



A Study on the Relationship Between the Tea Culture and the Tea Purchase in China

Yifan Yang^{1,*}

¹ CAL Center, Hangzhou Foreign Languages School, Hangzhou, 310023, China

**Corresponding author. Email: Boxbhxc@163.com*

Abstract. Purpose: the purpose of this paper is to justify the positive relationship between tea culture and tea consumption in China. Findings: the paper suggests a positive relationship between Chinese tea culture and Chinese tea consumption through theoretical analysis and empirical analysis. Implications: the findings help to illustrate the importance of tea culture in boosting the tea economy in China, so more attention should be paid to the future development of tea culture, for example, construction of related museums, organizing exhibitions, and other activities.

Keywords: Tea Consumption, Tea Culture, China

1 Introduction

Tea is a wholesome drink that can quench thirst while bringing people health benefits. It has various medicinal benefits due to its high content of bio-active ingredients such as polyphenols. According to the report, polyphenols possess antioxidant, antiviral, and anti-inflammatory activities; modulate detoxification enzymes; stimulate immune function and decrease platelet aggregation [1][2]. Many articles nowadays tend to focus solely on economic factors affecting the tea consumption but involuntarily ignore the cultural factors behind the purchasing behavior and the tea production. China is well-known for both its long history of tea culture and its extensive tea market in the world. According to the Food and Agriculture Organization of the United Nations, China has remained the largest tea producer, accounting for 47% of

© The Author(s) 2024

P. Dou and K. Zhang (eds.), *Proceedings of the 2023 International Conference on Economic Management, Financial Innovation and Public Service (EMFIPS 2023)*, Advances in Economics, Business and Management Research 287,

https://doi.org/10.2991/978-94-6463-441-9_52

global production. Historically, Chinese have the experience of exploiting tea for more than 4700 years [3]. Thus, Is there a verifiable positive relationship between Chinese tea culture and the development of tea-drinking economy? This paper explores the topic from both theoretical and empirical perspectives. In the theoretical analysis, the paper uses a supply-demand analysis framework. In the empirical study, the paper uses Chinese tea museums as the proxy variable for tea culture, and the output of tea in the agricultural products of each province is taken as proxy variable for tea consumption. Hence, innovative ideas to boost China's tea economy are proposed based on the results of the discussion.

2 Theoretical Framework

The theoretical analysis of this paper uses the supply-demand framework in economics to analyze the influence of the cultural factors on the tea supply and demand.

2.1 Demand-Side Analysis

According to Lingyun Tong et al., the demand-side purchasing motives consist of two elements: social-use purpose and self-use purpose [4]. The former entails conformity, brand and prestige chasing motives; the latter involves pragmatism, novelty and uniqueness chasing, and sustainability motives. After observing the current Chinese tea consumers, the paper further adds national pride and cultural confidence motives into the self-use purpose.

2.1.1. Effects of Conformity, Brand and Prestige Chasing Motives in Usage Situation of Social-Use Purpose.

The social-use purpose, including gift-giving and guest-entertaining purpose, can be influenced by two motives. The first one is the pursuit of branded and prestigious tea for “Renqing” and “Mianzi”. The second one is the psychological motive of conformity--relying on others' evaluation. Professor Kwang-Kuo Hwang has noted in his essay that the rules of “Renqing” and “Mianzi” are the means people use most to expand their human network and obtain resources from resource allocators [5]. Tea, being a gift in social occasions, not only represents the giver's etiquette and how much he values the recipient but also represents the recipient's subsequent impression and

social assessment of the giver. Frankly speaking, people are bounded ethically to meet the social standards. With regard to this, the quantity and the quality, the brand prestige, the total value of the tea given play an important role on social connection. Moreover, people with a traditional Chinese social ideology attach great importance to the perceptions and assessments of other members in the society about themselves. They may increase their tea consumption in order to follow social rules and use tea as an exchange item in social occasions such as visiting friends and relatives during the New Year.

2.1.2. Effects of Pragmatism, Novelty and Uniqueness Chasing, and Sustainability Motives in Usage Situation of Self-Use Purpose.

Tea consumption for self-use purposes is influenced by four other motives, three of which are the pragmatic motive of non-“Renqing” and non-“Mianzi”, the pursuit of novelty and uniqueness from the “non-crowd mentality”, and the sustainability. The pragmatic motive comes from the need to quench thirst, not from social factors. The motive of seeking novelty and uniqueness is fundamentally different from the motive of social tea consumption influenced by friends, family, and relatives; the former is to intentionally show personal characteristics and uniqueness. Sustainability motive, on the other hand, is aroused by morally superior personal emotions, related to emotional value and moral standards. Consumers motivated by this type of consumption can feel the responsibility of drinking healthy beverages and protecting the environment, and they feel positive emotions for their tea consumption.

2.1.3. Effects of National Pride and Cultural Confidence Motives in Usage Situation of Self-Use Purpose.

The motive of national pride in purchasing tea also falls under the purpose of self-use. National pride and cultural confidence will influence tea consumption to some extent. Consumers may consume tea out of cultural confidence in their own country's tea culture, love of traditional culture, or simply just the purpose to support the country's traditional industry.

In conclusion, the aforementioned motives will positively influence the tea consumption in China, which will therefore impact the Chinese tea economy. Additionally, the purchasing behavior can be out of two or more motives in reality.

2.2 Supply-Side Analysis

As for the supply-side analysis, Chinese tea culture has a long history and has an important influence on tea cultivation, tea processing, and tea plantation management; the three steps have become the basic links in the supply chain of the tea industry nowadays.

2.2.1. Tea Cultivation.

The culture of tea tree cultivation in China is mainly divided into two aspects: understanding the biological characteristics of tea trees and propagation from “direct clustering sowing” to layering.

With regard to the understanding of tea trees’ biological characteristics, the understanding of the biological characteristics of tea trees mainly referred to the understanding of the relationship between tea trees and the external environment in ancient China. According to *The Classic of Tea* written in the Tang Dynasty: “The best soil for growing tea is soil with fully weathered rock, gravel soil takes the second place, and yellow clay is the worst...on the sunny hillside, tea trees grow under the shade. As for the color of the buds, purple is the best and green is less quality than purple. Tea growing on shady hillsides or valleys is of poor quality and not worth picking. [6]” According to *Sishi Zuanyao*, an agricultural treatise from the Tang period, tea trees fear intense sunlight so should be planted under the shade, and they are better planted on the sloping fields [7]. These records indicate that as early as the Tang Dynasty, people had already recognized that the tea tree is a kind of shade-tolerant crop that likes humidity, fears cold and drought, and does not like direct sunlight. It is suitable to grow in loose loam soil. Tea fields require good drainage, and the groundwater level should not be too high. Such records are more general in Song Dynasty. Emperor Huizong of Song said in *Treatise on Tea*, “When tea trees are planted, be sure to choose the sunny southern slope if planted on a cliff, or a shady spot if planted in a tea plantation...people who grow tea trees in plantations today plant trees with thick foliage to provide shade. [8]” *Beiyuan Bielu*, a supplementary record of writer Zhao Ruli to his teacher's record on the types and ways of making imperial tea in the Song period, said, “Weeding should be done every June to loosen and nourish the soil...this will inject air into the soil, allowing rainwater to seep into the soil and water the trees. [9]” The aforementioned

information leads to the conclusion that the understanding of the biological characteristics of tea trees had reached depth as early as in the Song Dynasty.

With regard to propagation from direct clustering sowing to layering, The Book of Tea mentioned that tea trees will rarely grow lush if the planting skills are not solid; tea trees should be grown in the same way as melons [10]. This method is called "Direct Clustering Sowing"--after the ripe tea seeds are collected, they are mixed with wet sand and placed in baskets with hay cover for storage over winter until the next February. The spacing of each section is two feet, the depth is one foot, and the diameter is three feet. The soil at the bottom of the canes is hoed and mixed well with manure. Sixty to seventy seeds are sown in each pit, and the soil cover on the top is about one inch thick.

2.2.2. Tea Processing.

Chinese tea-making culture has undergone a long historical evolution. Before the mid-Tang Dynasty, tea did not have an effective production method. Drinking tea was like drinking decoction, and the tea was boiled in water without being roasted first. Pi Rixiu said in the preface of Chazhong Zayong: "The so-called tea drinkers directly picked tea tree raw leaves and cooked them into soup; drinking tea was similar to drinking vegetable tea soup. [11]" Because of this, tea industry development before the Tang was very slow. Not until the steamed green tea system emerged in the Tang Dynasty did tea become a popular folk beverage. Since then, every change in the tea-making methods has enormously promoted the development of China's tea industry--from steam fixation to stir fixation, from compressed tea to loose-leaf tea. According to Liu Yuxi's Song of Trying Tea, stir fixation appeared early in the Tang Dynasty though it was only an accidental work of individual regions [12]; stir fixation was not common domestically. The popularization of stir fixation started in the Ming Dynasty. Ming Dynasty was the heyday of China's pot-fried tea when the stir fixation system had been quite complete. Summarized the insights in the Cha Lu, Cha Shu, Cha Jie, and Cha Shuo, pots needed to be heated first, high temperature should be used during the process, tea needed to be picked and roasted freshly, the amount needed to be small during the process, and so on [13-16]. The benefit of stir fixation systems is the maximized retention of the original flavor. Steam fixation may end in bitter tea juice; the quality and the taste are inferior. Hence, steam fixation became less and less used when the stir fixation system became ubiquitous in tea processing. With regard to the loose-leaf tea and compressed tea cakes, loose-leaf tea was

available in the Tang Dynasty while the advent of the compressed tea cakes was earlier. The tea production steps in Tang were steaming, pounding, and then patting into compressed cakes; however, there were cases of steaming without pounding and pounding without patting. The production of loose-leaf tea was not abundant until the late Song Dynasty. In Late Song Dynasty, compressed tea cakes, as a tribute tea at that time, pursued fine outlooks and production processes. Thus, sales of them narrowed day by day. Loose-leaf tea, which was more suitable for civilians became popular, replacing the group cake tea; it then achieved a dominant position in tea production. In Yuan Dynasty loose-leaf tea with steam fixation had developed again. Book of Agriculture by Wang Zhen recorded that fresh leaves should be slightly steamed and then spread on a flat basket, waiting to cool. Then, the leaves are rolled as they were still wet, and they are finally roasted to dehydrate [17]. This production method is similar to the production process of green tea in modern times. By the Ming Dynasty, with the flourishing of stir fixation in green tea production, the production of tea powder and tea balls continued to shrink, and loose-leaf tea entered its period of predominant development. Drinking tea also gradually changed from boiling to brewing. Yellow tea, dark tea, and black tea were all new types of tea derived from the production of green tea in the Ming Dynasty. In the Qing Dynasty, oolong tea was developed by combining the production methods of green tea and black tea, and the production of white tea was derived from the combination of black tea and green tea production methods. At that time, the development of ancient tea-making methods in China reached its peak.

2.2.3. Tea Plantation Management.

China's tea plantation managerial culture has been developing continuously. According to Shishi Zuanyao, China's current tea garden management of intertilling, weeding, fertilization and intercropping, and other farming techniques was available in the Tang Dynasty. Tea garden management in Song Dynasty added deep plowing technology which was called "kaishe" at that time. kaishe refers to soil loosening and weeding: "Weeds in the tea plantations need to be rooted out with a hoe every summer when the sun is the strongest, killing the roots of the weeds to nourish the roots of tea trees. [15]" The "Summer Plowing" method used in modern tea production in mountainous areas is the continuation of kaishe technology. Luo Lin in Ming Dynasty mentioned that the flat lands were needed for better tea production, and the Jiao Soil should be used to cultivate tea. Jiao Soil is a local source of fertilizer for

mountain tea plantations with high nitrogen and potassium nutrient content. In addition, Cha Jie also pointed out the multi-layer three-dimensional planting concept [15]. From these records, it seems that China's ancient tea plantation management had reached a fairly fine degree in Ming Dynasty; in the Qing Dynasty, only weeding, fertilization of certain methods, and intercropping methods have been enriched. For example, the Shiwu Tongkao recorded: "Dense hay should be covered on the top of hoed lands so that no weeds would grow. [18]"

3 Empirical Analysis

In order to test the positive relationship between Tea economy and tea culture more accurately, this paper conducts the following empirical analysis.

3.1 Model Settings and Variables

In order to investigate the influence of tea culture on tea economy, this paper constructs the following baseline regression model:

$$\text{chaeco}_{it} = \alpha + \beta \text{chaculture}_{it} + \gamma X_{it} + \mu_i + \varepsilon_{it} \quad (1)$$

Among them, i represents the city and t represents the year. This paper uses the output of tea in the agricultural products of each province as a proxy variable of the tea economy. On the one hand, tea production directly reflects the supply situation, and on the other hand, the different production of provinces under the same geographical conditions can also reflect the tea demand to a certain extent. In terms of tea culture, this paper uses tea museum as a proxy variable. The first tea museum in China was completed and opened in 1991. After that, different cities built and invested in tea museums in different years. In addition to the collection, research, and display of tea cultural relics, they also pay attention to the preservation and inheritance of tea knowledge and tea culture, displays tea history, tea extracts, tea events, tea sets, and tea customs, and interprets tea culture from different perspectives. Therefore, the number of tea museums can be used as a proxy variable for tea culture. X is a series of control variables, including GDP, population, consumption, investment, and price level. μ_i is the fixed effect of cities, used to control variables that do not change over time, such as climate, soil and other factors. ε_{it} is a random disturbance term.

3.2 Data Sources and Descriptive Statistics

The tea museum data used in this paper comes from the author's retrieval of provincial annals and the official website of the museum. Tea production data comes from the China National Bureau of Statistics. Data on GDP, population, consumption, investment, and price level come from statistical yearbooks of various provinces. The descriptive statistics of the variables are shown in Table 1.

Table 1. Descriptive Statistics

Variable	Number of observation	Mean	Standard Deviation	Min	Max
amount	134	19.024	23.728	0.000	152.000
museum	180	0.700	1.008	0.000	3.000
gdp	320	47298.717	1.31e+05	605.830	1015986
pop	319	8653.682	23570.736	303.300	141212
consumption	227	17889.054	8780.474	4730.249	53617.000
investment	228	40154.687	1.12e+05	516.310	645675
cpi	310	102.510	1.173	100.567	106.338

3.3 Regression Results

Table 2 reports the baseline regression results of tea culture's influence on tea economy. The second column is the result of the univariate test, and the coefficient of the key explanatory variable is significantly positive at the 1% level, consistent with expectations. The third column added control variables, but without fixed effects of city. The coefficient of the core explanatory variable was 25.41, which was still significantly positive at the 1% level. The fourth column is the test result after adding the fixed effect of city. The coefficient of the core explanatory variable has decreased, indicating that some characteristics of the city that do not change over time are the omitted variables of the tea economy. If these variables are not controlled, effect of the tea culture will be overestimated. After controlling this, the result that the coefficient of the key explanatory variable is significantly positive still exists. The above results verify the theoretical judgment that tea culture has a significant positive impact on tea economy.

Table 2. Regression Results

	Model 1	Model 2	Model 3
museum	3.197***	25.406***	20.215*
	(0.172)	(5.416)	(9.798)
cpi		-20.455***	-20.584***
		(0.503)	(0.759)
investment		-0.003***	-0.005*
		(0.001)	(0.002)
gdp		0.004***	0.007**
		(0.001)	(0.002)
pop		-0.024***	-0.033***
		(0.002)	(0.003)
consumption		-0.002***	-0.001
		(0.001)	(0.001)
Fixed Effect			Control
Constant	16.098***	2197.060***	2288.747***
	(0.053)	(56.772)	(72.952)
Number of Observation	134	88	88

Standard errors in parentheses, * p<0.10, ** p<0.05, *** p<0.01

4 Conclusion

This paper studies the influence of tea culture on tea economy by using the theoretical framework of instrument demand, and conducts an empirical test on the relationship between the two using the data of the Tea Culture Museum. The test results show that Chinese tea culture can indeed stimulate the development of poor economy, and has a significant positive impact on tea demand and tea supply. The research conclusion of this paper shows that tea culture should be further developed, the influence of related museums, exhibitions and other activities should be expanded, and the tea consumption characteristics of young people should be combined to further stimulate poor economic development.

References

1. Lampe, J. W. (2003). Spicing up a vegetarian diet: chemopreventive effects of phytochemicals. *The American Journal of Clinical Nutrition*, 78(3), 579S-583S. <https://doi.org/10.1093/ajcn/78.3.579s>
2. Frankel, E. N., & Finley, J. W. (2008). How To Standardize the Multiplicity of Methods To Evaluate Natural Antioxidants. *Journal of Agricultural and Food Chemistry*, 56(13), 4901–4908. <https://doi.org/10.1021/jf800336p>
3. Food and Agriculture Organization of the United Nations. (2024). International tea market: market situation, prospects and emerging issues. <https://docplayer.net/227026777-International-tea-market-market-situation-prospects-and-emerging-issues.html>
4. Tong, L., Toppinen, A., & Wang, L. (2021). Cultural motives affecting tea purchase behavior under two usage situations in China: a study of renqing, mianzi, collectivism, and man-nature unity culture. *Journal of Ethnic Foods*, 8(1). <https://doi.org/10.1186/s42779-021-00092-6>
5. Hwang, K. (1987). Face and Favor: The Chinese Power Game. *American Journal of Sociology*, 92(4), 944–974. <https://doi.org/10.1086/228588>
6. Lu, Y. (2020). *The Classic of Tea*. Sanqin Publishing House.
7. E, H. (ca.). Sishi Zuanyao [Chinese Philosophy Book Electronic Project]. <https://ctext.org/wiki.pl?if=gb&res=785269&remap=gb>
8. Zhao, J. (n.d.). Treatise on Tea [Chinese Philosophy Book Electronic Project]. <https://ctext.org/wiki.pl?if=gb&res=204389>
9. Zhao, R. (n.d.). Beiyuan Bielu [Chinese Philosophy Book Electronic Project]. <https://ctext.org/wiki.pl?if=gb&res=857357>
10. Yu, Z. (2017). *The Book of Tea* (J. Zhuang, Ed.). Sichuan University Press. <https://press.scu.edu.cn/info/1098/43651.htm>
11. Pi, R. (n.d.). Chazhong Zayong.
12. Liu, Y. (n.d.). Song of Trying Tea [Wikipedia]. <https://zh.wikisource.org/wiki/%E8%A5%BF%E5%B1%B1%E8%98%AD%E8%8B%A5%E8%A9%A6%E8%8C%B6%E6%AD%8C>
13. Cai, X. (n.d.). Cha Lu. <https://zh.wikisource.org/zh-hans/%E8%8C%B6%E9%8C%84>
14. Xu, C. (n.d.). Cha Shu [Chinese Philosophy Book Electronic Project]. <https://ctext.org/wiki.pl?if=gb&res=806171>

15. Luo, L. (n.d.). Cha Jie [Chinese Philosophy Book Electronic Project]. <https://ctext.org/wiki.pl?if=gb&chapter=157413>
16. Tu, L. (n.d.). Cha Shuo [Zhonghua Diancang]. <https://www.zhonghuadiancang.com/xueshuzaji/chashuo/>
17. Wang, Z. (n.d.). Book of Agriculture by Wang Zhen [Zhonghua Diancang]. <https://www.zhonghuadiancang.com/xueshuzaji/wangzhennongshu/>
18. Dian, S. (n.d.). Shiwu Tongkao [Chinese Philosophy Book Electronic Project]. <https://ctext.org/library.pl?if=gb&res=89406&remap=gb>
19. Chacko, S. M., Thambi, P. T., Kuttan, R., & Nishigaki, I. (2010). Beneficial effects of green tea: A literature review. *Chinese Medicine*, 5(1), 13. <https://doi.org/10.1186/1749-8546-5-13>
20. De Mooij, M., & Hofstede, G. (2011). Cross-Cultural Consumer Behavior: A Review of Research Findings. *Journal of International Consumer Marketing*, 23, 181–192. <https://doi.org/10.1080/08961530.2011.578057>
21. Fernandez, R., & Fogli, A. (2009). Culture: An Empirical Investigation of Beliefs, Work, and Fertility. *American Economic Journal: Macroeconomics*, 1(1), 146–177. <https://doi.org/10.1257/mac.1.1.146>
22. Ramya, N., & Ali, M. A. (2016). Factors affecting consumer buying behavior. *International Journal of Applied Research*, 2(10), 76–80. <https://www.allresearchjournal.com/archives/2016/vol2issue10/PartB/2-9-151-281.pdf>
23. Serafini, M., Del Rio, D., Yao, D. N., Bettuzzi, S., & Peluso, I. (2011). Health Benefits of Tea. CRC Press eBooks, 239–261. <https://doi.org/10.1201/b10787-13>
24. Tsai, R.-T., & Jones, S. (2010). Chinese-English Tea Studies Terminology. Lu-Yu Tea Culture Institute Publications Department. <http://teaarts.blogspot.com/2010/02/title-chinese-english-tea-studies.html>

Open Access This chapter is licensed under the terms of the Creative Commons Attribution-NonCommercial 4.0 International License (<http://creativecommons.org/licenses/by-nc/4.0/>), which permits any noncommercial use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.

