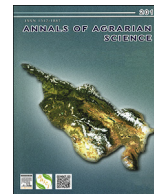


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Increasing the competitiveness of Armenian beer

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ABSTRACT

This research aims at increasing the competitiveness of Armenian beer. This is a quantitative study based on primary and secondary data. The primary data includes series of interviews with the Deputy General Director and Chief of Fermentative Lager Shop of "Beer of Yerevan" CJSC. The secondary data includes annual, quarterly time-series data ranging from 1997 through 2015, obtained from Electronic Service of the Government of the Republic of Armenia, National Statistical Service of the Republic of Armenia, State Commission for the Protection of Economic Competition of the Republic of Armenia, United Nations Comtrade database, Customs Service of the Republic of Armenia and reports.

The research paper is divided into six parts: Introduction, Objectives and Methods, Experimental Section, Results and Analysis, Conclusion, References. The first part of the research paper presents the structure of the Armenian beer industry. The second part describes the type of data and analysis methods, objectives of the research paper. The third part presents the dependent and independent variables used in this study. The fourth part introduces the export and import of beer in Armenia, during post-soviet times (i.e. 2004–2015), ordinary least squares (OLS) multivariate linear and double-log regression analysis. Finally, the paper proposes recommendations for Armenian beer makers on increasing the competitiveness of Armenian beer.

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Introduction

The beer industry of Armenia is characterised by 6 companies, out of which 3 are comparatively large ("Beer of Yerevan" CJSC, "Gyumri Beer" LLC, "Kotayk Beer Factory" LLC) [1]. Total annual beer production in 2015 amounted to 20,687 thousand liters of beer [2]. The beer industry, on average, employed around 890 people [1], including 640 employees of "Beer of Yerevan" CJSC [3]. In 2015, the leaders of Armenian beer industry were "Beer of Yerevan" CJSC (47%) [3], "Gyumri Beer" LLC (17.2%) [4,5], and "Kotayk Beer Factory" LLC (6.2%) [5,6].

According to the Law of the Republic of Armenia on Protection of Economic Competition (Article 6, part 4), each of the three economic entities having the largest sale or acquisition volumes on a product market will be considered as having dominant position on the given product market, if they jointly capture, as sellers or acquirers, at least two thirds of the given market in terms of sale or acquisition volumes [7]. Consequently, in 2015 "Beer of Yerevan"

CJSC, "Gyumri Beer" LLC and "Kotayk Beer Factory" LLC were considered as having dominant position on beer market, since they jointly captured, as sellers more than two thirds of the given market (70.4%).

- "Beer of Yerevan" CJSC was the leader of Armenian beer industry (47%) [3],
- "Gyumri Beer" LLC was the leadership contender (17.2%) [4,5],
- "Kotayk Beer Factory" LLC was the niche leader (Fig. 1) [5,6].

Objectives and methods

The analysis included primary and secondary datasets. The primary dataset included interviews with Deputy General Director, Chief of Fermentative Lager Shop of "Beer of Yerevan" CJSC. The secondary dataset included quarterly time-series data ranging from 1996 through 2015, obtained from reliable internet sources, i.e. National Statistical Service of the Republic of Armenia, State Commission for the Protection of Economic Competition of the Republic of Armenia, United Nations Comtrade Database and reports.

The purpose of the study is to analyze and propose recommendations on increasing the competitiveness of Armenian beer

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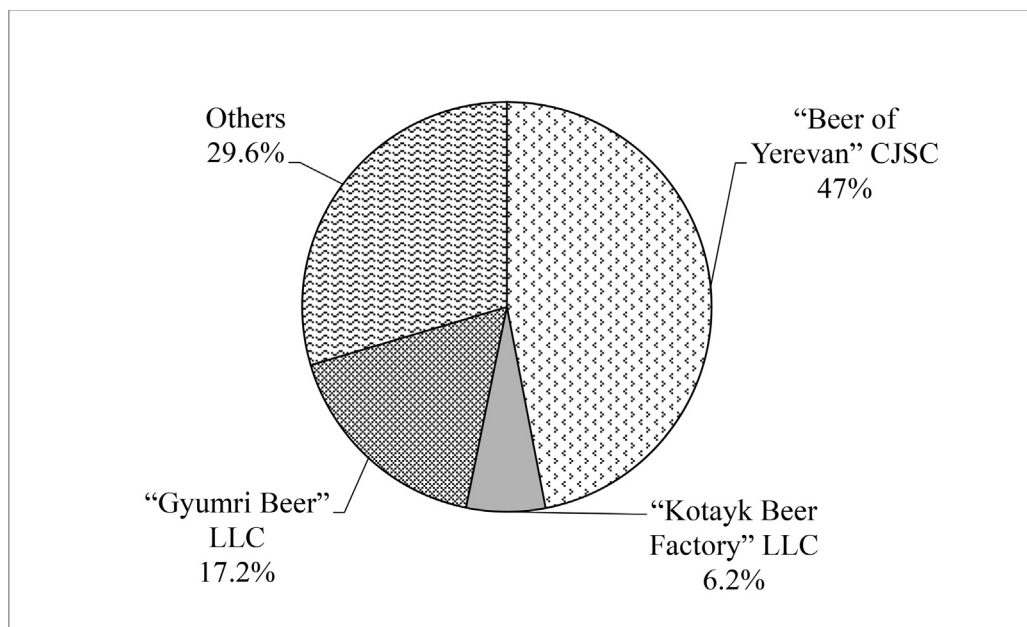


Fig. 1. Structure of the Armenian beer market in 2015 [3–6].

makers. The research is based on Armenian beer import and export prior to financial crisis (i.e. 2004–2008) and following financial crisis (i.e. 2009–2015), the average retail price of 1l of beer in Armenia over the period 1996–2015, annual average per capita household expenditures for the purchase of alcoholic beverages (2003–2014), export and import structures of the Armenian beer by country over the period 2012–2015. The paper describes the correlation between price of Armenian beer, quarterly per capita consumption of beer, annual real per capita disposable income and real prices of other alcoholic beverages. The paper estimates the quarterly per capita beer consumption in Armenia and proposes several important recommendations aimed at increasing the competitiveness of Armenian beer. The analysis has been conducted through STATA 10 statistical programming software and the dataset encompassed quarterly time series data ranging from 1997 through 2015 (assuming 95% confidence level).

Experimental section

Researchers have followed several approaches to study beer demand and many studies incorporated the effect of advertising. The demand for beer has been frequently evaluated through the Almost Ideal Demand System (AIDS) model. AIDS is a new system of demand equations, in which there is a linear relationship between budget shares of the various commodities and the logarithm of real total expenditure and the logarithms of relative prices [8].

Clements and Johnson extended system-wide approach to consumer demand for implementing to quite narrowly defined commodity groups. The consumption of beer, wine and spirits was analysed to estimate the demand model. The latter incorporated simulations, enabling analysis of the rapid growth of wine consumption and measurement of the welfare cost of alcohol taxes [9].

The study by Heien and Pompelli provided estimates of the demand for beer, wine and spirits based on cross-section data, in order to remedy the shortcomings associated with lack of recent estimates in USA, failure to analyze all beverages simultaneously and absence of demographic effects [10].

Other studies estimated demand for particular types of beer and identified the price, cross-price, and income elasticities among

craft, mass-produced, and imported beers on the basis of supermarket scanner data in U.S. Chicago area [11,12].

In our study the assessment and modeling of quarterly per capita beer consumption (pcbeerq) (dependent variable) is based on the independent variables of real prices of wine (rl_pwine), brandy (rl_pbrandy), beer (rl_pbeer), champagne (rl_pchampagne), vodka (rl_pvodka), annual real per capita disposable income (rl_pcdpi).

Results and analysis

Over the period 2004–2015, the export of Armenian beer experienced decreasing trend. Meantime, the import of beer to Armenia registered increasing trend. The export of beer amounted to 2552 thousand liters (in 2004), reached its pick of 3439 thousand liters (in 2005) and decreased to 1595 thousand liters (in 2015).

The import of beer amounted to 414 thousand liters (in 2004), reached its pick of 9152 thousand liters (in 2008) and decreased to 2696 thousand liters (in 2015). During 2004–2015, the compound annual growth rates of beer export and import amounted to –4% and 19% respectively. Prior to financial crisis, during 2004–2008, the import of beer was characterised by an increasing trend. Meantime, the export of Armenian beer registered interchangeably increasing and decreasing patterns. During 2004–2008, the compound annual growth rates of beer export and import amounted to –7% and 117% respectively. Following financial crisis, over the period 2009–2015, the export of beer registered an increasing pattern, while the import of beer was mainly characterised by decreasing trend, the CAGR's of beer export and import amounted to 9% and –11% accordingly (Fig. 2).

Fig. 3 demonstrates the average retail price of Armenian beer (1l) during 1996–2015. Over this period, the compound annual growth rate of average retail price of beer totaled 4%. In comparison with the period 1996–2005, over the period 2006–2015, the growth figure for average retail price of beer increased by 198 AMD or 44%.

STATA 10 statistical software was implemented on the basis of 1996–2015 dataset for predicting the average retail price of 1l

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