Competitive Peruvian and Chilean avocado export profile

M. Schwartz[1,2,a], Y. Maldonado[2], L. Luchsinger[1], L.A. Lizana[1] and W. Kern[3]

[1]CEPOC (Postharvest Study Center), Facultad de Ciencias Agronómicas, Universidad de Chile, Santiago, Chile; [2]Departamento de Agroindustria y Enología, Facultad de Ciencias Agronómicas, Universidad de Chile, Santiago, Chile; [3]Departamento de Economía Agraria, Facultad de Ciencias Agronómicas, Universidad de Chile, Santiago, Chile.

Abstract

In the last 10 years, Peru has increased planting areas and exports volume on 'Hass' avocado becoming an emerging important factor in the international market. In those conditions, it has started to compete with Chile, the second world avocado exporter. To estimate the competitive business export profile of these two countries, their importance in the international markets was analyzed using the market insertion matrix (MIM). The negotiation power of both countries was analyzed including providers and clients (importing countries), replacement threats, industry inside rivalry, and threat of newer competitors. The MIM allowed the evaluation of the dynamic of participation and the rate of growth of the exports values of the main exporting countries. Results have shown that for the 2009-2014 periods, Mexico and Chile are ahead in the competitive range determined for this purpose, followed by Peru and New Zealand. This indicates that these countries are the most competitive in the avocado export business. Peru has reached a high competitive position and presents important opportunities of export growth. This situation is mainly due to the increasing demand that avocado imports have presented and to the international trade liberalization by the FTA (Free Trade Agreements).

Keywords: avocado, exports, competitiveness

INTRODUCTION

The world business of avocado exports account for US$ 3,000 million dollars for 1.4 million ton of fruit traded, with an annual increase rate of growth of 5% (USD kg^{-1}) in the 2010-2014 period. This points out that the demand has been more dynamic than the offer. This industry that includes several participants, is led by Mexico, Peru, Chile, Spain, USA, New Zeeland, South Africa, Israel and France. Minor participants are Kenya, Belgium, Dominican Republic, Germany, Morocco, Brazil, Australia, Colombia, etc. Peru in 2014, 2015, has reached the second place in the world avocado exporters reaching US$ 300 million, with 180 thousand tons. Chile has slightly lower figures (MINAGRI, 2015). The present work, studies the international competitiveness in avocado exports in the actual dynamic and potential growth of Peruvian production development and its evolution in comparison to other countries and specifically, offers an estimate of the case with Chile. To determine the competitiveness of the avocado industry it is assumed that a country has more competitiveness skill if its fruit production besides satisfying internal demand, without the necessity to import product, has enough volume to export.

MATERIALS AND METHOD

The volume of fruit production and trade in 2010-2014 were obtained to study the competitive index following the methodology developed by Schwartz et al. (2007). The five indexes of competitiveness used were:

a) Relative commercial balance, A = (X- M)/(X+M)

b) Transaction ability, T = (X-M)/(P+M-X)

[a]E-mail: mschwart@uchile.cl

Acta Hortic. 1194. ISHS 2018. DOI 10.17660/ActaHortic.2018.1194.154
Proc. VIII International Postharvest Symposium:
Enhancing Supply Chain and Consumer Benefits – Ethical and Technological Issues
Eds.: F. Artés-Hernández et al.

c) Degree of export opening, A.E. = X/(P+M-X)
d) Degree of penetration of import product, P.I. = M/(P+M-X)
e) Way in market insertion, determining wining and loosing countries in the avocado international markets. It has two components:
- Exports growth rates of a country to international markets, and
- Annual growth exports participation rates in the total world avocado exports. Four different situations may be presented:
  i. Positive way of insertion: if both rates are positives.
  ii. Insertion mode with loss opportunities: if the rate of export is positive and the participation is negative.
  iii. Mode of insertion with vulnerability: if the rate of growth is negative and the participation is positive, and
  iv. Mode of insertion in decline: when both rates are negative.

where X = volume of fruit exports; M = volume of the fruit imports; P = volume of production; A = relative commercial balance (X-M/X+M).

Ranking: Using the above indicators, the most competitive countries were classified with a 1 to 4 scale, given the highest competitive activity the higher number. The market insertion matrix (Schwartz et al., 2007, 2008) was elaborated in the time lag studied.

RESULTS AND DISCUSSION

Matrix of the avocado international demand

Considering the world evolution demand for the 2010-2015, period (in kg), the most interested buying countries were Germany, United Kingdom, Sweden, France, Canada, Netherlands, Spain, Belgium, Japan and China, due to their increasing of imports and their participation in their import markets. USA is one of the countries with increased participations, but it has reduced the import quota.

Relative trade balance (RTB) for the avocado exports

From an export country point of view the relative trade balance (RTB) works as an indicator of the advances or the fall back of the export consolidation and progress, and the first evidence of the potential importing countries.

If the avocado exports are higher than its imports, the indicator takes a positive value, reaching the value 1 when it only exports (Lobos and Schwartz, 2008).

New Zealand, Mexico, Chile and Peru are the countries that are more competitive in terms of RTB with the maximum values. United States in the period 2010 to 2014 maintained a negative RTB; that is, it is not competitive as an exporter, but rather confirms that it is an interesting market to export. A similar situation was found with Germany, Australia and the Netherlands that have a negative RTB presented for the period 2010-2011. Chile has a positive RTB, as well as Mexico, Spain and New Zealand, which reveals that from this concept they are competitive. In the case of Peru, the indicator shows a rise of 10% between 2010 and 2014.

Transaction ability (T) for the avocado exports

If a country reaches a $T<0$, it means that it has not reached its exporting possibilities. But if $T>0$, its relation with the apparent avocado consumption is relevant, because if T reaches closed to one it shows that its commercial balance reaches the internal consumption. And in the case that $T>1$, it means that the net exports are over the internal consumption as much as it is shown as the value shown by the index.

The main exporter's transaction ability it is shown in Table 1. If a country does not have production and all local consumption comes from imports then T=-1 as in the case of Netherlands, Germany and Canada. These countries become an important export target for Chilean and Peruvian avocados. The United States and Australia, also present a negative T, but is higher to -1.

Mexico is the major avocado world exporter but it occupies the third place; it is

explained due to its internal consumption. For Peru during 2010-2014, its commercial balance was always superior to the apparent consumption.

Table 1. Avocado exports and imports transaction ability (2010-2014).

Country	Transaction ability
Germany	-1.000
Australia	-0.189
Canada	-1.000
Chile[1]	1.998
Mexico[1]	0.512
China	-0.002
Spain*	0.469
USA	-0.677
New Zealand[1]	2.942
Japan	-1.000
Netherlands	-1.000
Peru[1]	0.856

[1]Main exporting countries, 2010-2014.

The specialization index for avocado exports

The specialization index (SI) indicates the export aptitude of the country and its capacity to build advantages that is shown in the commercial balance of the fruit. It is the relation between the commercial balance of a country and the world exports.

If the net exports of a country are equal to the world exports, the index is 1, which means that the country exhibits a high competitiveness degree and specialization, because will indicate 100% of the market. If the result is -1, it will indicate the opposite.

The data in Table 2 indicate that none of the exporting countries reaches the unity, due to the existence of other fruit providers to the world market.

Table 2. Avocado specialization index (SI) (2010-2014).

Exporting country	Specialization index
Australia	-0.005
Chile[1]	0.058
Mexico[1]	0.212
China	0.000
Spain[1]	0.013
USA	-0.220
New Zealand[1]	0.007
Peru[1]	0.043

[1]Main exporting countries.

For Mexico, Chile, Spain, New Zealand and Peru the SI=0, since its import volumes are less than its exports, though the magnitude of its value has a small participation in the market, excepting Mexico. All of them allocate an important volume to the internal market. To reach value 1 it should build competitive advantages.

In the case of Australia and the United States, the SI is negative since this represents a negative commercial balance and small in the world, and moreover its participation in the world market is irrelevant. Thus, these countries do not have avocado exporting tendency nor a sustainable competitive advantage.

China presents a SI=0 indicating that it is as far as export, a non-competitive country but it could be interesting to explore. In the last years, Chile shows a slight decreasing tendency contrary to Peru that increases its exports and its participation in the world

market.

Mexico presents a variable SI>0, higher than other countries, but still does not reach 1. Values for Peru indicate not only an increase each year, but also in its market participation. It has not reached 1 because of the other competitors.

International avocado market insertion matrix (MIM)

The 8 countries that have a positive insertion in the avocado international market are presented in Table 3. For Guatemala, its exports grew 18% and in the international market its participation grew 38.4% in the 2010-2014 period, but, the volume is inferior to the Peruvian exports (MINAGRI, 2015).

Table 3. International avocado market insertion matrix (2010-2014). Source: data elaborated from TRADEMAP (2015).

Exporting country	Export rates	Participation rate	Classification
Mexico	0.111	0.391	Optimum
Chile	0.164	0.384	Optimum
Peru	0.226	0.384	Optimum
Spain	0.041	0.403	Optimum
South Africa	-0.053	0.396	Vulnerable
USA	0.177	0.395	Optimum
Dominican Republic	0.018	0.397	Optimum
New Zealand	-0.087	0.403	Vulnerable
France	0.064	0.406	Optimum
Brazil	0.075	0.395	Optimum
Guatemala	0.181	0.384	Optimum

Peru has a growing market, but concentrated on the United States, Netherlands and United Kingdom. But has an annual lower growing rate than France, New Zealand, United States and Mexico.

Mexico and Chile grew less in 11 and 16.4%, respectively, than Peru but with higher growth rate in market participation.

South Africa and New Zealand showed vulnerability in its exports, with a drop in their exports increments, but its participation in the world exports increased.

Countries like Spain, United States and France present a positive insertion to the market but do not present a competitive problem for Chile and Peru, because their export volume is not relevant; unlike, are net importers. Countries that are in a competitive position are Mexico, Chile, Peru, Dominican Republic and Spain.

Competitive ranking of avocado exports

The statistics intervals used to assign the ranking place in the comparative evaluation of each of the results obtained of each country's competitiveness index are shown in Table 4. To determine which countries were more competitive the points assigned for each index were added obtaining the ranking.

Table 4. Avocado competitiveness index qualification.

Index of competitiveness	Qualification			
	1	2	3	4
Relative commercial balance	[-1; -0.5]	[0.5; 0]	[0; 0.5]	[0.5; 1]
Transaction ability	[-1; -0.5]	[0.5; 1,5]	[1.5; 1.8]	[1.8; 2,5]
Specialization indicator	[-1; -0.5]	[0.5; 0]	[0; 0.5]	[0.5; 1]
Matrix insertion to international market	Withdrawing	Vulnerability	Loss opportunity.	Optimum

Mexico and Chile, obtained the best score which indicates their good competitive performance in the avocado exports (Table 5). Spain and New Zealand are competitive with 3 points. Peru obtained second place and should perform additional efforts to obtain the first place.

Table 5. Competitiveness ranking of avocado exporting countries (2010-2014).

Exporting countries	RTB	T	SI	MIM	Total	Ranking
Mexico	4	4	2	4	14	1
Chile	4	4	2	4	14	1
Peru	4	3	2	4	13	2
Spain	2	3	2	3	10	3
New Zealand	4	4	1	1	10	3
South Africa	2	3	2	2	9	4
France	3	3	1	2	9	4
Guatemala	2	2	1	3	8	5
Dominican Republic	2	2	1	1	6	6
Brazil	2	1	1	2	6	6
USA	1	1	1	2	5	7

RTB: relative trade balance, T: transaction ability, SI: specialization index, MIM: market insertion matrix.

CONCLUSIONS

The following conclusions can be drawn from this study:

Considering all the indicators, and comparative models regarding the business of avocado exports, Chile and Peru are highly competitive countries, and rank in the first place for the period 2019-2014. Peru since 2013 appears as the second world avocado exporter measured as volume of fruit, after Mexico and it presents a clear development potential in a near future.

The model used for the competitive ranking shows Mexico and Chile as the most competitive countries in the business of avocado exports.

There are interesting possibilities for the Peruvian avocado to increase its exports to Australia, Chile and Germany. Nevertheless, today its participation is still low, which means that it could grow.

Literature cited

Lobos, G., and Schwartz, M. (2008). Competitividad en el comercio internacional de la pasa: posicionamiento y eficiencia. Paper presented at: 59° Congreso Agronómico de Chile (La Serena, Chile).

MINAGRI. (2015). Ministerio de Agricultura y Riego de Perú. http://elcomercio.pe/economia/negocios/peru-se-consolida-como-segundo-exportador-mundial-paltas-noticia-1792406?ref=nota_economia&ft=mod_leatambien&e=titulo (accessed March 4, 2015).

Schwartz, M., Ibarra, K., and Adam, C. (2007). Indicadores de competitividad de la industria exportadora chilena de palta (aguacate). Paper presented at: VI World Avocado Congress (Viña del Mar, Chile).

Schwartz, M., Muñoz, C., Sánchez, P., Lizana, A., and Kern, W. (2008). Competitividad del negocio de exportación de uva de mesa en el hemisferio sur. Paper presented at: 59 Congreso Agronómico de Chile (La Serena, Chile).

TRADEMAP. (2015). Estadísticas del comercio para el desarrollo internacional de las empresas. http://www.trademap.org/Index.aspx (accessed March 20, 2015).