and can be renewed unlimited times throughout its lifespan, patent on the other hand can only be valid up to 20 years maximum and its maintenance fee must be paid annually in Vietnam (NOIP, 2018). Often, the patent licensing fee (including both technology transfer and production process) is generally higher than trademark licensing fee in Vietnam (but this is not applicable all cases, as there are cases where trademark has a much higher value than patent like Google, Coca-Cola, etc...), so trademark is preferable compared to patent in relation to local learning (Do Nguyen Hiep, Director and IP representative of Phoenix Law Co. Ltd, 2021). Thus, the speed of learning for local firms is faster with trademarks compared to patents. In other words, trademarks can be diffused more rapidly than patents when local firms catching-up with new knowledge, even in the high R&D intensive industries such as pharmaceutical and medicines.

From the other side, United Pharma Việt Nam after the trademark licensing agreements benefited from the foreign knowledge spillovers from United Life Sciences Pte. Ltd. continually consolidated their leading position in the Vietnamese market by using the core knowledge to produce new products, develop new marketing strategies and create new brands in 2002, 2008, and 2011 as mentioned earlier. United Pharma Việt Nam, as the role of the original innovator, would need to stay alert with their trademark strategies in relation to the 'liability of reputation' as well as 'trademark dilution' (Rhee and Haunschild, 2006; Gao et al., 2017; Peterson et al., 1999). Their line extensions explained such attempts and the abnormal

peak in trademark applications in the product group 18, as well as suggested for the development of the local pharmaceutical and medicine industry in Vietnam.

- **Case 3 - Group 40 (Vitamin supplements and energy drinks): *Homtamin Ginseng vs. Liptamin***

The final example of local brands turning into direct imitators of foreign entrance given the highest peaks of trademarking activities is in group 40 - 'Vitamin supplements and energy drinks'. Unlike the previous cases with the confusions in the brand names, this is the case of similar product packaging that led to the consumers' confusion to distinguish. It is the case of the Korean brand's '*Homtamin Ginseng*' and the Vietnamese brand's Liptamin. Such imitation in the packaging is presented in figure 5.18 (Nguyen, 2009).

Figure 5. 18 Homtamin Ginseng vs. Liptamin. *Source:* Nguyen, 2009.

'*Homtamin Ginseng*' is the signature multivitamin supplement product by Korea United Pharma that is made of insam or gingseng, lecithin, with ten other vitamins and minerals, helps

to relieves fatigue and provides nutrition (Korea United Pharm, 2021). Given the increasingly demand for imported vitamin supplements among Vietnamese consumers since 1995, by June 1998, the president and chairman of Korea United Pharma, Mr. D.Y.Kang, decided to develop a strategic alliance with the local firm IC Việt Nam (ICV) with the establishment of a branch office in Vietnam with its parent company - Công ty TNHH dược phẩm Á Đông (ICA Pharmaceutical) as a distribution channel for its '*Homtamin Ginseng*' product in the Vietnam market (Korea United Pharm, 2021; ICA Pharma, 2021). By November 2000, the first trademark of '*Homtamin Ginseng*' was filed in Vietnam (trademark number: 4-2000-49903), and after a year in operation, its total revenues exceeded more than 2 million USD (IPPLATFORM, 2021; ICA Pharma, 2021). Given the initial success, by April 2001, Korea United Pharm Int'l. Jsc. factory has been established in Binh Duong province as a wholly owned subsidiary (100% share invested, with US$9.2 million capital for a total area of 22,156.4m^2) by the parent company Korea United Pharm in Vietnam (Korea United Pharm, 2021). This can help Korea United Pharm to manufact and distribute the '*Homtamin Ginseng*' products in the Vietnamese market, to adapt the glocalisation of Southeast Asian countries, and later to export the products to other ASEAN countries. The trademarked brand '*Homtamin Ginseng*' is currently estimated to worth up to US$30 million in Vietnam, indicating a representative performance of a foreign brand in the group 40 (ICA Pharma, 2021). Given their success and reputation, other line extension products were also introduced later on, for instance, '*Homtamin Ginseng Gold*' in 2008, or in 2011 with '*Homtamin Ginseng Ext Korea United Pharm.Inc.*', and '*Homtamin Ginseng Gold Korea United Pharm.Inc.*' (IPPLATFORM, 2021).

As presented in figure 5.18, '*Homtamin Ginseng*' has an imitation product with similar packaging named '*Liptamin*'. '*Liptamin*' is manufactured, designed, marketed, and sold by the Vietnamese firm Công ty cổ phần dược phẩm Viễn Đông (Vien Dong Pharma., Jsc). This local

brand also filed for trademark application in January 2004 (trademark number: 4-2004-00374), four years after their foreign rival applied for trademark in Vietnam (IPPLATFORM, 2021). Although these two products' packages may look similar to create confusion for consumers, their prices and active ingredients are slightly different. While '*Liptamin*' has 11 active ingredients and is sold at the price of 850VND/tablet in Vietnam, '*Homtamin Ginseng*' has 19 active ingredients and is sold at a higher price (nearly twice price) of 1,500VND/tablet (Nguyen, 2009). In relation to the imitation strategy, the local firm Công ty cổ phần dược phẩm Viễn Đông did not only reduce its price to stay competitive towards the reputed existing product in the market and copied the packaging, but they also learned from their foreign rival by having brand extension for the '*Liptamin*' product. For examples, '*LIPTAMIN, hình*' was introduced in 2005, '*Liptamin -Thuốc bổ chuyên dùng cho người cao tuổi'* in 2006, and '*Liptamin Trường sinh, hình'* in 2008 (IPPLATFORM, 2021). It is also worth mentioning that both '*Homtamin Ginseng*' and '*Liptamin*' share the same lawyer and legal agency - Capital Intellectual Property and Technology Co., Ltd (Capital IP&T Co. Ltd.) - that helped both brands to apply for the trademark application in Vietnam (IPPLATFORM, 2021). This implies the possible source of knowledge transfers without having the trademark licensing agreement. Nevertheless, their impacts of inbound marketing knowledge flows or downstream capabilities from the foreign entry on the Vietnamese pharmaceutical and medicines industry development (such as creation of new brands, product innovation, brand extension, brand modernisation) are undeniable.

Overall, this section provided more details of three case studies in order to understand the highest abnormal peaks in trademark class 05 pharmaceutical and medicine in Vietnam from different product-specific groups better. Three case studies are the most representative evidence of local imitation and are selected from the medicine soft knowledge type, with Group

36 Pain relief (*Panadol vs. Pancidol vs. Paracetamol*), Group 18 Common cold, flu and fever (*Decolgen Forte vs. Dehanogen Forte*), and Group 40 Vitamin supplements and energy drinks (*Homtamin Ginseng vs. Liptamin*). These cases helped to provide the evidence of local learning as the results of the origin of foreign knowledge transfers in Vietnam, and argued that the speed of local learning is faster with trademarks compared to patents, as well as the contributions towards the IP catching-up process and the development of marketing innovation in pharmaceutical and medicines industry in Vietnam.

5. Conclusion

In summary, chapter 5 provided the results and discussion to address the three research questions of the thesis. For the first research question, section 2 used the historical evidence with in-depth interviews to explore the similar co-evolved trend between trademarks and FDI inflows over time, especially in pharmaceutical and medicine industry, and provided the key factors that attributed towards the high trademark rejection rate in Vietnam. This leads to section 3 of how foreign pharmaceutical MNEs managed to protect their trademarks in Vietnam over time that relates to the second research question, using historical research with multiple case studies to create a generalised framework and to propose different trademark protection strategies for pharmaceutical multinationals in Vietnam, and focusing on the cases of Taisho, Abbot, and Bayer. In relation to the final research question, section 4 combined the mixed methods with regression analysis, historical research, and multiple cases studies at brand-level analysis to highlight the importance of foreign knowledge transfer and local learning on catching-up process and the development of marketing innovation in pharmaceutical industry in Vietnam. These findings help to address the main research question of the thesis, and this leads us to the next part, the final chapter of concluding remarks, with the highlighted findings, together with theoretical, methodological, and practical contributions of this thesis.

CHAPTER 6. CONCLUDING REMARKS

1. Introduction

This final chapter provides the concluding remarks of the whole thesis. It first revisits each research question and summarises the main findings to address these questions accordingly. Next, the thesis's contributions towards theoretical and methodological novelties as well as its practical implication are highlighted. Finally, the limitations of this study will be presented, follows by the recommendations for future research on similar topics.

2. Revisiting Research Questions and Summary of Findings

This session provides all the key findings from the thesis in order to address the main research question as the overarching theme for the thesis: "***To what extent is the host country's intellectual property regime such as trademark likely to influence inward FDI activities in emerging markets over time?***". Three sub-questions for the main research question have been answered and the study has met all of its research objectives. The main results are summarised as follows accordingly to each research questions.

- The first question is "***How can trademark data provide new insights on the evolution of inward FDI in emerging markets like Vietnam?***". The thesis addressed this research question by providing historical trademark registrations data, with trade and FDI statistics between 1986 and 2016, for the dynamic co-evolution of trademarks and FDI inflows in Vietnam over time. In relation to the chronology of the IPR legal landscape, the existing IPR system in Vietnam has evolved from principles of Confucianism to Colonial laws from France, then Socialist legality and now the adaptation of Western legal systems, with significant movements in IPR legislation since 1994 of signing the TRIPs agreement. The country's current IPR system is considered relatively weak due to the disrupted periods from the wars, but this does not

discourage foreign investors. Vietnam is the highest recipient of inward FDI among Tiger cub economies and the second-highest within the ASEAN region, with substantial FDI inflows being injected more and more into the economy given the deglobalisation context and the escalating trade wars. Overall, the relationship between inward FDI and trademarks in Vietnam shares a similar co-evolved trend from 1986 onwards, especially in terms of industry such as pharmaceuticals and medicines (class 05 trademark). Additionally, the trademark rejection rate of foreign and local firms in Vietnam over time are found, with FDI investors is in a more advantageous position compared to their local counterparts as the rate is much lower for foreign applicants (19%) vs. local applicants (81%). This finding is opposite to the idea of trademark registration process as the IPR protectionist tool or the political motive in developing countries to discriminate against foreign applicants by Baroncelli, Krivonos and Olarreaga (2007), or Casson (2020), and so challenges the concept of liability of foreignness by Zaheer (1995). In fact, the evidence suggests that local firms suffered from the liability of localness in innovation and IP catching up progress, supporting the view of Un (2015) and Jiang and Stening (2013). Furthermore, the evidence is drawn on the primary sources from three participants of in-depth interviews unmask different factors that attributed towards this high trademark rejection rate in Vietnam, with the summarised framework of the trademark appraisal decisions. These factors include inexperience in trademark applications, formality rejection, content rejection, and do not pay required trademark application fees on time, aside from the huge local trademark counterfeit problems among local applicants. These attributes do not only explain for the high trademark rejection rate for local applicants, but they also imply that foreign applicants are in a more advance stage compared to their local counterparts when it comes to granting a trademark application in Vietnam. This finding empowers the emerging view of considering Vietnam as “a darling of globalists and frontier-market investors” (The Economist, 2020a).

- This leads to the second question of "***What trademark protection strategies have MNEs used to ensure their competitiveness and long-run survival in Vietnam?***". So, how foreign investors managed to protect their trademarks once they got their trademark applications approved by the NOIP given the relatively weak IPR system in Vietnam. By gathering all the historical evidence, including companies' archives, industry reports and related newspaper articles through three representative case studies, the thesis analysed the relevant patterns in order to formulate the framework of different trademark protection strategies for pharmaceutical MNEs in Vietnam over time. This framework is not only a synthesis to the key prior theories in this area (such as Cohen, 1986; Cohen, 1991; Yang, Sonmez and Bosworth, 2004; Huang, Lee and Ho, 2004; Aggarwal, 2010; Lopes and Casson, 2012; Saiz and Castro, 2018) but also is an extension with an application in emerging markets with relatively weak IPRs system like Vietnam in different stages as well as throughout the time. Especially, this thesis covered the extra layer of trademark protection strategy from the grey market like parallel trading which is extremely important in emerging markets like Vietnam. The three case studies of Taisho, Abbott, and Bayer demonstrate the varieties of trademark protection strategies employed by the top foreign pharmaceutical multinationals that invested substantial inward FDI and created spillovers to Vietnamese pharmaceutical sector, as well as how these strategies changed over time given the political background and economic context of Vietnam over the past thirty years. In response to the threats of weak IPR systems from emerging market host countries like Vietnam, pharmaceutical MNEs can equip themselves by following these mitigation and prevention strategies in order to protect their trademarks from different degrees of risk from the grey market of parallel trading, to the black market of counterfeiting. Specifically, defensive weapon (acquiring strategy, commercial settlement strategy), networking mean (communicating with aggrieved firms, government hand energy, consumer campaign), and protective strategy (technical solution, contractual supervision, narrowing price

gap, monitoring and private eye) can be the three useful trademark protection strategies for pharmaceutical MNEs to mitigate and prevent the IP risks in each stage as well as over time in Vietnam. Most importantly, the evidence implies that even in a traditional R&D intensive industry such as pharmaceutical and medicine, trademarks are just as important as patents, in term of IP protection strategies for MNEs to survive and compete in emerging markets which possess the typical characteristics of institutional voids or consumers' asymmetric information as their legal systems might not yet be adequately prepared. So, trademark protection appears as equally important as it is in patents for foreign investors in this pharmaceutical industry specifically, as well as in others in general.

- Finally, the third question looks at "***How significant is the origin of foreign trademark activities on the evolution of Vietnamese pharmaceuticals and medicine industry?***". By using historical evidence from the aggregated historical trademark database and the PPML regression models with the Stata MP (v13) software employed to perform the analysis, the thesis provided the quantitative evidence of the origins of foreign knowledge transfers and the local learning in Vietnam to support the hypotheses testing. The empirical evidence for *hypothesis 1* found that trademarking by foreign firms indeed increased the propensity to trademark brands among local applicants soon after foreign MNEs entered the market, due to the classic competitive threat between foreign and domestic firms. This pushed the local firms for higher trademark protections and enhanced their marketing innovation, and thus led to the Vietnamese economic development. The *hypothesis 2* of this study focused on the foreign knowledge transfer and local learning through licensing trademark activities in Vietnam. Using the PPML regression analysis, the findings suggested that the propensity to trademark among local applications can be increased by licensing knowledge flows soon after MNEs entered the market. The effect of direct foreign knowledge transfer (intentional local learning) is stronger than the indirect

foreign knowledge transfer (unintentional local learning) to the Vietnamese trademark applicants in the pharmaceutical and medicines industry. So foreign licensors transferring their marketing knowledge and capabilities downstream to their local licensees can help these domestic firms to intentionally catch-up, trademarking or registering more brands, and result in the local brand development and innovation. The results of *hypothesis 3* suggested that considering regional factors can increase the propensity to trademark among local applications. Specifically, Europe and North America trademark applicants fostered the local trademarking activities at the beginning period. This finding adds another layer into the understanding of the origins of foreign knowledge transfer into Vietnam from the beginning and the development of the pharmaceutical and medicine industry here. By studying at the brand level analysis, specifically, observing the irregular movements of trademarking activities across all groups from class 05, *hypothesis 4*'s findings confirmed that the abnormal peaks of pharmaceutical trademarking from the first 15 years in Vietnam tend to cluster in product-specific groups with soft knowledge rather than hard knowledge. These findings are extensions to the previous works of: Lopes and Guimarães (2014) (in terms of emerging markets application and alternative regression models for robust results); Flikkema, De Man and Castaldi (2014) (regarding the trademark innovation in more mature firms like MNEs that have more experience in internationalisation process than SMEs); and Almodóvar, Nguyen, and Verbeke (2021) (for the complementary value in the use of trademark licensing data rather than patent data). Based on these findings, the thesis proposed that researchers should pay more attention to trademarks rather than just patents, even in the patent-focused industries such as pharmaceuticals and medicines, as trademarks can give complementarity values and enhance downstream innovative knowledge aside from technological innovation. These abnormal trademarking trends for each group imply the industry innovation development as the results of the knowledge transfers and local learning, in which are investigated further via the case

studies. The combination of qualitative multiple case studies from these trademark peaks at the brand-level analysis can help to discover better insights aside from the generalisation of the quantitative evidence which tend to rely solely on patent data. The selection of the case studies is the most representative evidence of local imitation and are selected from the medicine soft knowledge type, with Group 36 Pain relief (Panadol vs. Pancidol vs. Paracetamol), Group 18 Common cold, flu and fever (Decolgen Forte vs. Dehanogen Forte), and Group 40 Vitamin supplements and energy drinks (Homtamin Ginseng vs. Liptamin). These cases helped to illustrate the development of local learning as a result of foreign knowledge transfers in Vietnam, suggested that trademarks can spread more widely at a faster speed than patents in terms of local learning even in high R&D intensive industries like pharmaceuticals and medicines, as well as the contributions towards the IP catching-up process and the development of marketing innovation in pharmaceutical industry in emerging markets such as Vietnam.

3. Contributions

Given the summary of key findings above, this session will address the novelties and important values of the thesis in terms of theoretical and methodological contributions (research significance) as well as its practical implications (practical significance).

3.1. Theoretical contributions

In the realm of theoretical contributions, the thesis bridged the gap between literatures of IB, strategy, and business history on the topic of trademarks and inward FDI in emerging markets such as Vietnam. The study extends the understanding of the Dunning's Eclectic/ OLI Paradigm (1979; 1993; 2004) and Lopes's additional levels of O advantages (2010). Specifically, MNEs need to possess the O element (specifically Oa advantages and Op advantages) not only at the

beginning of the internationalisation process, but also rather evolving through time in order to cope with imitation risks in the host country.

Next, the trademark rejection rate evidence adds another layer of understanding into the liabilities of localness in innovation and IP catching up progress, supporting the view of Un (2015) and Jiang and Stening (2013). This implies the need for local firms to learn and catch-up that links to the findings of foreign knowledge transfers in the third research question.

Moreover, the research challenges the stream of thoughts that view trademarks as a neglected intangible asset among different IPRs, while in fact, trademarks advance MNEs' knowledge by ensuring competitiveness and long-run survival in emerging markets. The research is among the first few attempts to study the pharmaceutical and medicine industry through the lens of trademarks among other IPRs (moving away from the traditional patent-focussed approach). It argues that trademarks bring new insights especially under the pharmaceutical and medicine industry in Vietnam, and are just as important as patents, in term of IP protection strategies for MNEs in emerging markets which possess the typical characteristics of institutional voids or consumers' asymmetric information as their legal systems might not yet be adequately prepared. Moreover, the speed of local learning is faster with trademarks compared to patents, or trademarks can be diffused more rapidly than patents when local firms catching-up with new knowledge, even in the high R&D intensive industries such as pharmaceutical and medicines.

Finally, the thesis enriches the Internalization theory (Buckley and Casson, 1976) and Emerging market catching-up literature (Acemoglu and Robinson, 2000; Brandl and Mudambi, 2014; Brandl et al., 2019; Anand et al., 2021), by highlighting the influence of multinationals on strengthening the host country's trademark protection standards that helps reaching the

global IPR legal standards, and thus developing a stronger local innovation system. This research is the first attempt to investigate the relationship between foreign entries (through FDI, exports, and licensing) and trademarks in emerging markets. For example, it studied the impact of foreign trademark licencing knowledge flows on local trademarking activities in order to broaden the understanding on foreign knowledge transfers (direct vs. indirect) and local learning (intentional vs. unintentional) in Vietnam. MNEs had an important role in the establishment of the Vietnamese pharmaceutical and medicine industry from the early days through different entry modes like FDI, exports, and licensing, as well as reshaping the local IP environment and the country's economic development like the present day. As mentioned earlier, the findings are extensions to the previous works of Lopes and Guimarães (2014), Flikkema, De Man and Castaldi (2014), and Almodóvar, Nguyen, and Verbeke (2021). So, this study also contributes towards the exhausted literature of licensing and innovation via trademark licensing knowledge flows, with the impact of inbound marketing knowledge or downstream capabilities from foreign entries on the host country's innovation and industry development (e.g., product innovation and brand extension) in emerging markets.

3.2. Methodological contributions

In terms of the methodological contributions, this research utilises the original and unique historical trademark data that is collected for the first time from Vietnam. The study argues that trademark data can be crucial, even more than patent data, in terms of explaining the speed of learning by host country businesses from FDI, exports, and licensing agreements in emerging market settings. Also, it proposes that trademark data can also be used as a complement and sometimes a substitute to patent data, particularly in the downstream knowledge transfer aside from technological innovation only (for instance: reputational assets, market entry strategies and product diversification) even in a R&D intensive industry such as pharmaceutical and

medicine. Furthermore, the thesis highlights the novelty of the trademark licensing data, and emphasises the use of trademark counts as a good indicator for foreign knowledge transfer or spillovers and local learning in emerging markets like Vietnam. Additionally, the thesis implements an appropriate research approach - mixed methods, which has been relatively rare over the past studies in this topic for combining both generalisation as well as rich subjective insights. Specifically, regarding the quantitative research, the use of PPML regression is an upgrade to the Poisson regression from previous studies and enables the investigation of the trademarking activities evolution at the initial period of analysis without any assumptions restricted. For the qualitative research, the use of case studies and in-depth interviews provides the insightful evidence of different foreign trademark protection strategies, the trademark appraisal process and attributed factors towards high trademark rejection rate, and the profound understanding of local learning from foreign knowledge transfers, especially at multi-level analysis including industry-level, firm-level, and even brand-level analysis. Lastly, the historical study of trademarks has a lot to say in term of MNE investment in emerging markets in the present day. There are many strategies that go beyond the use of IPR law, for which MNEs follow for when host countries do not have a strong institutional environment.

3.3. Practical implications

In relation to the practical contributions, the thesis has significant and meaningful suggestions for MNEs managerial practice and public policy in emerging markets. Trademark protection strategies for the case of Vietnam can be applicable to many emerging markets, particularly to other ASEAN countries with relatively weak IPRs systems. In emerging markets with strong incentives for FDI like Vietnam, MNEs are not necessarily put off by weak IPRs, but rather create alternative strategies for dealing with the lack of IP protection in these emerging market settings. For instance, foreign managers can learn from different trademarks protection

strategies and their patterns over time in emerging markets: defensive weapons, networking mean, and proactive strategy in order to prevent and mitigate the IP risk in the host countries, as well as applying these trademark strategies to other host nations that share similarities in FDI policies and IPRs backgrounds of Vietnam like the ASEAN neighbouring countries in order to protect their intangible assets. In the era of de-globalisation, the research's findings can also provide the important insights to host-countries' policies makers from emerging markets to recognise the beneficial effects of the inward FDI, international trade, and licensing, which can lead to learning and product and brand innovation. Decision makers should advocate for a freer trade and investment liberalisation between nations which eventually can help the local firms to expand their product and brand innovation, IP protection capabilities, enhance their organisational knowledge (technological, managerial or operational knowledge), and improve the domestic IP catching-up process.

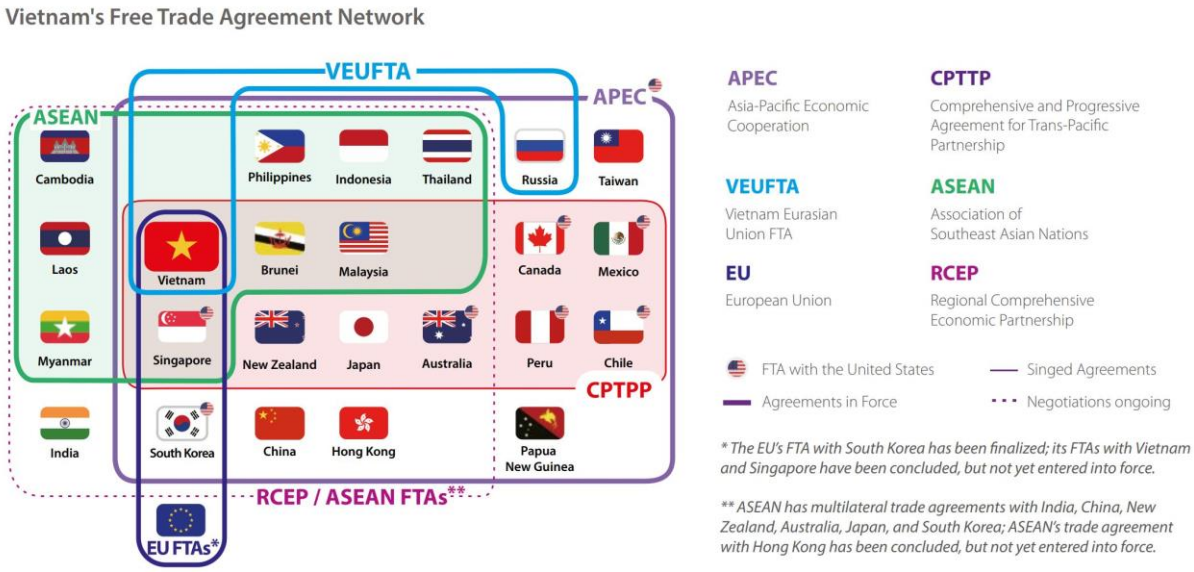
4. Limitations and Future Research Suggestions

This study is subject to the following limitations which can be improved by future research. First, given the difficulties in obtaining and transcribing trademark data under time constraints for the final research question, only small sample of trademark data (N=180) is utilised for the regression analysis from the first 15 years in Vietnam to study the origin of knowledge transfers and local learning in pharmaceutical and medicine industry. Nevertheless, this research sample provided strong explanatory values of the regressions and also such quantitative evidence is backed up with three qualitative case studies at brand-level analysis. The future research can expand the quantitative sample size by transcribing more trademark data from historical archives as well as including other trademark classes or industries to check for the generalisation. Also, given the time and scope of this research, it could have been more fulfilled

to study more on the Foreign to Foreign (F-F) trademark licensing knowledge flows for further evidence on the indirect foreign knowledge transfers. Second, the thesis would have been more strengthened if it had not faced the limited access (as the researcher cannot travel from the UK to Vietnam during the Covid-19 pandemic) in order to collect data that required to present in person such as some of the companies' historical archives or their court cases in Vietnam, and only restricted to online interviews (especially in the last two years of the researcher's PhD). More data at firm-level and industry-level of the inward FDI data in Vietnam could have been ideal. Considering other substantial foreign investment industries beyond the pharmaceutical and medicine industry in Vietnam could have also enhanced the generalisability of the findings. Finally, making use of comparative studies in this topic would be highly recommended. For instance, Vietnam vs. other emerging markets; or in lieu of learning, how fast the speed of trademark is compared to patent in regression analysis. Therefore, the thesis opens up the new direction for the future research towards a more systematic understanding of the impact of foreign entries like FDI inflows, trades, and licensing, on the development of IPRs in emerging markets, especially in terms of trademarks, knowledge transfers, as well as IP protection strategies for both foreign and local businesses in the light of the deglobalisation era.

Appendices

Appendix A



Source: Vietnam Briefing (2018).

Appendix B

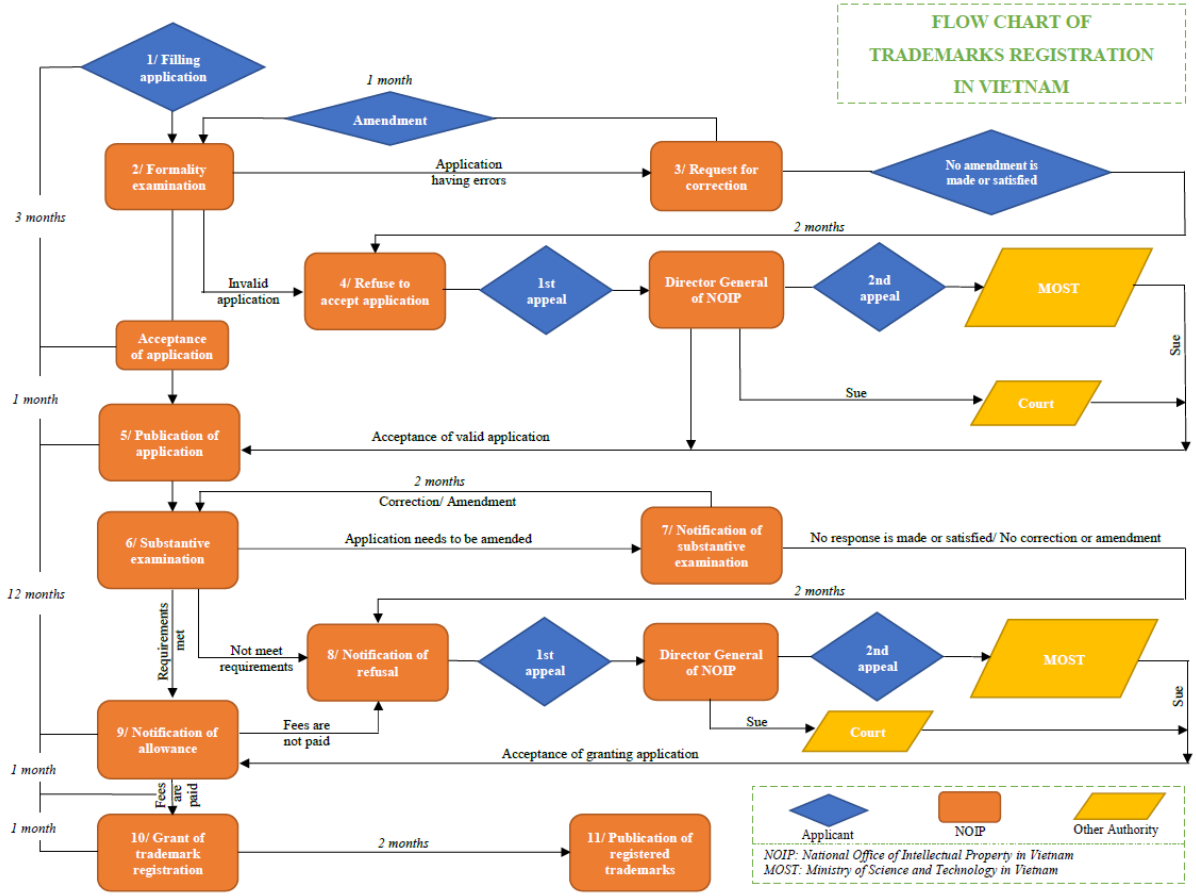
THE FSAs-CSAs MATRIX

Country-specific advantages (CSAs) \ Firm-specific advantages (FSAs)	Weak	Strong
Strong	1	3
Weak	2	4

Source: Based on Chapter 8 in Rugman (1981).

Appendix C

FLOW CHART OF TRADEMARK REGISTRATION IN VIETNAM



Source: Based on rules from NOIP (2018).

Appendix D

CLASSES FOR TRADEMARK REGISTRATIONS IN VIETNAM (VIETNAM FOLLOWS NICE CLASSIFICATION SYSTEM SINCE 2001)

Class	***Description***
Goods	
1	Chemicals for use in industry, science and photography, as well as in agriculture, horticulture and forestry; unprocessed artificial resins, unprocessed plastics; fire extinguishing and fire prevention compositions; tempering and soldering preparations; substances for tanning animal skins and hides; adhesives for use in industry; putties and other paste fillers; compost, manures, fertilizers; biological preparations for use in industry and science.
2	Paints, varnishes, lacquers; preservatives against rust and against deterioration of wood; colorants, dyes; inks for printing, marking and engraving; raw natural resins; metals in foil and powder form for use in painting, decorating, printing and art.
3	Non-medicated cosmetics and toiletry preparations; non-medicated dentifrices; perfumery, essential oils; bleaching preparations and other substances for laundry use; cleaning, polishing, scouring and abrasive preparations.
4	Industrial oils and greases, wax; lubricants; dust absorbing, wetting and binding compositions; fuels and illuminants; candles and wicks for lighting.
5	Pharmaceuticals, medical and veterinary preparations; sanitary preparations for medical purposes; dietetic food and substances adapted for medical or veterinary use, food for babies; dietary supplements for humans and animals; plasters, materials for dressings; material for stopping teeth, dental wax; disinfectants; preparations for destroying vermin; fungicides, herbicides.
6	Common metals and their alloys, ores; metal materials for building and construction; transportable buildings of metal; non-electric cables and wires of common metal; small items of metal hardware; metal containers for storage or transport; safes.
7	Machines, machine tools, power-operated tools; motors and engines, except for land vehicles; machine coupling and transmission components, except for land vehicles; agricultural implements, other than hand-operated hand tools; incubators for eggs; automatic vending machines.
8	Hand tools and implements, hand-operated; cutlery; side arms, except firearms; razors.
9	Scientific, nautical, surveying, photographic, cinematographic, optical, weighing, measuring, signalling, checking (supervision), life-saving and teaching apparatus and instruments; apparatus and instruments for conducting, switching, transforming, accumulating, regulating or controlling electricity; apparatus for recording, transmission or reproduction of sound or images; magnetic data carriers, recording discs; compact discs, DVDs and other digital recording media; mechanisms for coin-operated apparatus; cash registers, calculating machines, data processing equipment, computers; computer software; fire-extinguishing apparatus.

10 Surgical, medical, dental and veterinary apparatus and instruments; artificial limbs, eyes and teeth; orthopaedic articles; suture materials; therapeutic and assistive devices adapted for the disabled; massage apparatus; apparatus, devices and articles for nursing infants; sexual activity apparatus, devices and articles.
11 Apparatus for lighting, heating, steam generating, cooking, refrigerating, drying, ventilating, water supply and sanitary purposes.
12 Vehicles; apparatus for locomotion by land, air or water.
13 Firearms; ammunition and projectiles; explosives; fireworks.
14 Precious metals and their alloys; jewellery, precious and semi-precious stones; horological and chronometric instruments.
15 Musical instruments.
16 Paper and cardboard; printed matter; bookbinding material; photographs; stationery and office requisites, except furniture; adhesives for stationery or household purposes; drawing materials and materials for artists; paintbrushes; instructional and teaching materials; plastic sheets, films and bags for wrapping and packaging; printers' type, printing blocks.
17 Unprocessed and semi-processed rubber, gutta-percha, gum, asbestos, mica and substitutes for all these materials; plastics and resins in extruded form for use in manufacture; packing, stopping and insulating materials; flexible pipes, tubes and hoses, not of metal.
18 Leather and imitations of leather; animal skins and hides; luggage and carrying bags; umbrellas and parasols; walking sticks; whips, harness and saddlery; collars, leashes and clothing for animals.
19 Building materials (non-metallic); non-metallic rigid pipes for building; asphalt, pitch and bitumen; non-metallic transportable buildings; monuments, not of metal.
20 Furniture, mirrors, picture frames; containers, not of metal, for storage or transport; unworked or semi-worked bone, horn, whalebone or mother-of-pearl; shells; meerschaum; yellow amber.
21 Household or kitchen utensils and containers; cookware and tableware, except forks, knives and spoons; combs and sponges; brushes, except paintbrushes; brush-making materials; articles for cleaning purposes; unworked or semi-worked glass, except building glass; glassware, porcelain and earthenware.
22 Ropes and string; nets; tents and tarpaulins; awnings of textile or synthetic materials; sails; sacks for the transport and storage of materials in bulk; padding, cushioning and stuffing materials, except of paper, cardboard, rubber or plastics; raw fibrous textile materials and substitutes therefor.
23 Yarns and threads, for textile use.
24 Textiles and substitutes for textiles; household linen; curtains of textile or plastic.
25 Clothing, footwear, headgear.
26 Lace and embroidery, ribbons and braid; buttons, hooks and eyes, pins and needles; artificial flowers; hair decorations; false hair.
27 Carpets, rugs, mats and matting, linoleum and other materials for covering existing floors; wall hangings (non-textile).
28 Games, toys and playthings; video game apparatus; gymnastic and sporting articles; decorations for Christmas trees.
29 Meat, fish, poultry and game; meat extracts; preserved, frozen, dried and cooked fruits and vegetables; jellies, jams, compotes; eggs; milk and milk products; oils and fats for food.

30	Coffee, tea, cocoa and artificial coffee; rice; tapioca and sago; flour and preparations made from cereals; bread, pastries and confectionery; edible ices; sugar, honey, treacle; yeast, baking-powder; salt; mustard; vinegar, sauces (condiments); spices; ice (frozen water).
31	Raw and unprocessed agricultural, aquacultural, horticultural and forestry products; raw and unprocessed grains and seeds; fresh fruits and vegetables, fresh herbs; natural plants and flowers; bulbs, seedlings and seeds for planting; live animals; foodstuffs and beverages for animals; malt.
32	Beers; mineral and aerated waters and other non-alcoholic beverages; fruit beverages and fruit juices; syrups and other preparations for making beverages.
33	Alcoholic beverages (except beers).
34	Tobacco; smokers' articles; matches.
Services	
35	Advertising; business management; business administration; office functions.
36	Insurance; financial affairs; monetary affairs; real estate affairs.
37	Building construction; repair; installation services.
38	Telecommunications.
39	Transport; packaging and storage of goods; travel arrangement.
40	Treatment of materials.
41	Education; providing of training; entertainment; sporting and cultural activities.
42	Scientific and technological services and research and design relating thereto; industrial analysis and research services; design and development of computer hardware and software.
43	Services for providing food and drink; temporary accommodation.
44	Medical services; veterinary services; hygienic and beauty care for human beings or animals; agriculture, horticulture and forestry services.
45	Legal services; security services for the physical protection of tangible property and individuals; personal and social services rendered by others to meet the needs of individuals.

Source: Based on Nice Classification System from WIPO (2018).

Appendix E

DETAILS OF THE PRODUCT-SPECIFIC GROUPS FROM TRADEMARK REGISTRATIONS OF CLASS 05 PHARMACEUTICAL AND MEDICINE IN VIETNAM

Groups	Description
Grp1	Baby food & baby formula milk
Grp2	Chemical substances for drugs
Grp3	Dental care
Grp4	Insecticide
Grp5	Logo or firm name
Grp6	Medicated Shampoo
Grp7	Pesticide
Grp8	Pharma: Allergic medicine
Grp9	Pharma: Anemia treatment
Grp10	Pharma: Antibiotic
Grp11	Pharma: Anti-emetics, prevent nausea & vomiting
Grp12	Pharma: Anti-infection drugs
Grp13	Pharma: Antiseptic and disinfection
Grp14	Pharma: Anxiety treatment, tranquilizer & hypnotic drugs
Grp15	Pharma: Blood circulation problems
Grp16	Pharma: Cancer and tumour treatments
Grp17	Pharma: Cardiac treatment
Grp18	Pharma: Common cold, flu & fever
Grp19	Pharma: Contraception
Grp20	Pharma: Cough, asthma & chronic bronchitis
Grp21	Pharma: Dermatology cream
Grp22	Pharma: Diabetes treatment
Grp23	Pharma: Digestive disorders and improve appetite
Grp24	Pharma: Eyes drugs
Grp25	Pharma: Gastroenterology

Grp26	Pharma: General anaesthetic
Grp27	Pharma: Gynecological medicine
Grp28	Pharma: Inflammatory cream & drug
Grp29	Pharma: Injection and fluid medicine
Grp30	Pharma: Local anesthetic
Grp31	Pharma: Menstrual pain treatment
Grp32	Pharma: Metabolic disorders
Grp33	Pharma: Neuropathy, cerebral circulation and parkinson medicine
Grp34	Pharma: Opioid, morphine & heroin overdose
Grp35	Pharma: Osteoporosis treatment
Grp36	Pharma: Pain relief
Grp37	Pharma: Postmenopausal drugs
Grp38	Pharma: Rheumatoid arthritis & malaria treatment
Grp39	Pharma: Urinary tract infections
Grp40	Pharma: Vitamin supplements & energy drinks
Grp41	Pharmaceutical Cosmetics
Grp42	Sanitary towel & Diaper
Grp43	Surgical bandages & Cotton buds
Grp44	Veterinary medicine
Grp45	X-Ray Examination & Medical machines

Source: Created by the author.

Appendix F

INTERVIEW CONSENT FORMS

The York Management School
Freboys Lane
University of York
Heslington
York, YO10 5GD, UK

INFORMATION SHEET
PLEASE KEEP THIS INFORMATION SHEET AND A SIGNED COPY OF THE INTERVIEW CONSENT FORM FOR YOUR RECORDS

Research Background:
The title of this study: ***Foreign Direct Investment Inflows, Trade and Intellectual Property Rights in Emerging Markets: An Alternative Approach Through the Lens of Trademarks in Vietnam (1986-2016)***. This research is conducted by Amy Linh Thuy Nguyen, a PhD researcher at the York Management School, University of York – as part of her PhD thesis project. Before agreeing to take part, please read this information sheet carefully and let me know if anything is unclear, or if you would like further information.

What is the purpose of the research?
The research investigates how host country's intellectual property regimes like trademarks influence on inward FDI activities in Vietnam over time, specifically on the traditionally patent-sensitive industries (or non-traditional trademark approach) such as pharmaceuticals and medicines.

Why have I been invited to take part?
You have been invited to take part because of your reputable knowledge, expertise, and relevant work experience in the field of intellectual property rights like trademarks protection, and/or in pharmaceutical industry in Vietnam.

What will I be asked to do?
Due to the on-going Covid-19 pandemic, the interview shall not follow the traditional format of face-to-face interviews. Participants can choose one of the following formats: emails, phone calls, or Skype interviews – that can allow for flexibilities and meet your busy schedules. For phone calls and Skype interviews, semi-structured interviews are set and typically last around one hour. I would like to keep the emails, and record the voices of the participants for phone calls and Skype interviews – in order to analyse evidence for the research. You will be asked for permissions again before the interview. If you prefer not to be voice recorded, I will take notes instead. Please note that this interview will not be anonymous, so your name, position, and company are identifiable. You will be asked for permissions again and I will only continue with the interview if you are happy with that.

Do I have to take part?
You do not have to take part in the research. If you are happy to take part, you will still be free to withdraw from the study at any time during the interview without giving a reason. If withdrawing, all data will be destroyed and will not be used in any way. You are also free to decline to answer any question(s) that you do not want to. If you regret about the information

you accidentally disclose during the interview, feel free to send me an email to remove any sensitive information that you wish to be deleted within 30 days since the interview date.

What are the benefits of taking part?
Although you will receive no payment for taking part in this study, there will be the summary of the study's overall results given to you if you wish after the research has completed (around 12-18 months after the interview date).

What will happen to the data I provide?
The data you provide will be used alongside the data of other participants to analyse and be used as evidence for my research and purely for academic purpose only. Your data will be stored securely in the University of York, and will not be transferred to any third party. All data will be in full compliance with the General Data Protection Regulation (GDPR).

What happens next?
If you are happy to take part in this research, please let me know by replying to this email (amy.nguyen@york.ac.uk). I will then get in touch with you to arrange a suitable interview format, date and time with you. Also, please sign and return the attached **consent form** to me by email. Thank you!

If you have further questions regarding this study, please feel free to contact:
Researcher: Amy Linh Thuy Nguyen, Email: amy.nguyen@york.ac.uk
Research supervisors: Professor Teresa da Silva Lopes, Email: teresa.lopes@york.ac.uk ; Dr Yoo Jung Ha, Email: yoojung.ha@york.ac.uk
Dean of the York Management School: Professor Mark Freeman, Email: management-pa-dean@york.ac.uk
This research has been reviewed and approved by the Economics, Law, Management, Politics and Sociology Ethics Committee (ELMPS) at the University of York. For any questions regarding this, please contact: elmps-ethics-group@york.ac.uk

CONSENT FORM FOR PARTICIPANTS

Foreign Direct Investment Inflows, Trade and Intellectual Property Rights in Emerging Markets: An Alternative Approach Through the Lens of Trademarks in Vietnam (1986-2016)

Lead Researcher: **Amy Linh Thuy Nguyen**

This form is for you to state whether or not you agree to take part in the study. Please read and answer every question. If there is anything you do not understand, or if you want more information, please ask the researcher.

Have you read and understood the information leaflet about the study?	Yes ❒ No ❒
Have you had an opportunity to ask questions about the study?	Yes ❒ No ❒
Do you understand that the information you provide will be held by the research team and will not be transferred to any third party?	Yes ❒ No ❒
Do you understand that you may withdraw from the study for any reason?	Yes ❒ No ❒
Do you understand that the information you provide may be used in future research?	Yes ❒ No ❒
Do you agree to take part in the study?	Yes ❒ No ❒
If yes, do you agree to your interviews being recorded? *(You may take part in the study without agreeing to this).*	Yes ❒ No ❒

Your name:

_____

Your position and company name:

_____

Email address:

_____

Your signature:

_____

Interviewer's name:

_____**AMY LINH THUY NGUYEN**_____

Date:

_____

The York Management School
Freboys Lane
University of York
Heslington
York, YO10 5GD, UK

TỜ THÔNG TIN
VUI LÒNG GIỮ TỜ THÔNG TIN NÀY VÀ MỘT BẢN COPY GIẤY CHẤP THUẬN PHỎNG VẤN ĐÃ KÝ CHO VIỆC LƯU TRỮ CỦA ANH/CHỊ.

Nền tảng nghiên cứu:
Tựa đề của bài nghiên cứu này là: ***Vốn đầu tư trực tiếp nước ngoài, Thương mại và Quyền sở hữu trí tuệ tại các Thị trường mới nổi: Cách tiếp cận thay thế thông qua lăng kính Nhãn hiệu ở Việt Nam (1986-2016)***. Nghiên cứu này được thực hiện bởi Nguyễn Thùy Linh (Amy), một nghiên cứu sinh Tiến sĩ tại khoa Quản lý York, trường Đại học York tại Anh – và là một phần trong dự án luận án Tiến sĩ của tôi. Trước khi đồng ý tham gia, mong anh/chị vui lòng đọc kỹ bảng thông tin này và có thể hỏi nếu chưa rõ hoặc muốn biết thêm thông tin.

Mục đích nghiên cứu là gì?
Nghiên cứu xem xét mức độ ảnh hưởng về quyền sở hữu trí tuệ của nước sở tại như nhãn hiệu đối với hoạt động đầu tư đa quốc gia FDI vào Việt Nam qua các thời kỳ, đặc biệt là đối với các ngành công nghiệp chuyên về bằng sáng chế truyền thống (hoặc qua một cách tiếp cận nhãn hiệu phi truyền thống) như ngành y dược.

Vì sao anh/chị được mời tham gia?
Anh/chị được mời tham gia bởi anh/chị là những người rất có uy tín trong kiến thức và chuyên môn sâu, hoặc các kinh nghiệm làm việc liên quan trong lĩnh vực quyền sở hữu trí tuệ như bảo hộ nhãn hiệu, và/hoặc trong ngành y dược tại Việt Nam.

Anh/chị sẽ được yêu cầu làm gì?
Do tình hình dịch Covid-19 vẫn đang phức tạp, buổi phỏng vấn sẽ không theo hình thức phỏng vấn trực tiếp truyền thống. Người tham gia có thể chọn một trong những hình thức phỏng vấn sau: qua email, qua điện thoại, hoặc qua Skype – để dễ dàng thuận tiện cho lịch trình hay thời gian của anh/chị. Đối với phỏng vấn qua điện thoại và phỏng vấn qua Skype, các cuộc phỏng vấn bán cấu trúc sẽ được thiết lập và thường kéo dài khoảng một giờ. Tôi sẽ giữ lại các email và ghi lại giọng nói của những người tham gia phỏng vấn qua điện thoại hay Skype - để phân tích thêm luận chứng cho nghiên cứu. Anh/chị sẽ được hỏi lại một lần nữa về quyền cho phép trước khi tiến hành phỏng vấn. Nếu anh/chị không muốn ghi âm giọng nói, tôi sẽ ghi chép thay thế. Xin lưu ý rằng cuộc phỏng vấn này sẽ <u>không ẩn danh</u>, vì vậy tên, chức vụ và công ty của anh/chị có thể nhận dạng được. Anh/chị sẽ được hỏi lại một lần nữa về quyền cho phép và tôi sẽ chỉ tiếp tục cuộc phỏng vấn nếu anh/chị hài lòng với điều đó.

Anh/chị có bắt buộc phải tham gia không?
Anh/chị không bắt buộc phải tham gia vào nghiên cứu. Nếu đồng ý tham gia, anh/chị vẫn có thể tự do rút khỏi nghiên cứu bất cứ lúc nào trong buổi phỏng vấn mà không cần nêu lý do. Nếu rút lui, tất cả dữ liệu sẽ bị hủy và không được sử dụng dưới bất kỳ hình thức nào. Anh/chị

cũng có quyền từ chối trả lời bất kỳ câu hỏi nào mà anh/chị không muốn. Nếu anh/chị hối hận về thông tin mà mình vô tình tiết lộ trong cuộc phỏng vấn, vui lòng gửi email cho tôi để xóa bất kỳ thông tin nhạy cảm nào mà anh/chị muốn xóa trong vòng 30 ngày kể từ ngày phỏng vấn.

Lợi ích của việc tham gia là gì?
Mặc dù anh/chị sẽ không nhận được lợi ích kinh tế nào khi tham gia nghiên cứu này, nhưng anh/chị sẽ có thể nhận được bản tóm tắt kết quả tổng thể của nghiên cứu nếu muốn sau khi nghiên cứu hoàn thành (khoảng 12-18 tháng sau ngày phỏng vấn).

Điều gì sẽ xảy ra với dữ liệu mà anh/chị cung cấp?
Dữ liệu mà anh/chị cung cấp sẽ được sử dụng cùng với dữ liệu của những người tham gia khác để phân tích và được sử dụng làm bằng chứng cho dự án nghiên cứu của tôi và tuyệt đối chỉ được sử dụng cho mục đích học thuật. Dữ liệu của anh/chị sẽ được lưu trữ an toàn tại Đại học York và sẽ không được chuyển giao cho bất kỳ bên thứ ba nào. Tất cả dữ liệu sẽ hoàn toàn tuân thủ Quy định Chung về Bảo vệ Dữ liệu (GDPR).

Bước tiếp theo là gì?
Nếu anh/chị đồng ý tham gia vào nghiên cứu này, vui lòng cho tôi biết bằng cách trả lời email này (amy.nguyen@york.ac.uk). Sau đó, tôi sẽ liên lạc với anh/chị để sắp xếp hình thức phỏng vấn, ngày giờ phù hợp với anh/chị. Ngoài ra, vui lòng ký và gửi lại **giấy chấp thuận phỏng vấn** dưới đây cho tôi qua email. Cảm ơn anh/chị rất nhiều!

Nếu anh/chị cần thêm thông tin gì liên quan về nghiên cứu này, vui lòng liên hệ:
Nghiên cứu sinh: Nguyễn Thùy Linh (Amy), Email: amy.nguyen@york.ac.uk
Giáo viên hướng dẫn: Giáo sư Teresa da Silva Lopes, Email: teresa.lopes@york.ac.uk ; Tiến sĩ Yoo Jung Ha, Email: yoojung.ha@york.ac.uk
Trưởng khoa trường Quản lý tại Đại học York: Giáo sư Mark Freeman, Email: management-pa-dean@york.ac.uk
Nghiên cứu này đã được xem xét và phê duyệt bởi Ủy ban Đạo đức Kinh tế, Luật, Quản lý, Chính trị và Xã hội học (ELMPS) tại Đại học York. Đối với bất kỳ câu hỏi nào về vấn đề này, vui lòng liên hệ: elmps-ethics-group@york.ac.uk

GIẤY CHẤP THUẬN PHỎNG VẤN CHO NGƯỜI THAM GIA

Vốn đầu tư trực tiếp nước ngoài, Thương mại và Quyền sở hữu trí tuệ tại các Thị trường mới nổi: Cách tiếp cận thay thế thông qua lăng kính Nhãn hiệu ở Việt Nam (1986-2016)

Trưởng nhóm nghiên cứu: **Nguyễn Thùy Linh (Amy)**

Mẫu này là để anh/chị nêu rõ có đồng ý tham gia nghiên cứu này hay không. Vui lòng đọc và tích trả lời vào mọi câu hỏi. Nếu có bất cứ điều gì anh/chị chưa rõ hoặc muốn biết thêm thông tin thì vui lòng hỏi trưởng nhóm nghiên cứu.

Anh/chị đã đọc và hiểu tờ thông tin về nghiên cứu này chưa?	Có ❒ Không ❒
Anh/chị đã có cơ hội đặt câu hỏi về việc nghiên cứu này chưa?	Có ❒ Không ❒
Anh/chị có hiểu rằng thông tin mà mình cung cấp sẽ do nhóm nghiên cứu nắm giữ và sẽ không được chuyển giao cho bất kỳ bên thứ ba nào chưa?	Có ❒ Không ❒
Anh/chị có hiểu rằng mình có thể rút khỏi nghiên cứu vì bất kỳ lý do gì chưa?	Có ❒ Không ❒
Anh/chị có hiểu rằng thông tin mình cung cấp có thể được sử dụng ở những nghiên cứu trong tương lai không?	Có ❒ Không ❒
Anh/chị có đồng ý tham gia nghiên cứu này không?	Có ❒ Không ❒
Nếu đồng ý, anh/chị có đồng ý cho phép ghi âm lại cuộc phỏng vấn của mình không? *(Anh/chị vẫn có thể tham gia vào nghiên cứu mà không cần đồng ý với điều này).*	Có ❒ Không ❒

Họ tên của anh/chị:

_____

Chức vụ và Tên công ty của anh/chị:

_____

Địa chỉ email của anh/chị:

_____

Chữ ký của anh/chị:

_____

Tên người phỏng vấn:

_____**AMY LINH THUY NGUYEN**_____

Date:

_____

CONSENT FORM FOR PARTICIPANTS

Foreign Direct Investment Inflows, Trade and Intellectual Property Rights in Emerging Markets: An Alternative Approach Through the Lens of Trademarks in Vietnam (1986-2016)

Lead Researcher: **Amy Linh Thuy Nguyen**

This form is for you to state whether or not you agree to take part in the study. Please read and answer every question. If there is anything you do not understand, or if you want more information, please ask the researcher.

Have you read and understood the information leaflet about the study?	Yes ☑ No ☐
Have you had an opportunity to ask questions about the study?	Yes ☑ No ☐
Do you understand that the information you provide will be held by the research team and will not be transferred to any third party?	Yes ☑ No ☐
Do you understand that you may withdraw from the study for any reason?	Yes ☑ No ☐
Do you understand that the information you provide may be used in future research?	Yes ☑ No ☐
Do you agree to take part in the study?	Yes ☑ No ☐
If yes, do you agree to your interviews being recorded? *(You may take part in the study without agreeing to this).*	Yes ☐ No ☑

Your name: NGUYEN DUC XUAN

Your position and company name: President

Email address: Xuan@ageless.VN

Your signature:

Interviewer's name: **AMY LINH THUY NGUYEN**

Date:

Page 3 of 6

GIẤY CHẤP THUẬN PHỎNG VẤN CHO NGƯỜI THAM GIA

Vốn đầu tư trực tiếp nước ngoài, Thương mại và Quyền sở hữu trí tuệ tại các Thị trường mới nổi: Cách tiếp cận thay thế thông qua lăng kính Nhãn hiệu ở Việt Nam (1986-2016)

Trưởng nhóm nghiên cứu: **Nguyễn Thùy Linh (Amy)**

Mẫu này là để anh/chị nêu rõ có đồng ý tham gia nghiên cứu này hay không. Vui lòng đọc và tích trả lời vào mọi câu hỏi. Nếu có bất cứ điều gì anh/chị chưa rõ hoặc muốn biết thêm thông tin thì vui lòng hỏi trưởng nhóm nghiên cứu.

Anh/chị đã đọc và hiểu tờ thông tin về nghiên cứu này chưa?	Có ☑ Không ☐
Anh/chị đã có cơ hội đặt câu hỏi về việc nghiên cứu này chưa?	Có ☑ Không ☐
Anh/chị có hiểu rằng thông tin mà mình cung cấp sẽ do nhóm nghiên cứu nắm giữ và sẽ không được chuyển giao cho bất kỳ bên thứ ba nào chưa?	Có ☑ Không ☐
Anh/chị có hiểu rằng mình có thể rút khỏi nghiên cứu vì bất kỳ lý do gì chưa?	Có ☑ Không ☐
Anh/chị có hiểu rằng thông tin mình cung cấp có thể được sử dụng ở những nghiên cứu trong tương lai không?	Có ☑ Không ☐
Anh/chị có đồng ý tham gia nghiên cứu này không?	Có ☑ Không ☐
Nếu đồng ý, anh/chị có đồng ý cho phép ghi âm lại cuộc phỏng vấn của mình không? *(Anh/chị vẫn có thể tham gia vào nghiên cứu mà không cần đồng ý với điều này).*	Có ☐ Không ☑

Họ tên của anh/chị: NGUYEN DUC XUAN

Chức vụ và Tên công ty của anh/chị: Chủ tịch Hội đồng Thành Viên

Địa chỉ email của anh/chị: Xtuan@ageless.VN

Chữ ký của anh/chị:

Tên người phỏng vấn: **AMY LINH THUY NGUYEN**

Date:

Page 6 of 6

CONSENT FORM FOR PARTICIPANTS

Foreign Direct Investment Inflows, Trade and Intellectual Property Rights in Emerging Markets: An Alternative Approach Through the Lens of Trademarks in Vietnam (1986-2016)

Lead Researcher: **Amy Linh Thuy Nguyen**

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Have you read and understood the information leaflet about the study?	Yes ☑ No ☐
Have you had an opportunity to ask questions about the study?	Yes ☑ No ☐
Do you understand that the information you provide will be held by the research team and will not be transferred to any third party?	Yes ☑ No ☐
Do you understand that you may withdraw from the study for any reason?	Yes ☑ No ☐
Do you understand that the information you provide may be used in future research?	Yes ☑ No ☐
Do you agree to take part in the study?	Yes ☑ No ☐
If yes, do you agree to your interviews being recorded? *(You may take part in the study without agreeing to this).*	Yes ☑ No ☐

Your name: Do Nguyen Hiep

Your position and company name: Director, Intellectual property Representative Phoenix Law Co. Ltd.

Email address: hiepluatsuh@gmail.com

Your signature:

Interviewer's name: **AMY LINH THUY NGUYEN**

Date: 20 - 8 - 2020

GIẤY CHẤP THUẬN PHỎNG VẤN CHO NGƯỜI THAM GIA

Vốn đầu tư trực tiếp nước ngoài, Thương mại và Quyền sở hữu trí tuệ tại các Thị trường mới nổi: Cách tiếp cận thay thế thông qua lăng kính Nhãn hiệu ở Việt Nam (1986-2016)

Trưởng nhóm nghiên cứu: **Nguyễn Thùy Linh (Amy)**

Mẫu này là để anh/chị nêu rõ có đồng ý tham gia nghiên cứu này hay không. Vui lòng đọc và tích trả lời vào mọi câu hỏi. Nếu có bất cứ điều gì anh/chị chưa rõ hoặc muốn biết thêm thông tin thì vui lòng hỏi trưởng nhóm nghiên cứu.

Anh/chị đã đọc và hiểu tờ thông tin về nghiên cứu này chưa?	Có ☑ Không ☐
Anh/chị đã có cơ hội đặt câu hỏi về việc nghiên cứu này chưa?	Có ☑ Không ☐
Anh/chị có hiểu rằng thông tin mà mình cung cấp sẽ do nhóm nghiên cứu nắm giữ và sẽ không được chuyển giao cho bất kỳ bên thứ ba nào chưa?	Có ☑ Không ☐
Anh/chị có hiểu rằng mình có thể rút khỏi nghiên cứu vì bất kỳ lý do gì chưa?	Có ☑ Không ☐
Anh/chị có hiểu rằng thông tin mình cung cấp có thể được sử dụng ở những nghiên cứu trong tương lai không?	Có ☑ Không ☐
Anh/chị có đồng ý tham gia nghiên cứu này không?	Có ☑ Không ☐
Nếu đồng ý, anh/chị có đồng ý cho phép ghi âm lại cuộc phỏng vấn của mình không? *(Anh/chị vẫn có thể tham gia vào nghiên cứu mà không cần đồng ý với điều này).*	Có ☑ Không ☐

Họ tên của anh/chị: Đỗ Nguyễn Hiệp

Chức vụ và Tên công ty của anh/chị: Giám đốc, Luật sư Sở hữu trí tuệ, Phoenix Law

Địa chỉ email của anh/chị: hiepluatsuhn@gmail.com

Chữ ký của anh/chị:

Tên người phỏng vấn: **AMY LINH THUY NGUYEN**

Date: 20/8/2020

Appendix G

TAISHO's FIRST TRADEMARK REGISTRATION IN HOME COUNTRY JAPAN

Source: Base on Taisho annual report (2018).

Appendix H

ABBOTT's CORE TRADEMARK LOGO

Source: Abbott (2020).

Appendix I

BAYER's CORE TRADEMARK LOGO

Source: Bayer (2020).

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