



UNIVERSITI PUTRA MALAYSIA

***SELECTED FACTORS AFFECTING MALAYSIAN PALM OIL EXPORT
DEMAND TO CHINA***

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**SELECTED FACTORS AFFECTING MALAYSIAN PALM OIL EXPORT
DEMAND TO CHINA**

By

MOHAMMAD YUSOF BIN AHMAD

**Thesis Submitted to the School of Graduate Studies, Universiti Putra
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Master of Science**

June 2020

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Abstract of thesis presented to the Senate of Universiti Putra Malaysia in
fulfilment of the requirement for the degree of Master of Science

SELECTED FACTORS AFFECTING MALAYSIAN PALM OIL EXPORT DEMAND TO CHINA

By

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June 2020

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Besides India and the European Union (EU), China is the major importer country for Malaysian palm oil. Among these countries, China has a tremendous demand performance for Malaysian palm oil, and it was named as the top largest importer country of Malaysian palm oil for twelve consecutive years from 2002 to 2013. However, in the year 2014, China had suddenly reduced its demand for Malaysian palm oil by almost 50% in just three years period despite constant growth in its economy and continuous depreciation of the Malaysian Ringgit. This situation has become a challenge for the Malaysian palm oil industry as the declining trend in demand by China is driven by its behavioural change of import from palm oil to soybean. It is also accompanied by a switch in China's import preference for palm oil from Malaysia to Indonesia. This scenario had affected the Malaysian palm oil industry which plays an important role as one of the main contributors to the national income in terms of GDP. In fact, the decline in export demand will also affect the Malaysian palm oil industry economy where the competitiveness of Malaysian palm oil would deteriorate, and both the export revenue and farmer's income would decline. Thus, what are the significant factors that influence the demand for Malaysian palm oil export to China?

Firstly, the result obtained from the ARDL Bounds test showed statistically significance at 5% level. This indicates that all the estimated regressors have a long run cointegration relationship with the China import demand for Malaysian palm oil. The long-run regression shows that only the export price of Indonesian palm oil is not significant to determine China's palm oil import demand from Malaysia. However, the export price of Malaysian palm oil to China, global price of soybean oil and China real GDP per capita are significant at 5% significance level while the exchange rate of Malaysian Ringgit per Chinese Yuan is the only significant factor at 1% significance level in

determining the export demand of Malaysian palm oil to China. Besides that, all the estimated variables were found to follow the prior expected sign where the export price of Indonesian palm oil, global price of soybean oil, exchange rate and China real GDP per capita each has a positive relationship while the export price of Malaysian palm oil to China has a negative relationship with the export demand to China. Furthermore, the estimated elasticities showed that Malaysia's currency exchange rate is the most important factor to determine the demand in the long run since the variable of elasticity of exchange rate is statistically significant at 1% significance level. The elasticity was estimated at 2.809 which indicates that if the currency depreciates by 1%, it will cause the demand to increase by 2.809%, holding other factors constant. In the short run, all the estimated variables still follow the expected sign except for the export price of Malaysian palm oil lagged one year. However, China real GDP per capita turned out to be insignificant and the export price of Indonesian palm oil remained insignificant in determining the demand in the short run.

In the nutshell, Malaysia's exchange rate stability is the most important factor in determining its palm oil export demand to China in the long and short run. Therefore, the policymaker is encouraged to develop and formulate plans and strategies to minimise the impact of currency instability on the palm oil industry. In addition, the industry players are advised to be more efficient in managing the export price by regulating the export tax and implementing an efficient pricing strategy. Upgrading the products through research and development also beneficial to create a product differentiation. The export price of Indonesian palm oil was found to be insignificant in both the long and short run which indicates that Malaysia remains competitive with the Indonesian palm oil in China's market. Thus, Malaysia should develop plans and strategies to enhance the competitiveness of its palm oil in China. As a recommendation to enhance this study, future studies should adopt a different theory like supply theory or complete market equilibrium theory to confirm the results found in this study. The future researchers are also encouraged to continue this study by employing more up to date data to capture any effect on the presence of structural or behavioural changes.

Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia
sebagai memenuhi keperluan untuk ijazah Master Sains

FAKTOR-FAKTOR TERPILIH YANG MEMPENGARUHI PERMINTAAN EKSPORT MINYAK SAWIT MALAYSIA KE CHINA

Oleh

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Selain India dan negara-negara Eropah, China merupakan salah satu pengimport utama minyak sawit Malaysia. Di antara negara-negara ini, China telah menunjukkan permintaan yang tinggi terhadap minyak sawit Malaysia dan China dinamakan sebagai pengimport terbesar minyak sawit Malaysia untuk 12 tahun berturut-turut dari tahun 2002 hingga 2013. Walau bagaimanapun, pada tahun 2014 Cina telah mengurangkan jumlah permintaan importnya secara mendadak iaitu pada kadar hampir 50% dalam tempoh masa tiga tahun walaupun keadaan ekonominya masih menunjukkan pertumbuhan dan kelemahan mata wang Ringgit Malaysia (RM) di pasaran. Ini adalah cabaran yang perlu dihadapi oleh industri kelapa sawit Malaysia apabila penurunan permintaan ini dipengaruhi oleh perubahan permintaan yang telah bertukar daripada mengimport minyak kelapa sawit kepada mengimport kacang soya. Pilihan permintaan dari Cina juga telah berubah dari minyak sawit Malaysia ke minyak sawit Indonesia. Oleh itu, keadaan ini telah memberi kesan kepada industri minyak sawit Malaysia yang juga merupakan salah satu penyumbang terbesar kepada pendapatan negara dalam aspek Keluaran Dalam Negara Kasar (KDNK). Selain itu, penurunan permintaan eksport yang dialami akan menyumbang kepada beberapa kesan kepada ekonomi minyak sawit Malaysia di mana persaingan minyak sawit Malaysia dalam pasaran semakin lemah, pendapatan eksport menurun dan pendapatan petani juga akan turut terjejas. Jadi, apakah faktor yang signifikan dalam mempengaruhi permintaan eksport minyak sawit Malaysia ke China?

Justeru, pendekatan siri masa ekonometrik (ARDL) telah diguna pakai untuk mengenal pasti faktor-faktor signifikan yang mempengaruhi permintaan China terhadap minyak sawit Malaysia dan secara spesifiknya memeriksa hubungan faktor-faktor tersebut dan nilai keanjalan pengaruh setiap faktor ini dalam jangka masa panjang dan jangka masa pendek. Menerusi analisis yang

dijalankan, hasil ujian Bounds yang diperoleh telah menunjukkan keputusan signifikan secara statistik pada kadar 5%. Hal ini bermakna, terdapat hubungan kointegrasi jangka masa panjang di antara kesemua faktor-faktor pemboleh ubah bebas dengan permintaan eksport minyak sawit Malaysia ke China. Berdasarkan jangkaan regresi jangka masa panjang, hanya faktor harga eksport minyak sawit Indonesia tidak signifikan dalam menentukan permintaan import minyak sawit Malaysia di China. Namun begitu, harga eksport minyak sawit Malaysia ke China, harga minyak soya dunia, dan nilai keluaran dalam negara kasar per kapita Cina adalah faktor yang signifikan pada kadar 5%. Faktor kadar penukaran mata wang Ringgit Malaysia berbanding Yuan Cina merupakan satu-satunya faktor yang signifikan pada kadar statistik 1% dalam mempengaruhi permintaan. Selain itu, faktor-faktor yang dianalisa juga didapati menurut jangkaan tanda awal dimana faktor tukaran mata wang, harga eksport minyak kelapa sawit Indonesia, harga minyak sawit dunia dan KDNK per capita China mempunyai hubungan positif manakala harga eksport minyak kelapa sawit Malaysia ke China mempunyai hubungan negatif terhadap permintaan minyak kelapa sawit Malaysia ke China. Lanjutan itu, keputusan estimasi menunjukkan kadar tukaran mata wang adalah faktor terpenting dalam menentukan permintaan minyak kelapa sawit Malaysia ke China dalam jangka masa panjang memandangkan nilai keanjalan faktor ini dijangka pada nilai sekitar 2.089 yang menunjukkan bahawa setiap penyusutan mata wang Ringgit berbanding Yuan China pada kadar 1% akan menyebabkan permintaan minyak kelapa sawit Malaysia ke China meningkat pada kadar 2.089%, tanpa sebarang perubahan pada faktor-faktor lain. Dalam analisis jangka masa pendek, semua pemboleh ubah bebas masih menurut tanda jangkaan awal kecuali harga minyak sawit Malaysia setahun sebelum. Hasil analisis regresi jangka masa pendek pula menunjukkan bahawa faktor kadar KDNK per kapita China berubah menjadi tidak signifikan seperti mana harga eksport minyak kelapa sawit Indonesia yang kekal tidak signifikan dalam menentukan permintaan minyak kelapa sawit Malaysia ke China dalam analisis ini.

Kesimpulannya, kestabilan nilai mata wang Ringgit adalah faktor terpenting dalam menentukan permintaan minyak sawit Malaysia ke China dalam jangka masa panjang dan pendek. Maka, pihak berkuasa disarankan supaya menyediakan pelan dan strategi yang dapat meminimumkan kesan ketidakstabilan nilai mata wang Ringgit terhadap industri minyak sawit Malaysia. Di samping itu, para penggiat industri ini dinasihatkan untuk bertindak secara lebih efektif dalam menguruskan stok minyak sawit bagi mengelakkan sebarang kelebihan atau kekurangan bekalan dalam pasaran. Seterusnya, harga eksport minyak sawit Indonesia yang tidak signifikan dalam jangka masa panjang dan pendek bermaksud Malaysia masih mampu untuk bersaing dengan minyak sawit Indonesia dalam pasaran China. Sehubungan itu, Malaysia perlu membangunkan pelan dan strategi untuk memperkukuh daya saing minyak sawit Malaysia di pasaran Cina. Sebagai dorongan untuk masa yang akan datang, kajian berkaitan permintaan minyak sawit Malaysia boleh dilakukan dengan menggunakan teori yang berbeza seperti teori penawaran atau teori lengkap pasaran ekuilibrium untuk memastikan kesahihan keputusan kajian ini. Dalam erti kata lain, pengkaji-pengkaji seterusnya disarankan untuk meneruskan kajian ini dengan mengadaptasi

data-data yang lebih terkini untuk mengenal pasti sebarang kesan perubahan struktur atau kelakuan permintaan dalam pasaran.



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LIST OF ABBREVIATIONS

ADF	Augmented Dickey-Fuller
AIDS	Almost Ideal Demand System
ARDL	Autoregressive Distributed Lag
BLUE	Best Linear Unbiased Estimator
BNM	Bank Negara Malaysia
CLRM	Classical Linear Regression Model
CNY	Chinese Yuan
CPKO	Crude Palm Kernel Oil
CPO	Crude Palm Oil
CRGDPC	China's Real GDP per capita
CSIA	China Soybean Industry Association
CUSUM	Cumulative Sum Control Chart
DOSM	Department of Statistics Malaysia
ECM	Error Correction Model
ECT	Error Correction Term
EPP	Entry Point Projects
ERMY	Exchange Rate of Malaysian Ringgit per Chinese Yuan
EU	European Union
EXQD	Export Volume of Malaysian Palm Oil to China
FELCRA	Federal Land Consolidation and Rehabilitation
FELDA	Federal Land Development Authority
FFB	Fresh Fruit Bunch
FTA	Free Trade Agreement

GAPKI	Gabungan Pengusaha Kelapa Sawit Indonesia
GARCH	Generalized Autoregressive Conditional Heteroskedasticity
GDP	Gross Domestic Product
GNI	Gross National Income
IDR	Indonesian Rupiah
IEXP	Indonesian Palm Oil Export Price
JB	Jarque-Bera
MARDI	Malaysian Agricultural Research and Development Institute
MENA	Middle East and North African
MEXP	Malaysian Palm Oil Export Price to China
MPOB	Malaysian Palm Oil Board
MPOC	Malaysian Palm Oil Council
MPOCC	Malaysian Palm Oil Certification Council
MSPO	Malaysian Sustainable Palm Oil Certification Scheme
MYR	Malaysian Ringgit
NARDL	Nonlinear Autoregressive Distributed Lag
NKEA	National Key Economic Area
NWB	Newey-West Bandwith
OER	Oil Extraction Rate
OLS	Ordinary Least Square
PORIM	Palm Oil Research Institute of Malaysia
PORLA	Palm Oil Licensing and Registration Authority
PP	Phillips-Perron

PPO	Processed Palm Oil
QD	Quantity Demand
RESET	Ramsey Regression Equation Specification Error Test
RISDA	Rubber Industry Smallholders Development Authority
SBC	Schwartz-Bayesian Criterion
SIC	Schwarz Info Criterion
SYBP	Soybean Oil World Price
UNCOMTRADE	United Nation Commodity Trade
UPM	Universiti Putra Malaysia
USA	United States of America
USD	United States Dollar
USDA	United States Department of Agriculture
VAR	Vector Autoregressive
WTO	World Trade Organisation
WWF	World Wildlife Fund

CHAPTER 1

INTRODUCTION

This chapter covers the background of the study that includes the discussion on the issues related to Malaysian palm oil export demand to China. The objectives as well as the significance of the study are also discussed, followed by the organisation of this thesis.

1.1 Background of Study

The palm oil industry contributed 37.9% of the RM99.5 billion in the national agriculture gross domestic product (GDP) in 2018 with the export revenue at RM67.49 billion (DOSM, 2019). However, the export of palm oil has fallen since 2014 and the average five years (2014-2018) palm oil export growth rate was merely 3.2% (MPOB, 2019). The significant decline in Malaysian palm oil export was due to several issues, such as the European Union (EU) boycott campaign, China's shift in palm oil demand and preferences of major importing countries (MPOB, 2019). Since 2013, Malaysia had exported approximately 20.4%, 12.9% and 12.8% of its total exported palm oil to China, EU, and India, respectively (MPOB, 2014). However, the palm oil export to China have declined dramatically in the last five years compared to other importing countries (Table 1.1 and Figure 1.1).

Table 1.1: Export Volume of Malaysian Palm Oil to the Major Importer Countries, 2013-2017

Year	China (000' tonnes)	India (000' tonnes)	EU (000' tonnes)
2013	3699	2325	2336
2014	2839	3251	2411
2015	2380	3686	2432
2016	1882	2825	2059
2017	1917	2028	1991

(MPOB, 2018)

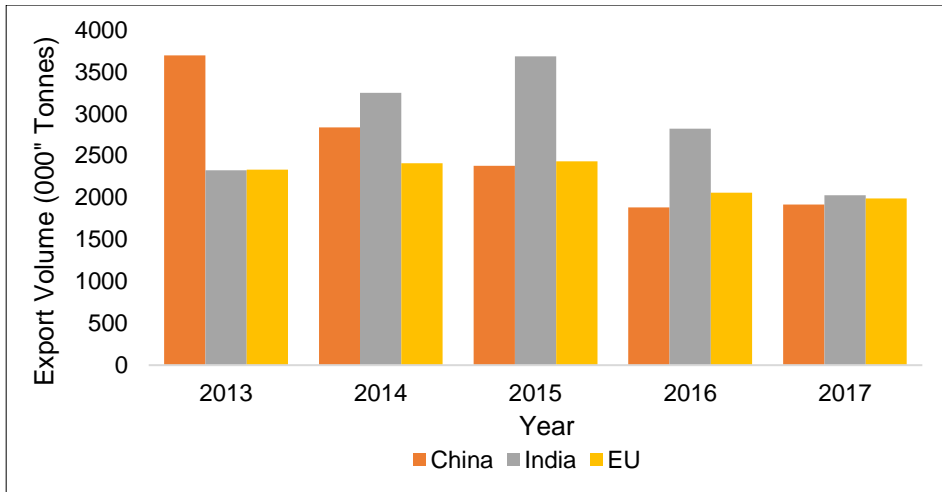


Figure 1.1: Export Volume of Malaysian Palm Oil to the Major Importer Countries, 2013-2017 (Tonnes) (MPOB, 2014 – 2018)

China has a huge economic market with immense shaping power that affects the surrounding countries' economy. In the meantime, China has enjoyed an explosive economic growth for the last 30 years since the free-market reformed policy in 1979. Since then, China's Gross Domestic Product (GDP) was growing on average 10% per annum from 1979 to 2014 (Morrison, 2014). Furthermore, its GDP growth rate recorded an average increase of 6.9% per annum from 2015 to 2017 (World Bank, 2018) and this economic expansion had increased their households' disposable income and purchasing power. Nowadays, China's economic growth and its Belt and Road Initiative has opened a trade opportunity to Asian countries which included Malaysia.

Malaysian palm oil showed an increasing trend on the export of palm oil to China, especially prior to 2008 (Figure 1.2). China has been the largest importer for Malaysian palm oil for the past twelve years (2002-2013), which shared about 20% of the total export of Malaysia's palm oil market (MPOB, 2014). However, China's demand for Malaysian palm oil was unstable and significantly dropped from 2014 to 2016 despite the continuous growth of China's economy. The total export of Malaysian palm oil to China declined approximately by 24.3%, 17.86%, and 21.74% in 2014, 2015, and 2016, respectively. Consequently, China is no longer the largest importer for Malaysian palm oil and has instead, dropped to the third-largest imported country in Malaysia. Accordingly, the reduction of China's demand for Malaysian palm oil directly affected the Malaysian palm oil export revenue. From the year 2011 to 2016, the average palm oil export revenue from China declined approximately by 16% per annum, resulting in 30% loss of the market share in China (MPOB, 2017).

The decline in China's import demand for palm oil in 2015 was due to higher imports of soybean and the switch to palm oil from Indonesia (MPOB, 2016). The performance continued to diminish as the declining rate of demand had worsened by 20.9% where it dropped from 2.38 million tonnes in 2015 to the lowest value of around 1.88 million tonnes in 2016 due to the higher intake of soybean for domestic crushing activity (Table 1.1) (MPOB, 2017). Despite a consistent decline in its demand performance, China did improve its demand in 2017 where the demand had increased by only 1.9% which is from 1.88 million tonnes to 1.92 million tonnes due to the lower import of soybean from the USA (MPOB, 2018).

There are few challenges faced by the Malaysian palm oil industry to boost China's palm oil demand that has implicated the sustainable development of Malaysian palm oil industry. As an overview of China's market structure, the Malaysian palm oil market faces two main challenges, namely heavy rivalry with Indonesian palm oil export and the Chinese strong market demand for soybean.

1.2 China real GDP per capita and Malaysian Palm Oil Export

China's real GDP per capita had shown sustainable growth after the market reformation from 1988 to 1999. The market reformation had initiated an active trading activity through the establishment of the first special economic zone in 1980 (Worden, Savada and Dolan, 1987). This policy has a relationship with its demand for Malaysian palm oil where the increase in its income had created a larger demand for Malaysian palm oil as depicted in Figure 1.2.

Furthermore, China's real GDP per capita has shown a rapid growth after joining the World Trade Organization (WTO) as a member in 2000. Since then, the foreign direct investment has increased substantially, and the capital inflow boots China's real GDP per capita to rise by about 9.2% per annum. Increasing number of foreign companies in China has provided many job opportunities and reduce the unemployment rate. Consequently, the population's wealth increase and the national purchasing power tend to increase as well (Brandt and Rawski, 2008). Thus, the Malaysian palm oil export demand in China has steadily increased by the rate of 11.57% from 1999 to 2008 (Appendix 1).

However, the constant robust growth of economy does not necessarily lead to a sustained rise in demand for export of Malaysian palm oil to China as volatile trend was observed throughout 2009 to 2013 (Figure 1.2). The export demand to China hit a worst level in the following years when China had significantly dropped its demand for Malaysian palm oil by 49.13% which is from 3.6 million tonnes in 2013 to 1.88 million tonnes in 2016 (Appendix 1).

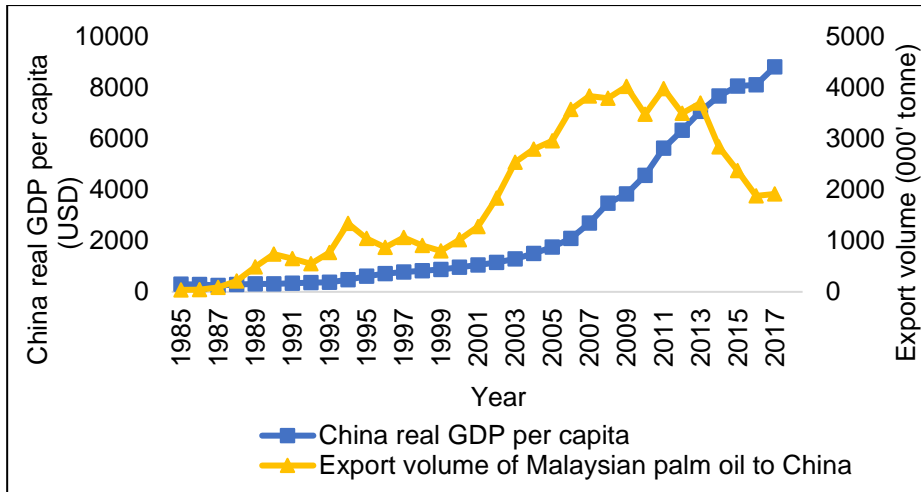


Figure 1.2: China Real GDP per Capita (USD/person) and Export Volume of Malaysian Palm Oil to China, 1985-2017 (Tonnes) (MPOB, 2018; World Bank, 2018)

1.3 Malaysia's Exchange Rate against China's Palm Oil Demand

In the recent decade, Malaysia's exchange rate per Chinese Yuan (CNY) has highly depreciated. In 2012, the currency exchange between Ringgit Malaysia (MYR) to CNY was recorded at RM 2.04 per CNY. Even five years later, in 2017, MYR continued to depreciate to RM 1.61 per CNY or approximately 21% (Appendix 1). Theoretically, depreciation of the Ringgit can increase the importing country's purchasing behaviour as well as its local export as stated in the export demand theory. However, the trade of palm oil between Malaysia and China does not appear to obey this economic theory since Ringgit depreciation does not encourage China to demand more volume of Malaysian palm oil (Figure 1.3).

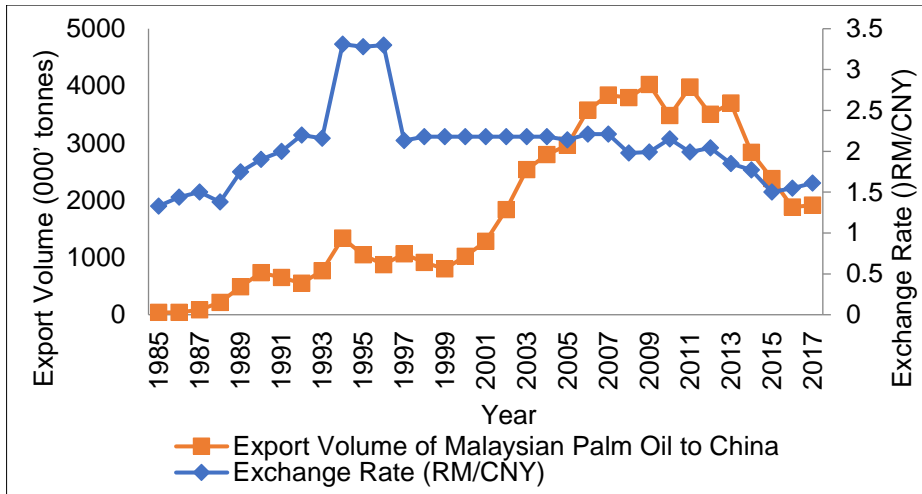


Figure 1.3: Exchange Rate (RM/CNY) and Export Volume of Malaysian Palm Oil to China, 1985-2017 (Tonnes) (BNM, 2018; MPOB, 2018)

1.4 Malaysian Palm Oil Export Price to China and Indonesian Palm Oil Export Price

The palm oil industry is a perfectly competitive market, and all producers can only act as a price taker from the international market. Even if both Malaysia and Indonesia are the top palm oil producer countries, the price is still out of their control. Therefore, the price fluctuation of palm oil between Malaysia and Indonesia are almost similar. Nonetheless, the export price for palm oil recorded by Malaysia was lower than Indonesia's export price from 1985 to 2012 (Figure 1.4).

In 2013, a massive expansion of the Indonesian palm oil industry took place that pushed the price of its palm oil to go lower than the price of Malaysian palm oil. The expansive growth of the Indonesian palm oil industry enables the producer to reduce their export price for 725USD per tonne compared to the Malaysian palm oil export price which around 760USD per tonne (Appendix 1). This indicates that the palm oil industry in Indonesia performed an economic of scale compared to Malaysia. Consequently, Indonesia was able to reduce its price gap with Malaysian palm oil since 2012 (Figure 1.4).

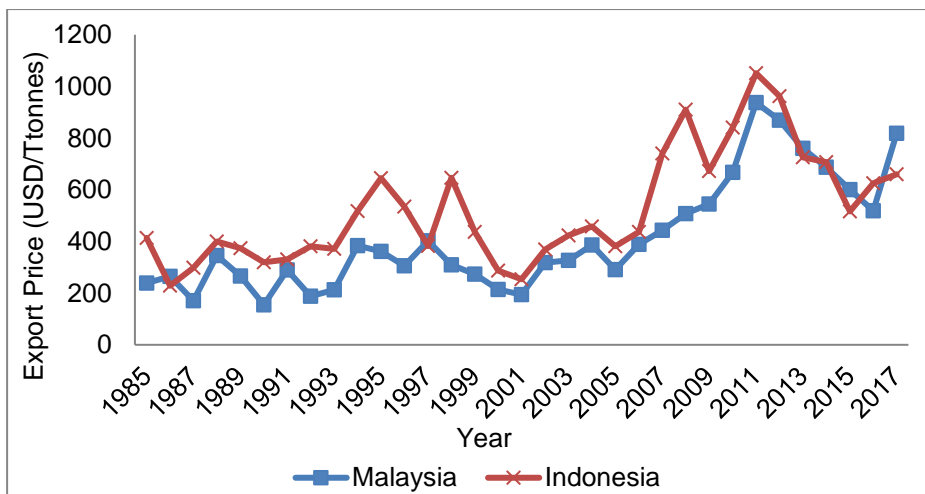


Figure 1.4: Indonesian Palm Oil Export Price and Malaysian Palm Oil Export Price to China, 1985-2017 (USD/Tonnes) (MPOB, 2018; UNCOMTRADE, 2018)

1.5 Malaysian Palm Oil Export Revenue and Market Share in China

Throughout 2010 to 2017, the total export revenue gained by Malaysia has shown a decreasing pattern from 2011 until 2013 before it bounces to increase again from 2015 to 2017 (Figure 1.5). At the same time, the export revenue from China had continuously declined from 2011 until 2016 as the market share of Malaysian palm oil has shrunk. From 2011 to 2013, Malaysia's total export revenue declined by 20.9%, as a result of lower export revenue gain from China which has declined by 47.2% (Table 1.3). Thus, it shows that the revenue from China has a significant impact on the total revenue gain by Malaysia and China can be considered as one of the important markets for Malaysian palm oil export.

Table 1.2: Total Export Revenue (RM), Export Revenue from China (RM) and Market Share of Malaysian Palm Oil in China's Market (%), 2010-2017

Year	Total Export Revenue (RM)	Export Revenue from China (RM)	Malaysian Palm Oil Market Share in China (%)
2010	49660	9031.8	43.5
2011	80410	13268.2	68.2
2012	71400	10275.35	53.2
2013	61360	8806.96	66.4

Table 1.2: continued

2014	63620	7008.33	49.8
2015	60170	5276.85	50.8
2016	67920	4875.78	38.6
2017	77850	5438.87	36

(MPOB, 2018)

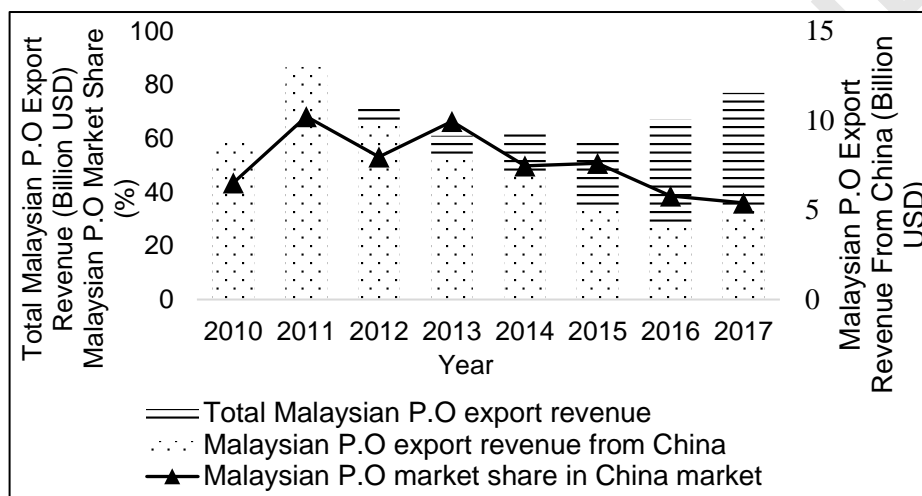


Figure 1.5: Total Export Revenue (RM), Export Revenue from China (RM) and Market Share of Malaysian Palm Oil in China's Market (%), 2010-2017 (MPOB, 2018)

1.6 Issues Related with the Oil Palm

In Malaysia, oil palm is a valuable commodity as it is affectionally known as *golden crop* that is hugely processed into various household and food products. However, in other countries, the perception towards palm oil is rather critical since palm oil is not well accepted in their market. In Europe, oil palm has gained a bad reputation among the consumers, particularly over the claim that oil palm cultivation implicates a major environmental sustainability, especially the tropical forest. The expansion of oil palm plantation has led to the destruction of precious natural habitat and biodiversity losses, forest fragmentation, food chain disorder, changes in soil quality, and water and air pollution (Butler and Laurence, 2009; Wilcove and Koh, 2010; Disdier et al., 2013). The most widespread environmental issue is that the palm oil industry is the main threat to deforestation that forces precious primate species such as *Orangutan* to lose their habitat. According to the United Nations (UN), over 90% of *Orangutan* has been lost in the last 20 years with 1000-5000 Orangutans are killed each year and sacrificed for oil palm expansion. Other

environmental impact such as soil erosion which causes flood and water pollution had led to a worsening of environmental condition as a result of the deforestation activity while the global warming caused by carbon emission has further deteriorated the situation. An analysis revealed that approximately 45% sampled of oil palm plantation derived from a formerly forested area in 1999 (Vijay et al., 2016).

At the same time, in 2017 the EU Parliament expressed their deep concern about the environmental issues with the non-governmental agencies and media highlighting the implication of palm oil use associated with human diet on the health and nutritional. This based on the report by World Health Organization (2003) claiming that the palmitic oil consumption can contribute to a higher risk of cardiovascular diseases. Oxidized palm oil initiate toxicity in the reproductive system and other organ like kidneys, lungs, liver, and heart (Imoisi et al., 2015). Even though the high level of saturated fatty acids in the palm oil may cause health risk, the presence of carotenoids and other dominant antioxidants in the oil makes it among the best vegetable oils to be consumed with a health promoting properties (Oyewole and Amosu, 2010).

The labour issues are also emphasised as it was reported that there are about more than million children are working in the agriculture plantation as a labour. This is quite alarming and catches the attention from the global community as children are denied the right for a quality life. While working as a plantation labour, they are exposed to various hazards including extreme surrounding temperature, pesticides, herbicides, and organic dust. They are also involved in working long hours and handling heavy and dangerous machineries and tools. Generally, plantations in the rural area with insufficient facility for proper education contributes a steady supply of child labours in the plantations (International Labour Organization, 2020). However, based on the report by the United Nations Children's Fund (2016) the large plantations company did not directly employ children as workers. Instead, children are involved voluntarily to help their family member to meet the targeted harvesting quotas. If there are children found alongside their parents working in the plantation, their role was described as an assistant after school.

1.7 Challenges Faces by Malaysian Palm Oil in China's Market

The biggest challenges faced by Malaysian palm oil in China's market are competition with Indonesian palm oil and increasing demand trend towards soybean. Malaysia had faced intense competition with Indonesian palm oil since 2014 after the major transformation of the palm oil industry in Indonesia. As a result, the export volume of palm oil from Malaysia declined by 32.51% from 2.83 million tonnes in 2014 to 1.91 million tonnes in 2017. Compared to Indonesia, its higher capacity in producing palm oil from its huge plantation area had allowed the country to sell their palm oil at a cheaper price in the market. Therefore, since 2014 Indonesia had surpassed the export volume of

Malaysian palm oil to China when it exports around 2.65 million tonnes of palm oil, and it increases by 35.85% to 3.60 million tonnes in 2017. Consequently, Malaysia had lost its market share to Indonesia when the market share of Malaysian palm oil covered only 36% compared to Indonesia who comprises 63.96% from China's total import of palm oil as recorded in 2017 (Table 1.3).

Table 1.3: Export Volume and Export Price of Malaysian and Indonesian Palm Oil to China, 2014-2017

Year	Palm Oil Imported from Malaysia (Million Tonnes)	Palm Oil Imported from Indonesia (Million Tonnes)	Malaysian Palm Oil Export Price to China (USD/Tonnes)	Indonesian Palm Oil Export Price (USD/Tonnes)
2014	2.83	2.65	687.46	707.26
2015	2.38	4.11	600.05	516.76
2016	1.88	3.11	518.34	652.72
2017	1.91	3.6	818.26	659.71

(UNCOMTRADE, 2018; MPOB, 2018; GAPKI, 2018)

Besides, China had switched its edible oil demand preferences from palm oil to soybean oil by importing higher volume of soybean compared palm oil (Figure 1.6). This change was driven by the development of the soybean crushing industry in China which has better technology and capacity to process a higher volume of soybean into high protein animal feed. The industry is currently becoming more important to support the swine and dairy production industry that is highly demanded in China (China Soybean Industry Association, 2016). Therefore, to fulfil the increasing demand for soybean, China had imported around 63.45 million tonnes of soybean in 2013 with a further 28% increment to 81.23 million tonnes in 2017. However, the palm oil imported to China in the same year has declined from 6.19 million tonnes to 5.05 million tonnes or by 18.4% (Table 1.4). The high availability of soybean that feeds the market was contributed by the local production and imports from South American countries (MPOB, 2018). Accordingly, this scenario could weaken the competitiveness of Malaysian palm oil in China market as the nation continues to import soybean from low-cost production countries such as Brazil and Argentina.

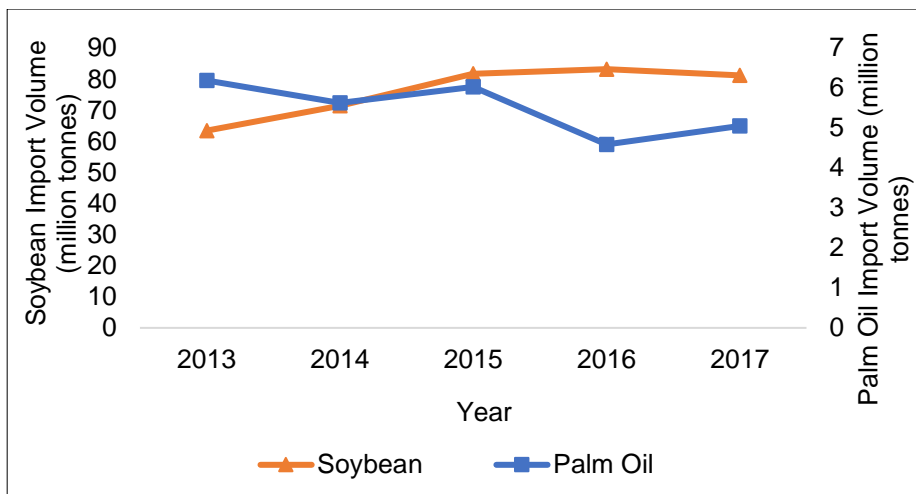


Figure 1.6: Annual Palm Oil and Soybean Oil Import in China, 2013-2017 (Tonnes) (MPOB, 2018; Oil World, 2018)

Table 1.4: Annual Palm Oil and Soybean Oil Import in China, 2013-2017

Year	Palm Oil (Million tonnes)	Soybean (Million tonnes)
2013	6.19	63.45
2014	5.63	71.4
2015	6.03	81.74
2016	4.59	83.23
2017	5.05	81.23

(MPOB, 2018; Oil World, 2018)

1.8 Problem Statement

China is considered as an important market destination for Malaysia to export its palm oil. However, changes in China's demand for Malaysian palm oil have been unfavourable since 2013 despite the sustained rise in China's national income (real GDP per capita) over the years. The Malaysian export of palm oil to China dropped significantly by 36% from 2014 to 2016. Moreover, China is no longer the largest top importer of Malaysian palm oil and is the third-largest importer country in Malaysia. The reduction of China palm oil demand for Malaysian palm oil had affected the Malaysian palm oil export revenue. From 2011 to 2016, the average palm oil export revenue from China has decreased by about 16% per annum, leading the Malaysian palm oil industry to lose approximately 30% of the market share in China.

In addition, there are many other challenges faced by the Malaysian palm oil industry to boost the demand of the Chinese palm oil market. In the recent decade, Malaysia's exchange rate (MYR) per Chinese Yuan (CNY) has been highly depreciated. As recorded in 2012, the exchanged value of 1CNY is equal to 2.04MYR. However, the MYR per CNY continuously depreciated to RM 1.61 per CNY or approximately 21% in 2017. Theoretically, Ringgit depreciation can increase the importing country's purchasing behaviour as well as the local export, as stated in the theory of export demand. However, the trade of palm oil between Malaysia and China appeared to not obey this economic theory as China's import demand for Malaysian palm oil has shown a steady declining pattern even when Ringgit depreciated in the recent five years.

After Indonesia had started the oil palm area expansion campaign, Malaysia's rank as the top largest producer and exporter of palm oil had been replaced by Indonesia (Awalludin, Sulaiman, Hashim and Nadhari, 2015). It has, therefore, created a big competition between these two countries, and it is a big challenge for Malaysia to remain relevant in the palm oil market since the policy and price set up by Indonesia can affect the demand of Malaysian palm oil. Based on the Malaysian Oil Palm Industry 2015 annual report by MPOB, China had reduced its demand for Malaysian palm oil due to the increase in the importation of Indonesian palm oil as the cheaper price holds the price advantage over the Malaysian palm oil. This caused the market share of Malaysian palm oil to shrink due to the expansion of the Indonesian palm oil market share in China. Wherein 2015, China had imported 3.09 million tonnes of Indonesian palm oil compared to around 2.29 million tonnes of Malaysian palm oil.

On the other hand, the price of substitute product also challenged the Malaysian palm oil export demand in China. This is because of the influence exerted by the changes in the price of palm oil and soybean oil on the consumer's preferences that can lead the consumers to switch their demand from palm oil to soybean oil. As reported by the Malaysian Palm Oil Board (MPOB) in the Malaysian Palm Oil Industry 2016 annual report, China has dropped in the ranking from second in 2015 to third in 2016 due to a higher intake of soybean in that country. The Malaysian palm oil demand in China has declined by 20.9% from 2.38 million tonnes in 2015 to 1.88 million tonnes in 2016 while soybean oil intake increased by 1.8% from 81.74 million tonnes to 83.23 million tonnes from 2015 to 2016. The rising import of soybean is driven by the increasing demand from the crushing industry to produce high protein animal feed which has a huge market in China. The by-product of the crushing process yielded soybean oil which can be used as an edible oil for in daily consumption and replace the palm oil (Gale, 2015).

1.9 Research Questions

In order to increase the Malaysian palm oil export demand to China, policymakers must identify the control variables related to China's palm oil import demand. The decreasing demand of Malaysian palm oil to China had a major effect on the income of Malaysian palm oil producer, especially the smallholders. Hence, it is important to identify a relevant policy for the government to implement in order to address the decline in China's import demand for Malaysian palm oil. Based on the problem statement and the issues of declining demand for Malaysian palm oil export to China, this study attempts to answer the following questions:

- I. Which economic control policy is significant to influence China's palm oil demand from Malaysia?
- II. Does Indonesia's export price significantly affect Malaysia's palm oil export to China?
- III. What are the short-run and long-run elasticities of these independent variables in influencing China's palm oil import demand?

1.10 Objective of the Study

Generally, this study is conducted to identify the factors that influence China's demand for Malaysian palm oil. In specific, this study also has the aims:

- I. To examine the relationship between the factors determining the Malaysian palm oil export demand to China; and
- II. To analyse the causal impact of the variables that influence the Malaysian palm oil export demand to China by estimating their long run and short run elasticities

1.11 Significance of the Study

This study will provide policymakers with insights in constructing a future-ready policy in order to optimise the industry trade performance and remain relevant as a leading competitor in the market. Furthermore, it can also provide them with perspectives in reviewing the implemented policy to enhance the efficiency of the industry performance as well as its profitability. Additionally, some of the recommendations of this study can be addressed to the policymaker in order to build a better foundation for the development of this industry.

Besides, the industry player will also benefit from this study, especially the entities involved in the palm oil exportation. The finding of this study will assist

them to forecast the strategy based on future market conditions and enable them to be ready for any uncertainties. With that, they can always be prepared and more flexible to cope with any changes that will happen in the future. This is because the capability to manage and plan is crucial to guarantee a sustainable development and advancement of this industry.

In a nutshell, this research will be useful for future researchers involve in research related to the export demand of Malaysian palm oil. With this study, they will be inspired to expand this study with more extended ideas for more updated findings. The readers can also obtain knowledge on Malaysian palm oil, especially on the export demand to China by going through this research. With that, the government's objective to spread the knowledge and cultivate love among Malaysian towards palm oil via the "love My Palm Oil" campaign can be successfully achieved.

1.12 Organisation of the Thesis

This study comprises six separate chapters with the first chapter (Chapter 1) as the background of this study. The second chapter (Chapter 2) comprises of reviews on the Malaysian palm oil industry. The third chapter (Chapter 3) deals with the theoretical and empirical discussion of previous related research on the palm oil export demand. The fourth chapter (Chapter 4) concerns the adopted methodology utilized to carry out the analysis of the collected data. The outcomes from the analysis were analysed and discussed in Chapter 5, while the summary of the study including policy recommendations and limitations of the study are stated in the final chapter of Chapter 6.

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