

Market structure analysis of vietnamese dairy industry



Introduction

In this paper we will explore the institutional and economic rationales of having varied market structures pertaining to different industry competitiveness and social cost and/or benefit. This paper is a qualitative study of the Vietnamese market of dairy farmers and production as of 2008. The institutional settings and the nature of Vietnamese dairy market are presented with emphasis on the level of firms' competitiveness and profit figures. The various types of market structures will be discussed and the components are analyzed as standalone entities. The role of firm attributes in exit – using an original database containing detailed firm-specific information, covering the Vietnamese dairy industry. The second objective is to establish links between various facets of productive efficiency and market structure. The third objective is to study the effects of partial regulation (where only a subset of firms is regulated) on market structure and social welfare.

Concepts Summary

Theoretical concepts introduce us to four types of market structure, namely Monopoly, Oligopoly, Monopolistic Competition and finally Perfect Competition in the order of increasing competition, less product differentiation, increased industry rivalry. These market structures are defined by key factors:

Number and size of firms: If there are dominant firm with large market share percentage then it can set its own price and smaller firm are price taker.

Industry concentration

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Technological and cost conditions

Demand conditions

Market Entry & exit feasibility

Product's differentiation

Degree of price control by firms. If the price is raised, will the firm lose sale by total amount (a horizontal elastic demand curve), or a large proportion (elastic demand curve), or minimal quantity (inelastic demand curve)?

Market power gives firm the ability to set prices, since demand is somewhat inelastic, prices can be raised and the firm earns profit above perfectly competitive level. In such case, consumers' benefits are diminished. Vice versa, if the consumers have market power then they can influence the prices.(SLOMAN, John, 2007)

There is a chain of causality and effects arise from market structure to conduct of firms influencing the firms' performance, efficiency, and profit level.

We can also derive partially the structure of the market by gleaning information about firms' conduct, pertinent to historical pricing data, advertising behavior, R&D, merger & acquisition activity. By examining the pro-forma balance sheet of publicly traded firm, we can determine the firm's profitability level and the social welfare as determined by industry market structure.

About the market structure, producers face different environments. Some producers face a competitive or a monopolist market of inputs but selling their products in a market structure such as monopoly, (im)perfect competition or monopolistic competition or different degrees of oligopoly; others can face monopsony or oligopsony, combined with different structures in (some) inputs' markets. Any combination between sellers and buyers is possible. Some industries face homogeneous products, that consumers can't distinguish; others face perfect substitute products but different at the consumers' point of view (case of industry of cigars).(SLOMAN, John, 2007)

So, market structure is important because not only by the differences we can distinguish between them, but because of the behaviors associated to each one and that can generate different perceptions and actions between competitors, between consumers and between competitors and consumers. With this perspective in mind, a question comes up: which market structures do really exist? Perfect competition and monopoly? Something between these two kinds of market structures? What really does mean the term imperfect competition? Imperfect in the sense of competitive behavior with market failures (information failures, for instance) or imperfect in the opposite sense of " perfect" competition? Could it be a mix of pure competition and monopoly? But, will such a market structure really exist and how can we combine them in the real world?(MANKIWI, N. Gregory) It's not just a question of an homogeneous good sold in an imperfect market, but the diversity of conditions surrounding each producer faced as monopolist of his own variety. Monopolistic competition embodies elements of monopoly and perfect competition, assuming a great number of sellers, such that the

actions of one individual producer have no effects on his competitors. But it is related with monopoly and oligopoly with differentiation, for the differentiated product of each seller has a demand curve with negative slope. We can see that the power of a producer to differentiate a product as part of the competitive strategy. Thus, the market nature is characterized both by the number of firms and the product differentiation, where firms control product (differentiated) prices, quantities, product quality, and, in this process, they use tools such as advertising in result of differentiated production, attempting to “ better” sell his own (differentiated) product. There can exist competition without the meaning of pure competition; in contrary to static equilibrium, allowing the possibility of disequilibrium. In an industry with many producers and small firms in relation to the market as a whole, selling differentiated substitutes will create market power, in a way that each competitor can get some degree of control of his variety price in alignment with real economic world’s behavior. However it may being a competitive behavior, it gets both elements of free competition and monopoly. His work is not based in (just) the firm structure; it’s related specially to the market structure. Each producer in an industry has a monopoly of his own variety; the industry does not necessarily be a monopoly. It can exist strong competition in this process, although built on different theoretical and empirical basis (monopoly theory, but taking into account the interrelations between groups of producers). In this way, pure competition eliminates “ part of the picture”, not taking in account the monopoly elements presence. The market structure could be of an oligopoly structure, noting the mutual dependences between competitors’ actions, and the possibility of monopolistic competition with a number of competitors

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sufficiently large, in a way that the mutual dependences between competitors become irrelevant. Monopolistic elements are not merely the result of consumers' irrational behavior, because products are assumed to be differentiated in several degrees. The relation between price and sales to an individual seller depends on the market organization in which he acts. If the product is differentiated, with bigger prices in relation to his competitors, the individual producer will not lose all his sales, because if some of his buyers will move to his competitors, also some of his loyal clients will keep buying his (differentiated) product, for preference motivations. The individual behavior is, in general, affected by the actions and reactions of his competitors. The behavior of individual sellers (and consumers) is strongly interrelated: the behavior of a firm has important effects on quantities, prices and profits of the other firms. The individual firm doesn't control all the variables that affect its profit, so, it's impossible the unconditional (free) maximization of profits. (HALL, Robert E.) So, price and product are two key variables in the competitive process towards equilibrium: price equilibrium versus product equilibrium, considering three possibilities: price adjustment (given product), product adjustment (given price) and a third way, considering both price and product endogenous. This is a deviation from pure and perfect competition.

Industry analysis

Market Structure

- o Number and size of firms.

Vietnam with a population of more than eighty six millions serve as one of the fastest growing market for dairy products in South East Asia. Foreign dairy brands availability provide stiff competition to the market and more choices for consumers. Prevailing theories regarding market structure would indicate that consumers benefit from the competition as the price for goods would lower, but it is certainly not the case. Finished milk products in Vietnam have very stiff prices compared to those available in neighboring Thailand, Hong Kong, Singapore. (Milk price are sky high - (Giá sữa rất cao ở Việt Nam. trên thị trường))

- o Industry concentration: One large Vietnamese firm Vinamilk and many smaller size, competing with foreign imported products
- o Technological and cost conditions.
- o Demand conditions: Increasing demand, continuous growth of market size & scope.
- o Ease of entry and exit: Easy entry & exit. In the long term it is feasible to set up manufacturing capacity in Vietnam.

Conduct

The Structure-Conduct-Performance (SCP) Paradigm

- o Pricing: Price received and transaction costs are important factors for producers in decisions about the market outlet(s) to be used. . Price of milk is inversely related to market supply in particular season of the year.

Distributors tend to raise price because it is marketing & sale technique,

Vietnamese consumers associate quality products with high prices. It is not true indicator of market structure that there exists a collusion between distributor or a monopoly with price-setting mechanism exist. For instance, Enfa A+ by Meadjohnson price rise by 20. 000 – 30. 000VND/container.

International & Domestic Price Comparison: Domestic price for imported brands are much higher than overseas or in neighboring countries.

o Advertising: Unit marketing costs of large-scale commercial dairy enterprises are lower than those for small-scale enterprises. Vinamilk spend about 2million years /yr in previous years for marketing funding. However, as firm raise prices in recent quarters, their marketing cost as a percentage of revenue decreases, some by as much as 30%.

o R&D: Companies try to diversify with many products lines.

o Merger activity: No M&A activity in recent years.

Performance

o Profitability: Quite high profit. That is a result of foreign brands using foreign labels to influence consumers through marketing activity that their brand is the best.

o Social welfare: Consumers lose out currently because they have to pay more for same products compared to overseas consumers' purchasing. Government has no regulation on price-setting.

Economic Outlook

Economic Environment

Vietnam's highly literate, low-wage workforce have made the country a popular investment destination in Asia. Vietnam's economy expanded by 8.5 percent in 2007, the fastest rate in 11 years. This emerging market, which launched market reforms two decades ago and joined the WTO in January 2007, has attracted a record US 20.3 billion dollars in investment promises.

Consumer Consumption

Consumption spending increases.

Regulatory and Pricing

Foreign imported milk & dairy products

The National Committee is one of the two regulatory bodies responsible for enforcing the prohibitions on monopoly agreements and abuse of a dominant market position, and has primary responsibility regarding the aspects of these prohibitions that touch directly on pricing issues – such as price-fixing, resale price maintenance and price-related abuses by dominant firms.

Vietnamese' State Administration of Industry & Commerce is responsible for enforcing most (if not all) other aspects of the two prohibitions.

Diary producers

The Vietnamese national producers of dairy products are Vinamilk, Long Thanh Milk, Hanoi Milk, Elovi, Dutch Lady VN and then there are the smaller firms and dairy producing families.

Four-Firm Concentration Ratio

We calculate the market shares of the top four firms in the defined industry.

Letting S_i denote sales for firm i and ST denote total industry sales

Revenue figure 2007 (VND) (Vinamilk Quaterly Results Update 4QFY2007)

Vinamilk

6648193

Long Thanh

354570

Hanoimilk

620498

Elovi

177285

Dutch Lady VN

265927

Others

797783

8864256

For the above data value, we derive:

$$= 0.75 + 0.07 + 0.04 + 0.03 = 0.89$$

There is certain limitation with our calculation of concentration measures, namely: market definition (we measure the firms' concentration without

regard to national or regional) ; exclusion of foreign producers and imported products; industry definition and product classes are aggregated.

Herfindahl-Hirschman Index (HHI)

The sum of the squared market shares of firms in a given industry, multiplied by 10, 000: $HHI = 10,000 \sum w_i^2$, where $w_i = S_i/ST$. (Herfindahl-Hirschman Index (HHI) Calculator)

Calculating HHI for the above data gives:

Diary Market

The Technology

Industries differ regarding the technology used to produce goods and services. Some industries are labor intensive; some industries are capital intensive; other industries use a combination of labor and capital. The role of information problems, organization, pricing, product differentiation, decision taking, particular markets, competitive structure, technical progress and faces cost relationships. Monopolistic competition is part of the competitive structure, although with particular specificities. Type of dairy processing used is influenced by the availability of technologies (for storage, cooling, bulking), the size of the market, access to producers, access to credit and consumer preference.

Underutilization of capacity in dairy processing industry exist due to lack of local supply, seasonal fluctuation in supply, small and scattered production units, poor and seasonally impassable roads, inappropriate transport

Products diversification & branding

As income and degree of urbanization increases, more standardized dairy products are marketed. Take Vinamilk for instance, its products portfolio include: Vinamilk, Dielac, Ridielac, V-fresh, café Moment, Concentrated milk “ Ongtho”

How Vietnamese Consumers adapt to new products knowledge

More dairy marketing activities are geared toward women and children than men by producers and retail traders,

Cost of raw materials – Concentrated Milk Powder

Regulations on price, quality and system of payment in formal markets influence the decisions by small-scale farmers to sell milk in that market. In informal markets, market agents are competitive; margins reflect costs not excess profits. In formal markets, margins may fail to cover costs.

Conclusion

Thus far, we have see that profit, rather than being an indicator of possible monopoly power, is, in fact, an integral feature of the competitive process, playing an important role in the dynamic process of competition, in which entrepreneurs reallocate resources in order to satisfy consumer demands. (LAWRIWSKY, Michael L.) market structure characterized by both competitive and monopoly elements, linked monopoly and pure competition theory, claiming that each producer in the group has some monopoly power, although bounded by competition of other firms which produce substitute commodities. Existence of competition even in circumstances not identical to

those of pure competition and monopoly (intermediate cases with both elements presence), and analyses selling costs, advertising and implicit randomness in the choice process linked to the degree of differentiation of products analyze differentiated market structures with selling costs and advertising costs (considering price, product and advertising as key variables in the process). Quality of product and choice product is part of the firm strategy. Vietnam dairy industry is a mix of oligopoly and perfect competition. This paper addressed how firms pricing differ in dairy industry. A model in which upstream firms can sell to customers directly and through intermediaries is examined. Consumers engage in time consuming search for the best price & quality matching and discount future returns while heterogeneous intermediaries compete with each other and with the upstream firms' direct sales. The unique equilibrium is derived and the conditions when the upstream firms utilize both channels in parallel or either one exclusively.

Table of Figures:

Figure 1. Market Share – Vietnam's local dairy producers

Vinamilk accounts for 75% of dairy production in Vietnam among Vietnamese producers.

Figure 2. Vietnam's raw materials import vs. local produce

More than 70% of raw materials for dairy production & packaging in Vietnam are imported, only 28% of raw milk is of Vietnamese origin. Of those 70%, 22% is finished products with foreign labels.

(Why milk price in VN is high? (Giá sữa ở VN cao: Tại sao là nguyên nhân?))

Figure 3. Vinamilk Quaterly results

FQ

FY

Year

2003

2004

2005

2006

2007

2007

2008f

2008p

Sales

244. 1

246. 1

356. 7

413. 6

116. 9

426. 4

505. 1

n. a.

Earnings

32. 8

32. 3

38. 2

45. 9

13. 2

60. 4

39. 9

n. a.

Net margin

13. 4%

13. 1%

10. 7%

11. 1%

11. 3%

14. 1%

7. 7%

n. a.

Results (US\$ mill.) (Vinamilk Quaterly Results Update 4QFY2007)

Index weight 6. 71%

Market cap VND23, 837bn or USD 1. 48bn