



Concepts of Agri-Competitiveness in Theoretical and Imperical Researchs

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Abstrack

The purpose of this study is to analyze the competitiveness of exported agricultural products through theoretical and empirical studies, estimation methods and determinants. Not only summarizing the competitiveness theories of agricultural products exported from previous studies, the article also clarifies the concept of competitiveness of agricultural products at the level of products/services, firms/ farms, industry, thereby helping firms from agricultural countries - which rely heavily on agricultural production and agricultural products export to find the right ways to identify definitions and concepts, then choose the right methods of measurement, compare its export agricultural products competitiveness. Since, the study also proposed the use of synthetic indicators to measure the competitiveness of agricultural exports which is an important basis for the state agencies in the study and propose their export policy of agricultural products in the near future.

Keywords: agricultural product competitiveness, agri-product competitiveness concepts, competitiveness concepts

Introduction

Competitiveness is a common term in economics, but it can be defined in various ways. Depending on the research perspective, competitiveness is understood in many different meanings, at different levels (macro-national, regional level; meso-economic sector and industries level; micro-firms/farms, products level), til now there is still confusion about the meaning of the word competitiveness and how to measure it. Especially based on the scope of each study (scope of time and space) there is a large gap between competitiveness studies. According to Porter and Rivkin (2012), the common misunderstanding of the competitiveness concept caused serious consequences not only for political statements

but also for the firms' selection of policies and decisions. In the next section, the study focuses on concepts, meanings, various theories of competitiveness and competitiveness of exported agricultural products of previous research (both theoretical and imperical research); and then consider the factors determining the competitiveness of export agricultural products. The conclusion drawn by the author at the end of the article can be applied in proposing solutions and policies to promote agricultural exports not only of developed but also for other developing countries

Material and Methods

The main objective of the research is from the concepts and economic theory related to

competitiveness, summarize and point out the criteria, measurements and determinants to the competitiveness of export agricultural products. Research does not propose the most suitable concept applied for all, but rather about clearing the ambiguities of those studies, helping to discuss, estimate and compare the competitiveness of export agricultural products are more convenient and accurate. At the same time, the research also provides the methods and indicators used to measure the competitiveness of exported agricultural products, and the portfolio of competitiveness at the macro, meso and micro levels.

Results and Discussion

Concepts of competitiveness

Through previous studies, the term "competitiveness" is identified by many researchers in different angles of competition. At the national level, according to Krugman (1990, 1994), national competitiveness is the ability to improve its citizens' living standard that depends almost on its ability to improve its productivity. Tyson D'Andrea (1992) said that the international competitiveness is the ability to produce goods and services that meet the test of international competition while its citizens are satisfied with rising and sustainable living standard. In another way, (perfect) competitiveness can be interpreted as the ability to produce goods or services under free and fair market conditions that meet international markets' criteria while can simultaneously maintain and expand the real incomes of its citizens over the longer term (Barker, Köhler, 1998). According to European Commission (2001), national competitiveness is the ability of an economy to provide its citizens with sustainably high and rising living standards and high rates of employment. Based on Porter (2008), competitiveness is measured by its world market share for its products. According to Stephen Garreli (2008) competitiveness represents the pattern that a nation manage all of its resources and competences in order to increase its citizen's welfare. Altomonte et al. (2012) said that external or international competitiveness is the ability to exchange its

abundant goods and services for its scarce goods and services from other countries. According to WEF (Schwab, Sala-i-Martin, 2013), Competitiveness is the set of institutions, policies, and factors that determine the level of productivity of a country. Accordingly, national competitiveness is often associated with national productivity, national income, people's standard of living, and international market share. Basically highly national competitiveness is synonymous with higher productivity, higher GDP, higher living standard of citizens and bigger global market shares.

At micro level, corporate competitiveness can be interpreted as adapting its products to the market and competition requirements, particularly in terms of product range, quality, price as well as optimal sales channels and methods of promotion (Adamkiewicz-Drwiłło, 2002). Ajitabh, Momaya (2004) said that competitiveness of a firm means its share in the competitive market. Based on Buckley et al. (1988) research, competitiveness of a firm is its ability to produce and sell its products and services, and defeats its domestic and international competitors by superior quality and lower costs. According to Chao-Hung, Li-Chang (2010), "A firm's competitiveness is its economic strength against its rivals in the global marketplace where products, services, people and innovations move freely despite the geographical boundaries". Flejterski (1984) proposed the concept of competitiveness is the capacity of an industry or firm to design and sell its goods at better prices, quality and other features in comparison with the similar goods offered by its competitors. Then, competitiveness of company related to its capacity to seize the market, come over the competitor, ensure company's long term profit.

Competitiveness is defined by many researchers who tried to explain its origins in many theories. For example:

Classical economists interpreted the competitiveness through the Invisible hand

theory of Adam Smith, the comparative advantages of David Ricardo and the natural resource abundance theory of Heckscher - Ohlin. Accordingly, the competitiveness is understood as the absolute advantages, comparative advantages or favorable of natural/technical resources that a country can hold. The classical approach focused on competition at the macro level, such as A. Smith's invisible hand theory that explains competitiveness as ability to gain benefits from international free trade market by specializing in the production of goods/services that hold absolute advantage. Because of that reason, export country can produce the goods/services at the lowest costs (Tomasz Suidek, Aldona Zawojka, 2014). D. Ricardo's comparative advantage theory explains competitiveness as ability to capture international market by utilizing its relative advantage in any good/service whether it has absolute advantage over its trade partners/competitors or not (Tomasz Suidek, Aldona Zawojka, 2014). Or in Heckscher – Ohlin theory, they mentioned competitiveness depends on degree of available resources of a country. "A country will specialize in producing and exporting those commodities which require relatively intensive use of locally abundant factors of production. Relatively capital-abundant country will export capital-intensive commodities while relatively labor-abundant country will export labor-intensive commodities" (Tomasz Suidek, Aldona Zawojka, 2014).

While classical economists referred to competitiveness in the relation with international trade and the production-specialization of nations; neoclassical economists referred to competitiveness in the perspective of the relationship between competitiveness and market structure (enterprise level). Theories as Effective competition of John M. Clark; marketing behaviors of Wroe Alderson, Austrian school of Ludwig von Mises, Evolutionary economics of Joseph A. Schumpeter, entrepreneurship and innovations of Joseph A. Schumpeter, Institution economics

streams of Friedrich List, Max Weber, James Buchanan... represented for this School. Competition in the market, according to neoclassical economists is an indicator that helps determine the competitive position of each individual player. Unlike classical economists, they favored state intervention in the market. In particular, these theories said that productivity is the core factor, determining the firm's competitiveness as well as countries and regions. Prominent among these theories include Joseph A. Schumpeter's Entrepreneurship and Innovations Theory, he discovered that only the ability of the owner to innovate and start-up helps position competitive advantage of the enterprise, because only innovation and creation help improve the productivity of the company significantly. This is true in the context of the current industrial revolution 4.0.

Notably, is the Krugman and Porter's theories of competition. According to Krugman, "Productivity growth is the main driver of competitive. International Concern of Countries is associated with their high standard of living" (Tomasz Suidek, Aldona Zawojka, 2014). Meanwhile, Porter said that "Competitiveness depends on long run productivity, which increase requires a business environment that supports continual innovation in products, processes and management. The four underlining conditions driving the global competitiveness of country's companies include: factor endowments, demand conditions, related and supporting industries (clusters), and the firm's strategy, structure and rivalry" (Tomasz Suidek, Aldona Zawojka, 2014).

Competitiveness of agri-products and estimation of agri-products' competitiveness

At meso and micro levels, an industry is competitive if it has stable ability to gain profit and maintain its market share in domestic and/or international market (Martin et al. 2000). Micro level of competitiveness can be interpreted as ability of the company to deliver its goods/services at the right time, right place and right form that reach buyer's willing payment with at least opportunity costs on resources employed (Cook and Bredahl, 1991).

Due to the characteristics of agricultural products, the supply of a agricultural product type

to the market will depend on the price of that agricultural product, the price of competing products, the price of couple products, the price of inputs, and the level of technology, natural environment and policy mechanism. Therefore, when analyzing the competitiveness of agri-products, researchers often base on these points. For example, S. C. Davar and Bhupinder Singh (2013) said that is "ability in supplying of a product or service on a sustainable and viable basis. Competitiveness of agri-products can be interpreted by "the ability to satisfy the consumer with a product of the right price, right quality, right packaging..., creating place, time and form utility... beats the competitors for the scarce Dollars and Pounds... of the consumer"(Esterhuizen, et al. (2001)).

In summary, the competitiveness of agricultural products is determined based on the ability to supply agricultural products to the market to meet the needs of consumers, especially to have an advantage over competitors in making consumers accept to pay for their products.

From the diversity of "agri-product competitiveness" definitions, the biggest difficulty for researchers is choosing the method to measure the competitiveness of agricultural products. At the meso and micro level, it is possible to estimate competitiveness according to competitiveness at a point of time or in a period.

First, at meso level (industry and sector), there are many indicators as Changes in sectoral output and share of market (Peterson, 2003); Revealed comparative advantage (RCA); Relative export advantage (RXA); Relative import advantage (RMA); profitability (operating profit) (Carbon Trust, 2004); Trade balance (Buckley et al., 1988 and DeCourcy, 2007); The net export index (NEI); The Grubel-Lloyd index (Banterle, Carraresi, 2007); Net export index (NEI), Export market shares (EMS) (Carraresi, Banterle, 2008); Productivity of production factors (Lanoie et al., 2011); Region's comparative advantage in resource endowments and economic development (Misala, Siek, 2012); Industry balance of trade; Relative Unit Export Price (RUV); Relative export growth (Zhang et al., 2012).

Second, at micro level, there are many indicators as Firm-level productivity measures: Total factor productivity (TFP), Labour

productivity (LP) and Unit labour costs (ULC) (Altomonte et al., 2012); Revealed Comparative Advantage (RCA) – market share (Balassa, 1965); Domestic Resource Cost (DRC) (Bruno, 1965 and Gorton et al, 2001); Multidimensional indicators (Buckley et al., 1992); Price ratio (price competitiveness) (Durand, Giorno, 1987); The relative price; Product-specific real effective exchange rate (Helleiner, 1991); Change in market share (Krugman, Hatsopoulos, 1987); Total unit costs (Siggel, Cockburn, 1995); Price/product attribute (Swann, Taghavi, 1992); Relative Unit Labour Costs (Turner, Golub, 1997); Export Value, Revealed Comparative Advantage RCA, RSCA corrected comparative advantage, relative trade advantage index (RTA) and trade competitiveness index (TC) (Hubert Palus et al., 1995); Market share, Revealed Comparative Advantage, Trade Competitiveness index (Xiao Han et al., 2009); Comparative advantage of RSCA adjustment; Spearman correlation (SRC), Trade competitiveness index (TC) and MS market share (Jinh Wan Oh et al., 2015).

Many other studies that can be found, also use the same indicators as mentioned above. However, the combination of these indicators depends on the research objectives of each author, in order to clarify the competitiveness of each item and industry. Such studies include: Z.Noor Aini et al. (2010); Yang et al. (2012); Wemerfelt, B. (1984); Tulus Tambunan (2006); Thorne et al. (2002); Trang Thu et al. (2016); Sanchez, R. (2008); Nik Maheran et al. (2008)... From these studies, these criteria can be classified into two groups: The first group is the criteria built on past information such as trade measures (market share) or current account balance; The second group is the criteria to show competitiveness, in terms of technology, price and cost. The first group that is used to assess competitiveness will face some limitations, especially in the current period - the boom phase of the Industrial Revolution 4.0. Therefore, we recommend that researchers should be cautious in selecting appropriate tools and measures in analyzing and assessing the competitiveness of goods in general and agricultural products for export in particular. To reveal the true competitiveness of a specific commodity, researchers should use synthetic indices that help show many aspects of this complex competitiveness. Particularly in agriculture, they need to pay attention to factors such as unpaid inputs (unpaid labor of family-scale farms).

Determinants of agri-products' competitiveness

At the micro level, the competitiveness of a product is influenced by many factors. A lot of empirical research has focused on clarifying this issue, mainly describing the determinants of competitiveness at the enterprise level, because enterprises are direct competitors in the international market (Porter, 1990). Each country has its own advantages, each government has a lot of policies to promote and improve the competitiveness of the manufacturing industry, businesses, but the enterprise can create itself competitiveness or not depends largely on the firm's ability to seize these opportunities (Hollensen, 2010). Because the industry environment and the national environment press relatively the same impact on every enterprises, therefore, the competitiveness (micro level) depends on the flexibility of enterprises (McGahan, 1999). Factors that determinance on micro competitiveness include:

First, the group of micro determinants: including the sophistication in the operations and company's strategies; quantity and quality of production factors; technology level; creativity and innovation; the development of supporting and related industries. Directly related to the processing of agricultural products, especially export agricultural products, the competitiveness of goods/companies depends on the management and strategic management capacity of each enterprise, for example:

- Effectively strategic management process such as building competencies and quality (Sushil, Kak 1997, Loch et al. 2008, Hitt et al. 2012), building corporate competitive strategy (Porter 1990, Grupp 1977), integrating internalization strategies (Altomonte, Ottaviano (2011); Delgado et al. (2012)) and flexibility strategic management policy to fit with changing environment (O'Farrell, Hitchens (1988); Reeves, Deimler (2011)).

- Improve technological process, focus on innovations (Reeves, Deimler (2011); Atkinson, Andes (2011); Forsman et al. (2013)).

- Pay more attention on marketing process as mentioned on research of Corbett, van Wassenhove (1993); Dou, Hardwick (1998); Notta, Vlachvei (2010);

Regarding the agricultural production process, the competitiveness of agricultural products depends heavily on the capacity of the agricultural production sector (farms) such as production, barriers to entry and exit, differences of products, costs and prices, the ability to create new products. These are mentioned in the research of Bosma et al. (2011); Mullen, Keogh (2013); Buckley et al. (1988); Dou, Hardwick (1998); Dangelico, Pujari (2010); Porter (1990); Pace, Stephan (1996); Scott, Lodge (1985); Hammer, Champy (1993); Man et al. (2002); Dangelico, Pujari (2010).

Second, the group of macro determinants: consists of monetary and fiscal policies, the rule of law and the quality of social and political institutions. This group of factors is a premise and creates common conditions for the promotion of micro factors, giving companies the adequate opportunity to improve their competitiveness.

In the manufacturing sector, referring to growth and development, economists are concerned with two basic issues: (1) Differences in efficiency between economic sectors and (2) Differences on the effectiveness of agriculture among countries, regions, and farms in terms of the size and regime of land tenure. For developing and underdeveloped countries, the supply market often responds less quickly and comprehensively to external stimuli. The main reason is that farmers' qualifications are often low, the production process faces many uncertain situations, especially in terms of productivity and price; producers' inertia, mechanism factors and technical issues (David Colman, Trevor Young, 1989). Therefore, increased competitiveness (for both small-scale, resource-shortage households as well as small-scale producers) can be achieved through the formation of production clusters, and promote integration and linkages among partners (farmers, suppliers, processors, agents and supermarkets) (Boonzaaier, von Leipzig 2009).

For developed countries, Ball et al. (2010), Herath (2013) argued that increasing competitiveness mostly depends on the ability to

improve productivity and implement innovation. In Canada, for example, it is possible to identify thirty aspects of the competitiveness of agribusiness companies/farms, such as production costs, product lifecycle, production scale, flexibility, product innovation, new product development and technological innovation in manufacturing, processing, marketing, production organization (Westgren, van Duren 1991).

In general, in order to improve the competitiveness of the agricultural sector in general, agribusinesses in particular, governments need to pay more attention to division of labor and specialization (A. Smith 1776); Investment in physical capital (Schumpeter (1950); Swan (1956)); enhance human resources (Horne et al. (1992)). Beside, improving supporting and related industries is one of the most important thing to strengthen agricultural value chains, indirectly heighten firms and farms' competitiveness as mentioned in research of Altomonte, Ottaviano, 2011 (production sharing); Delago et al. (2012) and Ketels et al. (2012) (Supplier quantity and quality, state of cluster development)

Conclusion

First, there is no particular definition that can be applied to every business, every economic sector, every country. In economics, the four pillars of competition include: division of labor and specialization, market share in the market, production costs and commodity prices, labor productivity. However, the proportion of these pillars that contribute to create success of businesses/farms (agriculture) in the current economic context is not the same for all countries. The explosion of industrial revolution 4.0 creates many startups in agriculture, which brings both opportunities and challenges in building, maintaining and improving the competitiveness of agricultural producing, processing and trading firms and products in the more complex context of the global economy.

Second, agriculture sector has its own distinctive characteristics, agricultural products are much different than other products. Competitiveness of agricultural products

depends not only on the four above pillars, but also on the its position in the agricultural value chain. To increase the competitiveness of agricultural products, not only depends largely on the strategic management capacity of the companies/farms, but also is influenced by the macro-economic policies of the government, as well as the similar development of supporting and related industries. That required the government has to understand the key factors that facilitate or hamper firms/industries competitiveness and how to build competitiveness at the micro, meso levels. For developing and underdeveloped countries, in addition to exploiting natural factors, the government needs to pay attention to creating conditions for human resource development, investment in infrastructure and technology, and development of supporting and related industries to help increase the value of agricultural production, processing and trading.

Third, the selection of competition measurement tools should prioritize multidimensional and synthetic indicators, suit for the specific conditions of each enterprise and each country. At the micro and meso levels, the selection of competitive measurement criteria should be linked to the firms' strategic management policies.

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