UNIVERSITI PUTRA MALAYSIA

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By

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COMPETITIVENESS ANALYSIS OF THE MALAYSIAN COCOA INDUSTRY

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January, 2014

Chair: Associate Professor Alias Radam, PhD
Faculty: Economics and Management

The Malaysian cocoa industry has successfully transforming itself from major cocoa beans producer to a major producer of semi-finished cocoa products. Unfortunately, the declining trend in cocoa beans production has led to the dependence on imported cocoa beans which may expose Malaysian cocoa processors to great risk when there is a squeeze in world supply of cocoa beans. An increase in import transactions also requires the use of more foreign exchange, which could otherwise be used for the importation of other important commodities. This raised the question on the competitiveness of the Malaysian cocoa industry. Therefore, this study applies the value chain and competitiveness analysis in order to assess the competitiveness of the cocoa mid-stream and down-stream sector. It is important to examine whether the disadvantage position in the up-stream sector affects the competitiveness of the cocoa mid-stream and down-sector. The cocoa value chain is significant in providing clearer picture of the current operation of the cocoa industry in Malaysia and to identify the opportunity for upgrading in becoming the major producer of chocolate products.

The value chain analysis requires chain mapping and impact assessment of the chain. The value chain analysis is computed by using the data collected from cocoa manufacturing survey and company's annual financial statement with the reference year of 2011. The input-output flow in the chain reveals that the cocoa processors rely heavily on imported cocoa beans and the function of the cocoa farmers in the cocoa value chain is insignificant to the cocoa processors. The chain analysis also indicates that the cocoa mid-stream sector is more concentrated towards the export market. The cocoa down-stream sector is considered as an emerging sector in Malaysia with more concentration in the domestic market. However, this sector contributed more towards Malaysia's GDP. Total value added worth of RM1.529 billion was created in 2011 with RM1.082 billion contributed by the cocoa down-stream sector and RM447 million by the cocoa mid-stream sector.

Assessments on the competitiveness of the Malaysian cocoa industry were conducted on two perspective; *ex-ante* (potential) and *ex-post* (performance). The *ex-ante* competitiveness is measured by the comparative advantage analysis using the

coefficients such as the Domestic Resource Cost (DRC), the Net Social Profit (NSP) and the Social Cost Benefit (SCB). The secondary data from the Department of Statistic's Annual Survey on Manufacturing Industries was employed covering the period from 2000-2009. The result shows that the Malaysian cocoa processing and cocoa manufacturing sector has a comparative advantage due to efficiency in resource allocation. However, the productions of finished products save more foreign exchange. The factor that improves the comparative advantage position of the cocoa manufacturing sector is the decrease in traded and non-traded input cost. The cocoa processing sector is less competitive than the manufacturing sector. This is associated with the increase in traded input especially in raw material cost.

The market share performance was analysed at sector and product levels using the coefficients such as the Revealed Comparative Advantage (RCA), Net Export Index (NEI) and the Relative Trade Advantage (RTA) indicators. Data from UNComtrade in the form of harmonized system (HS) code at 6 digits were collected covering the period of 2000 to 2011. The result proves that the up-stream sector of the cocoa industry has a competitive disadvantage position. The mid-stream sector or the cocoa processing industry is very competitive as the Malaysian grinders are able to expand and sustain their market shares in the international market. The down-stream sector of the cocoa industry is improving its competitive advantage position. The most competitive products for the Malaysian cocoa industry are the cocoa butter and cocoa powder.

The value chain analysis, comparative advantage analysis and market share analysis conducted in this study shows that each sector in the cocoa value chain played a vital role in ensuring the competitiveness of the cocoa industry. The dependency on imported cocoa beans may expose Malaysian cocoa processors to any supply squeeze in the global cocoa market. The development of the cocoa manufacturing sector has also been very much dependent on the performance of the grindings sector in providing cost competitive raw material. Hence, this study recommends that the government should strongly promote and encourage the cocoa up-stream sector, promote economies of scale in the mid-stream sector and enhance the quality aspect in the cocoa down-stream sector.

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

ANALISIS DAYA SAING INDUSTRI KOKO MALAYSIA

Oleh

FARNIZA SHAREEN BTE JEFFERY

Januari, 2014

Pengerusi: Professor Madya Alias Radam, PhD
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Industri koko Malaysia telah berjaya menjalani transformasi dari sebuah negara pengeluar biji koko kepada pengeluar utama produk-produk koko di dunia. Namun, penurunan pengeluaran biji koko tempatan menyebabkan kebergantungan terhadap biji koko import yang menyebabkan pengisar koko tempatan terdedah kepada risiko ketidakseimbangan pengeluaran biji koko dunia. Selain itu., peningkatan permintaan import terhadap biji koko turut meningkatkan penggunaan kadar tukaran sedangkan kadar tukaran tersebut boleh digunakan untuk tujuan mengimport komoditi yang lebih penting. Situasi ni ini secara langsung telah menimbulkan persoalan mengenai daya saing industri koko Malaysia. Oleh itu, kajian ini menggunakan analisis rantaian nilai dan analisis daya saing bagi menilai tahap daya saing industri koko Malaysia. Kajian ini penting untuk menganalisis sama ada kedudukan yang kurang memberangsangkan di sektor huluan koko berupaya untuk mempengaruhi tahap daya saing di sektor pemprosesan (*mid-stream*) dan hiliran koko tempatan. Analisis rantaian nilai dapat memberi gambaran yang jelas berkenaan operasi semasa industri koko Malaysia dan mengenalpasti potensi untuk meningkatkan kedudukan industri koko dalam rantaian nilai untuk menjadi pengeluar produk coklat utama di dunia.

Rajah rantaian dan analisis kesan rantaian akan digunakan bagi menganalisis rantaian nilai dalam kajian ini dengan menggunakan data yang diperolehi daripada survei pengilang koko dan penyata kewangan tahunan syarikat dengan menggunakan tahun 2011 sebagai rujukan. Aliran input-output di dalam rantaian nilai koko menunjukkan bahawa pemproses koko tempatan adalah bergantung kepada biji koko yang di import, manakala peranan pekebun koko adalah tidak penting terhadap operasi pengisar koko tempatan. Hasil analisis ini juga menunjukkan sektor pemprosesan koko lebih tertumpu kepada pasaran eksport. Manakala sektor hiliran koko merupakan sektor yang sedang meningkat naik dengan dengan konsentrasi di pasaran domestik. Namun, sektor ini memberi sumbangan yang lebih tinggi kepada ekonomi negara. Nilai tambah berjumlah RM1.529 billion telah disumbangkan oleh industri koko dengan RM1.082 billion adalah disumbangkan oleh sektor hiliran koko dan RM447 juta disumbangkan oleh sektor pemprosesan koko.

Analisis daya saing terhadap industri koko Malaysia dijalankan melalui dua perspektif iaitu aspek potensi (*ex-ante*) dan prestasi (*ex-post*). Daya saing dari aspek potensi dinilai menggunakan koefisien faedah berbanding iaitu Kos Sumber Domestik (DRC), Keuntungan Bersih Sosial (NSP) dan Faedah Kos Sosial (SCB). Data sekunder dari Survei Tahunan Industri Pengilangan yang dijalankan oleh Jabatan Perangkaan Malaysia meliputi tahun 2000-2009 digunakan bagi tujuan tersebut. Hasil analisis menunjukkan sektor pemprosesan dan pengilangan koko mempunyai faedah berbanding dan efisien dalam alokasi sumber. Namun, pengeluaran produk akhir koko menjimatkan lebih banyak kadar tukaran. Penurunan dalam kos input merupakan faktor penting yang meningkatkan kedudukan faedah berbanding sektor pengilangan koko. Walaupun sektor pemprosesan koko masih efisien, namun peningkatan dalam kos input terutamanya kos bahan mentah menyebabkan sektor pemprosesan koko kurang berdaya saing berbanding sektor pengilangan koko.

Bagi menilai prestasi syer pasaran industri koko Malaysia, analisis dijalankan pada dua tahap iaitu pada tahap sektoral dan pada tahap produk. Analisis dijalankan dengan menggunakan koefisien syer pasaran seperti Faedah Berbanding Diterangkan (RCA), Indeks Eksport Bersih (NEI) dan Faedah Perdagangan Diterangkan (RTA). Data 6 digit dari UNComtrade dalam bentuk kod sistem harmoni (HS) digunakan meliputi tahun 2000 hingga 2011. Hasil analisis menunjukkan sektor huluan koko adalah tidak berdaya saing. Manakala, sektor pemprosesan koko menunjukkan prestasi yang memberangsangkan kerana berjaya mengembangkan dan mengekalkan syer pasaran di peringkat antarabangsa. Sektor hiliran koko pula menunjukkan peningkatan dalam tahap daya saingnya. Produk koko yang mempunyai tahap daya saing yang tinggi di pasaran antarabangsa adalah produk lemak koko dan serbuk koko.

Analisis rantaian nilai, analisis faedah berbanding dan analisis syer pasaran membuktikan bahawa setiap sektor dalam industri koko memainkan peranan yang penting dalam mengekalkan daya saing industri koko Malaysia. Kebergantungan terhadap biji koko import meningkatkan risiko sektor pemprosesan koko terhadap kemungkinan ketidakseimbangan pengeluaran biji koko di pasaran global. Perkembangan sektor pengilangan koko juga amat bergantung kepada prestasi sektor pemprosesan koko dalam menyediakan bahan mentah pada kos yang rendah. Oleh itu, kajian ini menyarankan agar kerajaan mempromosi dan menggalakkan sektor huluan koko secara agresif, menggalakkan ekonomi skala di dalam sektor pemprosesan koko dan meningkatkan aspek kualiti di dalam sektor hiliran koko.

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I certify that a Thesis Examination Committee has met on 6th January 2014 to conduct the final examination of Farniza Shareen Jeffery on her thesis entitled “Value Chain and Competitiveness Analysis in Malaysian Cocoa Industry” in accordance with the Universities and University Colleges Act 1971 and the Constitution of the university Putra Malaysia [P.U.(A) 106] 15 March 1998. The Committee recommends that the student be awarded the relevant degree.

Members of the Thesis Examination Committee were as follows:

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This thesis was submitted to the Senate of Universiti Putra Malaysia and has been accepted as fulfilment of the requirement for the degree of Master of Science. The members of the Supervisory Committee were as follows:

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Date:

DECLARATION

Declaration by graduate student

I hereby confirm that:

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Declaration by Members of Supervisory Committee

This is to confirm that:

- the research conducted and the writing of this thesis was under our supervision;
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