Czech University of Life Sciences Prague

Faculty of Economics and Management

Department of Economics

Bachelor Thesis

Impact of GDP Growth on Consumption in China

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Faculty of Economics and Management

BACHELOR THESIS ASSIGNMENT

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Economics and Management

Thesis title

Impact of GDP Growth on Consumption in China

Objectives of thesis

The aim of the bachelor thesis is to quantify and explain the impact of GDP growth on consumption in China.
The aim will be fulfilled based on the partial aims. Then, several hypotheses will be defined and verified. Based on the results of empirical analysis the final conclusions will be introduced.

Methodology

The bachelor thesis will cover both, theoretical and empirical part. Theoretical part will contain theoretical background of the selected topic as well as the methodological framework. Scientific literature will be used to prepare the literature overview. Based on the empirical analysis the results will be presented and some recommendations will be suggested.

To fulfill the aim of the thesis the selected methods will be employed as following:

– index analysis (base index, chain index)

– regression analysis (trend function, linear regression model)

The proposed extent of the thesis

40 – 50 pages

Keywords

GDP, Consumption, Index analysis, Regression analysis, China.

Recommended information sources

FROST, J. *Regression analysis : an intuitive guide for using and interpreting linear models.* Pennsylvania: State College, 2019. ISBN 978-1-7354311-8-5.

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MONTGOMERY, D C. – PECK, E A. – VINING, G G. *Introduction to linear regression analysis.* Hoboken, N.J.: John Wiley and Sons, 2012. ISBN 978-0-470-54281-1.

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Declaration

I declare that I have worked on my bachelor thesis titled "Impact of GDP Growth on Consumption in China" by myself and I have used only the sources mentioned at the end of the thesis. As the author of the bachelor thesis, I declare that the thesis does not break any copyrights.

In Prague on 14.3.2023 ___Sibo Huang_____

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Impact of GDP Growth on Consumption in China

Abstract

China is the world's second largest economy and has a large market. Since the 21st century, China's economy has developed rapidly, and its GDP has increased rapidly. The great changes have taken place in the material and cultural life of the Chinese people. Therefore, this thesis studies the impact of China's GDP growth on China's consumption. This thesis will summarize and analyze the development trend of China's per capita GDP from 2000 to 2020, the development trend of China's per capita disposable income from 2000 to 2020, the development trend of China's per capita food consumption from 2000 to 2020, the development trend of China's per capita education consumption from 2000 to 2020, and the development trend of China's per capita entertainment consumption from 2000 to 2020. This thesis will also study how China's per capita GDP growth will affect China's per capita disposable income, China's per capita food consumption, China's per capita education consumption, and China's per capita entertainment consumption. In this study, it is necessary to determine that China's per capita GDP is an independent variable, China's per capita disposable income, China's per capita food consumption, China's per capita education consumption, and China's per capita entertainment consumption are dependent variables, then it will use correlation analysis to analyze the correlation between independent variable and dependent variables and establish a linear regression model to analyze the linear relationship between independent variable and dependent variables to achieve the research purpose.

Keywords: GDP, Consumption, Index analysis, Regression analysis, China

Vliv růstu HDP na spotřebu v Číně

Abstrakt

Čína je druhou největší ekonomikou světa a má ohromný trh, čínská ekonomika se od 21. století rychle rozvíjí a její HDP rychle roste, velké změny se odehrály v materiálním a kulturním životě čínského lidu. Cílem této práce je zkoumat vliv růstu HDP Číny na spotřebu v Číně. Táto práce shrnuje a analyzuje vývojový trend čínského HDP na obyvatele od roku 2000 do roku 2020, vývojový trend disponibilního příjmu na obyvatele v Číně od roku 2000 do roku 2020, vývojový trend spotřeby potravin na obyvatele v Číně od roku 2000 do roku 2020, vývojový trend spotřeby související s vzděláním na obyvatele v Číně od roku 2000 do roku 2020, a vývojový trend spotřeby související s zábavou na obyvatele v Číně od roku 2000 do roku 2020. Tato práce rovněž zohledňuje jak růst HDP na obyvatele v Číně ovlivňuje disponibilní příjem na obyvatele, spotřebu potravin na obyvatele, spotřebu související s vzděláním na obyvatele, a spotřebu související s zábavami na obyvatele. Ve výzkumné části této práce HDP na obyvatele v Číně je definován jako nezávislá proměnná, disponibilní příjem na obyvatele v Číně, spotřeba potravin na obyvatele v Číně, spotřeba související s vzděláním na obyvatele v Číně, a spotřeba související s zábavou na obyvatele v Číně jsou definovány jako závislé proměnné. Tato práce používá korelační analýzu k analýze korelace mezi nezávislou proměnnou a závislými proměnnými, a stanovuje lineární regresní model k analýze lineárního vztahu mezi nezávislou proměnnou a závislými proměnnými tak, aby bylo dosaženo cíle výzkumu.

Klíčová slova: HDP, spotřeba, indexová analýza, regresní analýza, Čína

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1 Introduction

Nowadays, China has become the second largest economy in the world. China's GDP has developed rapidly. Since the reform and opening up (1992), after 30 years of development, China's GDP has increased rapidly from 2.7 trillion CNY to 121 trillion CNY in 2022, with an economic growth of 44.8 times (Wangyi, 2023). Gross domestic product (GDP) refers to all the final results of production activities of all permanent units in a country or region within a certain period of time. GDP has three forms of expression, namely value creation, income formation and final use. From the perspective of value creation, it is the difference between the value of all goods and services produced by all resident units in a certain period and the value of all non-fixed assets goods and services invested in the same period, that is, the sum of the added value of all resident units. From the perspective of income formation, it is the sum of various incomes, such as labor remuneration, net production tax, depreciation of fixed assets, operating surplus, etc., generated by all resident units within a certain period of time. From the perspective of final use, it is the sum of the final use value of goods and services and the net export value of goods and services of all resident units within a certain period of time (Zhao, 2020). In macroeconomics, consumption refers to the total expenditure of a person or a country for consumer goods in a certain period. In GDP accounting, consumption is the consumption expenditure of the household sector, which refers to the final product and service expenditure except for the purchase of new housing. Consumption also includes three major sectors, namely: Consumption of durable goods, such as automobiles and televisions. Consumption of non-durable goods, including food, clothing, etc. Labor consumption, such as medical care and education (Yang, 2022). To sum up, the rapid development of China's GDP will be related to consumption. Therefore, this thesis will explain the relationship between China's GDP growth and China's per capita disposable income, China's per capita food consumption, China's per capita education consumption and China's per capita entertainment consumption from 2000 to 2020 through index analysis, correlation analysis, trend function analysis and linear regression analysis.

2 Aim and Methodology

2.1 Objectives

The main objective of this bachelor's thesis is to explain the impact of China's per capita GDP growth on China's per capita consumption by collecting China's per capita GDP data, China's per capita disposable income data, China's per capita food consumption data, China's per capita education consumption data, and China's per capita entertainment consumption data from 2000 to 2020.

The partial aims are:

First, explain the development trend of China's GDP, China's per capita disposable income, China's per capita food consumption, China's per capita education consumption, and China's per capita entertainment consumption from 2000 to 2020. It will put forward the following assumptions: China's GDP, China's per capita disposable income, China's per capita food consumption, China's per capita education consumption, and China's per capita entertainment consumption will continue to grow from 2000 to 2020, To complete this target index analysis method will be used.

Second, explain the correlation between China's per capita GDP development and China's per capita disposable income, China's per capita food consumption, China's per capita education consumption, and China's per capita entertainment consumption. To achieve this goal, it will use the method of correlation analysis. It will put forward the following assumptions: There is a significant correlation between China's per capita GDP development and China's per capita disposable income. There is a significant correlation between China's per capita GDP development and China's per capita food consumption. There is a significant correlation between China's per capita GDP development and China's per capita education consumption. There is a significant correlation between China's per capita GDP development and China's per capita entertainment consumption.

Third, explain the development trend and linear relationship of China's per capita GDP, China's per capita disposable income, China's per capita food consumption, China's per capita education consumption, and China's per capita entertainment consumption over time. To achieve this goal, it will use the trend function method. It will put forward the following assumptions: China's per capita GDP, China's per capita disposable income, China's per capita food consumption, China's per capita education consumption, and China's per capita entertainment consumption increase with time, and there is a linear relationship with time.

Fourth, explain whether there is a linear relationship between the independent variable Chinas' per capita GDP and the dependent variable China's per capita disposable income, China's per capita food consumption, China's per capita education consumption, and China's per capita entertainment consumption. To achieve this goal, it will use the method of establishing a linear regression model. The following assumptions will be put forward: there is a linear relationship between the independent variable Chinas' per capita GDP and the dependent variable China's per capita disposable income, China's per capita food consumption, China's per capita education consumption, and China's per capita entertainment consumption.

2.2 Methodology

1. Index analysis (use Excel)

   Perform index analysis on the data, which includes chain index and basic index analysis. Through index analysis, it can understand the development of China's GDP, China's per capita disposable income, China's per capita food consumption, China's per capita education consumption, and China's per capita entertainment consumption. The basic index formula is I = Yt/Y0, the chain index formula is I = Yt/Yt-1 (Rao & Selvanathan, 1994). Yt represents the value of a specific time (for example, when t = 2020, Yt represents the corresponding value in 2020). Yt-1 represents the value of a specific time minus a unit time (for example, when t = 2020, Yt-1 represents the corresponding value in 2019). Y0 represents the initial value of the study period (For example, if it studies the data from 2000 to 2020, the value in 2000 is Y0).

2. Correlation analysis (use SAS Studio)

Perform correlation analysis to explain whether there is a correlation between Chinas' per capita GDP and China's per capita disposable income, whether there is a correlation between Chinas' per capita GDP and China's per capita food consumption, whether there is a correlation between Chinas' per capita GDP and China's per capita education consumption, and whether there is a correlation between Chinas' per capita GDP and China's per capita entertainment consumption. The correlation coefficient is used to explain the correlation between variables. The correlation coefficient ranges from - 1 to 1. If the number is negative, the variable is proved to be negatively correlated. If the number is positive, the variable is proved to be positively correlated. When the correlation coefficient is close to 1 or - 1, the stronger the correlation between variables (Fernando, 2021).

It will put forward the following assumptions and use statistical test methods to verify these assumptions.

H0-1: There is no significant relationship between Chinas' per capita GDP and China's per capita disposable income.
H1-1: There is significant relationship between Chinas' per capita GDP and China's per capita disposable income.

H0-2: There is no significant relationship between Chinas' per capita GDP and China's per capita food consumption.
H1-2: There is significant relationship between Chinas' per capita GDP and China's per capita food consumption.

H0-3: There is no significant relationship between Chinas' per capita GDP and China's per capita education consumption.
H1-3: There is significant relationship between Chinas' per capita GDP and China's per capita education consumption.

H0-4: There is no significant relationship between Chinas' per capita GDP and China's per capita entertainment consumption.
H1-4: There is significant relationship between Chinas' per capita GDP and China's per capita entertainment consumption.

The formula for calculating the correlation coefficient is:

Figure 1 The formula for calculating the correlation coefficient

$$r = \frac{n(\Sigma xy) - (\Sigma x)(\Sigma y)}{\sqrt{[n\Sigma x^2 - (\Sigma x)^2][n\Sigma y^2 - (\Sigma y)^2]}}$$

Source (BYJU'S Learning, 2021)

Where n is the number of samples, X, Y are the coordinates of sample points, and r is the correlation coefficient (Wikipedia contributors, 2023). The correlation coefficient formula can be interpreted as: the number of samples * the sum of the values of all independent variables multiplied by the values of all dependent variables - the sum of the values of all independent variables * the sum of the values of all dependent variables / √ (the number of samples * the sum of squares of values of all independent variables - the sum of squares of values of all independent variables) * (the number of samples * the sum of squares of values of all dependent variables - the sum of squares of values of all dependent variables)

3. Trend function analysis (use SAS Studio)

Perform trend function analysis on variables to explain whether each variable meets the linear trend over time. The trend function formula is y = mx + c, y represents dependent variable, x represents independent variable (time), m represents slope, and c represents constant, when m equals 0, y equals constant (Srivastav, 2022). When using this method, some assumptions can be put forward that China's per capita GDP development has a linear relationship with time (from 2000 to 2020). China's per capita disposable income has a linear relationship with time (from 2000 to 2020). China's per capita food

consumption has a linear relationship with time (from 2000 to 2020). China's per capita education consumption has a linear relationship with time (from 2000 to 2020). China's per capita entertainment consumption has a linear relationship with time (from 2000 to 2020).

4. Linear regression analysis

It will establish some linear regression models to explain the impact of China's per capita GDP growth on China's per capita disposable income, China's per capita food consumption, China's per capita education consumption, and China's per capita entertainment consumption. Find out whether there is a linear relationship between dependent variables and independent variables by establishing a linear regression model. Here, it will use the simple linear regression model to explain the linear relationship between dependent variables and independent variable. Simple linear regression is a relatively simple regression model in the regression model. It is used to describe the impact of the change of one numerical variable on another numerical variable. The Simple linear regression model is expressed in mathematical form as $y = \beta 0 + \beta 1X + \varepsilon$, among them ($\beta 0+\beta 1x$) represents the influence of the explanatory variable X on the dependent variable Y, $\beta 0$ and $\beta 1$ are unknown parameters, and ε represents the influence of uncertain random factors on the dependent variable Y. Generally, in some cases, the random factor ε is unpredictable, and it is usually assumed that ε is a normal distribution with an expectation of 0 and a variance of σ square (Li, 2017).

It will use the coefficient of determination to judge the goodness of fit of the linear regression model. The coefficient of determination is a statistical measure that can be used to explain the proportion of variance. In other words, it is the proportion of variance between dependent variables and independent variables in the linear regression model. The coefficient of determination is expressed by R square (Enders, 2013b). R square = ESS / TSS or 1 minus RSS / TSS, where ESS is explained sum of squares, TSS is total sum of squares, RSS is residual sum of squares. The value range of R square is 0-1. When the prediction effect of the linear regression model is better, the value of R square is closer to 1, and the goodness of fit is higher (Lani, 2021).

3 Literature Review

3.1 About GDP

3.1.1 What Is GDP and How to Calculate

GDP is the most concerned economic statistics in macroeconomics because it is the most important indicator to measure the development of the national economy (S. Yang, 2003). GDP is the result of the production activities of all resident units in a country (or region) in a certain period, calculated at market prices (Xu, 2002).

There are three forms of GDP, namely value form, income form and product form. From the perspective of value form, it is the difference between the value of all goods and services produced by all resident units in a certain period of time over the value of all non-fixed asset goods and services invested in the same period, that is, the sum of the added value of all resident units; from the perspective of income form, it is the sum of the primary income created by all resident units and distributed to resident units and non-resident units within a certain period; from the perspective of product form, it is the end-use value of goods and services produced by all resident units within a certain period of time subtract the value of imports of goods and services. In actual accounting, there are three calculation methods of GDP, namely production method, income method and expenditure method. The three methods reflect the GDP and its composition from different aspects, and the theoretical calculation results are the same. (GDP_ Baidu Encyclopedia, 2022)

GDP has five distinct characteristics. First, GDP is a concept of market value, and the value of various final products is measured by the scale of loan currency. The market value of products is obtained by multiplying the unit price of these final products by the output. Second, GDP measures the value of final products, and intermediate products are not included in GDP, otherwise it will cause double calculation. Third, GDP is the value of the final product produced in a certain period (more than one year) rather than sold. Fourth, GDP is the value of the final product produced in the calculation period (usually one year), so it is the flow rather than the stock. Fifth, GDP generally refers to the value caused by market activities. Non-market activities such as household work and self-sufficient production are not included in GDP.

GDP is divided into four types, that is nominal GDP, real GDP, actual GDP, and potential GDP. Nominal GDP is a measure of the value of all final goods and services produced by a country at current market prices. Nominal GDP needs to consider price changes, money supply, inflation and interest rate changes when calculating a country's GDP (MasterClass, 2022). Real GDP is the measure of all goods and services produced by a country, adjusted by the development of inflation or deflation (Hussain & Suarez, 2022). The calculation formula of real GDP is REAL GDP = nominal GDP/R, R is GDP deflator (Ganti, 2023). The potential GDP is the level of GDP that may be reached when the economy develops at the maximum resource utilization rate over a period. It represents the total amount of GDP that can be obtained after full development and measures the development capacity of the economy. Especially under the constant inflation rate, it plays an important role in making decisions, but the estimated value is not realistic, so the potential GDP is invisible. Real GDP is slightly different from potential GDP. When the country suffers from economic recession, the real GDP will be lower than the potential GDP, resulting in an "output gap". When the country suffers from economic expansion, the real GDP will exceed the potential GDP, forming an "inflation gap". (Team, 2022)

There are three methods reflect GDP and its composition from different aspects. The calculation formula is:
GDP (production method) = Total Output - Intermediate Input (material product input + service input). GDP (income method) = Labor Remuneration + Depreciation of Fixed Assets + Net Production Tax + Operating Surplus. GDP (expenditure method) = Total Consumption + Total Investment + Net Exports of Goods and services = (resident consumption + government consumption) + (total fixed capital formation + inventory increase) + (exports of goods and services - imports of goods and services) (Corporate Finance Institute, 2022b).

The calculation method of GDP should be consistent in theory, no matter from the perspective of production, income (distribution) and expenditure. However, in actual operation, due to different data sources, there will be some differences in the calculation results. This difference is called statistical error, and statistical error within a certain limit is allowed. At present, according to the source of resources, the income method is mostly used in the three calculation methods of GDP, but the three methods can be used simultaneously and mutually verified. (Lei, 2006)

3.1.2 The Relationship Between GDP and Expenditure

There is a significant relationship between GDP and consumption. Although GDP is calculated by several indicators, consumption is the most important component. When calculating GDP, most countries usually consume more than 50% of GDP. In some countries, consumption accounts for more than 70% of GDP. The relationship between GDP and consumption is that the rise of consumption level will translate into the rise of GDP (Ejim, 2023).

GDP = C + I + G + NX, it can calculate GDP through this equation, which are four components that affect GDP. C is personal consumption expenditures, I is gross private domestic investment, G is governments purchases of goods and services, NX is net exports. This shows that there is a close relationship between GDP and personal consumption, when other components remain unchanged, the increase in personal consumption also increases in GDP (Srivastav, 2022b).

The consumption function is C = a + MPC * Yd, a is Autonomous Consumption, MPC is marginal propensity to consume, Yd is disposable income (Kenton, 2020). Autonomous consumption refers to the part of consumption that is not caused by the increase or decrease of income, autonomous consumption is related to consumers' preferences and price levels (Liberto, 2021). The marginal propensity to consume is the ratio of the increase or decrease in consumption to the increase or decrease in disposable income, indicating the change in consumption when one unit of disposable income is increased or decreased. It is a concept corresponding to the "marginal propensity to save". Since the sum of the propensity to consume and the propensity to save is equal to 1, the sum of the marginal propensity to consume and the marginal propensity to save is also always 1. The average propensity to consume can be used to know how disposable income is allocated between saving and consumption at different times. According to Keynes, when income increases, people only spend a small proportion of their income on consumption expenditures, a large proportion is used for saving, and the marginal propensity to consume is declining (I. Team, 2022). Disposable income refers to the income that an individual or family can spend or save after deducting income tax. At the macroeconomic level, disposable income is one of the key economic indicators to measure the overall economic situation, and it will be closely monitored (Kenton, 2022). Disposable income includes wage income, operating income, property income and transfer income. Wage income includes wages received, bonuses, allowances, holiday expenses, in kind income, part-time income, and various social security expenses withheld by the company. Net operating income

refers to the net income obtained from production and operation activities, including the net income of the primary industry, the net income of the secondary industry and the net income of the tertiary industry. It is the net income obtained from all operating income after deducting operating expenses, depreciation of productive fixed assets and production tax. Net property income includes net interest income, dividend income, net income from savings insurance, net rental income from the transfer of contracted land management right, net income from renting houses and net income from renting other assets. Net transfer income equals transfer income minus transfer expenditure. Transfer income includes pension, social relief and subsidies, policy living subsidies, regular donations and compensation, reimbursement of medical expenses, support income between households, and income sent back by non-resident members of the household. Transfer expenditures include taxes paid, various social security expenditures, maintenance expenditures, compensation expenditures, and other current transfer expenditures. The disposable income does not include the income from the sale of assets, the winning of lottery tickets and the one-time compensation received. Not all cash or physical objects received can be counted as disposable income. Only those with continuity and relative stability can be counted as disposable income (Jiang, 2020).

3.1.3 China's GDP

The first two decades of the 21st century were extraordinary. It experienced the bursting of the Internet foam at the beginning of the century, the international financial crisis in 2008, the Sino-US trade war that began in 2018, and the COVID-19 that broke out at the end of 2019. But these did not stop the pace of China's economic progress. Since joining the WTO in 2001, China's economy has entered a new round of rapid growth cycle. In the face of the international financial crisis and the unprecedented impact of the epidemic, China's economy has achieved the first recovery. Over the past two decades, China's economy has not only achieved outstanding growth, but also achieved remarkable wealth accumulation (Shao, 2021).

The Ministry of Foreign Affairs of the People's Republic of China held a press conference on the operation of the national economy in 2021. At the meeting, Ning Ji, then director of the National Bureau of Statistics, said that China is still a middle-to-high-income country, and its per capita GDP has not yet reached the lower limit of high-income countries, and there is still a big gap compared with developed countries. Over the past 40 years of China's reform and

opening, the per capita GDP has jumped from about 200 dollars in 1978 to 12,600 dollars today, an increase of 60 times, which can be described as an earth-shaking change (Ning, 2021).

As an important indicator of a country's economic development, GDP means that China's economy has maintained a momentum of sustained and rapid growth. Over the past 40 years, China has experienced many major changes in the world structure, the international financial crisis, and the impact of the global COVID-19. Its economic strength has continued to increase, a complete manufacturing industry chain has been built, and its overall labor productivity has gradually increased. These achievements have not come easily. However, China is still far from the threshold of a developed economy with per capita GDP exceeding 30,000 dollars. Economic and industrial restructuring is imminent. Investment and breakthroughs in key industries have a long way to go. The reduction of regional differences and the development gap between social groups also need to be deepened through comprehensive reforms. China needs to maintain high-quality economic growth, consider the harmonious development of the economy and society, promote the development of China's manufacturing industry from the end of the world's industrial chain to the mid-to-high end, maintain development vitality, and bring more emerging growth poles. (Zhang, 2022)

According to the data of the National Bureau of Statistics of China and the International Monetary Fund, the share of China's GDP in the global total will reach 17.6% in 2020, up 1.3 percentage points from 2019. China's economic performance in 2020 benefited from the industrial chain with strong resilience, high flexibility and full self-recovery capacity (Feng, 2021).

China's economic growth is closely related to the opening up policy, and the opening up system has greatly changed China's role in the world economy. The opening up 40 years ago means that China's huge labor advantage has entered the world economy, and China is the factory of the world. A large number of capital and technology have entered China, arousing China's economic vitality (Liu, 2019). After China became rich, its market position has changed dramatically, and consumption has played a role in the sustained growth of economic scale to a certain extent. China's domestic products with consumption potential are gradually able to maintain the same expansion trend in the world. The export of Chinese products began to shift from foreign-funded enterprises to local enterprises, exports further promote China's economy (Chen, 2021).

At the beginning of reform and opening up, in 1978, the total GDP of the European Union was 2.44 trillion US dollars, which was the largest economy in the world, accounting for 28% of the global total. In 1978, China's GDP was only 149.5 billion US dollars, and China's economic volume was only about 6% of that of the European Union. At that time, China was the most populous country in the world, and its land area also ranked among the top in the world. The EU has a population of 404 million and a land area of 4.25 million square kilometers. The population and land area are less than half of that of China, but the economic volume is 16 times that of China. So before the reform and opening up, China's economic development was relatively poor, especially compared with the European Union, the most prosperous region in the world (Yang, 2018).

After the reform and opening up, China's economy began to grow steadily. From 1982 to 1988, the average annual growth rate of China's GDP exceeded 10%. By 2000, China's GDP totaled 1.21 trillion US dollars, surpassing Italy, an important member of the European Union. China's GDP has also reached 16.6% of the EU, up more than 10% from the beginning of reform and opening up (Zhou, 2015). In 2001, it was a very important year for China. This year, China successfully joined the WTO, which greatly promoted China's economic development, expanded China's exports, and made greater use of foreign capital. Tariffs were also greatly reduced. In 2002, China's economy began to grow at a high speed again. The GDP growth rate increased from 8.3% in 2001 to 14.2% in 2007. By 2010, China's GDP had exceeded 6 trillion US dollars for the first time, surpassing Japan in the world ranking and becoming the world's second largest economy, second only to the United States (Qiao, 2011).

3.2 China's Per Capita Disposable Income

The disposable income is the salary after paying the tax. The change of the disposable income will determine the change of people's demand and consumption. Generally, the disposable income is in direct proportion to the demand and consumption. When analyzing the economic situation of a country, disposable income can be used as one of the measuring standards (Corporate Finance Institute, 2022c).

According to the 2020 National Economic Statistics Bulletin issued by the National Bureau of Statistics of China, the per capita disposable income of Chinese residents in 2020 was 32189 CNY, a nominal increase of 4.7 percent over 2019, after deducting the price factor, the real growth rate was 2.1 percent, Among them, the per capita disposable income of urban residents was 43834 CNY, an increase of 3.5%, after deducting the price factor, the actual increase was 1.2%. The per capita disposable income of rural residents was 17131 CNY, an increase of 6.9%, after deducting the price factor, the real increase was 3.8%. (Hao, 2021).

The calculation formula of per capita disposable income is: per capita disposable income = (total household income - income tax payment - individual social security expenditure - Bookkeeping allowance) / household population (Su, 2019). Total household income refers to the sum of wage income, operating income, property income and transfer income obtained by all family members living together. Wage income refers to the total amount of wage obtained by employees through various means, including the wages of main occupations and other incomes from secondary and other part-time jobs. Operating income refers to the total realized operating profit income or sales personnel income obtained by individuals or private owners within one month, as well as the rental income from the production, operation and management of the business of housing leasing companies. Property income refers to movable and immovable property owned by families, including interest, rent and patent income from the transfer of property use rights, property operation dividend income, property value-added income, etc. Transfer income refers to various transfer payments made by the state, companies and social organizations to families and income transfer between families. Including the government's retirement pension, unemployment relief, personal income transfer compensation, company's dismissal fund, insurance claims, and housing accumulation fund, etc (Ding, 2018).

3.3 Consumption Motivation

Income is a decisive factor for consumption, however, in addition to economic factors, the psychological reasons of consumption will also affect consumption (Diacon & Maha, 2015). For example, Katona pointed out that it is not enough to have the purchasing power in the time of consumption, because consumption also depends on the purchase intention. The willingness to buy will be affected by personal rationality, such as personal expectations of future income and personal economic conditions, which will create a positive or negative willingness to consume (Katona, 1960). Keynes pointed out that with the increase of income, people will increase their consumption level, but the impact is low. This rule shows that with the increase of income, the difference between income and consumption will increase (Keynes, 2009).

According to the research of Diacon and Maha, there is a relationship between consumption and income in general. However, income has a greater impact on the consumption of individuals from low-income and high-income countries. In middle-income countries, the relationship between personal income and personal consumption is weak. The reason for this may be that the extreme reduction and increase of income will largely change consumption. People in low-income countries will only spend their budgets on necessities of life. People in high-income countries have more available resources to consume. The relationship between income, consumption and GDP is significant in all countries. The higher GDP and income, the higher consumption, and the higher living standard (Diacon & Maha, 2015). Therefore, consumption motivation depends on income and GDP.

Products should be developed for the needs of consumers, not from the raw materials of the product. The success of a product mainly depends on whether the product itself can meet the needs of consumers, and the raw materials and production process can only be considered on the premise of meeting the needs of consumers. Therefore, how to meet the needs of consumers has become the content that operators need to think about. The process of motivation begins when there is hope in the needs of consumers. Consumers mainly have six needs when purchasing goods, namely psychological needs, safety, and health needs, need for love and companionship, need for pleasure, and social image needs. (Kumra, 2006)

psychological needs:

Consumers can be divided into loyal consumers, discount consumers, impulsive consumers, and demand-based consumers. (Harrison, 2015) For loyal consumers, their consumption psychology is the unshakable status of the products or brands they are passionate about. They will buy the products produced by this brand or the products they are passionate about. Their demand is the brand of the products, which is their motivation to buy the goods (SendPulse, n.d.). For discount consumers, they like the discount and price reduction of goods. The lower the discount, the stronger their desire to buy goods. Therefore, the demand of such consumers is the discount of goods, and the discount of goods is their purchase motivation. For impulsive consumers, their purchase of goods mainly depends on whether the goods can amaze their hearts. It can be the novelty of the appearance of the goods, or the unique function of the goods. If the goods have enough characteristics in the hearts of such consumers to attract them, they will impulsively consume. For demand-based consumers, they will consume only when they need a commodity, and the product they lack is their consumption motivation. To sum up, according to different types of consumers, their psychological needs will change accordingly.

safety and health needs:

Health is always the most concerned, direct, and realistic hot issue for consumers, and it is also an important reason for consumers to have a sense of gain, happiness, and security (Bai, 2022). Safety and health are a major factor for consumers to decide whether to buy products. For example, when consumers buy cars or electronic products, whether they have enough safety is a motivation for consumers to buy them. For example, if consumers buy a certain food, whether it will affect the health of consumers after eating it is also an issue that consumers need to consider.

need for love and companionship:

For some older consumers, they may be unaccompanied, their life is too monotonous, and they need love and companionship to spend the rest of their lives. When such consumers buy goods, whether the goods have this function is their motivation. For example, when such consumers choose nursing homes, they will consider the natural environment of nursing homes and whether the staff of nursing homes can bring enough love and companionship to elderly consumers. When the products sold can bring love and companionship to consumers, consumers have the motivation to buy products.

need for pleasure:

Enterprises have been trying to understand how to influence consumer behavior. Through market research, they have explained how the impulse to buy is generated. At present, it has been proved that what makes consumers feel good is the part of the brain called "happiness center". It is this center that makes consumers feel happy and drives them to buy products they like (Jerry, 2021). Whether a product can bring happiness to consumers is also a motivation for consumers to consume the product. For example, when consumers buy a computer, they will consider the running speed of the computer, the resolution of the display screen, and whether they can run some games, because these functions are related to the consumer's use experience and can bring fun to consumers. Therefore, these goods that can bring happiness to consumers can make consumers have consumption motivation.

social image needs

Consumers care about what colleagues, friends, family, neighbors, and society think of themselves. Consumers want to be regarded as attractive, impressive, and successful by others. (Kumra, 2006) This idea is brought about by human vanity. Therefore, this kind of consumer wants to buy luxury goods. This kind of goods can bring a symbol of identity and status to consumers, which is their consumption motivation.

3.4 China’s Food, Education, Entertainment Consumption

When the per capita GDP of a country's residents reaches 800 US dollars, the residents' life will enter a well-off stage. At that time, China's food consumption was in a period of rapid growth. In 2000, China entered the threshold of a well-off society with a per capita GDP of 800 US dollars. After 2000, the consumption of various kinds of food has increased significantly. For example, the annual per capita growth rate of aquatic products has been 1.2 kilogram, and the annual per capita growth rate of dried and fresh fruits has been 1.6 kilogram since 2000. After 2000, when the per capita GDP has exceeded 800 US dollars, the food consumption structure of Chinese residents has gradually stabilized and the food consumption has increased regularly (Guo, 2009).

With the increase of Chinese residents' income, the improvement of urbanization level and the acceleration of life rhythm, Chinese residents' food consumption, in addition to the purchase of food raw materials, also increases the consumption expenditure of Chinese residents directly eating in restaurants. Eating in restaurants has become an important part of the modern lifestyle of Chinese residents. By comparing the structure of Chinese residents' food consumption expenditure in 1999 and 2006, it can be concluded that the proportion of Chinese residents eating in restaurants has increased significantly, from 15% to 27%. In 2006, the consumption of Chinese residents in restaurants was 2.8 times of their consumption of food raw materials, and the consumption of food in restaurants became an important expenditure item of Chinese residents' food consumption expenditure. It can be seen that with the development of China's economy, eating in restaurants will be one of the trends of Chinese residents' food consumption (R. Yang, 2010).

In 2020, the per capita GDP of China has exceeded 10000 US dollars, and the upgrading trend of Chinese residents' food consumption is obvious. Chinese residents' food consumption is mainly upgraded from three aspects. The first is to pay more attention to food production brands, Chinese residents want to buy high-quality food. Second, food consumption tends to be healthy, and many Chinese residents prefer to consume healthy food. Third, the consumption of convenient food. With the development of China's economy, the pace of life of Chinese residents is also accelerating. Convenient and fast food has become one of the important choices for Chinese consumers to consume food (Sun, 2021).

From 1997 to 2017, the total educational consumption of Chinese residents increased from 297.479 billion CNY to 2969.531 billion CNY, an increase of 2672.052 billion CNY, a total increase of 898.23% in 20 years and an average annual growth of 12.19% (Ma, 2018). The improvement of China's national economic level is the prerequisite for Chinese residents to consume education. The backward economy in the early stage of China's reform and opening up has restricted China's education consumption. Through 41 years of development, China's GDP has grown from 149.541 billion US dollars in 1978 to 14.36 trillion US dollars in 2019, with an economic growth rate of nearly 100 times, which provides a strong resource support and guarantee for the development of education consumption activities (Zhong, 2020).

Internationally, the proportion of education consumption to GDP is usually used to evaluate the education consumption of a country, reflecting the importance that a country and government attach to education and the efforts of the whole society to develop education. The level of education investment of 4% is a distribution rule that education consumption must reach in the proportion of GDP. With the improvement of China's economic level year by year, the Chinese government's attention and efforts to education have shown a significant upward trend. China has achieved the target of 4% since 2012 and maintained above 4% for eight consecutive years, which indicates that the proportion of Chinese residents' education consumption has entered the international average range corresponding to the level of economic development. It can be seen that China's education consumption has also increased due to the improvement of China's economic level (Y. Yan, 2021).

After establishing the education consumption function, it is found that the level of education consumption increases with the increase of income level (S. Liu, 2002). Although the income level of different regions in China is different, on the whole, China's per capita GDP has exceeded 10000 dollars in 2019, which shows that the open market economy has made the disposable income of most Chinese residents achieve rapid growth. This result expands the space of individual consumption choice and improves the ability of consumption choice (Y. Yan, 2021).

With the rapid development of China's economy, China has entered the post-industrial era. In the post-industrial society, production and consumption are not dominated by material products, but will be dominated by services. Chinese residents pay more and more attention to improving the quality of life. At the same time, Chinese society has also provided more and more entertainment products to consumers. Entertainment products are gradually forming an industrial chain, and the entertainment economy has emerged as the times require. Therefore, the entertainment consumption of Chinese residents has gradually increased with the arrival of the post-industrial era (Song, 2019).

There are three reasons for the growth of entertainment consumption in China. First, the income of Chinese residents has increased significantly in the past 40 years of China's reform and opening up, followed by an increase in the entertainment demand of Chinese residents. The purpose of people's survival is to engage in social activities. After people have met their material life to a certain extent, they pay more attention to the satisfaction of spiritual needs. Basically, all human activities are for the pursuit of happiness, Entertainment is the process that people pursue happiness. Second, with the improvement of China's productivity level providing time conditions for China's entertainment economy, Chinese residents have sufficient holidays and leisure time for entertainment consumption. Third, with the continuous improvement of China's per capita disposable income, it provides purchasing power conditions for the development of entertainment consumption (Wen, 2018).

4 Practical Part

4.1 China's GDP, Consumption, and Income Condition

Table 1 China's GDP, per capita disposable income, food consumption, education consumption and entertainment consumption data

Source (All data come from the official website of the National Bureau of Statistics of China)

China's GDP, per capita disposable income, food consumption, education consumption and entertainment consumption data						
						NOTE: 1 CNY = 3.4 CZK
YEAR	GDP (Trillion CNY/YEAR)	GDP PER CAPITA (CNY/YEAR/CAPITA)	PER CAPITA DISPOSABLE INCOME (CNY/YEAR/CAPITA)	FOOD CONSUMPTION (CNY/YEAR/CAPITA)	EDUCATION CONSUMPTION (CNY/YEAR/CAPITA)	ENTERTAINMENT CONSUMPTION (CNY/YEAR/CAPITA)
2000	10.03	7942.07	3721.34	792.64	158.91	113.71
2001	11.09	8716.68	4070.38	915.8	185.2	124.92
2002	12.17	9506.2	4531.65	978.83	209.87	151.41
2003	13.74	10666.1	5006.69	1116.41	236.12	155.64
2004	16.18	12486.94	5660.9	1279.3	256.31	178.69
2005	18.73	14368.03	6384.73	1398	295.62	197.48
2006	21.94	16738	7228.82	1582.3	325.94	234.95
2007	27.01	20494.38	8583.54	1891.1	378.45	273.45
2008	31.92	24100.21	9956.51	2201	435.98	314.22
2009	34.85	26179.54	10977.5	2303.89	504.85	354.15
2010	41.21	30807.93	12519.51	2602	578.9	393.1
2011	48.79	36277.14	14550.75	3102.12	619.56	436.54
2012	53.86	39771.37	16509.55	3656.03	685.21	506.29
2013	59.3	43496.61	18310.76	4126.7	792.59	545.11
2014	64.36	46911.72	20167.12	4493.9	906.18	629.72
2015	68.89	49922.33	21966.19	4814	999.3	723.8
2016	74.64	53783	23820.98	5151	1053.41	861.89
2017	83.2	59592.25	25973.79	5373.6	1109.2	977
2018	91.93	65533.74	28228.05	5631.1	1224.5	1001.2
2019	98.65	70077.69	30732.85	6084.2	1399.02	1114.08
2020	101.36	71828.15	32188.84	6397.3	1451.3	1147.6

After consulting the data of China's per capita GDP, China's per capita disposable income, China's per capita food consumption, China's per capita education consumption, and China's per capita entertainment consumption on the official website of the National Bureau of Statistics, the data in the above table can be obtained (see Table 1). The data in the table 1 includes all the research objects of this thesis, including the independent variable China's per capita GDP and the dependent variable China's per capita disposable income, China's per capita food consumption, education consumption and entertainment consumption. Next, it will use index analysis, correlation analysis, trend function analysis, and linear regression analysis to analyze these data.

4.2 Results and Discussion of Index Analysis

4.2.1 Index Analysis of China's GDP

Table 2 Index Analysis of China's GDP

Source (Created by the author using Excel, the data is from the official website of the National Bureau of Statistics of China)

YEAR	GDP (Trillion CNY/YEAR)	Basic index	Chain index
2000	10.03	1.00	
2001	11.09	1.11	1.11
2002	12.17	1.21	1.10
2003	13.74	1.37	1.13
2004	16.18	1.61	1.18
2005	18.73	1.87	1.16
2006	21.94	2.19	1.17
2007	27.01	2.69	1.23
2008	31.92	3.18	1.18
2009	34.85	3.47	1.09
2010	41.21	4.11	1.18
2011	48.79	4.86	1.18
2012	53.86	5.37	1.10
2013	59.3	5.91	1.10
2014	64.36	6.42	1.09
2015	68.89	6.87	1.07
2016	74.64	7.44	1.08
2017	83.2	8.30	1.11
2018	91.93	9.17	1.10
2019	98.65	9.84	1.07

2020	101.36	10.11	1.03

According to the calculation results in the above table (see Table 2), the GDP development results of China from 2000 to 2020 are obtained. The basic index shows that China has passed 20 years of economic development from 2000 to 2020, and the GDP in 2020 is 10 times that in 2000. The chain index shows that China's GDP growth rate is about 12% per year on average. It is worth mentioning that China's GDP growth rate from 2019 to 2020 is lower than the average growth rate, which is due to the impact of COVID19. China's GDP growth rate slows down from 2019 to 2020.

According to the data in Table 2, it can be concluded that in the past 20 years, China's GDP has grown rapidly. There are three reasons for the rapid growth.

First, China's regional coordination has been strengthened. From the perspective of GDP growth, the growth rate in the central and western regions is significantly higher than that in the eastern regions. The central and western regions of China have increased their development efforts, especially in the construction of the the 'Belt and Road'. Cultivate new driving forces. The accelerated development of the central and western regions has narrowed the overall gap in China, indicating that regional coordination and sustainability are increasing.

Secondly, the service industry has become the main driving force for China's GDP development. Compared with the developed regions in the world, there is still much room for progress in the development of the service industry in all provinces (districts and cities). The service industry in large cities of developed countries generally accounts for more than 80% of GDP. However, at present, only Beijing's service industry accounts for 82.2% of GDP, and other provinces (districts and cities) are less than 80%. In the past, industry and manufacturing were the main industries, and high-consumption industries accounted for a large proportion. The growth of the service industry eased the pressure on resources and environment.

The third reason is that China's new driving forces have accelerated their growth. The rise of China's new momentum not only makes up for the negative impact of the lack of old momentum to a certain extent in the short term, but also provides support for China to overcome the "middle-income trap" in the long term. In the future, driven by favorable factors such as government system innovation, market mechanism drive and active participation of

enterprises, the economic momentum will continue to maintain rapid growth, and gradually transform from fragmentation to clustering, finally forming a new trend of stable development.

4.2.2 Index Analysis of China's Per Capita Disposable Income

Table 3 Index Analysis of China's Per Capita Disposable Income

Source (Created by the author using Excel, the data is from the official website of the National Bureau of Statistics of China)

YEAR	PER CAPITA DISPOSABLE INCOME (CNY/YEAR/CAPITA)	Basic index	Chain index
2000	3721.34	1.00	
2001	4070.38	1.09	1.09
2002	4531.65	1.22	1.11
2003	5006.69	1.35	1.10
2004	5660.9	1.52	1.13
2005	6384.73	1.72	1.13
2006	7228.82	1.94	1.13
2007	8583.54	2.31	1.19
2008	9956.51	2.68	1.16
2009	10977.5	2.95	1.10
2010	12519.51	3.36	1.14
2011	14550.75	3.91	1.16
2012	16509.55	4.44	1.13
2013	18310.76	4.92	1.11
2014	20167.12	5.42	1.10
2015	21966.19	5.90	1.09
2016	23820.98	6.40	1.08
2017	25973.79	6.98	1.09
2018	28228.05	7.59	1.09
2019	30732.85	8.26	1.09
2020	32188.84	8.65	1.05

According to the calculation results in the above table (see Table 3), it can be concluded from the basic index that China's per capita disposable income in 2020 is 9 times that in 2000, and from the chain index, the average annual growth rate of China's per capita disposable income is 11%. China's per capita disposable income growth is due to the income growth of urban and rural residents and economic growth. Steady and rapid economic growth has created conditions for rapid growth of urban and rural residents' income and continuous improvement of living standards. The growth rate of the industry is significantly higher. The sustained and rapid

economic growth and the optimization of the economic structure have provided a favorable environment and strong support for the sustained and stable growth of urban and rural residents' income. Among the per capita disposable income of urban residents, net operating income and net property income grew rapidly.

4.2.3 Index Analysis of China's Per Capita Food Consumption

Table 4 Index Analysis of China's Per Capita Food Consumption

Source (Created by the author using Excel, the data is from the official website of the National Bureau of Statistics of China)

YEAR	FOOD CONSUMPTION (CNY/YEAR/CAPITA)	Basic index	Chain index
2000	792.64	1.00	
2001	915.8	1.16	1.16
2002	978.83	1.23	1.07
2003	1116.41	1.41	1.14
2004	1279.3	1.61	1.15
2005	1398	1.76	1.09
2006	1582.3	2.00	1.13
2007	1891.1	2.39	1.20
2008	2201	2.78	1.16
2009	2303.89	2.91	1.05
2010	2602	3.28	1.13
2011	3102.12	3.91	1.19
2012	3656.03	4.61	1.18
2013	4126.7	5.21	1.13
2014	4493.9	5.67	1.09
2015	4814	6.07	1.07
2016	5151	6.50	1.07
2017	5373.6	6.78	1.04
2018	5631.1	7.10	1.05
2019	6084.2	7.68	1.08
2020	6397.3	8.07	1.05

According to the calculation results in the above table (see Table 4), it can be concluded from the basic index that China's per capita food consumption in 2020 is 8 times that in 2000, and from the chain index that the average annual growth rate of China's per capita food consumption is 11%. There are three reasons leading to the growth of food consumption. First, the per capita disposable income is higher. When people have more income, they will spend

money on food. For example, the per capita disposable income in 2000 is less than that in 2020. People's income in 2000 can only ensure that they are full. It is not like in 2020, people can eat some food with higher prices and better quality based on full food. Second, with China's economic development, food prices will also rise. For example, in 2000, a cup of coffee was 10 CNY, and in 2020, a cup of coffee will become 30 CNY. The third is that people's demand for food's nutritional value becomes higher. The market is determined by demand. With the development of the times, more people want to get food with high nutritional value. At this time, the market will supply corresponding food. The food with high nutritional value will inevitably be higher than the price of ordinary food, which leads to higher food consumption.

4.2.4 Index Analysis of China's Per Capita Education Consumption

Table 5 Index Analysis of China's Per Capita Education Consumption

Source (Created by the author using Excel, the data is from the official website of the National Bureau of Statistics of China)

YEAR	EDUCATION CONSUMPTION (CNY/YEAR/CAPITA)	Basic index	Chain index
2000	158.91	1.00	
2001	185.2	1.17	1.17
2002	209.87	1.32	1.13
2003	236.12	1.49	1.13
2004	256.31	1.61	1.09
2005	295.62	1.86	1.15
2006	325.94	2.05	1.10
2007	378.45	2.38	1.16
2008	435.98	2.74	1.15
2009	504.85	3.18	1.16
2010	578.9	3.64	1.15
2011	619.56	3.90	1.07
2012	685.21	4.31	1.11
2013	792.59	4.99	1.16
2014	906.18	5.70	1.14
2015	999.3	6.29	1.10
2016	1053.41	6.63	1.05
2017	1109.2	6.98	1.05
2018	1224.5	7.71	1.10
2019	1399.02	8.80	1.14
2020	1451.3	9.13	1.04

According to the calculation results in the above table (see Table 5), it can be concluded from the basic index that China's per capita education consumption in 2020 is 9 times that in 2000, and from the chain index that the average annual growth rate of China's per capita education consumption is 12%. From the above table (see Table 5), it can be concluded that China's per capita education consumption grew rapidly between 2000 and 2020. There are three reasons for the rapid growth.

first, with China's economic development, most Chinese families realize the importance of educating their children. Chinese families hope their children can get a good education. However, good education will inevitably lead to relatively high education consumption.

Second, because China has a large population of 1.4 billion, China implemented a single child policy before 2011, that is, a family can only have one child at most. However, with the serious aging of China's domestic population, the Chinese government implemented a two-child policy in 2011, that is, a family can be allowed to have two children. At this time, many families have two children, The increase in the number of children will increase the education consumption of families, so the growth rate of education consumption in China has accelerated significantly since 2011.

Third, because of China's large population, it is particularly difficult for Chinese teenagers to accept higher education in universities. China has a very difficult exam called the college entrance examination, which determines whether senior high school students can enter universities to study for higher education. Nearly 10 million people will take the exam every year, and only nearly 4 million will eventually enter universities. Therefore, the competition for the exam is particularly fierce, it is very difficult to join China's top universities. Therefore, to enable their children to receive higher education, Chinese families must increase their spending on education to meet their children's need to enter universities.

4.2.5 Index Analysis of China's Per Capita Entertainment Consumption

Table 6 Index Analysis of China's Per Capita Entertainment Consumption

Source (Created by the author using Excel, the data is from the official website of the National Bureau of Statistics of China)

YEAR	ENTERTAINMENT CONSUMPTION (CNY/YEAR/CAPITA)	Basic index	Chain index
2000	113.71	1.00	
2001	124.92	1.10	1.10
2002	151.41	1.33	1.21
2003	155.64	1.37	1.03
2004	178.69	1.57	1.15
2005	197.48	1.74	1.11
2006	234.95	2.07	1.19
2007	273.45	2.40	1.16
2008	314.22	2.76	1.15
2009	354.15	3.11	1.13
2010	393.1	3.46	1.11
2011	436.54	3.84	1.11
2012	506.29	4.45	1.16
2013	545.11	4.79	1.08
2014	629.72	5.54	1.16
2015	723.8	6.37	1.15
2016	861.89	7.58	1.19
2017	977	8.59	1.13
2018	1001.2	8.80	1.02
2019	1114.08	9.80	1.11
2020	1147.6	10.09	1.03

According to the calculation results in the above table (see Table 6), it can be concluded from the basic index that China's per capita entertainment consumption in 2020 is 10 times that in 2000, and from the chain index that the average annual growth rate of China's per capita entertainment consumption is 12%. With the rapid development of China's economy from 2000 to 2020, the material life of Chinese people has also been satisfied. People begin to pursue spiritual life more and more, that is, to add their own entertainment activities to meet the spiritual life during the rest. For example, watching movies, concerts, going to playgrounds, watching dramas, etc. Therefore, from 2000 to 2020, China's per capita entertainment consumption has become higher and higher with China's economic development.

4.3 Results and Discussion of Correlation Analysis

4.3.1 Correlation Analysis Between Chinas' Per Capita GDP and China's Per Capita Disposable Income

Table 7 Correlation Analysis Between Chinas' Per Capita GDP and China's Per Capita Disposable Income

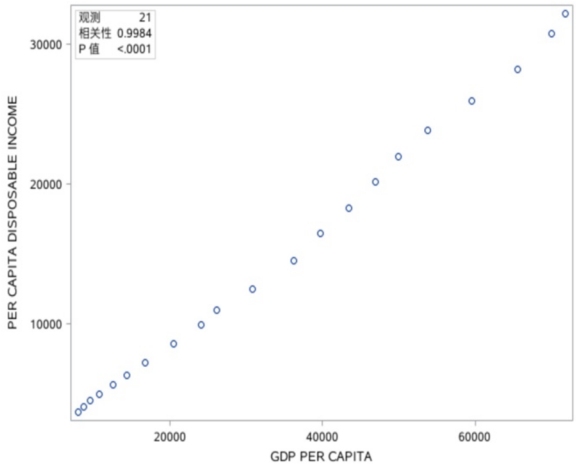
Source (Created by the author using SAS, the data is from the official website of the National Bureau of Statistics of China)

2 variables:	GDP PER CAPITA PER CAPITA DISPOSABLE INCOME

Pearson correlation coefficient, N = 21		
	GDP PER CAPITA	PER CAPITA DISPOSABLE INCOME
GDP PER CAPITA GDP PER CAPITA	1.00000	0.99844
PER CAPITA DISPOSABLE INCOME PER CAPITA DISPOSABLE INCOME	0.99844	1.00000

Figure 2 Correlation Analysis Between Chinas' Per Capita GDP and China's Per Capita Disposable Income

Source (Created by the author using SAS, the data is from the official website of the National Bureau of Statistics of China)



H0: There is no relationship between Chinas' per capita GDP and China's per capita disposable income.

H1: There is significant relationship between Chinas' per capita GDP and China's per capita disposable income.

According to figure 2, P value is less than 0.0001. Therefore, P value is less than alpha, and then, H0 is rejected, it means that there is significant relationship between Chinas' per capita

GDP and China's per capita disposable income. The correlation coefficient between Chinas' per capita GDP and China's per capita disposable income is 0.99844 (see table 7), since 0.99844 is greater than 0.75, it means that there is a significant positive correlation between Chinas' per capita GDP and China's per capita disposable income.

4.3.2 Correlation Analysis Between Chinas' Per Capita GDP and China's Per Capita Food Consumption

Table 8 Correlation Analysis Between Chinas' Per Capita GDP and China's Per Capita Food Consumption

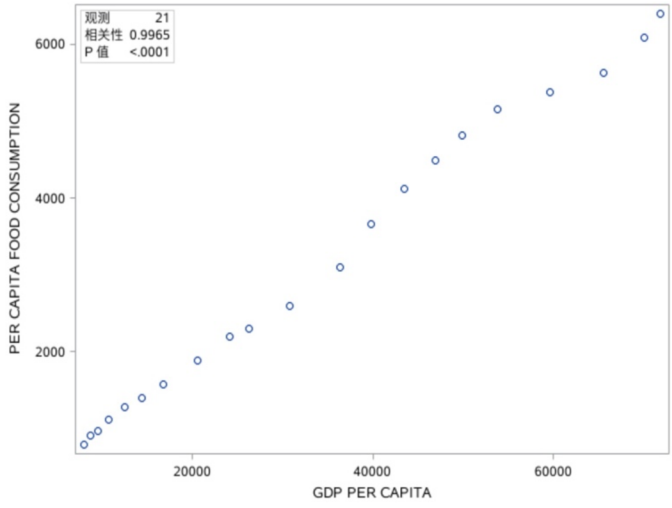
Source (Created by the author using SAS, the data is from the official website of the National Bureau of Statistics of China)

2 variables:	GDP PER CAPITA PER CAPITA FOOD CONSUMPTION

Pearson correlation coefficient, N = 21		
	GDP PER CAPITA	PER CAPITA FOOD CONSUMPTION
GDP PER CAPITA GDP PER CAPITA	1.00000	0.99649
PER CAPITA FOOD CONSUMPTION PER CAPITA FOOD CONSUMPTION	0.99649	1.00000

Figure 3 Correlation Analysis Between Chinas' Per Capita GDP and China's Per Capita Food Consumption

Source (Created by the author using SAS, the data is from the official website of the National Bureau of Statistics of China)



H0: There is no relationship between Chinas' per capita GDP and China's per capita food consumption.

H1: There is significant relationship between Chinas' per capita GDP and China's per capita food consumption.

According to figure 3, P value is less than 0.0001. Therefore, P value is less than alpha, and then, H0 is rejected, it means that there is significant relationship between Chinas' per capita GDP and China's per capita food consumption. The correlation coefficient between Chinas' per capita GDP and China's per capita food consumption is 0.99649 (see table 8), since 0.99649 is greater than 0.75, it means that there is a significant positive correlation between Chinas' per capita GDP and China's per capita food consumption.

4.3.3 Correlation Analysis Between Chinas' Per Capita GDP and China's Per Capita Education Consumption

Table 9 Correlation Analysis Between Chinas' Per Capita GDP and China's Per Capita Education Consumption

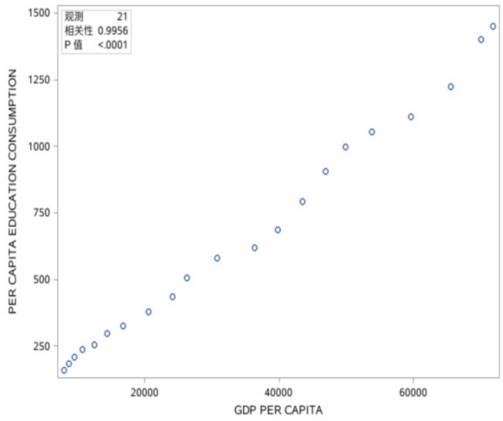
Source (Created by the author using SAS, the data is from the official website of the National Bureau of Statistics of China)

2 variables:	GDP PER CAPITA PER CAPITA EDUCATION CONSUMPTION

Pearson correlation coefficient, N = 21		
	GDP PER CAPITA	PER CAPITA EDUCATION CONSUMPTION
GDP PER CAPITA GDP PER CAPITA	1.00000	0.99562
PER CAPITA EDUCATION CONSUMPTION PER CAPITA EDUCATION CONSUMPTION	0.99562	1.00000

Figure 4 Correlation Analysis Between Chinas' Per Capita GDP and China's Per Capita Education Consumption

Source (Created by the author using SAS, the data is from the official website of the National Bureau of Statistics of China)



H0: There is no relationship between Chinas' per capita GDP and China's per capita education consumption.

H1: There is significant relationship between Chinas' per capita GDP and China's per capita education consumption.

According to figure 4, P value is less than 0.0001. Therefore, P value is less than alpha, and then, H0 is rejected, it means that there is significant relationship between Chinas' per capita GDP and China's per capita education consumption. The correlation coefficient between Chinas' per capita GDP and China's per capita education consumption is 0.99562 (see table 9), since 0.99562 is greater than 0.75, it means that there is a significant positive correlation between Chinas' per capita GDP and China's per capita education consumption.

4.3.4 Correlation Analysis Between Chinas' Per Capita GDP and China's Per Capita Entertainment Consumption

Table 10 Correlation Analysis Between Chinas' Per Capita GDP and China's Per Capita Entertainment Consumption

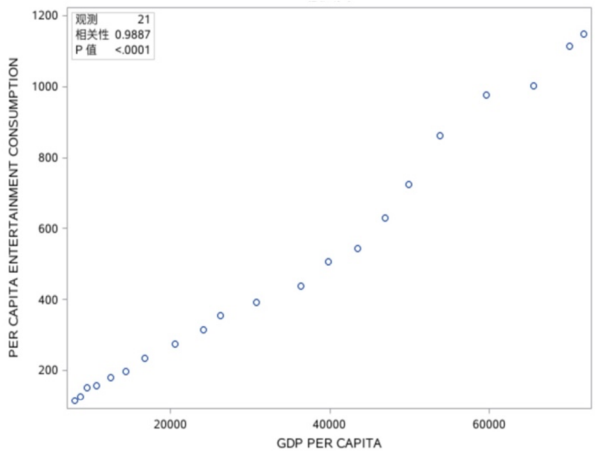
Source (Created by the author using SAS, the data is from the official website of the National Bureau of Statistics of China)

2 variables:	GDP PER CAPITA PER CAPITA ENTERTAINMENT CONSUMP

Pearson correlation coefficient, N = 21		
	GDP PER CAPITA	PER CAPITA ENTERTAINMENT CONSUMP
GDP PER CAPITA GDP PER CAPITA	1.00000	0.98866
PER CAPITA ENTERTAINMENT CONSUMP PER CAPITA ENTERTAINMENT CONSUMPTION	0.98866	1.00000

Figure 5 Correlation Analysis Between Chinas' Per Capita GDP and China's Per Capita Entertainment Consumption

Source (Created by the author using SAS, the data is from the official website of the National Bureau of Statistics of China)



H0: There is no relationship between Chinas' per capita GDP and China's per capita entertainment consumption.

H1: There is significant relationship between Chinas' per capita GDP and China's per capita entertainment consumption.

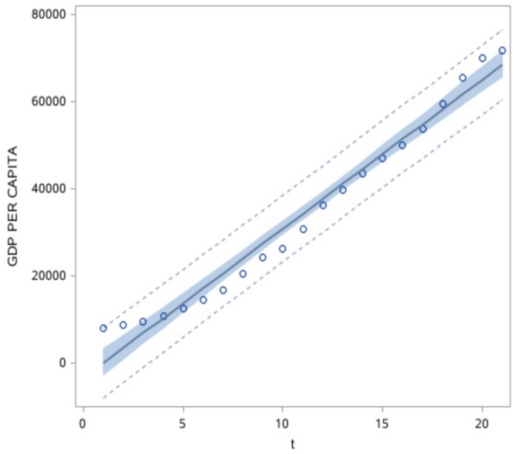
According to figure 5, P value is less than 0.0001. Therefore, P value is less than alpha, and then, H0 is rejected, it means that there is significant relationship between Chinas' per capita GDP and China's per capita entertainment consumption. The correlation coefficient between Chinas' per capita GDP and China's per capita entertainment consumption is 0.98866 (see table 10), since 0.98866 is greater than 0.75, it means that there is a significant positive correlation between Chinas' per capita GDP and China's per capita entertainment consumption.

4.4 Results and Discussion of Trend Function Analysis

4.4.1 Trend Function Analysis of China's Per Capita GDP

Figure 6 Scatter Plot of China's Per Capita GDP

Source (Created by the author using SAS, the data is from the official website of the National Bureau of Statistics of China)



It can be seen from the above figure (see figure 6) that China's per capita GDP has gradually increased over time (from 2000 to 2020, year by year).

Table 11 Results of China's Per Capita GDP Trend Function Analysis

Source (Created by the author using SAS, the data is from the official website of the National Bureau of Statistics of China)

MODEL: MODEL1
因变量: GDP PER CAPITA GDP PER CAPITA

The number of observations read	21
The number of observations used	21

analysis of variance					
source	degree of freedom	Sum of squares	mean square	F-number	Pr > F
model	1	9041163666	9041163666	714.64	<.0001
error	19	240375490	12651342		
Correction total	20	9281539156			

Root mean square error	3556.87244	R-square	0.9741
The mean of the dependent variable	34248	Adjust the R side	0.9727
Coefficient	10.38575		

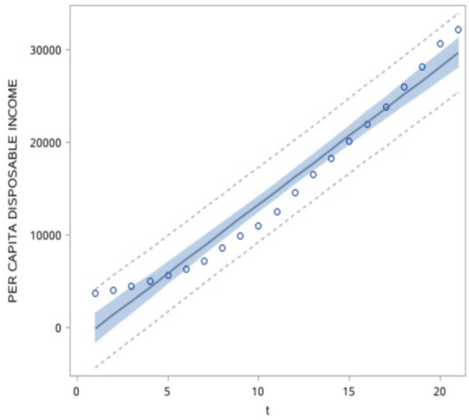
Parameter estimation						
variable	label	degree of freedom	Parameter estimation	Standard error	t value	Pr > |t|
Intercept	Intercept	1	-3445.27157	1609.50701	-2.14	0.0455
t	t	1	3426.62677	128.18079	26.73	<.0001

From the results in the above table (see Table 11), it can be concluded that the linear regression equation of China's per capita GDP over time is Y = -3445.27 + 3426.63t, it means that China's per capita GDP will increase by 3426.63 CNY for every year from 2000 to 2020. R square is 0.9741, representing about 97.41 percent of variation was explained in the regression model, and the goodness of fit is high, which means that the difference between the observed value and the predicted value of the regression model is low. The P value is less than 0.0001, which indicates that the P value is less than alpha. Therefore, from a statistical point of view, the data quality is good and statistically significant. By calculating REF (Relative Error of Forecast), it can be known whether this linear regression equation can be used to predict China's per capita GDP data in future years. By calculating that REF (Relative Error of Forecast) is 5.6%, REF (Relative Error of Forecast) does not exceed 10%, so this linear regression equation can be used to predict China's per capita GDP data in future years.

4.4.2 Trend Function Analysis of China's Per Capita Disposable Income

Figure 7 Scatter Plot of China's Per Capita Disposable Income

Source (Created by the author using SAS, the data is from the official website of the National Bureau of Statistics of China)



It can be seen from the above figure (see figure 7) that China's per capita disposable income has gradually increased over time (from 2000 to 2020, year by year).

Table 12 Results of China's Per Capita Disposable Income Trend Function Analysis

Source (Created by the author using SAS, the data is from the official website of the National Bureau of Statistics of China)

MODEL: MODEL1
因变量: PER CAPITA DISPOSABLE INCOME PER CAPITA DISPOSABLE INCOME

The number of observations read	21
The number of observations used	21

analysis of variance					
source	degree of freedom	Sum of squares	mean square	F-number	Pr > F
model	1	1703998494	1703998494	483.03	<.0001
error	19	67027504	3527763		
Correction total	20	1771025998			

Root mean square error	1878.23411	R-square	0.9622
The mean of the dependent variable	14814	Adjust the R side	0.9602
Coefficient	12.67892		

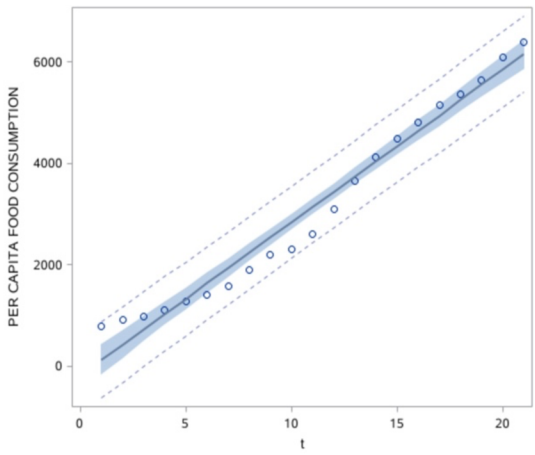
Parameter estimation						
variable	label	degree of freedom	Parameter estimation	Standard error	t value	Pr > |t|
Intercept	Intercept	1	-1549.88476	849.91267	-1.82	0.0840
t	t	1	1487.61052	67.68686	21.98	<.0001

From the results in the above table (see Table 12), it can be concluded that the linear regression equation of China's per capita disposable income over time is Y = -1549.88 + 1487.61t, it means that China's per capita disposable income will increase by 1487.61 CNY for every year from 2000 to 2020. R square is 0.9622, representing about 96.22 percent of variation was explained in the regression model, and the goodness of fit is high, which means that the difference between the observed value and the predicted value of the regression model is low. The P value is less than 0.0001, which indicates that the P value is less than alpha. Therefore, from a statistical point of view, the data quality is good and statistically significant. By calculating REF (Relative Error of Forecast), it can be known whether this linear regression equation can be used to predict China's per capita disposable income data in future years. By calculating that REF (Relative Error of Forecast) is 9.4%, REF (Relative Error of Forecast) does not exceed 10%, so this linear regression equation can be used to predict China's per capita disposable income data in future years.

4.4.3 Trend Function Analysis of China's Per Capita Food Consumption

Figure 8 Scatter Plot of China's Per Capita Food Consumption

Source (Created by the author using SAS, the data is from the official website of the National Bureau of Statistics of China)



It can be seen from the above figure (see figure 8) that China's per capita food consumption has gradually increased over time (from 2000 to 2020, year by year).

Table 13 Results of China's Per Capita Food Consumption Trend Function Analysis

Source (Created by the author using SAS, the data is from the official website of the National Bureau of Statistics of China)

MODEL: MODEL1
因变量: PER CAPITA FOOD CONSUMPTION PER CAPITA FOOD CONSUMPTION

The number of observations read	21
The number of observations used	21

analysis of variance					
source	degree of freedom	Sum of squares	mean square	F-number	Pr > F
model	1	69872606	69872606	633.14	<.0001
error	19	2096818	110359		
Correction total	20	71969424			

Root mean square error	332.20298	R-square	0.9709
The mean of the dependent variable	3137.67714	Adjust the R side	0.9693
Coefficient	10.58755		

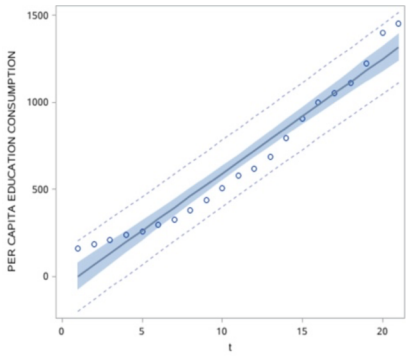
Parameter estimation						
variable	label	degree of freedom	Parameter estimation	Standard error	t value	Pr > |t|
Intercept	Intercept	1	-175.92829	150.32392	-1.17	0.2563
t	t	1	301.23686	11.97176	25.16	<.0001

From the results in the above table (see Table 13), it can be concluded that the linear regression equation of China's per capita food consumption over time is Y = -175.93 + 301.24t, it means that China's per capita food consumption will increase by 301.24 CNY for every year from 2000 to 2020. R square is 0.9709, representing about 97.09 percent of variation was explained in the regression model, and the goodness of fit is high, which means that the difference between the observed value and the predicted value of the regression model is low. The P value is less than 0.0001, which indicates that the P value is less than alpha. Therefore, from a statistical point of view, the data quality is good and statistically significant. By calculating REF (Relative Error of Forecast), it can be known whether this linear regression equation can be used to predict China's per capita food consumption data in future years. By calculating that REF (Relative Error of Forecast) is 4.7%, REF (Relative Error of Forecast) does not exceed 10%, so this linear regression equation can be used to predict China's per capita food consumption data in future years.

4.4.4 Trend Function Analysis of China's Per Capita Education Consumption

Figure 9 Scatter Plot of China's Per Capita Education Consumption

Source (Created by the author using SAS, the data is from the official website of the National Bureau of Statistics of China)



It can be seen from the above figure (see figure 9) that China's per capita education consumption has gradually increased over time (from 2000 to 2020, year by year).

Table 14 Results of China's Per Capita Education Consumption Trend Function Analysis

Source (Created by the author using SAS, the data is from the official website of the National Bureau of Statistics of China)

MODEL: MODEL1
因变量: PER CAPITA EDUCATION CONSUMPTION PER CAPITA EDUCATION CONSUMPTION

The number of observations read	21
The number of observations used	21

analysis of variance

source	degree of freedom	Sum of squares	mean square	F-number	Pr > F
model	1	3319156	3319156	420.25	<.0001
error	19	150062	7897.98505		
Correction total	20	3469218			

Root mean square error	88.87061	R-square	0.9567
The mean of the dependent variable	657.44857	Adjust the R side	0.9545
Coefficient	13.51750		

Parameter estimation

variable	label	degree of freedom	Parameter estimation	Standard error	t value	Pr > |t|
Intercept	Intercept	1	-64.75757	40.21451	-1.61	0.1238
t	t	1	65.65510	3.20267	20.50	<.0001

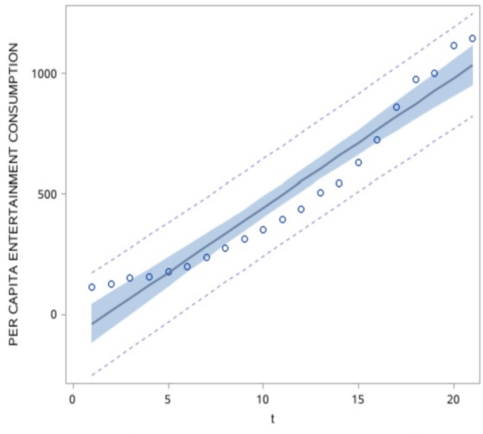
From the results in the above table (see Table 14), it can be concluded that the linear regression equation of China's per capita education consumption over time is Y = -64.76 + 65.66t, it means that China's per capita education consumption will increase by 65.66 CNY for every year from 2000 to 2020. R square is 0.9567, representing about 95.67 percent of variation was explained in the regression model, and the goodness of fit is high, which means that the difference

between the observed value and the predicted value of the regression model is low. The P value is less than 0.0001, which indicates that the P value is less than alpha. Therefore, from a statistical point of view, the data quality is good and statistically significant. By calculating REF (Relative Error of Forecast), it can be known whether this linear regression equation can be used to predict China's per capita education consumption data in future years. By calculating that REF (Relative Error of Forecast) is 11.5%, REF (Relative Error of Forecast) is more than 10%, so this linear regression equation cannot be used to predict China's per capita education consumption data in future years.

4.4.5 Trend Function Analysis of China's Per Capita Entertainment Consumption

Figure 10 Scatter Plot of China's Per Capita Entertainment Consumption

Source (Created by the author using SAS, the data is from the official website of the National Bureau of Statistics of China)



It can be seen from the above figure (see figure 10) that China's per capita entertainment consumption has gradually increased over time (from 2000 to 2020, year by year).

Table 15 Results of China's Per Capita Entertainment Consumption Trend Function Analysis

Source (Created by the author using SAS, the data is from the official website of the National Bureau of Statistics of China)

MODEL: MODEL1
因变量: PER CAPITA ENTERTAINMENT CONSUMP PER CAPITA ENTERTAINMENT CONSUMPTION

The number of observations read	21
The number of observations used	21

analysis of variance					
source	degree of freedom	Sum of squares	mean square	F-number	Pr > F
model	1	2223833	2223833	250.45	<.0001
error	19	168708	8879.37646		
Correction total	20	2392541			

Root mean square error	94.23044	R-square	0.9295
The mean of the dependent variable	496.90238	Adjust the R side	0.9258
Coefficient	18.96357		

Parameter estimation						
variable	label	degree of freedom	Parameter estimation	Standard error	t value	Pr > |t|
Intercept	Intercept	1	-94.24862	42.63986	-2.21	0.0395
t	t	1	53.74100	3.39583	15.83	<.0001

From the results in the above table (see Table 15), it can be concluded that the linear regression equation of China's per capita entertainment consumption over time is Y = -94.25 + 53.74t, it means that China's per capita entertainment consumption will increase by 53.74 CNY for every year from 2000 to 2020. R square is 0.9295, representing about 92.95 percent of variation was explained in the regression model, and the goodness of fit is high, which means that the difference between the observed value and the predicted value of the regression model is low. The P value is less than 0.0001, which indicates that the P value is less than alpha. Therefore, from a statistical point of view, the data quality is good and statistically significant. By calculating REF (Relative Error of Forecast), it can be known whether this linear regression equation can be used to predict China's per capita entertainment consumption data in future years. By calculating that REF (Relative Error of Forecast) is 12%, REF (Relative Error of Forecast) is more than 10%, so this linear regression equation cannot be used to predict China's per capita entertainment consumption data in future years.

4.5 Results and Discussion of Linear Regression Analysis

4.5.1 Linear Regression Analysis Between China's Per Capita GDP and China's Per Capita Disposable Income

Table 16 Linear Regression Analysis Results Between China's Per Capita GDP and China's Per Capita Disposable Income

Source (Created by the author using SAS, the data is from the official website of the National Bureau of Statistics of China)

MODEL: MODEL1
因变量: PER CAPITA DISPOSABLE INCOME PER CAPITA DISPOSABLE INCOME

The number of observations read	21
The number of observations used	21

analysis of variance

source	degree of freedom	Sum of squares	mean square	F-number	Pr > F
model	1	1765493589	1765493589	6063.25	<.0001
error	19	5532409	291179		
Correction total	20	1771025998			

Root mean square error	539.61045	R-square	0.9969
The mean of the dependent variable	14814	Adjust the R side	0.9967
Coefficient	3.64261		

Parameter estimation

variable	label	degree of freedom	Parameter estimation	Standard error	t value	Pr > |t|
Intercept	Intercept	1	-122.82935	225.08169	-0.55	0.5916
GDP PER CAPITA	GDP PER CAPITA	1	0.43614	0.00560	77.87	<.0001

From the results in the above table (see Table 16), it can be concluded that the linear regression equation between Chinas' per capita GDP and China's per capita disposable income is Y = -122.83 + 0.44X (where: X is China's per capita GDP, Y is China's per capita disposable income), It means that when China's per capita GDP increases by 1 CNY, China's per capita disposable income will increase by 0.44 CNY. R square is 0.9969, representing about 99.69 percent of variation was explained in the regression model, and the goodness of fit is high, which means that the difference between the observed value and the predicted value of the regression model is low. The P value (F-test) is less than 0.0001, which indicates that the P value (F-test) is less than alpha. It means that the linear regression model has statistical significance. To sum up, China's per capita GDP growth will positively affect China's per capita disposable income, when China's per capita GDP increases, China's per capita disposable income also increases.

4.5.2 Linear Regression Analysis Between China's Per Capita GDP and China's Per Capita Food Consumption

Table 17 Linear Regression Analysis Results Between China's Per Capita GDP and China's Per Capita Food Consumption

Source (Created by the author using SAS, the data is from the official website of the National Bureau of Statistics of China)

MODEL: MODEL1
因变量: PER CAPITA FOOD CONSUMPTION PER CAPITA FOOD CONSUMPTION

The number of observations read	21
The number of observations used	21

analysis of variance

source	degree of freedom	Sum of squares	mean square	F-number	Pr > F
model	1	71465729	71465729	2695.78	<.0001
error	19	503695	26510		
Correction total	20	71969424			

Root mean square error	162.81970	R-square	0.9930
The mean of the dependent variable	3137.67714	Adjust the R side	0.9926
Coefficient	5.18918		

Parameter estimation

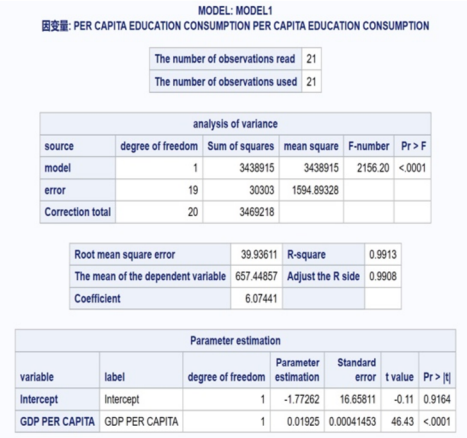
variable	label	degree of freedom	Parameter estimation	Standard error	t value	Pr > |t|
Intercept	Intercept	1	132.50507	67.91517	1.95	0.0660
GDP PER CAPITA	GDP PER CAPITA	1	0.08775	0.00169	51.92	<.0001

From the results in the above table (see Table 17), it can be concluded that the linear regression equation between Chinas' per capita GDP and China's per capita food consumption is Y = 132.51 + 0.09X (where: X is China's per capita GDP, Y is China's per capita food consumption), It means that when China's per capita GDP increases by 1 CNY, China's per capita food consumption will increase by 0.09 CNY. R square is 0.993, representing about 99.3 percent of variation was explained in the regression model, and the goodness of fit is high, which means that the difference between the observed value and the predicted value of the regression model is low. The P value (F-test) is less than 0.0001, which indicates that the P value (F-test) is less than alpha. It means that the linear regression model has statistical significance. To sum up, China's per capita GDP growth will positively affect China's per capita food consumption, when China's per capita GDP increases, China's per capita food consumption also increases.

4.5.3 Linear Regression Analysis Between China's Per Capita GDP and China's Per Capita Education Consumption

Table 18 Linear Regression Analysis Results Between China's Per Capita GDP and China's Per Capita Education Consumption

Source (Created by the author using SAS, the data is from the official website of the National Bureau of Statistics of China)



MODEL: MODEL1
因变量: PER CAPITA EDUCATION CONSUMPTION PER CAPITA EDUCATION CONSUMPTION

The number of observations read	21
The number of observations used	21

analysis of variance

source	degree of freedom	Sum of squares	mean square	F-number	Pr > F
model	1	3438915	3438915	2156.20	<.0001
error	19	30303	1594.89328		
Correction total	20	3469218			

Root mean square error	39.93611	R-square	0.9913
The mean of the dependent variable	657.44857	Adjust the R side	0.9908
Coefficient	6.07441		

Parameter estimation

variable	label	degree of freedom	Parameter estimation	Standard error	t value	Pr > |t|
Intercept	Intercept	1	-1.77262	16.65811	-0.11	0.9164
GDP PER CAPITA	GDP PER CAPITA	1	0.01925	0.00041453	46.43	<.0001

From the results in the above table (see Table 18), it can be concluded that the linear regression equation between Chinas' per capita GDP and China's per capita education consumption is Y = -1.77 + 0.02X (where: X is China's per capita GDP, Y is China's per capita education consumption), It means that when China's per capita GDP increases by 1 CNY, China's per capita education consumption will increase by 0.02 CNY. R square is 0.9913, representing about 99.13 percent of variation was explained in the regression model, and the goodness of fit is high, which means that the difference between the observed value and the predicted value of the regression model is low. The P value (F-test) is less than 0.0001, which indicates that the P value (F-test) is less than alpha. It means that the linear regression model has statistical significance. To sum up, China's per capita GDP growth will positively affect China's per capita education consumption, when China's per capita GDP increases, China's per capita education consumption also increases.

4.5.4 Linear Regression Analysis Between China's Per Capita GDP and China's Per Capita Entertainment Consumption

Table 19 Linear Regression Analysis Results Between China's Per Capita GDP and China's Per Capita Entertainment Consumption

Source (Created by the author using SAS, the data is from the official website of the National Bureau of Statistics of China)

MODEL: MODEL1
因变量: PER CAPITA ENTERTAINMENT CONSUMP PER CAPITA ENTERTAINMENT CONSUMPTION

The number of observations read	21
The number of observations used	21

analysis of variance

source	degree of freedom	Sum of squares	mean square	F-number	Pr > F
model	1	2338583	2338583	823.48	<.0001
error	19	53958	2839.88951		
Correction total	20	2392541			

Root mean square error	53.29061	R-square	0.9774
The mean of the dependent variable	496.90238	Adjust the R side	0.9763
Coefficient	10.72456		

Parameter estimation

variable	label	degree of freedom	Parameter estimation	Standard error	t value	Pr > |t|
Intercept	Intercept	1	-46.71943	22.22852	-2.10	0.0491
GDP PER CAPITA	GDP PER CAPITA	1	0.01587	0.00055315	28.70	<.0001

From the results in the above table (see Table 19), it can be concluded that the linear regression equation between Chinas' per capita GDP and China's per capita entertainment consumption is Y = -46.72 + 0.02X (where: X is China's per capita GDP, Y is China's per capita entertainment consumption), It means that when China's per capita GDP increases by 1 CNY, China's per capita entertainment consumption will increase by 0.02 CNY. R square is 0.9774, representing about 97.74 percent of variation was explained in the regression model, and the goodness of fit is high, which means that the difference between the observed value and the predicted value of the regression model is low. The P value (F-test) is less than 0.0001, which indicates that the P value (F-test) is less than alpha. It means that the linear regression model has statistical significance. To sum up, China's per capita GDP growth will positively affect China's per capita entertainment consumption, when China's per capita GDP increases, China's per capita entertainment consumption also increases.

4.5.5 Conclusion of Linear Regression Analysis

By establishing a linear regression model between the independent variable China's per capita GDP and the dependent variable China's per capita disposable income, China's per capita food consumption, China's per capita education consumption, and China's per capita entertainment consumption, it can be found that the growth of China's per capita GDP from 2000 to 2020 will promote the growth of China's per capita disposable income and consumption to a certain extent. With the rapid growth of China's economy since the 21st century, the per capita disposable income of Chinese residents has increased. When the per capita disposable income of Chinese residents increases, there will be consumption motivation. Chinese residents can use the increased income to improve their material and cultural life. These income can be used to improve the diet and entertainment life of Chinese residents, improve the quality of life of Chinese residents, and also make Chinese residents pay attention to the education of their children, they want their children to receive good education, which will increase education consumption. To sum up, China's GDP growth from 2000 to 2020 will increase the consumption of food, education and entertainment of Chinese residents.

5 Conclusion

This bachelor's thesis mainly studies the impact of China's per capita GDP growth on China's per capita disposable income, China's per capita food consumption, China's per capita education consumption and China's per capita entertainment consumption, as well as the development trend of each variable itself from 2000 to 2020, and finally obtains the following conclusion.

The index analysis part can obtain the conclusion that China's GDP continued to grow from 2000 to 2020, basically maintaining an annual average growth rate of 12%. China's per capita disposable income continued to grow from 2000 to 2020, with an annual growth rate of 11%. China's per capita food consumption continued to grow from 2000 to 2020, with an annual growth rate of 11%. China's per capita education consumption continued to grow from 2000 to 2020, with an annual growth rate of 12%. China's per capita entertainment consumption continued to grow from 2000 to 2020, with an annual growth rate of 12%.

The correlation analysis part can obtain the conclusion that China's per capita GDP is significantly correlated with China's per capita disposable income, China's per capita food consumption, China's per capita education consumption, and China's per capita entertainment consumption.

Linear regression analysis can conclude that the growth of China's per capita GDP will promote the growth of China's per capita disposable income, per capita food consumption, per capita education consumption and per capita entertainment consumption to a certain extent.

Through the research of this bachelor's thesis, the following suggestions can be made. Since China's economic growth will promote the consumption of Chinese residents, Chinese residents can improve their quality of life and obtain satisfaction through consumption. Therefore, the Chinese government should continue to create good policies and programs to promote the Chinese economy, guide enterprises and individuals to develop the Chinese economy, narrow the gap between the rich and the poor in China, and enable China to enter the ranks of developed countries as soon as possible.

This bachelor's thesis also has some limitations. It only studies the impact of China's GDP growth from 2000 to 2020 on China's food, education and entertainment consumption. In the future, it can also expand the time coverage and increase more different types of consumption to study the impact of China's economic growth on consumption.

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