BINDURA UNIVERSITY OF SCIENCE EDUCATION

FACULTY OF COMMERCE

GRADUATE SCHOOL OF BUSINESS

MASTER OF BUSINESS LEADERSHIP

EXECUTIVE MASTER OF BUSINESS LEADERSHIP

MANAGERIAL ECONOMICS (MBL 518)

EXAMINATION PAPER

DURATION: 3 HOURS 30 MINUTES

INSTRUCTIONS AND INFORMATION TO CANDIDATES

1. Section A is compulsory and carries 40 marks.
2. Answer Question One from Section A and any three (3) questions from Section B.
3. The paper carries six questions.
4. All questions in Section B carry equal marks of 20 each.
5. The use of cell phones is not allowed in the examination.

SECTION A: [COMPULSORY]

QUESTION 1

CASE STUDY: SOME TRENDS IN THE U.S. BREWING INDUSTRY

Industry Structure

The U.S. brewing industry can be split into two broad categories: macro-breweries and craft breweries. Macro-breweries (e.g., Anheuser-Busch, Miller, and Coors) collectively produce the largest volume of beer each year and individually produce well over 6 million barrels each, where a barrel equals 31 gallons. Craft breweries are defined by the industry as being smaller, with less than 6 million barrels of annual production, and being independently owned (less than 25% ownership of by a macrobrewery) (Brewers Association, 2017b). Craft breweries generally produce more unique and varied styles of beer compared to the traditional American lagers and light lagers (e.g., Budweiser, Miller Lite, and Coors Original) that have dominated the beer market for decades.

Within these two broad categories, there are still more specific segments: Regional breweries produce between 15 thousand and 6 million barrels annually, while microbreweries produce fewer than 15 thousand barrels annually. Brewpubs (restaurant-breweries) generally produce less than 15 thousand barrels and sell 25% or more of their beer on site. More recently, nano-breweries have been defined as those producing around 3–4 barrels per year. Some breweries only brew beer for other breweries that handle the marketing and sales of the product. Both brewers in this relationship (the buyer and seller) are referred to as contract brewers—although there are subtle variations to these types of contracts. For example, contract brewing was an important step for the Boston Beer Company (i.e., Sam Adams beer), which used the excess capacity of other brewers to make their own beer early on, thus saving on investment in capital costs.

The large macro-brewers dominate the industry with respect to sales and are poised to achieve economies of scale (Tremblay and Tremblay, 2005). They also have greater access to inputs and wholesale distribution. Yet smaller brewers have found ways to compete more on quality than on quantity (Berning and McCullough, 2016). Over the past decade, the U.S. beer industry as a whole has been stagnant or declining. At the same time, the craft beer segment has seen continuous growth. The number of macrobrewers producing over 6 million barrels has declined over the past decade, with a compound annual growth rate of –2.13%, currently representing less than 1% of the total number of breweries. Alternatively, the number of brewers producing 100 thousand barrels or less has shown significant growth, with breweries producing 7,500–30,000 barrels showing double-digit growth. Notably, more than half the breweries produce fewer than 1,000 barrels a year. With respect to barrel production, these smaller breweries have also grown faster than their macro counterparts. While macrobrewer production in barrels has steadily declined, craft breweries have steadily grown, displaying double-digit growth in many size categories. Within the craft segment, regional breweries make up 73% of craft barrel production, microbreweries 20.4%, brewpubs 5.5%, and contract brewing companies rounded out total 2016 production with 1.1% (Brewers Association, 2017c). It is relevant to note that the largest brewers still owned nearly 70% of total beer production in 2016, down from roughly 85% in 2007. The smaller production categories have roughly 1% or less of total production. In summary, the U.S. brewing industry is still led by a few dominant firms, but this share is declining as the fringe continues to gain market share.

Brewery Growth by Region

Those familiar with the brewing industry are well aware of exponential growth in the number of U.S. breweries over the past 40 years. Given the commercial and cultural differences across the United States, it is informative to break down this growth by state. Table 4 compares the total number of breweries by state in 1970 and 2012. Not surprisingly, California, Colorado and Washington lead the way in growth, as these states have well-known and expansive brewing communities in San Diego, Fort Collins, and Seattle, respectively. California and Colorado are also homes to the early home brewing industry that helped launch early craft brewers (Hanson, McCullough, and Berning, 2016). Other states— Michigan, Montana, North Carolina, Oregon, Texas, and Wisconsin—have exhibited growth as well. Although not as large as California, these states all have established craft beer industries that distribute brews well beyond their borders. Many areas exhibit a conspicuous lack of growth.

Excluding Florida and North Carolina, growth in the Southeast has been slow over the past 40 years. This could be due to cultural differences or possibly economic climate. Differences across states could also be driven by variation in the regulatory environment. When Prohibition was repealed by the 21st Amendment in 1933, most alcohol-related policy was deferred to the state and local levels, resulting in a complex and arguably convoluted system of production, distribution, and sales laws. These differences in state beer policies are wide and no doubt have had lasting effects on the development of the brewing industry within state borders. When we present the number of breweries on a per capita basis, a slightly different story emerges. Some states with large brewing industries, such as California, are not growing as fast relative to the population. Assuming constant per capita consumption, this could indicate that these states may be reaching the limit of their growth potential. It also shows that states not typically in the conversation regarding industry growth—particularly Alaska, Montana, and Vermont—exhibit much steeper growth rates per capita and have burgeoning market potential. These per capita differences could also reflect state-specific industry conditions. Beer supply chains rely on wholesalers that not only distribute their product but also help market and promote it. In some states, the growth of distributors has also been stagnant or distributors and breweries face excessive regulation. Breweries also rely on access to necessary malted grains and hops. The growth of breweries has led to competition for these inputs. Climatic events such as drought (hops) and freeze (barley) have led to periodic shortages as well. Consequently, these external factors may favour breweries in certain regions of the country or breweries producing at a larger scale with greater bargaining power.

In summary, given the wide variety of state and local policies regarding beer production, distribution, and sale, it is no wonder that states have experienced disparate growth rates. A number of supply chain factors have also impeded or fostered growth in an industry that has been a pivotal part of this country's rich history. As the local agricultural movement continues to grow, we can expect to see an increase in local production of barley and hops as well as value-added industries such as maltsters. We can also expect to see changes in local, state, and federal policies, whether they be prohibitionist or supportive. The Craft Beverage Modernization and Tax Reform Act is currently under legislative review and looks to substantially alter federal excise taxes rates. These are interesting times for an industry that provides more than $48.5 billion in tax revenue annually and employs over 1.75 million workers throughout its supply chain.

Required:

Carefully consider the following questions and answer them based on the case study above as well as your broad appreciation of issues in Managerial Economics.

a. State and briefly explain, with examples, the broad concept from Managerial Economics which we use when analysing and describing a given industry like US brewing industry. **(5 marks)**

b. In what ways does size of a brewer in the industry determine its conduct? **(5 marks)**

c. Explain how macro-brewers benefit from their size. **(5 marks)**

d. Explain how the microbrewers generally compete with the macrobrewers in the U.S brewing industry. **(5 marks)**

e. The number of macrobrewers producing over 6 million barrels has declined over the past decade. What could explain this trend? **(5 marks)**

f. What evidence is there in this case which supports the view that the US beer industry is oligopolistic? **(5 marks)**

g. A number of supply chain factors have also impeded or fostered growth in an industry that has been a pivotal part of this country's rich history. What factors do you think could have fostered growth of the brewing industry in the U.S? **(5 marks)**

h. Explain how state policies could be prohibitive to the growth of firms in the U.S brewing industry or any other industry in an economy. **(5 marks)**

[Total: 40 marks]

SECTION B: ***Choose any three [3] questions from this Section.***

QUESTION 2

a) Using a simple illustration, describe how you would estimate the consumer demand for a good of your choice. **(5 marks)**

b) As a manager of a car dealer in Zimbabwe, discuss the factors that you would consider in estimating the demand for a particular brand that you are contemplating importing clearly showing how, in the Zimbabwean case, each is a major consideration. **(15 marks)**

[Total: 20 marks]

QUESTION 3

Various demand and supply elasticities occupy centre stage in Managerial Economics and decision making. Discuss how useful the elasticity concept is in management decision making.

[20 marks]

QUESTION 4

Understanding the sources of economies of scale is very important in Managerial Economics and management science. Discuss in detail how economies and diseconomies of scale may arise in various departments within an organization and suggest measures that each department can employ to deal with diseconomies of scale. **[20 marks]**

QUESTION 5

The neoclassical thinking that assumes all firms are established with the intention of making profits has been challenged by the managerial discretion models of Baumol, Williamson and others. Discuss two managerial discretion models and show clearly how each one of them differs from the traditional model of the firm. **[20 marks]**

QUESTION 6

When firms do not co-ordinate their advertising decisions this may results in a problem known as the 'Prisoner's Dilemma'. Discuss in detail how this may arise in a particular industry.

[20 marks]

<u>END OF EXAMINATION PAPER.</u>