Estimating Price Elasticities of Alcohol Demand in China (2010-2024)

Xuechen Xiong [1], Yang Yang [2], Zhenping Zhao [2], Maigeng Zhou [2], Jianchao Quan [3]

[1]The Hong Kong Polytechnic University; ; [2] The China CDC; [3] The University of Hong Kong

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Background

Alcohol consumption is a leading modifiable risk factor affecting public health in China.

Pricing policies and taxation serve as key instruments to influence drinking behaviour.

Although alcohol taxation has been implemented in China for nearly three decades, the extent to which price changes affect consumption patterns remains insufficiently understood.

We aim to evaluate the price sensitivity of alcohol consumption in China, providing empirical insights to inform effective pricing strategies and public policy interventions.

Materials and Methods

- We estimate the population-level price elasticities the for five alcoholic beverage categories: beer, wine, spirits, cider, and ready-to-drink (RTD) products.
- We fitted the AIDS (Almost Ideal Demand System) econometric model to derive the elasticity matrix.
- Data were sourced from Euromonitor International, covering the period 2010 to 2024.
- We estimated both own-price and cross-price elasticities, separately for on-trade and off-trade channels to capture differences in consumer behaviour across contexts.

Results

Table 1 Price for various alcohol beverages in China, 2010- 2024

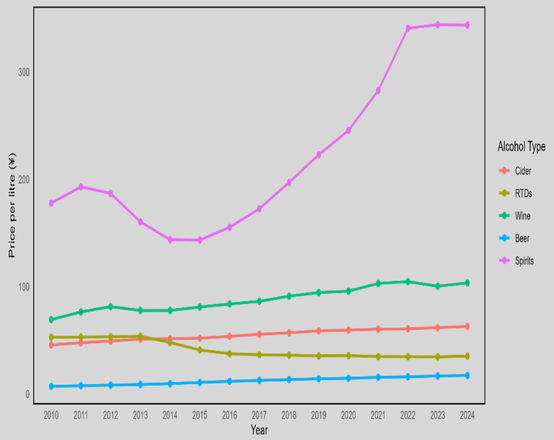

Table 2 Volume for various alcohol beverages in China, 2010- 2024

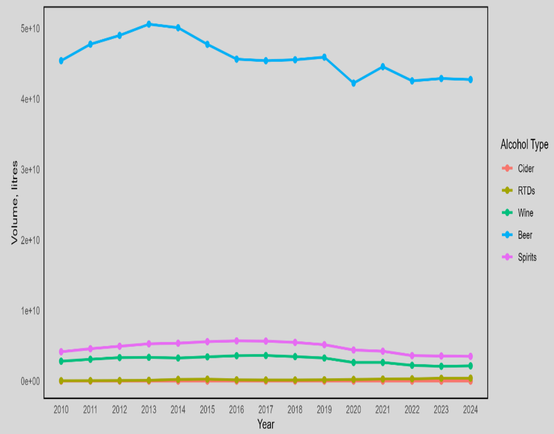

Table 3 Estimated own- and cross-price elasticities of beer, wine, spirits, and RTDs in China, 2015-2024

	Beer	**Wine**	**Spirits**	**RTDs**
Beer	**-0.382**	-0.033	-0.025	0.052
Wine	-0.539	**-0.352**	-0.770	0.015
Spirits	-0.279	-0.156	**-0.794**	-0.041
RTDs	5.798	1.963	-0.394	**-0.255**
On-Trade				
Beer	**-0.569**	-0.067	0.060	-0.057
Wine	-0.743	**-0.573**	-0.695	0.189
Spirits	-0.131	-0.274	**-0.664**	-0.029
RTDs	-10.236	17.753	-2.384	**-0.626**
Off-Trade				
Beer	**-0.173**	0.005	0.115	0.172
Wine	-0.372	**-0.488**	-0.775	0.221
Spirits	-0.238	-0.104	**-0.928**	-0.053
RTDs	6.640	4.211	-0.507	**-3.469**

Note: We used Marshallian (uncompensated) price elasticities. Own-price elasticity measures how demand for a product changes when its own price changes. Negative values are typical: as price increases, demand decreases. Larger absolute values indicate more sensitivity. Cross-price elasticity measures how demand for one product changes when the price of another product changes. Positive: substitutes (e.g., if wine gets expensive, people buy more beer). Negative: complements.

Results

Beer, wine, and spirits collectively account for over 99% of the alcohol market share. Beer has an own-price elasticity of -0.382, indicating that a 1% increase in beer prices leads to a 0.382% decrease in demand. Wine shows a similar **inelastic** response with an elasticity of -0.352, while spirits are moderately elastic at -0.794.

Cross-price elasticities suggest that RTDs are substitutes for beer and wine, with elasticities of 5.798 and 1.963 respectively, meaning that demand for RTDs increases notably when beer or wine prices rise. In contrast, wine and spirits exhibit complementary relationships, evidenced by a cross-elasticity of -0.770.

In the off-trade market, most alcohol categories are generally less responsive to price changes compared to the on-trade segment; however, spirits are an exception, showing greater price sensitivity off-trade, with an own-price elasticity of -0.928 versus -0.664 in the on-trade market.

Discussion & Conclusion

- Alcohol consumption in China is generally price inelastic, particularly for beer and wine, while spirits exhibit moderate sensitivity to price changes, especially in off-trade markets.
- These findings underscore the importance of tailoring pricing and taxation policies to specific product types and sales channels to effectively influence alcohol consumption patterns in China.

Contact information

Poster Presenter
Dr. Xuechen Xiong
The Hong Kong Polytechnic University
xuecxiong@polyu.edu.hk