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Thailand's export opportunities in the European Union: an analysis of the DSM results1

L. CUYVERS² W. PUPPHAVESA³ E. STEENKAMP4 W. VIVIERS

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⁴ School of Economics, North-West University (Potchefstroom Campus), South Africa; ermie.steenkamp@nwu.ac.za.

² Emeritus professor and Director of the Centre for ASEAN Studies, University of Antwerp; extraordinary professor North West University (Potchefstroom Campus), South Africa; ludo.cuyvers@uantwerpen.be.

Thailand Development Research Institute, Bangkok, Thailand; pwisarn@yahoo.com.

⁵ TRADE research focus area, North-West University (Potchefstroom Campus), South Africa; wilma.viviers@nwu.ac.za.

Abstract

In the light of a future EU-Thailand Free Trade Agreement, the paper identifies Thailand's realistic export opportunities (REOs) in the European Union using the Decision Support Model (DSM) approach. The 10 858 realistic export opportunities in the EU thus identified represent 21 % of Thailand's REOs in the world or 26.6 % in terms of estimated potential export value.

We find that the vast majority of the REOs are in EU markets where Thailand's market share is still relatively small or even negligible. Yet, 11.49 % of Thailand's "actual" REOs (9.46 % in terms of export value) are about products that Thailand is already exporting to the EU, such that liberalization of the EU import markets will allow the country to pick some "low-hanging fruit".

1. Introduction

Although a far-away destination for Thailand's export products, the market of the European Union (EU) offers many opportunities.

The EU is an expanding market. The number of EU members has increased from six in 1957 to 15 in 1995 (the "EU-15") and to 28 at present. The total population of the EU on 1 January 2015 was 508.2 million (as compared to 322.8 million in the USA, but 1,370 million in China).⁶

The EU market is since 1993 a unified single market, which allows the free movement of goods, capital, services, and people. High health, safety and environmental requirements are making the EU market a difficult market for non-EU exporters. However, once these requirements are met by the export product, it can circulate freely in the EU wherever there is demand in a EU member country, thus opening the EU single market of 508 million people.

2. Benefits of EU-Thailand trade liberalisation

Thailand is the EU's third largest trading partner in ASEAN, and the EU is Thailand's fourth trading partner in the world (after China, Japan and the United States). At the time of the military coup of May 2014, Thailand was in the process of negotiating a "WTO Plus" Free Trade Agreement with the EU. It was estimated that by 2020 a "WTO Plus" EU-ASEAN FTA would lead to welfare gains in ASEAN of 2.2-2.3 % of GDP, with the largest gains experienced by Malaysia (8-8.3 %) and Thailand (2.6-2.7 %) (Boumellassa, Decreux and Fontagne, 2006). EU-ASEAN FTA negotiations started in May 2008, but in February 2009 the EU temporarily abandoned its interregional strategy (Cuyvers, Chen and De Lombaerde, 2010: 261). In December 2009, EU Member States gave the green light for the European Commission to pursue negotiations towards FTAs with individual ASEAN countries. On 16 December 2012, the negotiations on an EU-Singapore FTA were concluded. The Vietnam-EU FTA was concluded in December 2015. Negotiations for an EU-Thailand FTA were formally launched on 6 March 2013. There has been no progress since then.

Apart from zero import tariffs in the EU, Thailand's products will also benefit from the provisions of the relevant chapters on Non-Tariff Measures in the FTA, which will be similar to the chapters in the EU FTAs with Singapore and Vietnam (Cuyvers, 2014).

⁶ However, on June 23, 2016 a majority in the United Kingdom voted in a referendum to leave the European Union (the so-called "Brexit"). Due to the uncertainty related to the "Brexit" process, we decided to still treat the UK as a EU member country.

An impact assessment study on the EU-Thailand FTA (Pupphavesa et al., 2011) based on the GTAP 7 database under various scenarios found that:

- A bilateral EU-Malaysia FTA and EU-Vietnam FTA would have a negative impact on Thailand's GDP by 0.41 % or about 297 million US\$ equivalence of welfare loss, mostly attributable to terms of trade deterioration.
- 2) An EU-Thailand FTA excluding the EU's sensitive products (rice, bovine meat products, vegetable oils and fats, dairy products, sugar) would increase Thailand's GDP by 2.32 % or 1.59 billion US\$ equivalence of welfare gain due to an improvement in both resource allocation efficiency and terms of trade.
- 3) An EU-Thailand FTA with completely free trade in goods and a 20 % reduction of trade restrictions on services would increase Thailand's GDP by 2.83 % or 2.477 billion US\$ equivalence of welfare gain. With a 40 % reduction of the trade restrictions on services Thailand would enjoy a higher increase in GDP, up to 2.85 % or 2.757 billion US\$ equivalence of welfare gain.
- 4) With capital stock adjustment, Thailand's GDP would increase even more to 3.01 % and 3.05 % under 20 % and 40 % reductions in trade restrictions on services respectively.

Employing a modified gravity model, it was found that:

- Thailand's actual merchandise exports to EU countries, especially the large economies, were much below their potential level.
- Trade and investment between Thailand and EU were complementary, i.e. an increase in trade between Thailand and the EU would lead to an increase in EU investment into Thailand and vice versa.
- 3) An improvement in Thailand's investment rules and regulation, equitable treatment, and transparency would raise Thailand's potential FDI inflows from the EU.

The analysis of comparative advantage in exports (RCA $_x$ > 1) and imports (RCA $_m$ > 1) between Thailand and the EU member countries for the top 100 export and import products defined at HS 6 digit level also showed for a large number of products trade creation benefits. However, for a number of products for which Thailand has low comparative advantage in exports with EU member countries having comparative advantage in imports, such as textile and garments and footwear, Thailand-EU trade liberalisation could lead to trade diversion and, hence, welfare losses unless the import liberalisation of these products were extended to non-parties on an MFN basis.

Lastly, there are products facing high trade restrictions. For Thailand, these highly protected products included beer made from malt, grape wine, perfumes, cosmetics, articles of jewelry, ceramics, etc., and for the EU agricultural products, food, cassava starch, sugar, electrical and electronic parts, motor vehicles parts, etc. Strong political will would be needed to achieve a meaningful Thailand-EU FTA.

The TDRI study report also covered issues such as trade in services, investment, IPR, and government procurement. The study report recommended negotiating a deep, comprehensive and high quality Thailand-EU FTA taking into account Thailand's need to accelerate effective economic restructuring and reform to achieve stable, equitable and sustainable socio-economic development.

3. Methodology: Decision Support Model (DSM) approach and application to Thailand

Global FDI The Decision Support Model (DSM) methodology (Cuyvers et al., 1995; Cuyvers, 2004; Cuyvers, Steenkamp and Viviers, 2012a; Viviers et al., 2014) which is used, consists of consecutive "filters", aimed at selecting product-country combinations, which can be considered as providing realistic export opportunities (REOs) for the exporting country (here: Thailand).

The DSM methodology has previously been used to identify the realistic export opportunities for Belgium (Cuyvers et al., 1995; Cuyvers, Steenkamp and Viviers, 2012b), the Philippines, Thailand (Cuyvers, 1996; Cuyvers, 2004; Cuyvers, Steenkamp and Viviers, 2012c), South Africa (Pearson et al., 2010; Cuyvers, Steenkamp and Viviers, 2012c), the Netherlands (Viviers et al., 2014), Greece (Kanellopoulos, N.C. and Skintzi) and Namibia (Teweldemedhin, M. Y. and Chiripanhura, B. 2015).

Figure 1 summarises its methodology.

Thailand's REOs in the European Union are identified based on parameters derived from the distribution of GDP and international trade data of all countries in the world, for which data are available, not only EU countries.

General market potential Political and commercial risk Filter 1 Country's size and growth Preliminary opportunities Rejected markets Market potential relating to the product Filter 2 Short- and long-term import growth Import market size Possible opportunities Market access conditions per product Degree of concentration Filter 3 Trade restrictions Realistic opportunities Final analyses of opportunities Filter 4 Realistic export opportunities categorised List of realistic export opportunities categorised according to the import market size and growth and the exporting country's market share

Figure 1: The basic methodology of the DSM

Filter 1 of the DSM eliminates high political and/or commercial risk countries, and countries showing insufficient size or economic growth. In filter 2, the product categories for the countries which passed Filter 1 are assessed according to their respective imports size and imports growth. Filter 3 considers trade barriers for the product-country combinations that passed Filter 2. The product-country combinations that pass Filter 3 are considered as realistic export opportunities and are categorised in Filter 4 according to the respective import market characteristics and Thailand's market share in the importing country (see Table 1).

In order to smooth out years with unusually high or low trade figures, five-year weighted averages of the trade data are calculated and used, making the DSM results less prone to erratic changes and allowing both the Thai exporters and Thailand's export promotion agencies to evolve more sustainable export strategies.

3.1 Filter 1

The country risk posed by 210 countries and their macro-economic performance is evaluated using information from the *Office National du Ducroire* (ONDD, 2014) and *World Bank* data respectively. Filter 1 leads to retaining 165 countries that are meeting the two sets of criteria.

3.2 Filter 2

In filter 2 2009-2013 Comtrade annual import trade data are used, as adjusted by the French *International Economics Research Centre CEPII* in their BACI world trade database, at HS 6-digit level (2002 revision), for the countries that passed filter 1. However, some countries were deleted because of lacking import data from this source, e.g. Antigua and Barbuda, Puerto Rico, the Channel Islands and Taiwan.

There are 838 727 product-country combinations investigated according to their size (in US\$) and their growth rates. A country's imports for product *i* are considered as offering interesting export potential to Thailand if they are either of sufficient size and/or show sufficient positive growth rates in the short and longer term, based on calculated cut-off values for size and growth for each product group (Cuyvers, Steenkamp and Viviers, 2012a). ⁷ The calculation of these cut-off values is based on the characteristics of the distribution of import size and growth rates data respectively at product level in the world. The import size and growth rates that are higher than the respective cut-off values are passing filter 2, which leads to the selection of 275 541 product-country combinations in the world market as possible export opportunities (PEOs) for Thailand.

3.3 Filter 3.1: Import market concentration

Filter 3 assesses Thailand's ability to penetrate a given foreign market, as hampered by various trade barriers. Filter 3.1 assesses for each product-country combination the concentration of the import market. As in Cuyvers et al. (1995: 180-181) and Cuyvers (2004: 261-262) we measure import market concentration by the Herfindahl-Hirschmann Index (HHI), and calculate cut-off values, as outlined in Viviers et al. (2014). A product-country combination showing a HHI higher than the cut-off value will not pass due to too high concentration. Filter 3.1 leads to the selection of 159 798 product-country combinations as subset HHI.

⁷ A refinement from in this run is that filter 2 requirements are made stricter by only selecting product-country combinations with positive growth trends, in addition to the criteria previously described in Cuyvers, Steenkamp and Viviers (2012a).

3.4 Filter 3.2: Import market access restrictions

Following Cuyvers et al. (1995) and Cuyvers (1996, 2004) no quantification of market access barriers is attempted, but an index of "revealed absence of barriers to trade" (RATB) is used as proxy. This index shows the share of Thailand's fellow ASEAN-5 countries' exports to EU country *i* in their respective exports of product group *j*, corrected for the share of that EU country *i* in world trade of product group *j*. It is assumed that Thailand should experience no "revealed barriers to trade" for a PEO in a given EU market if at least one of the four other ASEAN-5 countries has a "revealed comparative advantage" in exporting to that market. In this way 67 260 product-country combinations are selected as subset RATB of PEOs which show a "revealed absence of trade barriers".

Since EU import markets should be *both* sufficiently accessible and reasonably competitive (less concentrated), we take HHI \cap RATB, the intersection of the two sub-sets of product-country combinations. This yields 51 620 product-country combinations, which derive from filter 3 and are called realistic export opportunities (REOs), in contrast to the possible export opportunities (PEOs) which come out of filter 2.

3.5 Filter 4: The categorisation of Thailand's realistic export opportunities according to import market characteristics and import market share

Filter 4 categorises the REOs, according to the import market characteristics and Thailand's relative import market share for each REO taken separately (for details see Cuyvers, Steenkamp and Viviers, 2012a; see also Tables 2a, 2b, 3a and 3b). Figure 2 below summarises the filtering process.

Filter 1 Filter 1.1: Country risk 210 of all countries. 33 countries countries dropped. 176 countries go to Filter 1.2. Filter 1.2: Country macro-economic characteristics: GDP and GDP per capita. 166 166 countries with 838 727 HS6-digit international trade data Filter 2 Size and growth (positive only) of the import markets: 275 541 product/country combinations selected Filter 3 Filter 3.2 Filter 3.1 Import market Import market concentration at accessibility at disaggregated disaggregated product level: product level: 67 260 159 798 product/country product/country combinations combinations selected selected 51 620 product/country combinations selected as realistic export opportunities Filter 4 Categorisation of realistic export opportunities according to import market characteristics and the relative market share of the exporting country (Thailand)

Figure 2: Summary of the DSM filtering process as applied to Thailand

The distribution of Thailand's realistic export opportunities (numbers) into the world, according to relative market position and market characteristics is shown in Table 1.

Table 1: Thailand's REOs for the World - 2013

		Market			Market	
		share of	Market share	Market share	share of	
		Thailand	of Thailand	of Thailand	Thailand	
		relatively	intermediately	intermediately	relatively	
		small	small	high	high	Total
		Cell 1	Cell 6	Cell 11	Cell 16	
	Large market	4 320	472	98	84	4 974
	market	8,4%	0,9%	0,2%	0,2%	9,6%
	Growing	Cell 2	Cell 7	Cell 12	Cell 17	
	(long- and short-	33 911	3835	975	1074	39 795
Import demand size and growth	term) market	65,7%	7,4%	1,9%	2,1%	77,1%
	Large	Cell 3	Cell 8	Cell 13	Cell 18	
au	market	728	66	11	7	812
d size	short-term growth	1,4%	0,1%	0,0%	0,0%	1,6%
anc	Large	Cell 4	Cell 9	Cell 14	Cell 19	
<u>e</u> m	market	1 183	177	49	41	1 450
oort o	long-term growth	2,3%	0,3%	0,1%	0,1%	2,8%
<u> </u>	Large	Cell 5	Cell 10	Cell 15	Cell 20	
	market	3 748	606	118	117	4 589
	short- and long-term growth	7,3%	1,2%	0,2%	0,2%	8,9%
	Tetal	43 890	5 156	1 251	1 323	51 620
	Total	85,0%	10,0%	2,4%	2,6%	100,0%

4. Thailand's realistic export opportunities in the EU.

Table 2 indicates that the number of Thailand's REOs in the European Union represents 21 % of Thailand's REOs in the world. By calculating for each REO the average US\$ value of the imports from the six major supplying countries (excluding Thailand), a rough estimate can be made of its potential export value.⁸

The potential export value of Thailand's REOs in the EU totals 166.1 billion US\$, or 26.57 % of that in the world. It is revealing that 93.29 % of Thailand's potential export value is to be found in the markets of the EU-15, in contrast to the meagre 6.71 % in the new EU-member countries (mostly Central European countries). Among the EU-15 countries, Germany is leading in terms of potential export value, followed by France and the UK at some distance. However, the distinction between EU-15 and "new" member countries should not be carried too far: Poland and the Czech Republic have a higher share in Thailand's REOs than more peripheral EU-15 countries and come immediately after Spain, and before Sweden and Austria.

Table 2 distinguishes between the number of REOs (and their associated potential export values) on the one hand, and the REOs that are related to products which Thailand is already exporting to the rest of the world, also taking into account re-exports. Of the 10 858 REOs in the EU, 4 082 are REOs relating to products that the country is apparently producing and successfully exporting to the rest of the world, as shown by the figures between brackets in Table 2.

⁸ In discussions with *ITC*, Yvan Decreaux, Julia Spies and Cristian Ugarte an observation was made that this approach (average of the top six excluding home market) can significantly overestimate potential exports since no explicit consideration is given to production capacity. In agreement with the ITC comments, we intend to refine the potential export approach in future research.

⁹ As a comparison, ASEAN+3 represents 20 % of the number of Thailand's REOs and 40.2 % of the country's potential export value based on these REOs (Cuyvers, L., Steenkamp, E., Viviers, W., Cameron, M. and Rossouw, R., 2016, Table 1 and Cuyvers, L., Steenkamp, E., Viviers, W., Cameron, M. and Rossouw, R. 2017, Table 1).

Table 2: Thailand's realistic export opportunities in EU-28 (opportunities with Thailand's RCA≥0.7 and RTA>0 are between brackets) - 2013¹⁰

Country No of REOs (with RCA≥0.7 and RTA>0) % share of EU-28 total RTA>0 total potential export value in US\$ thousand (with RCA≥0.7 and RTA>0) % of total potential in EU-28 (with RCA≥0.7 and RTA>0) Austria 362 (141) (3.45) (178 311) (1.11) 1.13 (1.11) (1.11) Belgium-Luxembourg 601 (5.54 (6.41) (7 002 147) (10.77) 10.77 (10.77) Denmark 235 (2.16 (6.41) (7 002 147) (10.77) 0.54 (111) Belgium-Luxembourg 276 (2.16) (427 283) (0.66) 0.60 (6.66) Finland 276 (2.54 991 105 0.60) 0.60 (6.66) Finland (111) (2.72) (712 814) (1.10) (1.58 (6.8) (1.28) (1.22 83) (0.66) France 878 (300) (7.35) (9 673 372) (14.88) (16.58 (9.67) (1.22 81) (1.22 81) (1.22 81) (1.22 81) (1.22 81) (1.22 81) Germany 1089 (3.42) (8.38) (11.725 341) (18.04) (11.22 474) (0.19) Greece 225 (2.07 2.15 160 (1.12 2474) (0.19) (12.24 47) (0.19) Italy 801 (3.66) (7.74) (5.143 643) (7.791) (7.91) Netherlands 636 (5.86 2.1772 452 13.11 (1.22 474) (0.19) (7.91) Netherlands 636 (5.86 2.1772 452 13.11 (1.22 474) (0.42 (1.22 474) (0.19) (7.91) Spain 519 (2.56) (7.39) (2.147052 (3.3				Weighted average		
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Reland R	Greece	225	2.07		0.13	
Ireland (80) (1.96) (396 688) (0.61) Italy 801 7.38 12 009 105 7.23 (316) (7.74) (5 143 643) (7.91) Netherlands 636 5.86 2 1772 452 13.11 (242) (5.93) (11 557 668) (17.78) Portugal 309 2.85 614 747 0.37 (133) (3.26) (273 176) (0.42) Spain 519 4.78 6 952 277 4.19 (212) (5.19) (2 147 052) (3.30) Sweden 305 2.81 1 882 916 1.13 (121) (2.96) (741 606) (1.14) United Kingdom 1129 10.40 26 001 057 15.66 (387) (9.48) (9 837 949) (15.14) EU-15* total 7 580 69.81 154 935 014 93.29 (2 783) (68.80) (60 480 863) (93.06) Bulgaria 156 1.44 7		(89)	(2.18)	(122 474)	(0.19)	
Record R	Ireland	215	1.98	789 729	0.48	
Netherlands	nciana	(80)	(1.96)	(396 688)	(0.61)	
Netherlands (316)	Italy	801	7.38	12 009 105	7.23	
Netherlands (242) (5.93) (11 557 668) (17.78) Portugal 309 2.85 614 747 0.37 (133) (3.26) (273 176) (0.42) Spain 519 4.78 6 952 277 4.19 (212) (5.19) (2 147 052) (3.30) Sweden 305 2.81 1 882 916 1.13 (121) (2.96) (741 606) (1.14) United Kingdom 1129 10.40 26 001 057 15.66 (387) (9.48) (9 837 949) (15.14) EU-15* total 7 580 69.81 154 935 014 93.29 (2 783) (68.80) (60 480 863) (93.06) Bulgaria 255 2.35 298 335 0.05 (108) (2.65) (133 123) (0.20) Croatia 156 1.44 78 642 0.03	italy	(316)	(7.74)	(5 143 643)	(7.91)	
Portugal (242) (5.93) (11 557 668) (17.78)	Nothorlanda	636	5.86	2 1772 452	13.11	
Portugal (133) (3.26) (273 176) (0.42) Spain 519 4.78 6 952 277 4.19 (212) (5.19) (2 147 052) (3.30) Sweden 305 2.81 1 882 916 1.13 (121) (2.96) (741 606) (1.14) United Kingdom 1129 10.40 26 001 057 15.66 (387) (9.48) (9 837 949) (15.14) EU-15* total 7 580 69.81 154 935 014 93.29 (2 783) (68.80) (60 480 863) (93.06) Bulgaria 255 2.35 298 335 0.05 (108) (2.65) (133 123) (0.20) Croatia	Netherlands	(242)	(5.93)	(11 557 668)	(17.78)	
Spain (133) (3.26) (273 176) (0.42) Spain 519 4.78 6 952 277 4.19 (212) (5.19) (2 147 052) (3.30) Sweden 305 2.81 1 882 916 1.13 (121) (2.96) (741 606) (1.14) United Kingdom 1129 10.40 26 001 057 15.66 (387) (9.48) (9 837 949) (15.14) EU-15* total 7 580 69.81 154 935 014 93.29 (2 783) (68.80) (60 480 863) (93.06) Bulgaria 255 2.35 298 335 0.05 (108) (2.65) (133 123) (0.20) Croatia 156 1.44 78 642 0.03	Dentunal	309	2.85	614 747	0.37	
Spain (212) (5.19) (2 147 052) (3.30) Sweden 305 2.81 1 882 916 1.13 (121) (2.96) (741 606) (1.14) United Kingdom 1129 10.40 26 001 057 15.66 (387) (9.48) (9 837 949) (15.14) EU-15* total 7 580 69.81 154 935 014 93.29 (2 783) (68.80) (60 480 863) (93.06) Bulgaria 255 2.35 298 335 0.05 (108) (2.65) (133 123) (0.20) Croatia 156 1.44 78 642 0.03	Portugai	(133)	(3.26)	(273 176)	(0.42)	
Sweden (212) (5.19) (2 147 052) (3.30) Sweden 305 2.81 1 882 916 1.13 (121) (2.96) (741 606) (1.14) United Kingdom 1129 10.40 26 001 057 15.66 (387) (9.48) (9 837 949) (15.14) EU-15* total 7 580 69.81 154 935 014 93.29 (2 783) (68.80) (60 480 863) (93.06) Bulgaria 255 2.35 298 335 0.05 (108) (2.65) (133 123) (0.20) Croatia 156 1.44 78 642 0.03	2 .	519	4.78	6 952 277	4.19	
Sweden (121) (2.96) (741 606) (1.14) United Kingdom 1129 10.40 26 001 057 15.66 (387) (9.48) (9 837 949) (15.14) EU-15* total 7 580 69.81 154 935 014 93.29 (2 783) (68.80) (60 480 863) (93.06) Bulgaria 255 2.35 298 335 0.05 (108) (2.65) (133 123) (0.20) Croatia 156 1.44 78 642 0.03	Spain	(212)	(5.19)	(2 147 052)	(3.30)	
(121) (2.96) (741 606) (1.14) United Kingdom 1129 10.40 26 001 057 15.66 (387) (9.48) (9 837 949) (15.14) EU-15* total 7 580 69.81 154 935 014 93.29 (2 783) (68.80) (60 480 863) (93.06) Bulgaria 255 2.35 298 335 0.05 (108) (2.65) (133 123) (0.20) Croatia 156 1.44 78 642 0.03		305	2.81	1 882 916	1.13	
United Kingdom (387) (9.48) (9.837 949) (15.14) EU-15* total 7580 69.81 154 935 014 93.29 (2783) (68.80) (60 480 863) (93.06) Bulgaria 255 2.35 298 335 0.05 (108) (2.65) (133 123) (0.20) Croatia 156 1.44 78 642 0.03	Sweden	(121)	(2.96)	(741 606)	(1.14)	
United Kingdom (387) (9.48) (9.837 949) (15.14) EU-15* total 7580 69.81 154 935 014 93.29 (2783) (68.80) (60 480 863) (93.06) Bulgaria 255 2.35 298 335 0.05 (108) (2.65) (133 123) (0.20) Croatia 156 1.44 78 642 0.03			10.40	26 001 057	15.66	
EU-15* total 7 580 (2 783) 69.81 (68.80) 154 935 014 (60 480 863) 93.29 (93.06) Bulgaria 255 (2.35 (2.65) 298 335 (0.20) 0.05 (133 123) (0.20) Croatia 156 (1.44) 78 642 (0.03) 0.03	United Kingdom					
EU-15* total (2 783) (68.80) (60 480 863) (93.06) Bulgaria 255 2.35 298 335 0.05 (108) (2.65) (133 123) (0.20) Croatia 156 1.44 78 642 0.03			-		-	
Bulgaria 255 2.35 298 335 0.05 (108) (2.65) (133 123) (0.20) Croatia 156 1.44 78 642 0.03	EU-15* total					
(108) (2.65) (133 123) (0.20) Croatia 156 1.44 78 642 0.03			2.35	298 335		
Tootia 156 1.44 78 642 0.03	Bulgaria	(108)	(2.65)	(133 123)	(0.20)	
Croatia			· ·	· ·		
	Croatia	(62)	(1.52)	(45 379)	(0.07)	

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 $^{^{\}rm 10}$ For the definition of RCA and RTA, see footnote 12.

Communica	156	1.44	45 623	1.75
Cyprus	(61)	(1.49)	(24 531)	(0.04)
One of Decodelle	330	3.04	2 909 938	0.09
Czech Republic	139)	(3.41)	(1 417 167)	(2.18)
Estonia	272	2.51	147 152	0.87
ESIOIIIA	(110)	(2.69)	(60 767)	(0.09)
Hungary	232	2.14	1 441 372	0.10
Hungary	(95)	(2.33)	(549 709)	(0.85)
Latvia	210	1.93	173 651	0.16
Latvia	(80)	(1.96)	(70 023)	(0.11)
Lithuania	294	2.71	268 613	0.05
Litriuania	(118)	(2.89)	(111 317)	(0.17)
Malta	196	1.81	81 668	1.83
Ivialia	(62)	(1.52)	(9 388)	(0.01)
Poland	399	3.67	3 043 445	0.67
Folanu	(169)	(4.14)	(1 342 539)	(2.07)
Romania	271	2.50	1 105 537	0.81
Kullallia	(105)	(2.57)	(381 467)	(0.59)
Slovakia	256	2.36	1342637	0.12
Siovakia	(91)	(2.23)	(280 463)	(0.43)
Slovenia	251	2.31	199 200	1.13
Sioverila	(99)	(2.43)	(87 432)	(0.13)
Total new EU	3 278	30.19	11 135 813	6.71
members	(1 299)	(31.82)	(4 513 305)	(6.94)
Total EU-28	10 858	100.00	166 070 826	100.00
Total EU-20	(4 082)	100.00	(64 994 168)	100.00
World	51 620	21.03	624 937 728	26.57
World	(18 484)	(22.08)	(252 707 156)	(25.72)

^{*} Note that the international trade data used in this analysis do not contain information for Luxembourg separately from Belgium, hence actual number of countries for the EU-15 in the results are only 14.

4.1 Thailand's realistic export opportunities in the EU according to Thailand's market share and import market characteristics

A categorisation of Thailand's REOs in the European Union according to the Kingdom's relative market share and the import market characteristics sheds light on the specific attention that should be devoted by Thailand's negotiators on trade liberalisation with the EU, as well as by the country's export promotion agency. We therefore construct a matrix comparable to Table 1, in which each individual REO is located.

Four columns of the categorisation matrix represent major differences in the degree of market importance of Thailand's exports of product group *j* to country *i* compared with the combined degree of market importance of the six exporting countries (excluding Thailand) with the largest

exports of the product group *j* to country *i*. Five rows, which derive from filter 2, indicate per REO differences in import market characteristics, based on size and growth of imports of the different countries.¹¹

We also distinguish between Thailand's set of "potential" REOs (all REOs that came out of filter 3) and its "actual" REOs. The "actual" REOs are a subset of the REOs for which Thailand's "revealed comparative advantage index" (RCA) is sufficiently high, e.g. 0.7 (see Balassa, 1965) and Thailand's "revealed trade advantage index" (RTA) is above zero (see Vollrath, 1991: 275).¹² Table 3a shows the distribution of Thailand's 10 858 REOs¹³ in the European Union, whereas Table 3b shows the distribution of the "actual" REOs in the EU (RCA ≥0.7 and the RTA > 0).

From Table 3a it can be concluded that 93.25 % of Thailand's REOs in the EU are in markets where Thailand's market share is small or negligible (Cells 1 to 5). Moreover, 53.61 % of the REOs (Cells 1 to 5) relate to import markets that show sufficient growth, but are not large in size – 20.34 % of the REOs (Cells 1 to 5) are in large markets.

It is disconcerting that only 1.68 % of Thailand's REOs in the EU are in markets where Thailand's market share is high or moderately high (Cells 11 to 20), thus offering immediate export potential. The situation improves somewhat if we consider Thailand's "actual" REOs. Based on Table 3b, it will be seen that only 2.03 % of Thailand's "actual" REOs are located in the Cells 11-15, and another 2.23 % in Cells 16-20, with some concentration of these REOs in growing market segments (Cell 12 and Cell 17). Although dramatically small in overall importance, these REOs are highly important for both developing suitable export promotion policies and strategies, and for future technical discussions within the framework of EU-Thailand trade liberalisation (see *supra*).

Vollrath's Revealed Trade Advantage Index RTA =

$$RTA_{T,j} = RCA_{T,j} - RMA_{T,j}$$

with

$$RMA_{ij} = \left\lfloor \left(M_{T,j}/M_{W,j}\right) / \left(M_{T,tot}/M_{W,tot}\right) \right\rfloor$$

(which implies a Relative Import Advantage - RMA), and with :

 $X_{T,j}$ or $M_{T,j}$ exports (imports) of country n (which is the exporting country for which realistic export opportunities are identified, here Thailand) of product j;

 $X_{W,j}$ or $M_{W,j}$ worldwide exports (imports) of product j; $X_{T,tot}$ or $M_{T,tot}$ total exports (imports) of country n; and

 $X_{W,tot}$ or $M_{W,tot}$ worldwide exports (imports) of all product categories.

¹¹ For full details, see the progression in the methodology from Cuyvers *et al.* (1995), Cuyvers (2004), Cuyvers, Steenkamp and Viviers (2012a), and Viviers *et al.* (2014).

¹² Balassa's Revealed Comparative Advantage Index RCA = $RCA_{T,j} = \left(\frac{X_{T,j}}{X_{W,j}}\right) \div \left(\frac{X_{T,tot}}{X_{W,tot}}\right)$

¹³ In previous publications, the set of REOs was called the set of "potential" REOs, of which the "actual" REOs are a subset. In order not to confuse the reader with the concept of potential export value used in this paper, the "potential" adjective is dropped in "potential" REOs.

Remarkably, 84.25 % of the potential export value of Thailand's "actual" REOs in the EU relates to import markets where the Kingdom's market share is low or negligible, and that 49.39% of the "actual" REOs are in growing markets (Cell 2). It can also be seen that overall 57.25 % of the "actual" REOs are in EU markets that only show growth. This picture is not changing significantly when the estimated potential export values involved are considered (see section 5), which implies that although Thailand has a sufficiently high revealed comparative advantage for these REOs, the EU market still has to bear fruit.

Table 3a: Distribution of Thailand's set of realistic export opportunities (numbers) in EU-28, according to relative market position and market characteristics

		Relative Market Share of Thailand					
		Market share of Thailand relatively small	Market share of Thailand intermediately small	Market share of Thailand intermediately high	Market share of Thailand relatively high	Total	
	Laura	Cell 1	Cell 6	Cell 11	Cell 16		
	Large market	2 209	107	19	22	2 357	
	market	20.34%	0.99%	0.17%	0.20%	21.71%	
	Growing	Cell 2	Cell 7	Cell 12	Cell 17		
	(long-	5 821	275	52	57	6 205	
	and						
	short- term)	53.61%	2.53%	0.48%	0.52%	57.15%	
ے	market						
Import demand size and growth	Large	Cell 3	Cell 8	Cell 13	Cell 18		
gre	market	487	34	5	1	527	
and	short-						
ze 8	term	4.49%	0.31%	0.05%	0.01%	4.85%	
Si	growth	Cell 4	Cell 9	Cell 14	Cell 19		
and	Large market					000	
em	long-	245	18	2	1	266	
בי	term	2.26%	0.17%	0.02%	0.01%	2.45%	
odu	growth		,	2.22			
드	Large	Cell 5	Cell 10	Cell 15	Cell 20		
market		1 363	117	12	11	1 503	
	short- and						
	long-	12.55%	1.08%	0.11%	0.10%	13.84%	
	term	12.55%	1.08%	0.11%	0.10%	13.84%	
	growth						
	Total	10 125	551	90	92	10 858	
	Total	93.25%	5.07%	0.83%	0.85%	100.00%	

Table 3b: Distribution of Thailand's "actual" realistic export opportunities (numbers) in EU-28 with RCA ≥ 0.7 and RTA > 0, according to relative market position and market characteristics

		Relative Market Share of Thailand					
		Market share of Thailand relatively small	Market share of Thailand intermediately small	Market share of Thailand intermediately high	Market share of Thailand relatively high	Total	
	Large market	Cell 1 656 16.07%	Cell 6 95 2.33%	Cell 11 19 0.47%	Cell 16 22 0.54%	792 19.40%	
rowth	Growing (long- and short- term) market	Cell 2 2 016 49.39%	Cell 7 220 5.39%	Cell 12 45 1.10%	Cell 17 56 1.37%	2 337 57.25%	
mport demand size and growth	Large market short-term growth	Cell 3 164 4.02%	Cell 8 33 0.81%	Cell 13 5 0.12%	Cell 18 1 0.02%	203 4.97%	
oort demand	Large market long-term growth	Cell 4 74 1.81%	Cell 9 16 0.39%	Cell 14 2 0.05%	Cell 19 1 0.02%	93 2.28%	
ımı	Large market short- and long-term growth	Cell 5 529 12.96%	Cell 10 105 2.57%	Cell 15 12 0.29%	Cell 20 11 0.27%	657 16.10%	
	Total	3 439 84.25%	469 11.49%	83 2.03%	91 2.23%	4 082 100.00%	

5. Thailand's export potential in the EU according to Thailand's market share and import market characteristics

In this section we attempt to make a reasonable estimate of the export values associated with the REOs and the "actual" REOs. Following Viviers *et al.* (2014) the average import value of product *j* in country *i* imported from the top six supplying countries (excluding Thailand) is assumed to provide an estimate of the potential "additional" export value of that REO, measured in US\$. The potential export values of the REOs that share common characteristics, e.g. belonging to the same Cell in Table 3a or Table 3b, can then be added up.

In Tables 4a and 4b, the distribution of these total potential export values for Thailand is shown, according to import market characteristics and Thailand's relative market share in the import markets in the EU.

Table 4a: Distribution of Thailand's set of realistic export opportunities in US\$ thousands in EU-28, according to relative market position and market characteristics

		Relative Market Share of Thailand						
	Market share of Thailand relatively small Market share Market share of Thailand of Thailand intermediately small Market share of Thailand intermediately intermediately small high Market share share of thailand intermediately intermediately high							
	Large	Cell 1	Cell 6	Cell 11	Cell 16			
	market	82 327 320	1 912 142	432 155	153 248	84 824 865		
		49.57%	1.15%	0.26%	0.09%	51.08%		
	Growing	Cell 2	Cell 7	Cell 12	Cell 17			
	(long- and short-	19 755 539	1 159 965	74 823	35 181	21 025 508		
wth	term) market	11.90%	0.70%	0.05%	0.02%	12.66%		
Jo	Large	Cell 3	Cell 8	Cell 13	Cell 18			
b pc	market	16 683 109	705 894	92 558	2 783	17 484 344		
Import demand size and growth	short- term growth	10.05%	0.43%	0.06%	0.00%	10.53%		
lan	Large	Cell 4	Cell 9	Cell 14	Cell 19			
Jem	market	4 558 490	1 030 537	10 296	16 841	5 616 164		
port	long-term growth	2.74%	0.62%	0.01%	0.01%	3.38%		
<u>E</u>	Large	Cell 5	Cell 10	Cell 15	Cell 20			
	market	34 606 726	1 991 352	192 865	329 002	37 119 944		
	short- and long-term growth	20.84%	1.20%	0.12%	0.20%	22.35%		
	Total	157 931 183	6 799 890	802 697	537 056	166 070 826		
		95.10%	4.09%	0.48%	0.32%	100.00%		

Table 4b: Distribution of Thailand's "actual" realistic export opportunities in US\$ thousands in EU-28 with RCA ≥ 0.7 and RTA > 0, according to relative market position and market characteristics

		Relative Market Share of Thailand					
		Market share of Thailand relatively small	Market share of Thailand intermediately small	Market share of Thailand intermediately high	Market share of Thailand relatively high	Total	
	Large	Cell 1	Cell 6	Cell 11	Cell 16		
	market	27 505 175	1 582 396	432 155	153 248	29 672 974	
		42.32%	2.43%	0.66%	0.24%	45.65%	
	Growing	Cell 2	Cell 7	Cell 12	Cell 17		
	(long-	7 937 725	929 462	71 419	30 820	8 969 425	
	and						
	short-	12.21%	4.400/	0.11%	0.050/	42.000/	
	term)	12.21%	1.43%	0.11%	0.05%	13.80%	
_	market						
wth	Large	Cell 3	Cell 8	Cell 13	Cell 18		
gro	market	5 476 527	702 606	92 558	2 783	6 274 475	
and	short-						
ze	term	8.43%	1.08%	0.14%	0.00%	9.65%	
Import demand size and growth	growth						
mai	Large	Cell 4	Cell 9	Cell 14	Cell 19		
g	market	1 231 507	1 029 088	10 296	16 841	2 287 733	
por	long-term						
Ē	growth	1.89%	1.58%	0.02%	0.03%	3.52%	
	Large	Cell 5	Cell 10	Cell 15	Cell 20		
	market	15 364 588	1 903 107	192 865	329 002	17 789 562	
	short-						
	and long-	00.040/	0.000/	0.000/	0.540/	07.070/	
	term	23.64%	2.93%	0.30%	0.51%	27.37%	
	growth						
	Total	57 515 522	6 146 660	799 293	532 694	64 994 168	
	Total	88.49%	9.46%	1.23%	0.82%	100.00%	

Based on Tables 4a and 4b Thailand's total potential export value in the EU-28 thus tentatively estimated amounts to US\$166.07 billion, of which US\$65 billion is related to products that Thailand is already successfully exporting to the world market at large. Using the respective potential export values as weights evidently changes the distribution of the REOs over the cells of the categorisation matrix. The REOs in the EU, for which Thailand has already achieved a high or moderately high market share (Cells 11 to 20) and weighted using the potential export

values account for only 0.80 % of its potential export value of the full set of REOs in the EU (Table 4a), and hardly 2.05% of that of the country's "actual" REOs (Table 4b), as compared with 1.68 % and 4.26 % respectively, if unweighted (Tables 3a and 3b). Another 4.09 % and 9.46 % of the potential export value weighted set of REOs and "actual" REOs relate to products for which Thailand has already an intermediately small market share, as compared with 5.07 % and 11.49 % respectively, if unweighted (Table 3a and 3b).

The REOs for which Thailand has a small or negligible market share (Cells 1 to 10) are representing a massive 95.10 % of the potential export value (Table 4a), and 88.49 % when only the "actual" REOs are taken into account (see Table 4b). Applying the potential export value weights makes the share of the REOs in Cell 2 fall dramatically to only 11.09 % of the total potential export value (as compared with 53.61 % when unweighted) and 12.21 % of the value of "actual" REOs (as compared with 53.61 % and 49.39 %, respectively (see Table 3a and 3b). This fall in importance is going together with an even more spectacular rise in importance of Cell 1 to 49.57 % (from 20.34 %) and to 42.32 % of the "actual" REOs (from 16.07 %), implying that a large number of Thailand's REOs in the EU are promising large export return, for which Thailand's market share is still dismally low.

The weighting of the REOs and of the subset of "actual" REOs with their respective estimated export value, also has an important impact on the share of the REOs in large EU-28 markets which show considerable imports growth in the short and the long run, and for which Thailand has a small market share (if at all) (Cell 5). These markets are evidently offering significant prospects.

Although seemingly of less importance, mention should be made of the REOs of the Cells 6-10. The products which correspond to these REOs are already exported by Thailand to the world market and to the European Union. They represent 11.49 % of the total number of "actual" REOs in the EU, or, when weighted with the potential export values, 9.46 % (see Table 3b and 4b). Further and quick "early harvest" liberalisation of the EU import markets of these products, will probably allow some "low-hanging fruit" to be picked. This evidently holds even more for the REOs located in the Cells 11-20.

It can be concluded that there is a huge export potential for Thai export products in the EU-28, which largely remains to be tapped. A future EU-Thailand FTA can open these EU markets, provided the Thai exporters are well prepared and assisted by suitable government and private sector export promotion strategies. These export promotion strategies should be of an offensive and market exploratory type, and not of a market expansionary type (Cuyvers, Viviers, Sithole-Pisa and Kühn, 2012), taking into account Thailand's low market presence in the associated EU market segments.

6. Thailand's export potential in the EU per broad product category

Tables 5a and 5b show Thailand's set of REOs and "actual" REOs in the EU-28 per broad product category.

Machinery represents the largest share of the set of REOs, i.e. 30.91 % (as compared with 33.32 % worldwide), followed by mineral products (12.06 %, as compared with 10.34 % worldwide) and chemicals (11.51 %, as compared with 10.32 % worldwide) (Table 5a).

Table 5a: Thailand's set of REOs in EU-28 per broad product category

	Potential export value (US\$ thousands) in EU-28	% of total potential export value in EU-28	Potential export value (US\$ thousands) worldwide	% of total potential export value worldwide
01 - 05 Animal and animal products	1 221 085	0.74	3 507 949	0.94
06 - 15 Vegetable products	2 755 023	1.66	5 578 611	1.49
16 - 24 Foodstuffs	4 898 989	2.95	10 370 128	2.78
25 - 27 Mineral products	20 027 062	12.06	38 606 074	10.34
28 - 38 Chemicals and allied industries	19 108 188	11.51	38 553 481	10.32
39 - 40 Plastic/Rubbers	8 631 913	5.20	19 920 984	5.33
41 - 43 Raw hides, skins, leather, and furs	1 308 460	0.79	1 913 770	0.51
44 - 49 Wood and wood products	3 673 042	2.21	8 653 674	2.32
50 - 63 Textiles	15 584 576	9.38	30 787 740	8.24
64 - 71 Stone / Glass	6 541 083	3.94	18 542 661	4.96
72 - 83 Metals	5 984 825	3.60	17 686 954	4.74
84 - 85 Machinery / Electrical	51 329 090	30.91	124 474 722	33.32
86 - 89 Transportation	7 924 573	4.77	19 692 040	5.27
90 - 97 Miscellaneous	17 082 916	10.29	35 229 432	9.43
Grand total	166 070 826	100	373 518 221	100

It will be noticed that in Table 5b machinery represents about the same share as in Table 5a. As compared with the full set of REOs, the share of mineral products in the "actual" REOs is considerably higher (28.12 %, as compared with 21.76 % worldwide) and chemicals much lower (1.51 %, as compared with 1.98 % worldwide), with plastics/rubber ranking second (8.49 %, as compared with 8.83 % worldwide). Noteworthy is also the share of textiles in the potential export value of Thailand's "actual" REOs in the EU-28 (8.51 %, as compared with 7.68 % worldwide).

Table 5b: Thailand's "actual" REOs in EU-28 per broad product category with RCA ≥ 0.7 and RTA > 0

	Total potential export value (US\$ thousands) in EU-28	% of total potential export value in EU-28	Potential export value (US\$ thousands) worldwide (excluding EU-28)	% of total potential export value worldwide (excluding EU-28)
01 - 05 Animal and animal products	503 255	0.77	1 463 303	0.97
06 - 15 Vegetable products	943 844	1.45	1 497 472	0.99
16 - 24 Foodstuffs	3 181 599	4.90	6 619 680	4.39
25 - 27 Mineral products	18 274 559	28.12	32 803 691	21.76
28 - 38 Chemicals and allied industries	980 884	1.51	2 981 140	1.98
39 - 40 Plastic/Rubbers	5 515 345	8.49	13 310 475	8.83
41 - 43 Raw hides, skins, leather, and furs	727 219	1.12	945 214	0.63
44 - 49 Wood and wood products	599 186	0.92	1 617 824	1.07
50 - 63 Textiles	5 528 605	8.51	11 573 204	7.68
64 - 71 Stone / Glass	2 348 154	3.61	9 666 134	6.41
72 - 83 Metals	1 622 620	2.50	4 464 622	2.96
84 - 85 Machinery / Electrical	19 679 736	30.28	50 472 397	33.49
86 - 89 Transportation	1 707 818	2.63	5 061 086	3.36
90 - 97 Miscellaneous	3 381 345	5.20	8 252 455	5.48
Grand total	64 994 168	100	150 728 696	100

Table 6 depicts the 30 "actual" REO products with the highest export potential for Thailand in the EU-28. A total of 142 products belong to the category "Machinery and equipment" (HS84-85), with a striking presence of HS847170 - Analogue/hybrid auto. data processing machines (potential export value: US\$ 1,578 million). This category is followed by textiles and footwear (HS61-64) showing 40 "actual" REOs. Remarkable is also the importance of HS160414 - Anchovies, prepd./preserved, whole/in pieces (excl. minced), which accounts for 21 "actual" REOs and a potential export value of US\$ 295.4 million.

Table 6: Thailand's top 30 products in potential export value within EU-28, RCA≥0.7 and RTA > 0

RTA > 0				
			Weighted actual REOs export value (US\$	Number of
HS 6-digit product category	Rank	thousands)	thousand)	opportunities
HS271000 - Petroleum oils and oils obtained from bituminous minerals, other than crude	1	18 187 696	100 220	6
HS851750 - Apparatus for carrier-current line systems/digital line systems	2	2 498 353	204 406	8
HS847330 - Parts & accessories (excl. covers, carrying cases and the like)	3	2 138 529	153 166	13
HS847160 - Analogue/hybrid auto. data processing machines	4	1 880 165	306 793	8
HS401110 - New pneumatic tyres, of rubber (excl. those with herring-bone / similar tread)	5	1 641 137	333 827	14
HS852812 - Reception appliances for television, whether or not incorporating radio-broadcast receivers	6	1 424 510	94 929	8
HS640399 - Footwear (excluding waterproof) incorporating a protective metal toe-cap	7	1 124 973	91 622	12
HS850440 - Ballasts for discharge lamps/tubes	8	989 424	114 856	10
HS854221 - Cards incorporating an electronic integrated circuit (smart cards)	9	905 249	271 747	1
HS611030 - Jerseys, pullovers, cardigans, waist-coats & sim. arts., knitted or crochet	10	858 180	101 181	9
HS940360 - Furniture of mats. other than metal/wood/plastics, incl. cane/osier/bamboo/	11	796 274	31 514	10
HS847170 - Analogue/hybrid auto. data processing machines	12	780 390	1 578 081	12
HS190590 - Bread, pastry, cakes, biscuits & other. bakers' wares not elsewhere specified	13	666 739	30 901	7
HS847180 - Analogue/hybrid auto. data processing machines	14	636 192	35 188	13
HS940161 - Parts of the seats of 94.01	15	597 556	27 466	6
HS848210 - Ball bearings	16	593 620	49 849	17
HS210690 - Food preparations not elsewhere specified	17	592 678	55 753	7
HS151110 - Palm oil, crude	18	582 871	123 413	6
HS740400 - Copper waste & scrap	19	561 467	1 147	3
HS870870 - Brakes & servo-brakes & parts thereof (excl. mounted brake linings)	20	510 351	68 865	9
HS610990 - T-shirts, singlets & other vests, knitted or crocheted, of cotton	21	499 938	141 043	10
HS841590 - Air-conditioning machines (excl. of 8415.10-8415.81)	22	461 653	177 076	13
HS844359 - Flexographic printing mach.	23	438 287	88 947	15
HS160414 - Anchovies, prepd./preserved, whole/in pieces (excl. minced)	24	426 582	295 385	21
HS853650 - Apparatus for protecting electrical circuits	25	422 879	15 348	10
HS871200 - Bicycles & other cycles (incl. delivery tricycles), not motorised	26	415 143	76 611	17
HS870894 - Brakes & servo-brakes & parts thereof (excl. mounted brake linings)	27	395 409	10 013	3
HS621210 - Braces, suspenders, garters & similar articles & parts thereof	28	384 789	60 436	9
HS390190 - Ethylene-vinyl acetate copolymers, in primary forms	29	378 545	278	8
HS850110 - AC generators (alternators), of an output >375kVA but not >750kVA	30	378 380	62 785	14

Table 7 lists some major products from the top 5, offering promising export potential, together with the actual and potential (potential) export values per country. Again, it can be seen that these involve products and target markets in which Thailand's market share is small or intermediately small (Cells 1 to 10). All REOs in Table 7 are located in Cells 1 to 5 of Tables 3a-b and show a large difference between Thailand's actual and potential exports (based on the average export value of the respective six main exporting countries).

The most interesting "actual" REOs, from the point of view of Thailand's exporters, are located in Cell 5 (large market, combined with long- and short-term growth), but also mention should be made of these of Cell 1 (large market).

Table 7: Examples of product-country combinations with large export potential for Thailand in EU-28

I naliand in EU-2			Actual export				
		Potential export value (US\$	value (US\$ thousands) Thailand				
Country	Cell	thousands)	(2013)				
HS271000 - Petroleum oils and oils obtained from bituminous i							
Netherlands	Cell 1	6 176 940	21 413				
Belgium-Luxembourg	Cell 5	3 849 342	2				
France	Cell 1	3 390 285	5 419				
United Kingdom	Cell 1	2 847 488	73 371				
Italy	Cell 2	1 397 767	16				
Finland	Cell 2	525 876	0				
HS847330 - Parts & accessories (excl. covers, carrying cases	and the like)						
Germany	Cell 1	510 153	8 735				
Czech Republic	Cell 1	434 550	2 411				
United Kingdom	Cell 3	316 010	3 963				
France	Cell 2	188 668	11 633				
HS847160 - Analogue/hybrid automatic data processing machi	ines						
Germany	Cell 5	675 851	97 151				
Netherlands	Cell 5	599 931	135 829				
France	Cell 5	281 980	27 594				
United Kingdom	Cell 5	272 528	46 197				
HS851750 - Apparatus for carrier-current line systems/digital li	ne systems						
Netherlands	Cell 5	939 294	73 439				
Germany	Cell 5	489 931	52 954				
United Kingdom	Cell 5	453 645	20 779				
France	Cell 5	306 654	42 393				
HS401110 - New pneumatic tyres, of rubber							
Germany	Cell 4	400 817	120 053				
France	Cell 3	266 086	24 664				
United Kingdom	Cell 3	227 819	46 832				
Netherlands	Cell 3	182 761	50 960				
HS611030 - Jerseys, pullovers, cardigans, waist-coats and similar articles, knitted or crochet							
	nilar articles,	knitted or crochet					

United Kingdom	Cell 3	176 845	14 352			
Office Kingdom	Cell 5	170 043	14 332			
France	Cell 3	173 181	21 214			
HS940360 - furniture of materials other than metal/wood/plasti	cs, including	cane/osier/bamb	00			
Germany	Cell 1	231 425	9 011			
United Kingdom	Cell 1	153 561	5 960			
France	Cell 1	152 231	12 773			
HS640399 - Footwear (excluding waterproof) incorporating a protective metal toe-cap						
Germany	Cell 1	230 433	27 637			
France	Cell 1	199 729	16 464			
United Kingdom	Cell 3	191 176	21 236			
Italy	Cell 1	154 957	3 478			
HS190590 - Bread, pastry, cakes, biscuits and other bakers' wares						
United Kingdom	Cell 1	215 967	18 951			
France	Cell 1	164 547	2 777			

In contrast, the REOs of Cell 2 relate to products the EU import demand for which is not large, but is sufficiently growing, both from a short-term and a longer-term perspective.¹⁴

When it comes to public export promotion, it could be difficult, for instance for HS847160 - Analogue/hybrid automatic data processing machines, to tap the large export potential in the EU because the production and export of such ADP machines is largely controlled by foreign companies operating in Thailand. HS271000 - Petroleum oils and oils obtained from bituminous minerals, other than crude, would, in Thailand's case, be less susceptible to this "MNC immunity" problem and are offering a lot of potential which seems to be untapped, based on the low actual exports of the country.

Interesting is also the potential offered in EU countries such as Germany, France and the United Kingdom, by the more labour-intensively produced textiles and footwear, but also some natural resource based products. Interestingly, these labour-intensively produced products, are based on Thailand's comparative advantage vis-à-vis the rest of the world. However, as mentioned, Thailand's market share for all these "actual" REOs is low, and they will need supportive offensive exploratory export promotion strategies in the respective EU target markets.

Although not appearing in the top 30 of "actual" REOs in the EU-28, the REOs located in Cells 11-20 should not be neglected. The top 30 of these REOs is shown in Table 8.

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¹⁴ The full list of REOs is obtainable with the authors on request.

Table 8: Top 30 of "actual" realistic export opportunities for Thailand in EU-28 in markets where Thailand's market share is relatively high (Cells 11 to 20)

WII	ere Thailand's market share is relatively hig	n (Celis '	11 to 20)	Walahtad
Country	HS6 Product	Cell	Weighted average estimated export value (US\$ thousands)	Weighted average actual export value (US\$ thousands) Thailand (2013)
Netherlands	HS847170 - Analogue/hybrid auto. data processing machines	Cell 20	272 889	888 628
Czech Republic	HS847170 - Analogue/hybrid auto. data processing machines	Cell 11	177 766	423 536
Italy	HS841510 - Air-conditioning machines	Cell 15	54 150	90 452
France	HS900150 - Contact lenses	Cell 11	51 369	122 876
United Kingdom	HS030613 - Crabs, whether or not in shell, frozen	Cell 15	43 188	67 843
Italy	HS030749 - Cuttle fish (Sepia officinalis, Rossia macrosoma, Sepiola) & squid	Cell 13	42 007	99 004
Belgium- Luxembourg	HS852721 - Pocket-size radio cassette-players	Cell 11	41 621	74 275
Germany	HS900150 - Contact lenses	Cell 11	37 624	110 484
United Kingdom	HS160520 - Crab, prepared / preserved	Cell 16	36 259	111 092
Germany	HS711311 - Articles of jewellery & parts thereof , of base metal clad with precious me	Cell 20	31 449	313 564
Germany	HS401519 - Articles of apparel & clothing accessories for all purposes.	Cell 15	28 448	47 877
Spain	HS841581 - Air-conditioning machines	Cell 16	26 855	80 731
France	HS711311 - Articles of jewellery & parts thereof, of base metal clad with precious metal	Cell 11	22 913	51 295
United Kingdom	HS900150 - Contact lenses	Cell 13	21 413	33 352
Germany	HS401511 - Articles of apparel & clothing accessories for all purposes.	Cell 16	20 866	70 608
United Kingdom	HS871419 - Brakes, incl. coaster braking hubs & hub brakes, & parts thereof, for vehicles	Cell 11	20 605	32 020
Germany	HS160520 - Crab, prepared / preserved	Cell 16	19 763	69 684
United Kingdom	HS841583 - Air-conditioning machines	Cell 11	19 682	36 528
France	HS841581 - Air-conditioning machines	Cell 15	18 163	47 445
Austria	HS711719 - Cuff-links & studs of base metal, whether or not plated with precious metal	Cell 19	16 841	70 345
United Kingdom	HS900490 - Spectacles, goggles and the like, corrective, protective / other (excluding sunglasses)	Cell 11	15 583	39 473
Czech Republic	HS852290 - Parts (excluding pick-up cartridges) & accessories suitable for use solely/princ	Cell 15	14 555	35 557
Italy	HS841581 - Air-conditioning machines.	Cell 13	13 671	24 222
France	HS160520 - Crab, prepared / preserved	Cell 11	13 318	26 392
Netherlands	HS900150 - Contact lenses	Cell 16	13 147	58 133
Germany	HS400121 - Balata, gutta-percha, guayule, chicle & similar natural gums	Cell 15	9 899	27 714
Poland	HS900150 - Contact lenses	Cell 12	9 330	15 158
Belgium- Luxembourg	HS401519 - Articles of apparel & clothing accessories for all purposes	Cell 12	8 959	24 055
Germany	HS400110 - Balata, gutta-percha, guayule, chicle & similar natural gums	Cell 13	8 893	15 613

For one, these REOs require another type of export promotion than these with an intermediate low and low market share. Further trade liberalisation and better market access to the EU market will have an immediate impact on Thailand's exports since the products are already successfully exported to the EU. Both reductions of the EU tariff measures and, even more importantly, trade facilitation in the field of the existing non-tariff measures (safety requirements, labels, existing norms and standards, etc.) will make these REOs "low-hanging fruit" to be picked by Thailand.¹⁵

7. Summary conclusions

Being its fourth trading partner, the European Union is an important market for Thailand. Since March 2013 negotiations on a "WTO Plus" free trade agreement started between the European Union and Thailand, after the EU successfully concluded a free trade agreement with Korea, Singapore and Vietnam. Unfortunately, since the military coup in Thailand of May 2014 the negotiations are kept on hold by the EU. Preparatory studies in the EU and Thailand on the impact of an EU-Thailand FTA showed welfare gains for the Kingdom of 2.6-2.8 % (or even more) of GDP. Using the Decision Support Model (DSM) approach, we attempted to identify Thailand's realistic export opportunities in the EU.

The DSM approach consists of "leading" macro-economic and international trade data through consecutive "filters" such that the less performing and less promising opportunities are removed. The DSM allowed the identification of 10 858 realistic export opportunities in the EU, representing 21 % of Thailand's REOs in the world at large. It also appeared that 69.8 % of these REOs are in the EU-15, i.e. in the member countries before the EU enlargement towards the Eastern European countries.

By tentatively estimating the export value of the individual REOs it was found that the 10 858 REOs in the EU are good for 26.6 % of the thus estimated potential export value of Thailand's REOs in the world, thus vindicating the importance for Thailand of the EU market. However, taking into account that a number of the products involved are either not competitively produced in Thailand and/or are related to re-exported imports, we limited the REOs to 4 082 "actual" REOs, which are representing 22.1 % of the country's "actual" REOs in the world in terms of numbers and 25.7 % in terms of estimated export value.

It appears that the vast majority of these "actual" REOs are in EU markets where Thailand's market share is still relatively small or even negligible: 84.25 % in terms of numbers and 88.49 % in terms of estimated export value. This has, evidently, important consequences for

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of the present import duties for EU imports third Inspection from countries at http://ec.europa.eu/taxation_customs/dds2/taric/taric_consultation.jsp 25.09.2016) (consulted on shows valoremimport duties ranging from 0 % (HS847170), 2.20-2.70 % (HS841510) to 6-30 % (HS030729) and 1-14 % (HS852721).

Thailand's FTA negotiation position vis-à-vis the EU, as well as for the country's export promotion strategies and policies in the future.

As to Thailand's FTA negotiation position we have argued that for the 11.49 % of Thailand's "actual" REOs (9.46 % in terms of export value) which are about products that Thailand is already exporting to the EU using its existing distribution channels, liberalization of the EU import markets will allow the country to pick some "low-hanging fruit". The same evidently holds for the 4.26 % of Thailand's "actual" REOs in the EU for which it has achieved already an intermediate high or high market share.

The 84.25 % of Thailand's "actual" REOs which are about products for which Thailand's market share in the EU is low or negligible, require public export promotion support of an offensive and market exploratory type. The products involved relate e.g. to automatic data processing machines and petroleum oils, but also to the labour-intensive or resource-intensive products such as furniture, pullovers and footwear.

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