Competitiveness of Vietnam Coffee Industry and its Trend

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ABSTRACT

In this paper, three indexes were used to evaluate competitiveness of Vietnam coffee industry and its recent trend. We showed that Vietnam coffee has comparative advantages compared with other exports from Vietnam and with coffee product in the world as well. The increase in RCA index of Vietnam coffee implies the relative advantages in coffee production of Vietnam gradually rise. The DRC curve being below the exchange rate line reconfirms the increase in these advantages. This fact means Vietnam can save foreign currencies efficiently by investing in production of coffee for exports. However, the UV index shows that quality of Vietnam's coffee is low in comparison with coffee products from other exporters such as Indonesia in ASEAN or Brazil, Columbia and Costa Rica in the South America. The decreasing quality of Vietnamese coffee shows that there is a trade off between comparative advantages and quality-based competitiveness in coffee production of Vietnam.

Keywords: Vietnam, coffee, comparative advantages, competitiveness, RCA, DRC, UV.

1. PROBLEM

Coffee area in Vietnam has increased quickly in recent years to some 500,000 hectares with an average output of 900,000 tonnes a year. Vietnam ranked fourth among the world's leading exporters of coffee in 1988 and second in 2011 with coffee products sold to 71 countries and territories and an average export revenue of US$2 billion a year. Thus, coffee plays an important role in Vietnam's agricultural production, creates direct jobs for thousands of workers and indirect jobs for millions of laborers, and provides income for numerous families, especially ones of ethnic minorities.

However, coffee production and processing in Vietnam reveal various weaknesses that reduce coffee quality and competitiveness in comparison with products from the world's leading coffee producers.

Studying competitiveness of Vietnamese coffee and its trend using RCA (revealed comparative advantage), DRC (domestic resource cost) and UV (unit value index) can produce an overall picture for position of Vietnamese coffee industry in comparison with the world's leading exporters of coffee, thereby estimating exactly strengths and weaknesses of the coffee industry and envisioning right directions for its future development.

2. METHODOLOGY

We use the following indicators and indices to examine competitiveness of the Vietnamese

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coffee industry and its trend and present their changes over time.

- Revealed comparative advantage (RCA): Developed by Balassa in 1965, it is defined as the ratio of two shares. The numerator is the share of a country's total exports of the commodity of interest in its total exports. The denominator is share of world exports of the same commodity in total world exports.

$$RCAX_{ij} = \left(\frac{X_{ij}}{X_i} \right) \Big/ \left(\frac{X_{Wj}}{X_W} \right)$$

where RCAXij: RCA index for the product j exported by country i; Xij: export earnings of product j from country i; Xi: total export revenue of country i; Xwj: global export earnings of product j; Xw: Global export revenue.

The above formula means that if the share of product j in total exports from country i is large than the share of the same product in the world total exports, that is, RCA ≥ 1, the country i is considered to enjoy some comparative advantage in exporting the product j. The greater the index, the higher the comparative advantage. If RCA is smaller than 1, the country i enjoys no advantage from the product j, or suffers a revealed comparative advantage. This index has been used for estimating advantages of many countries (see Petri, 1988; Yeats 1989, 1992a, 1992b, 1998; World Bank, 1994; Lee, 1995; Hoekman & Djankov, 1997; and Rodas-Martini, 1998).

- Domestic resource cost (DRC): It is a ratio of opportunity cost of domestic factor inputs to the added value based on international prices. If the DRC index is smaller than 1, the cost of domestic resource needed for generating a unit of added value based on international price is smaller than 1. In this case, the product or industry is internationally competitive. When DRC is greater than 1, the cost of domestic resources needed for earning an added value of 1 from foreign market is greater than 1, and the product is not competitive.

DRC is defined as DRCj = DCj/IVAj where DCj is opportunity cost of domestic resources, or factor inputs, need for producing the product j, and IVAj is the added value in international price earned by product j.

The higher the DRC, the greater the volume of domestic resources spent on generating a unit of added value in international price and the more inefficient the domestic production.

Suppose that factor inputs are found in a fairly competitive market and there is no non-tradeable inputs and therefore, present cost of factor inputs is equal to their opportunity cost, that is, DCj is equal to VAj where VAj is domestic added value. The above formula then becomes DRCj = (DCj)/IVAj = (VAj)/IVAj.

From the formula of effective rate of protection, we have ej = (VAj – IVAj)/IVAj = Vaj/IVAj -1 = DRCj -1; Thus, DRCj = ej + 1.

Therefore, the DRC index can be deduced from the corresponding effective rate of protection and vice versa.

In the 1990s, a method of measuring indirect quality through commodity price and price index was developed mainly by Fontage and Freudenberg (FF 1997, 1998). Both authors employed combined price, or quantity unit price. We have the following formula:

$$UV = \frac{\sum_{i=1}^{n} qipi}{\sum_{i=1}^{n} qi}$$

where UV is quantity unit price (unit price) or average price (measured by the ratio of total value to total export quantity of each class of goods in the Harmonized System); qi means export quantity of commodities i of the same category according to SITC; and pi is price of commodity i.

Unit price, however, is affected by supply and demand on the world market. Prices may be pushed down by an extremely high supply or push up by an excessively high demand. Changes in prices caused by supply-demand relation may blur the product quality, and price index is used for eliminating effects of supply and demand. Ratio of export unit price of country A to that of the competitor country is usually used for this purpose, and we have the following formula:

$$I_{UV(a/b)} = \frac{\dfrac{\sum_{i=1}^{n} p_{ia} q_{ia}}{\sum_{i=1}^{n} q_{ia}}}{\dfrac{\sum_{i=1}^{n} p_{ib} q_{ib}}{\sum_{i=1}^{n} q_{ib}}}$$

where qia, qib: exports of commodities i of the same category according to SITC from countries A and B; pia, pib: prices of the commodity i in A and B

3. RESEARCH RESULTS

a. Competitiveness and competing trend of Vietnam's coffee expressed in RCA:
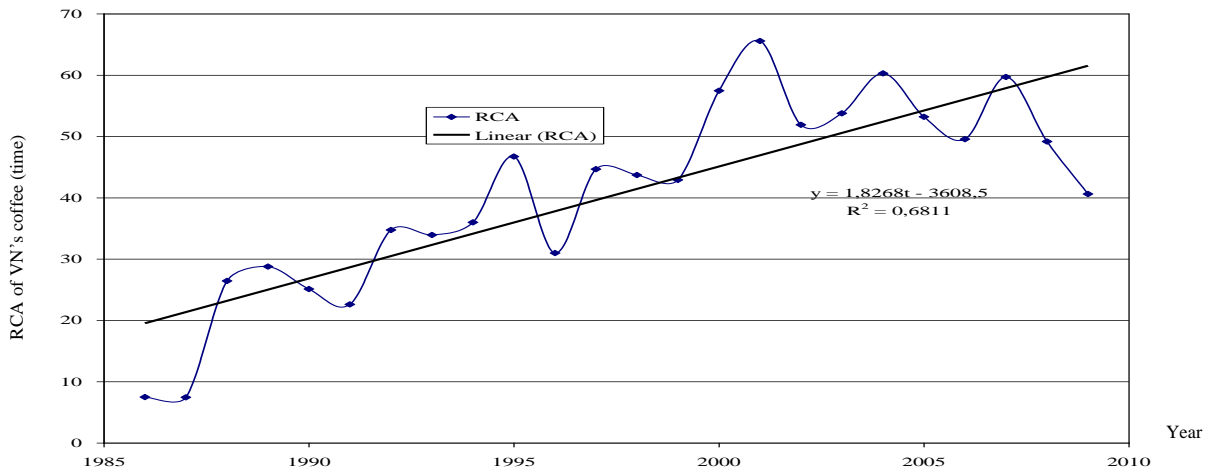

Figure 1: Trend of changes in RCA of Vietnam's coffee

Source: ICO 2010

Figure 1 shows that the share of Vietnam's total exports of coffee in its total exports from 1986 to 2009 was much greater than the share of world exports of coffee in total world exports, that is, RCA ≥ 1. Thus, Vietnam has a comparative advantage in exporting coffee compared with Vietnam's other exports

and the world exported coffee. Vietnam's RCA tends to increase over time (over 1.8 times a year), which implies that its comparative advantage is on the rise.

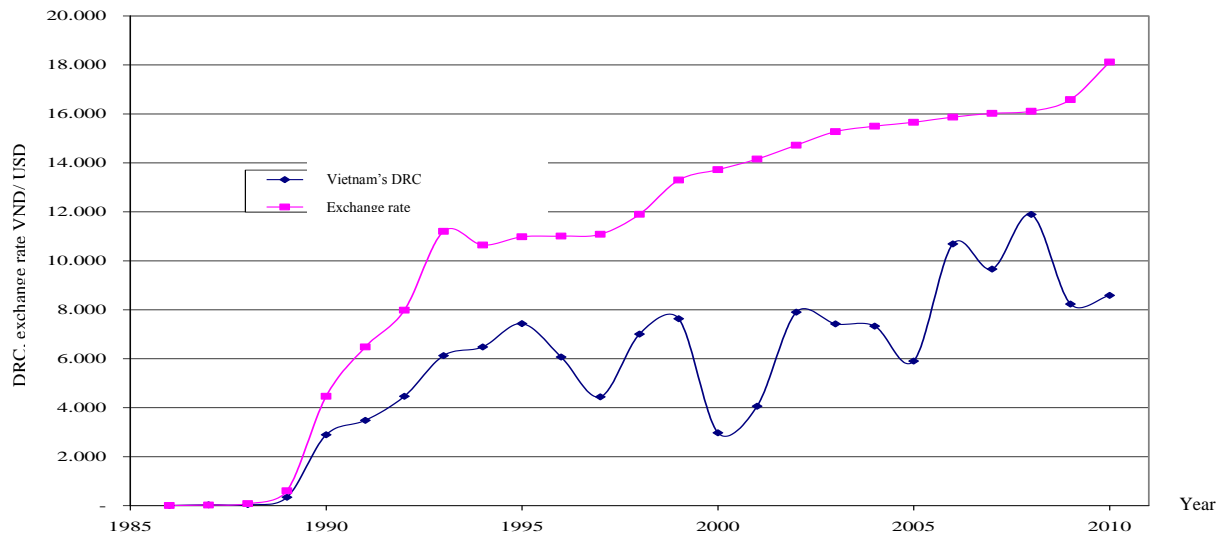**b. Competitiveness and competing trend of Vietnam's coffee expressed in DRC:**

Figure 2: Trend of changes in DRC of Vietnam's coffee

Source: ICO 2010

Figure 2 shows that production of coffee in Vietnam has a comparative advantage. The DRC diagram of Vietnam's coffee industry from 1986 to 2010 was always below (or lower than) the exchange rate curve and the gap between those two curves tends to widen. Thus the production of coffee in Vietnam can save foreign exchange effectively. In fact, Vietnam does not import coffee. If it does, the imported coffee will be much more expensive than the local one.

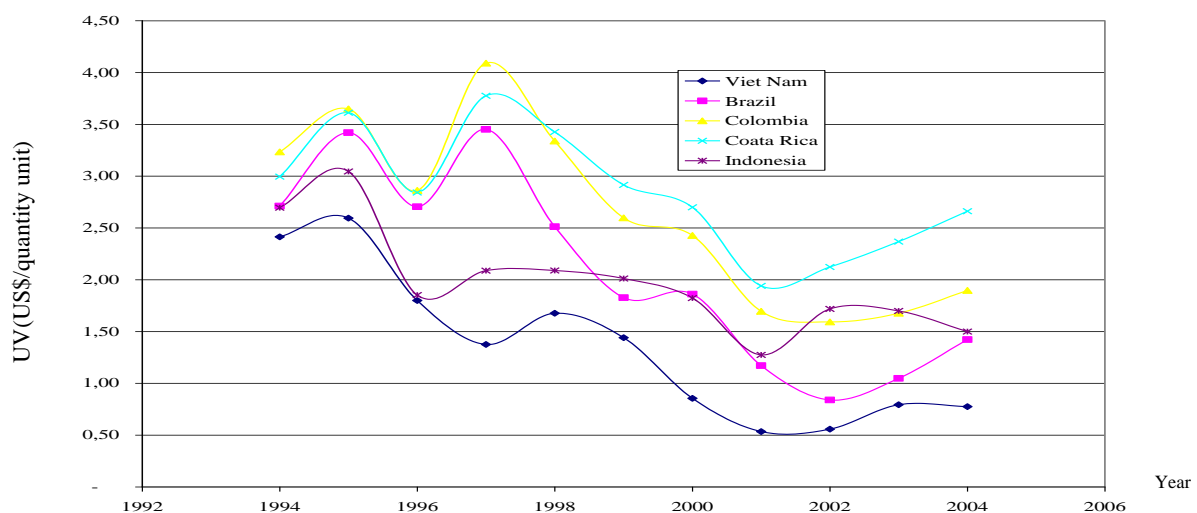**c. Unit value model for measuring quality of imports and exports:**

Figure 3: Fluctuations in unit value of coffee from Vietnam and some other countries

Source: OECD 2005

When comparing quality of Vietnam's exported coffee with the same products from other countries in terms of quantity unit price (or UV) from 1994 to 2004 (Figure 3), we see that the quality of Vietnam's exported coffee is always lower than that of coffee from other countries. The Vietnam's UV curve is below the ones for other coffee exporters. The best quality is found in coffee from Colombia and Costa Rica (their UV curves are always above others).
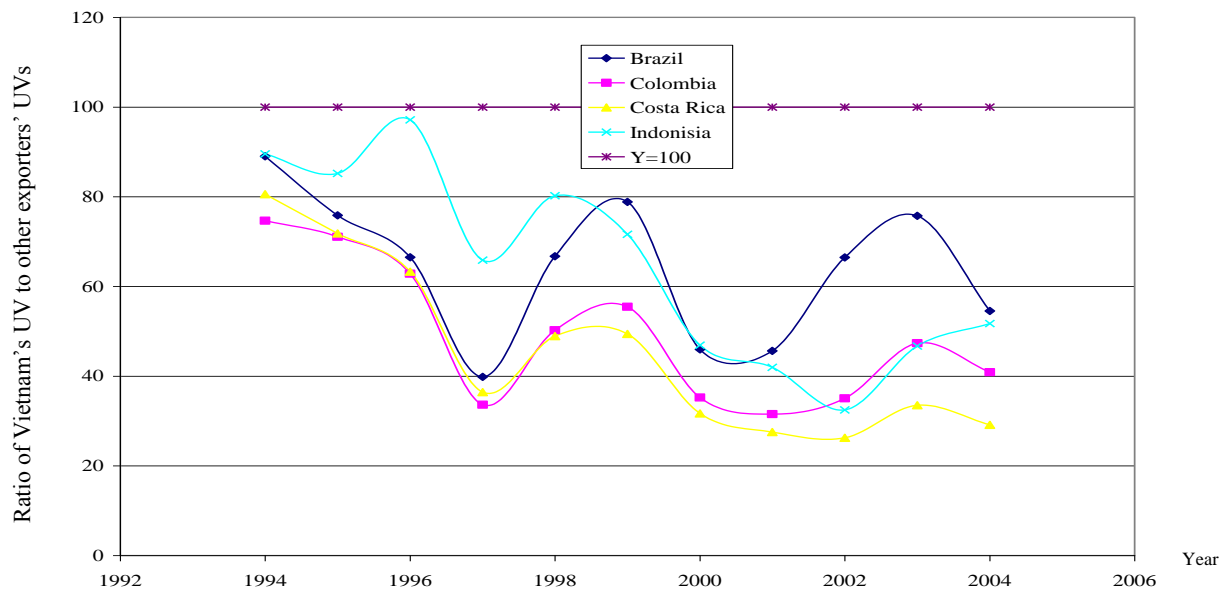

Figure 4: Vietnam's UV versus other coffee exporters'

Source: OECD 2005

Although the quality of Vietnam's exported coffee is very low in comparison with its counterparts from other countries, we also need to assess whether the quality of Vietnam's coffee is improved or not. Comparing Vietnam's UV index with those of other coffee exporters can serve this purpose. The index approaching the line y = 100 implies that the quality of exported coffee is improved in comparison with others. Figure 4 shows that the Vietnam's UV curve is below the curves for four countries and increasingly far from the line y = 100. This means that competitiveness of Vietnam's coffee based on quality in the years 1994-2004 has not been improved in comparison with its rivals and tended to decrease over time.

4. CONCLUSION

Above analyses show that Vietnam enjoys more comparative advantage in exporting coffee in comparison with its other exports and coffee from other exporters. Its RCA index tends to increase, which implies that its comparative advantage is higher and higher. Vietnam's DRC diagram in 1986-2010 is always below the exchange rate curve and the gap between them tends to widen, implying that Vietnam has an increasingly high comparative advantage in exporting coffee. In other words, production of coffee in Vietnam helps save foreign exchange effectively.

However, comparing with coffee from other countries shows that the quality of Vietnamese coffee is very low. Competitiveness of Vietnam's coffee based on quality in the years 1994-2004 was low and

tended to decrease over time. The falling quality of Vietnamese coffee implies a trade-off between comparative advantage and quality-based competitiveness in the production of coffee in Vietnam.

This trade-off may be profitable in a short term. In the long run, however, practical measures should be taken to improve the quality of coffee for export■

References

Appleyard, D. R. & A.J. Field (1995), *International Economics: Trade Theory and Policy*, IRWIN.

Krugman, Paul R. & M. Obstfeld (1996), *Kinh tế học quốc tế- lý thuyết và chính sách; Vol. I: Những vấn đề về thương mại quốc tế,* translated from *International Economics: Theory and Policy*, Chính trị Quốc gia Publisher, Hà Nội.

http://www.ico.org/new_historical.asp

http://www.oecd.org/pages/0,3417,en_36734052_36734103_1_1_1_1_1,00.html