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THE MEDIATING ROLE OF FINANCIAL SUPPORT
IN THE RELATIONSHIP BETWEEN EXPENDITURE
STRUCTURE AND FINANCIAL PERFORMANCE
OF LOCAL COLLEGES AND
UNIVERSITIES IN CHINA



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THIS THESIS SUBMITTED IN FULFILMENT OF THE REQUIREMENT FOR THE
DEGREE OF DOCTOR OF PHILOSOPHY

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SULTAN IDRIS EDUCATION UNIVERSITY

2024



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Structure and Financial Performance of Local Colleges and Universities in China

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ABSTRACT

This study aimed to examine the impact of expenditure structure i.e. personnel expenditure, public expenditure, capital construction expenditure, goods and services expenditure, capital expenditure, and financial aid expenditure on financial performance as well as the effect of financial support as a mediator in the relationship between expenditure structure and financial performance of local colleges and universities in China. This study adopted the quantitative research approach using panel data regression analysis. The sample size consisted of 31 provinces' local general colleges and universities and they were selected using a non-probability sampling technique. The secondary data were obtained from the Yearbook of Education Statistics and the Statistical Yearbook of Education Expenditure from 2010 to 2021 in China. Data were analysed using descriptive statistic and panel data analysis. A Pearson correlation analysis showed most significant relationship between expenditure structure, financial support, and financial performance ($p < 0.1$). The regression analysis showed that personnel expenditure, public expenditure, capital construction expenditure, goods and services expenditure, capital expenditure, and financial aid expenditure have significant impact on financial support ($\beta = 0.219$, $p\text{-value} = 0.000$; $\beta = -0.162$, $p\text{-value} = 0.00$; $\beta = -0.353$, $p\text{-value} = 0.014$; $\beta = -0.467$, $p\text{-value} = 0.000$; $\beta = -0.025$, $p\text{-value} = 0.004$; $\beta = -0.606$, $p\text{-value} = 0.011$) and financial performance ($p < 0.1$), and financial support has an impact on financial performance ($p < 0.1$). The findings also revealed that financial support mediates the relationship between expenditure structure and financial performance of Chinese local colleges and universities ($p < 0.1$). In conclusion, expenditure structure has a significant impact on financial performance and financial support mediates the relationship between expenditure structure and financial performance in Chinese local colleges and universities. As implication, decision-makers should optimize expenditure structure and strive for more financial support to improve financial performance of local colleges and universities in China.





PERANAN SOKONGAN KEWANGAN SEBAGAI PENGANTARA DALAM HUBUNGAN ANTARA STRUKTUR PERBELANJAAN DAN PRESTASI KEWANGAN KOLEJ DAN UNIVERSITI TEMPATAN DI CHINA

ABSTRAK

Kajian ini bertujuan untuk mengkaji kesan struktur perbelanjaan iaitu perbelanjaan kakitangan, perbelanjaan awam, perbelanjaan pembinaan modal, perbelanjaan barangan dan perkhidmatan, perbelanjaan modal, dan perbelanjaan bantuan kewangan ke atas prestasi kewangan serta kesan sokongan kewangan sebagai pengantara dalam perhubungan antara struktur perbelanjaan dan prestasi kewangan kolej dan universiti tempatan di China. Kajian ini menggunakan pendekatan kajian kuantitatif menggunakan analisis regresi data panel. Saiz sampel terdiri daripada 31 kolej am tempatan dan universiti dan sampel dipilih menggunakan teknik persampelan bukan kebarangkalian. Data sekunder diperoleh daripada Buku Tahunan Perangkaan Pendidikan dan Buku Tahunan Perbelanjaan Pendidikan dari 2010 hingga 2021 di China. Data dianalisis menggunakan statistik deskriptif dan analisis data panel. Analisis korelasi Pearson menunjukkan hubungan paling signifikan antara struktur perbelanjaan, sokongan kewangan, dan prestasi kewangan ($p < 0.1$). Analisis regresi menunjukkan bahawa perbelanjaan kakitangan, perbelanjaan awam, perbelanjaan pembinaan modal, perbelanjaan barangan dan perkhidmatan, perbelanjaan modal, dan perbelanjaan bantuan kewangan mempunyai kesan yang besar terhadap sokongan kewangan ($\beta = 0.219$, $p\text{-value} = 0.000$; $\beta = -0.162$, $p\text{-value} = 0.00$; $\beta = -0.353$, $p\text{-value} = 0.014$; $\beta = -0.467$, $p\text{-value} = 0.000$; $\beta = -0.025$, $p\text{-value} = 0.004$; $\beta = -0.606$, $p\text{-value} = 0.011$) dan prestasi kewangan ($p < 0.1$), dan sokongan kewangan mempunyai kesan ke atas prestasi kewangan ($p < 0.1$). Dapatan juga mendedahkan bahawa sokongan kewangan menjadi pengantara hubungan antara struktur perbelanjaan dan prestasi kewangan kolej dan universiti tempatan Cina ($p < 0.1$). Kesimpulannya, struktur perbelanjaan mempunyai kesan yang signifikan terhadap prestasi kewangan dan sokongan kewangan menjadi pengantara hubungan antara struktur perbelanjaan dan prestasi kewangan di kolej dan universiti tempatan China. Sebagai implikasi, pembuat keputusan harus mengoptimumkan struktur perbelanjaan dan berusaha mendapatkan lebih banyak sokongan kewangan untuk meningkatkan prestasi kewangan kolej dan universiti tempatan di China.



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LIST OF ABBREVIATIONS

AHP	Hierarchical Analysis Process
BSC	Balanced Scorecard
CAE	Capital Expenditure
CCE	Capital Construction Expenditure
ES	Expenditure Structure
FAE	Financial Aid Expenditure
FP	Financial Performance
GR	Graduation Rate
GSE	Goods and Services Expenditure
IFPS	Input of Funds per Student
I.V	Independent Variable
PEE	Personnel Expenditure
PFTS	Proportion of Full-time Teachers and Staff
PSRITI	Proportion of Scientific Research Income to Total Income
PUE	Public Expenditure
RE	Random Effect Model
SPSSPRO	Scientific Platform Serving for Statistics Professional





SR	Scientific Research
SRIPFT	Scientific Research Income per Full-time Teacher
SS	Social Services
STR	Student-teacher Ratio
TC	Talent Cultivation
TFE	Time fixed Effect Model
TIFE	Time and Individual Fixed Effect Model
TIPS	Total Income Per Staff





APPENDIX LIST

- A Summary of Reviewed Articles
- B Descriptive Analysis
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CHAPTER 1

INTRODUCTION

1.1 Introduction

In the context of tight educational funding and decreasing financial support, Chinese colleges and universities need to consider how to strive for more financial support, optimize expenditure structure, and improve the efficiency and financial performance of fund utilization. This chapter begins by combining China's national education reform, government accounting system reform, financial performance evaluation, and the development status of expenditure structures in colleges and universities to establish the background of the study. The introduction is followed by the problem statement which elaborates on the focus of the study. The next section of this chapter includes research objectives and research questions. Subsequently, the research hypothesis and conceptual framework also will be presented in this chapter. Then it expounds the research significance, scope of the study, and operational definition. Finally, this chapter concludes by providing a summary.





1.2 Background of the Study

With the deepening of education reform in China's colleges and universities, their scale is expanding and the total investment in China's colleges and universities has also increased. The proportion of China's national education funds in GDP reached the target of 4% in 2012 (Development Planning Department of the Ministry of Education, 2013). It has remained above the international level of 4% for eight consecutive years since then (Hu, 2021). According to the data from China's National Bureau of Statistics, the total investment in education was 2,023 billion USD in China in 2008, with government financial support for education accounting for 3.48% of the total GDP that year (Development Planning Department of the Ministry of Education, 2009). The total investment in education in China was 7,067 billion USD in 2023, of which the government financial support for education was 5,641 billion USD, accounting for 4.22% of the GDP that year. In 2023, the total national higher education funds amounted to 1910 billion USD, accounting for 26.83% of the total national funds (Development Planning Department of the Ministry of Education, 2023). China has historically provided substantial and increasing support to colleges and universities. However, because of economic demands and constrained public budgets, financial support for colleges and universities has become limited (Li & Chen, 2022). Zhang (2019) believed that China's financial education expenditure has been increasing year by year over the past 10 years, but the ratio of China's financial education expenditure to the total value of financial expenditure is not only lower than that of some developed countries but also that of some developing countries, such as Cuba, Brazil, Argentina, and Mexico. To sum up, although the investment in





education has increased, the Chinese government has not invested enough in education.

As Chinese colleges and universities continue to expand, their resources become more and more scarce. Moreover, their sources of income have shifted from solely relying entirely on financial support to encompassing various channels, including financial appropriation, tuition revenue, research revenue, and social donations (Zhu, 2021). By 2021, the proportion of Chinese higher education was 24.9%, 10.3 percentage points higher than that in 2012. There are more than 218 million people with high education in China. Although the national and local financial support to colleges and universities has increased, the growth rate of investment in colleges and universities is still lower than the growth rate of expanding the enrollment scale of colleges and universities.



There are certain problems in the use of scarce education funds in colleges and universities, mainly reflecting the following. Firstly, the allocation of funds and expenditure structure in colleges and universities is considered suboptimized. Despite the overall increase in expenditure, the scale of expenditure in Chinese colleges and universities remains relatively small, and the expenditure structure is still suboptimized (Zhou & Xia, 2022). Li, Peng and Yuan (2015) studied the expenditure structure of local colleges and universities from 1999 to 2011, analyzing the differences, influencing factors, and changing trends across different provinces. They found that the expenditure structure of education in each province is uneven and significantly different. Zhang (2010d) examined the scale, structure, and performance of expenditure in Chinese colleges and universities, noting a significant increase in





total expenditure alongside two major issues: a relatively small scale and an imbalanced expenditure structure.

Secondly, the input and output of funds in colleges and universities are disproportionate, leading to inefficient fund utilization, suboptimal financial performance. Zhai (2014) observed that China's current total financial education expenditure is insufficient, highlighting an obvious gap in expenditure structure, low efficiency of expenditure, and an imperfect investment system through a study of the current stage of financial education expenditure in China.

Lastly, there are no unified financial performance indexes in colleges and universities, making it more difficult to evaluate the financial performance and fund use efficiency of colleges and universities (Yang, 2022).

The expenditure structure is a critical reflection of the adequacy and efficiency of higher education resources utilization. It reflects the input, allocation and utilization of educational resources from a financial aspect, thereby influencing the function of higher education, and the quality and quantity of education output (Zhang, 2020). A rational expenditure structure in colleges and universities is essential for promoting the judicious use of resources, enhancing fund utilization efficiency, and fostering the healthy and sustainable development of colleges and universities. Optimizing the expenditure structure of education fosters the achievement of educational equity and significantly enhances the social benefits derived from education (Liu, 2011). In the face of resources shortage, inadequate financial support from government, and wastage of educational resources, optimizing the expenditure





structure enables the efficient utilization of funds, and facilitates the optimal allocation of resources, and enhances the efficiency of colleges and universities.

In situations where education funds are insufficient and budgets are tight, it is imperative for colleges and universities to maximize social and economic benefits derived from their limited resources. Ahmad et al. (2013) argue that increasing higher education funding can lead to improved expenditure patterns. Asiyai (2013) believes that the pressure on the funding structure of higher education leads to greater awareness of resource utilization, thereby guiding more effective allocation of public resources and facilitating the development of an efficient expenditure structure. To fully leverage limited education investment, enhance fund utilization efficiency, and optimize resource allocation, it is essential to enhance the financial performance of colleges and universities, serving as the foundation for fund allocation and utilization (Xu, 2008).

The financial performance of colleges and universities primarily reflects the efficiency of fund utilization and the financial operation, constituting a crucial aspect of financial management within these institutions and serving as a pivotal component of performance evaluation systems. Enhancing the financial performance of colleges and universities can effectively foster greater motivation and facilitate the establishment of reward and penalty mechanism. Furthermore, it can rationalize fund allocation within colleges and universities and turn previous distribution on demand into allocation according to plan, need, and effective utilization to eliminate the blind debt within colleges and universities, diminish financial risk, and promote their sustained, stable and healthy development (Wei, 2019). The financial performance of





colleges and universities is the foundation and core link of implementing budget performance management. Constructing a reasonable financial performance system is the key to whether China's colleges and universities can comprehensively promote budget performance management.

As Chinese colleges and universities continue to expand in scale, the autonomy of these institutions gradually increases, including the autonomy in allocating and utilizing funds. The Chinese government has put forward higher requirements for the efficiency of fund utilization and the financial performance of colleges and universities. The China Education Modernization 2035 initiative introduces new demands for education development, emphasizing the optimization of educational structure and enhancement of the investment mechanism for educational funds as crucial strategic objectives for national education development. This includes increasing investment in education funds and improving fund utilization efficiency (China's educational modernization 2035, 2019). The implementation of the new Budget Law of the People's Republic of China, the centralized payment by the State Treasury, and reforms in the classification of public institutions, government revenues and expenditures, and government accounting systems have elevated the standards for financial reporting and analysis within colleges and universities (Budget Law of the People's Republic of China, Government Accounting System). In 2019, the Ministry of Education called for the comprehensive implementation of budget performance management in colleges and universities to optimize education resource allocation, enhance fund utilization efficiency, and improve the quality of education services (Opinions of the Ministry of Education on the Comprehensive Implementation of Budget Performance Management, 2019). Under the Chinese new policies and new





government accounting system, analyzing the financial performance of colleges and universities is imperative. To mitigate debt risks, enhance accountability, and improve financial transparency, colleges and universities need to consider strategies to enhance their financial performance. It is evident that leveraging financial performance to enhance the efficiency and effectiveness of expenditure in higher education institutions has become a top priority.

China continues to gradually promote performance management in colleges and universities, but it remains in the early stages of exploration, and the financial performance index is not yet fully developed (Yang, 2021). The financial performance index utilized by these institutions is often impractical, lacks standardization, and is insufficiently scientific. Furthermore, different regions employ varying financial performance indexes, lacking a universally recognized standard system. This discrepancy may result in financial performance assessments of colleges and universities that are deemed unsatisfactory in terms of scientific rigor, fairness, and reasonableness (He, 2014). Establishing a coherent financial performance index for colleges and universities to gauge fund utilization efficiency and maximize benefits presents a new challenge and task for Chinese higher education institutions.

In system theory, the structure of elements within a system influences its functionality. The relationship between expenditure structure and financial performance of colleges and universities mirrors that of the structure and function of elements within a system (Liu, 2019). A rational expenditure structure facilitates the enhancement of financial performance in colleges and universities. Conversely, an unoptimized expenditure structure can detrimentally impact financial performance of





colleges and universities. To fulfill the triple functions of cultivating talents, scientific research and societal service, colleges and universities require corresponding resource investments. The expenditure structure of these institutions delineates the distinct allocations to the aforementioned functional activities of teaching, scientific research, and social services. Allocations for each functional activity vary, thereby affecting the efficiency and performance of fund utilization. Thus, optimizing the expenditure structure of colleges and universities can enhance their financial performance (Liu, 2019). According to the expenditure structure theory, the reasonableness of the expenditure structure significantly influences the financial performance of colleges and universities. Furthermore, the allocation ratio of various funds plays a crucial role in fund utilization efficiency (You, 2012).



Li (2001) discovered that the total amount education expenditure in China is inadequate, with a relatively low proportion. Under the constraint of limited education funds, there is a common phenomenon of low efficiency in education expenditure. One factor contributing to the low efficiency of education expenditure is the suboptimal expenditure structure of education. Education expenditure performance can be dissected into macro efficiency and micro efficiency. The macro efficiency evaluation primarily focuses on scale efficiency and structural efficiency. Zhang (2010d) observed that the expenditure structure varies among different types of colleges and universities, leading to diverse expenditure performance. Optimizing the expenditure structure of colleges and universities facilitates optimal expenditure allocation, thereby stimulating, regulating, and managing resource utilization within these institutions, ultimately enhancing expenditure performance (Yuan & Chen, 2015). To enhance the fund utilization efficiency, it is imperative for the expenditure





structure of Chinese colleges and universities to be reasonable (Zhang, 2019). A rational expenditure structure allows colleges and universities to allocate more funds towards teaching and research, thereby expediting improvements in their financial performance (Luo & Ma, 2013; Liu, 2019).

With the rapid expansion of Chinese higher education, the quality of education and the effective utilization of educational funds in local colleges and universities have become increasingly prominent. It is particularly important for these institutions to optimize the investment structure of education funds to enhance their performance. According to system theory, whether expenditure structure of colleges and universities is reasonable will significantly affect their performance (Luo & Ma, 2013). By studying the impact of expenditure structure on financial performance and the mediating effect of financial support on the relationship between expenditure structure and financial performance, it can be found out how expenditure structure affects financial performance and what mediating effect of financial support to optimize expenditure structure, enhance resource allocation, improve capital utilization efficiency, enhance financial performance, and promote the healthy and sustainable development of colleges and universities (Nazari & Mousakhani, et. al, 2020).

As the cost of educating that expanded number of students puts increasing strain on government financial support, ensuring financial support also becomes even more critical for colleges and universities (Jalal & Khaksari, 2018). Shin (2010) found that financial support did not significantly affect performance. Sanford and Hunter (2011) found no substantial differences in re-enrolment and graduation rates between





the schools that had adopted the performance-based formula and those that had not. Lee and Kim (2019) demonstrated that both central and local governmental financial support are endogenously associated with students' job-finding rates. However, local governmental financial support and research performance exhibit a reverse causality association in Korean Universities. A well-optimized expenditure structure ensures the efficient utilization of resources by prioritizing areas that directly influence the quality of teaching, research, and institutional development. Strategic expenditure frameworks enable colleges and universities to showcase their effective use of existing funds and present a clear strategy for future allocations, thereby attracting additional funding. By allowing local colleges and universities to invest more in essential areas such as teaching, research, and social services, an efficient expenditure structure can lead to enhanced financial performance.



Local colleges and universities play a pivotal role in local talent cultivation, scientific research, and social services (Dong, 2016). While there is extensive research on expenditure structure and specific aspects of teaching or research output in colleges and universities, there is lack of evidence regarding the relationship between expenditure structure and financial performance in Chinese local colleges and universities, particularly concerning the mediating role of financial support in the relationship between expenditure structure and financial performance at these institutions. Therefore, in the light of funding constraints, limited financial support, imbalance expenditure structure, inefficient use of funds, and suboptimal financial performance, this study aims to investigate the relationship between expenditure structure, financial support, and financial performance of local colleges and universities. Taking 31 provinces' local general colleges and universities in China as





samples, this research empirically tests the impact of expenditure structure on financial performance, as well as the mediating role of financial support in the relationship between expenditure structure and financial performance in local colleges and universities.

1.3 Problem Statement

Since the expansion of colleges and universities in China in 1998, the scale of higher education has expanded rapidly. China's colleges and universities encompass ministerial institutions and local colleges and universities, with the latter forming the backbone of higher education in China. By 2020, there were 3005 colleges and universities, of which 2934 were local colleges and universities under the administration and funding of 31 provinces in China (Development Planning Department of the Ministry of Education, 2021). With the expansion of China's higher education scale, there have also arisen many issues concerning higher education funding.

Firstly, China's financial investment in local colleges and universities is much lower than that of colleges and universities directly under the central government, making the relative shortage of education funds in local colleges and universities a major problem that has long plagued their sustainable and healthy development (Liao & Li, 2013). The local government constantly strives to improve the funding mechanism and enhance local public financial investment. However, funding for local





colleges and universities, along with regional financial influence, continues to face significant challenges, such as education funding shortages. This is a common problem in the development of local colleges and universities. Influenced by the skewed distribution of financial investment in colleges and universities, funding for local colleges and universities in China lags significantly behind that allocated to ministerial colleges and universities which are institutions directly under the central government. Funds earmarked for central colleges and universities account for more than half of the total higher education funds, despite these institutions representing less than 9% of all colleges and universities (Development Planning Department of the Ministry of Education, 2023). Local colleges and universities in China are facing a common challenge of funding scarcity. Although overall funding for local colleges and universities in China has increased and the utilization efficiency of funds has been improved in recent years, these institutions still grapple with funding shortage, as indicators such as per student funds significantly lower than those under the central government.

Secondly, the allocation of funds and expenditure in colleges and universities is also considered unoptimized. The disproportionate expenditure structure of these institutions has resulted in low efficiency in fund utilization and financial performance (Chen, Zou, & Mao, 2022; Fu, 2023b). There are certain differences in the contribution of expenditure structure of higher education funds in different regions to the economic growth of their respective regions (Gao, 2023). Compared to international colleges and universities, expenditure structure of colleges and universities in China is suboptimized. Capital construction expenditure outweighs personnel expenditure, with substantial funds allocated to campus construction,





educational building, and library construction. However, this comes at the expense of recruiting excellent teachers and improving welfare treatment for teaching staff, which is detrimental to the long-term sustainable development of these institutions (Zhang, 2010a). The proportion of personnel expenditure to education expenditure remains significantly low, at less than 50%. Furthermore, there remain disparities in the internal resource allocation, with personnel expenditure accounting for a significant share while investment in construction remains insufficient (Hu, 2021).

Thirdly, there are several problematic phenomena in the public funds of colleges and universities, such as tight budgets, inefficient use of funds, fund wastage, low expenditure efficiency (You, 2012; Wang, 2020). Qin and Hu (2019) compared China with OECD (Organization for Economic Co-operation and Development) countries and concluded that the average expenditure of higher education students in China has been increasing year by year, and their expenditure structure is unstable. It is suggested that the efficiency of expenditure should be improved. Additionally, local colleges and universities experience widespread inefficiency in the use of education funds, and often exhibit an unscientific expenditure structure (Liang, 2023). The current phenomenon of low utilization efficiency and unoptimized expenditure structure in higher education funds affects the function of budget preparation in colleges and universities (Fu, 2023a).

The factors influencing expenditure structure of colleges and universities encompass the level of social and economic development, the investment stock of higher education resources, the faculty and staff salary standard, the enrolment scale





of the colleges and universities, construction cost, and the education policy (Chen, Zou & Mao, 2022). Generally, when the level of economic development is low, investment funds in colleges and universities are also limited. Consequently, these funds must primarily cater to the needs of faculty and staff, resulting in a higher proportion of personnel expenditure. Conversely, during periods of high social and economic development, capital expenditure tends to increase. The stock of higher education resources refers to the number of faculty and staff, and the infrastructure of the colleges and universities, including academic buildings and libraries, accumulated over the institutions' developmental history. The stock of education investment also influences the expenditure structure of colleges and universities. Moreover, faculty and staff salary standard, enrolment scales, construction cost, and education policy all impact expenditure structure. Changes in students enrollment and teacher salary standards can lead to fluctuations in expenditure structure of colleges and universities. During periods of limited educational funds, excessive capital construction expenditure may necessitate reductions in career funds expenditure. This reduction could affect the recruitment of excellent teachers, staff salaries and benefits, and student scholarships in colleges and universities. Such measures may dampen teacher enthusiasm, impede student motivation, and potentially disrupt the normal functioning of colleges and universities. To foster the long-term development of colleges and universities, it is necessary to pay attention to the expenditure structure, improve the personnel expenditure on faculty and staff salaries and benefits, and guarantee public funds (Zhang, 2010d). Optimizing the use of limited educational funds, minimizing fund loss and waste, and enhancing the financial performance of colleges and universities are crucial steps toward bolstering expenditure management and improving the efficiency and effectiveness of fund utilization, thereby reinforcing the





quality of talent training, scientific research, and social services. Taylor and Baines (2012) identified factors influencing funding expenditures in Thai public colleges and universities, primarily including student numbers, political influences, and economic conditions.

At present, the financial analysis of colleges and universities is relatively simplistic, primarily focusing on analyzing the implementation progress execution of income and expenditure of colleges and universities based on financial statements. There is a notable absence of utilizing the financial performance index to evaluate the financial performance of colleges and universities. The financial performance of colleges and universities exhibits several challenges:



Firstly, the financial performance indicators of colleges and universities lack uniformity. Varying operational, teaching, and research capabilities among different types of colleges and universities lead to a lack of standardized specifications and standards for financial performance indicators (Wang, 2010; Jin, 2011; Mao, 2013; Qiu, 2013; Lv, Wang & Liu, 2020). This lack of consistency and universality of the evaluation indexes hinders informed judgments on financial performance. Song (2016) highlighted persistent issues in Chinese colleges and universities' financial performance, including uncertain performance objectives. According to Favero and Rutherford (2020), measuring performance at entities as complex as universities is a daunting task and it would be close to impossible to capture every factor that would contribute to success. At present, the performance evaluation system for financial budgets in colleges and universities has strong autonomy in the process of setting





goals, selecting indicators, determining weights, and self-evaluating budget performance. Different colleges and universities have inconsistent performance evaluation indicators for projects, resulting in poor comparability of evaluation results for each project and insufficient refinement and quantification (Pang, 2023).

Secondly, quantifying the outputs of funds in colleges and universities proves challenging. As non-profit institutions, the significance of Chinese colleges and universities lies in teaching and talent cultivation. The social output of these inputs differ from directly quantifiable economic benefits, making the output of social benefits more intricate. This complexity encompasses not only talent and research outputs but also public welfare characteristics like social contributions and public services, thereby acting as a bottleneck to financial performance of colleges and universities (Gu, 2018; Yang, 2021).

Thirdly, there are some phenomena of suboptimal financial performance in colleges and universities, such as "emphasizing input and neglecting output", "emphasizing use and neglecting benefit", and "emphasizing distribution and neglecting supervision". The fund utilization only focuses on spending funds without considering benefits reduces financial performance, resulting in insufficient investment, resources wastage, low fund efficiency, and unoptimized expenditure structure (Xu, 2013; Zeng, 2023). Zhao, Liu and Wang (2010) argued that local colleges and universities commonly face challenges such as low resource utilization efficiency, asymmetry of income and expenditure, and backward financial performance levels. Yang (2019) identified issues in the financial performance of





colleges and universities in Jiangxi province, including significant contradictions between the supply and demand of education funds, excessive personnel expenditure, public expenditure crowding out, and low returns on fixed asset investments. Some local colleges and universities pay more attention to fund application work and neglect the efficiency of fund utilization (Shan, Jiang, Jia, & Gao, 2023). Additionally, It has been established in the literature that governments worldwide allocate substantial public funds to Higher education institutions (HEIs). However, researchers have found that such subsidies often lead to unwanted outcomes such as resource mismanagement, inefficient funding methods, monopolistic practices, and the overall inefficient management of HEIs (Ahmad et al., 2013).

Liang (2023) asserts that there has been a significant increase in government funding for colleges and universities in Shanghai since 2018, which has provided significant financial support for their development. However, in the past five years, the sum of government financial support revenue and business revenue accounted for more than 97% of the total annual revenue. The characteristics of the dual pattern of funding revenue are significant, and there is a significant gap with the diversified requirements of the "Double First Class" construction for the funding channels of colleges and universities. The government's primary role in funding higher education is coming to an end, and the expansion of higher education is no longer based solely on public funding. The role of higher education funding has reversed due to the privatization of public schools and reform measures to support private schools in the economy (Senthil & David, 2023).





Optimizing the expenditure structure and exploring a reasonable expenditure structure for colleges and universities can enhance resource allocation, improve fund efficiency and effectiveness, and ultimately enhance institutional performance. Given the constraints of limited education funds, optimizing the expenditure structure emerges as a crucial avenue for enhancing the financial performance of colleges and universities. Witte and López-Torres (2017) notes that different expenditure allocation methods and expenditure structures have their advantages and disadvantages. The diversified expenditure structure of colleges and universities negates the model where government serves as the primary supporter. It is recommended to streamline fund utilization within colleges and universities, thereby enhancing the performance and level of education. The challenges surrounding expenditure structure and financial performance in colleges and universities underscore the importance of enhancing financial management within these institutions.

Given the constraints of limited educational funds and financial support, suboptimal expenditure structures, and low efficiency in funds utilization and financial performance, the efficiency of fund utilization in colleges and universities is assessed based on their financial performance. However, the absence of a standardized metric for financial performance complicates accurate measurement. Therefore it is imperative for colleges and universities to judiciously allocate funds, optimize their expenditure structure, and enhance financial performance. Consequently, addressing how to allocate the limited resources of local colleges and universities and optimize their expenditure structure to enhance the efficiency and effectiveness of fund utilization, becomes paramount.





1.4 Objectives of the Study

The general objective of this study is to identify the impact of expenditure structure on financial performance and the mediating role of financial support on the relationship between expenditure structure and financial performance of local colleges and universities in China. Specifically, this study aims to fulfill the following objectives:

- 1- To measure the direct impact of expenditure structure on financial performance of local colleges and universities in China.
- 2- To assess the direct impact of expenditure structure on financial support of local colleges and universities in China.
- 3- To quantify the direct impact of financial support on financial performance of local colleges and universities in China.
- 4- To investigate the mediating effect of financial support on the relationship between expenditure structure and financial performance of local colleges and universities in China.



1.5 Research Questions

Based on the problems of this research, this study aims to answer the following questions.



- 1- What impact does expenditure structure have on financial performance of local colleges and universities in China?
- 2- What impact does expenditure structure have on financial support of local colleges and universities in China?
- 3- What impact does financial support have on financial performance of local colleges and universities in China?
- 4- How does financial support mediate the relationship between expenditure structure and financial performance of local colleges and universities in China?

1.6 Research Hypotheses

Based on the literature review, existing theories as well as the conceptual framework, the following hypotheses are proposed. Further support from previous studies to each hypothesis is given in chapter 2.

H1: When the size of local colleges and universities and other factors affecting their financial performance remain unchanged, expenditure structure has a direct impact on financial performance of local colleges and universities in China.

H11: Personnel expenditure has a direct impact on financial performance of local colleges and universities in China.

H12: Public expenditure has a direct impact on financial performance of local colleges and universities in China.

H13: Capital construction expenditure has a direct impact on financial performance of local colleges and universities in China.

H14: Goods and services expenditure has a direct impact on financial performance of local colleges and universities in China.

H15: Capital expenditure has a direct impact on financial performance of local colleges and universities in China.

H16: Financial aid expenditure has a direct impact on financial performance of local colleges and universities in China.

H2: When the scale of local colleges and universities and other factors affecting their financial support are kept constant, expenditure structure has a direct impact on financial support of local colleges and universities in China.

H21: Personnel expenditure has a direct impact on financial support of local colleges and universities in China.

H22: Public expenditure has a direct impact on financial support of local colleges and universities in China.

H23: Capital construction expenditure has a direct impact on financial support of local colleges and universities in China.

H24: Goods and services expenditure has a direct impact on financial support of local colleges and universities in China.

H25: Capital expenditure has a direct impact on financial support of local colleges and universities in China.



H26: Financial aid expenditure has a direct impact on financial support of local colleges and universities in China.

H3: When the size of local colleges and universities and other factors affecting their financial performance remain unchanged, financial support has a direct impact on financial performance of local colleges and universities in China.

H4: When the size of local colleges and universities and other factors affecting their financial performance remain unchanged, financial support has an indirect impact on the relationship between expenditure structure and financial performance of local colleges and universities in China.



H41: Financial support has an indirect impact on the relationship between personnel expenditure and financial performance of local colleges and universities in China.

H42: Financial support has an indirect impact on the relationship between public expenditure and financial performance of local colleges and universities in China.

H43: Financial support has an indirect impact on the relationship between capital construction expenditure and financial performance of local colleges and universities in China.

H44: Financial support has an indirect impact on the relationship between goods and services expenditure and financial performance of local colleges and universities in China.





H45: Financial support has an indirect impact on the relationship between capital expenditure and financial performance of local colleges and universities in China.

H46: Financial support has an indirect impact on the relationship between financial aid expenditure and financial performance of local colleges and universities in China.

1.7 Conceptual Framework

1.7.1 Independent Variable



The independent variable for this conceptual framework is expenditure structure which comprises personnel expenditure, public expenditure, capital construction expenditure, goods and services expenditure, capital expenditure, and financial aid expenditure. Wang (2011) and others selected wage and welfare expenditure, goods and services expenditure, subsidies to individuals and families, capital construction expenditure, and other capital expenditure as input indicators to measure the expenditure structure. Personnel expenditure includes wage and welfare expenditure and subsidies to individuals and families. Zhang (2018) selected personnel expenditure and public expenditure as measurements of expenditure structure to explore the differences in education expenditure among local colleges and universities.





1.7.2 Dependent Variable

Higher education should comprehensively improve the quality of education and talent cultivation, elevate the level of scientific research, and enhance the capacity for social services (China's educational modernization 2035, 2019). It has become a consensus that colleges and universities undertake the three primary functions: cultivating talents, conducting scientific research, and providing social services (Zeng, 2012). Drawing upon input-output theory and considering these three functions, financial performance indicators for colleges and universities are developed based on the three functions (Shao, Li, & Chu, 2013). According to the functions of colleges and universities, the output of colleges and universities can be categorized into three primary indicators: talent cultivation, scientific research, and social services. Each primary indicator can be further subdivided into several secondary indicators or tertiary indicators according to its content (Liu, 2018). Financial performance, as the dependent variable, is measured by effectiveness of talent cultivation, scientific research, and social services.

Talent cultivation forms the foundation of the survival and development of colleges and universities, encompassing both the quantity and quality of talent cultivation, faculty strength, and discipline construction (Wang, 2018). Scientific research reflects the scientific research level and capacity of colleges and universities, serving as a key indicator of their comprehensive scientific and technological prowess. Talent cultivation stands as the fundamental function of colleges and universities and the fundamental point and starting point of all work objectives of colleges and universities. For any local college and university, talent cultivation stands as the





foremost priority. When designing financial performance index for talent cultivation, both the quantity and quality of talent cultivation are paramount.

The level of scientific research determines the value status of local colleges and universities. Therefore, the measurement of financial performance should encompass scientific research (Liu, 2021b). Scientific research, on the other hand, is an important function of colleges and universities and plays a crucial role in assessing their comprehensive capabilities. Scientific research performance serves as a key dimension in measuring financial performance. Particularly for research colleges and universities, scientific research performance is a critical output index of financial input (Xu, 2018a).



Serving society in colleges and universities involves direct engagement with society, aligning train talents and scientific research more in line with social needs, and establishing production service institutions to serve society (Liu, 2011). The social service function of colleges and universities must be based on teaching and research functions and can only be achieved through the creation and dissemination of new knowledge, the research and transformation of new achievements, and cultivation of specialized talents to serve various industries in society (Liu, 2023b).





1.7.3 The Relation between Independent Variable and Dependent Variable

The expenditure structure was hypothesized to be related to financial performance of colleges and universities. The explanation for the relationship between independent variable and dependent variable is as follows. In system theory, the input elements and structure of any system and organization impact its functions. Structure and function are interrelated and mutually influence each other. Structure serves as the basis of function, function is the expression of structure, and the condition of structure affects the realization of function. The relationship between expenditure structure and function of colleges and universities mirrors that between the general system structure and its function. A reasonable expenditure structure facilitates function, thereby positively impacting financial performance of colleges and universities. Conversely, an unoptimized expenditure structure hinders function realization, thereby negatively impacting financial performance of colleges and universities. Therefore, a rational expenditure structure for colleges and universities is essential for colleges and universities to fulfill their functions and enhance financial performance (Yue, 2012; Li, 2023).

The three primary functions of colleges and universities are talent cultivation, scientific research, and social services. Fulfilling these three functions requires corresponding resource input, which constitute the expenditure of colleges and universities. The expenditure structure of colleges and universities reflects the different allocations among teaching, scientific research, and social services. As the allocation of funds for each function differs, so does efficiency and financial





performance of funds. Therefore, optimizing expenditure structure of colleges and universities can enhance financial performance of colleges and universities. In conclusion, theoretical analysis suggests that expenditure structure impacts financial performance of colleges and universities. The logical framework between expenditure structure and financial performance of colleges and universities is shown in Figure 1.1. While expenditure structure impacts financial performance of colleges and universities, financial performance also reacts to expenditure structure of colleges and universities (Xu, 2018b, Li, 2023). In this study, only the impact of expenditure structure on financial performance of colleges and universities is studied, and the reverse impact of financial performance on expenditure structure of colleges and universities is not investigated.



Li and Min (2004) analyzed expenditure structure of colleges and universities and the relationship between scientific research expenditure and scientific research output efficiency, finding that under certain circumstances, a higher the proportion of scientific research expenditure correlates with higher research output. Wang, Ning and Wang (2015) conducted an empirical analysis of the relationship between expenditure structure and academic performance based on a sample of national colleges and universities in the United States, revealing that competitive expenditure structure has a significant impact on the financial performance of colleges and universities. These findings support the theory that the expenditure structure affects the output and efficiency of colleges and universities.





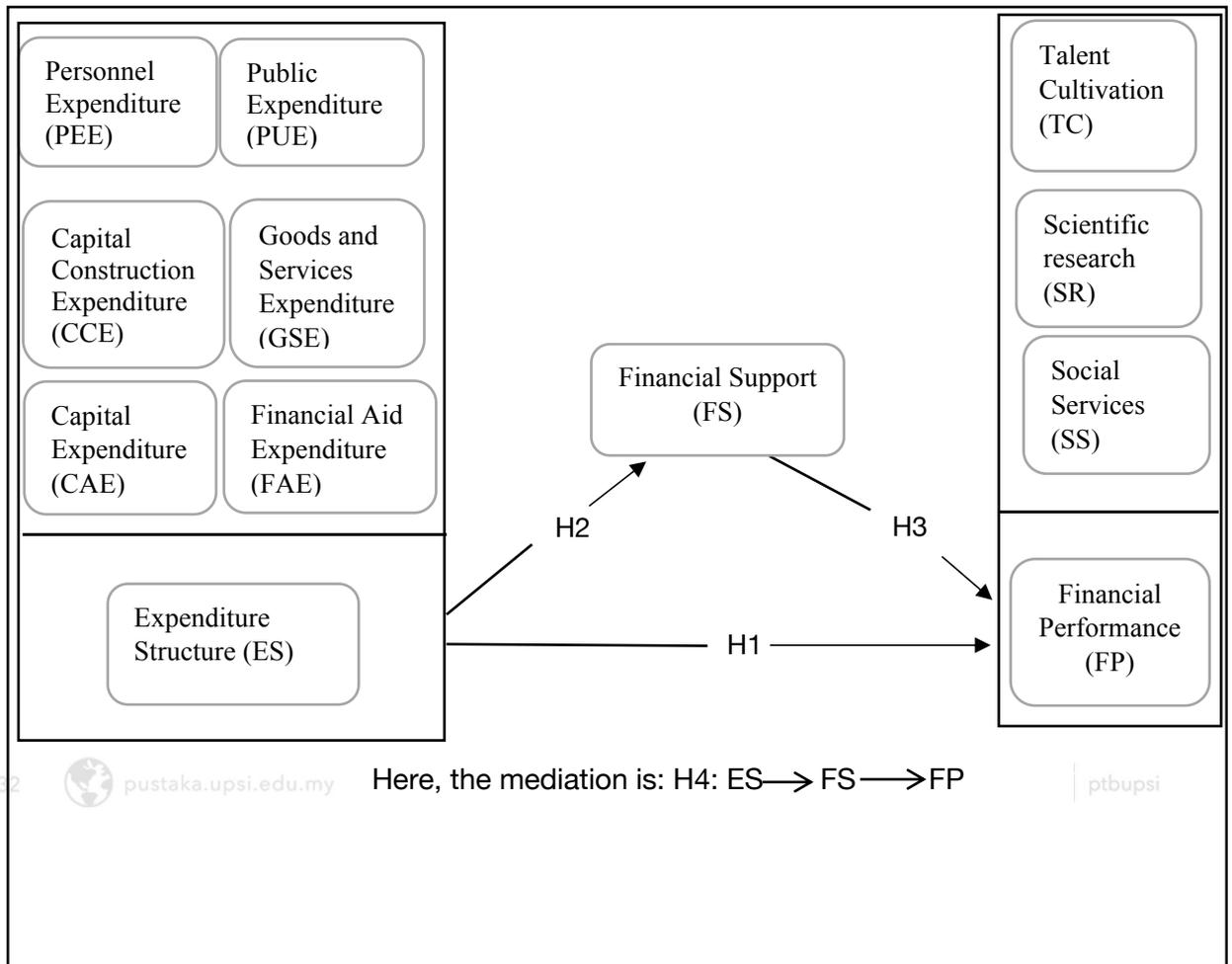
1.7.4 The Mediation Role of Financial Support

The main sources of education funds in China's colleges and universities include financial subsidy income, superior subsidy income, career income, operating income, income from affiliated units, and other income (Department of Laws and Regulations of the Ministry of Finance, 2022). Therefore, the proportion of various incomes in total income represents the structure of the sources of education funds in colleges and universities. Among them, financial subsidy income accounts for the largest proportion of funding sources in colleges and universities. The financial subsidy income, constituting the source of funding in colleges and universities, is primarily government financial support. Similarly, according to the aforementioned viewpoint of system theory, the structure of educational funding sources in colleges and universities forms the foundation of their functions, while their functions are the manifestation of their structures (Yue, 2012; Li, 2023). These functions include talent cultivation, scientific research, and social services, namely, the performance of colleges and universities. It can be observed that the source structure of education funds serves as the foundation of performance and an important factor affecting performance in colleges and universities, with performance reflecting the efficacy of the source structure of colleges and universities. Therefore, the relationship between the expenditure structure, financial support, and financial performance is illustrated in Figure 1.1.



Figure 1.1

Conceptual Framework





1.8 Significance of the Study

A comprehensive analysis of the impact of expenditure structure on financial performance in local colleges and universities, along with the mediating role of financial support in the relationship, can not only further enhance the theoretical basis and research framework concerning expenditure structure and financial performance of local colleges and universities, but also provide practical guidance for colleges and universities to optimize expenditure structure and maximize financial outcomes. This, in turn, supports the realization of key institutional objectives, talent cultivation, scientific research innovation, and social service.

With the increasing scale of colleges and universities, along with limited resources, and government financial support, more and more attention is paid to the study of expenditure structure and financial performance. Firstly, through the analysis of expenditure structure and financial performance of local colleges and universities, the impact of expenditure structure on financial performance of colleges and universities, and the mediating effect of financial support in the relationship between the expenditure structure and financial performance, theoretical research on expenditure structure and financial performance enhanced to a certain extent, with the aim of drawing academic attention to this area of study. Secondly, this study explores the impact of expenditure structure on financial performance, as well as the mediating effect of financial support in the relationship between expenditure structure and financial performance in local colleges and universities. It establishes a theoretical model that links expenditure structure, financial support, and financial performance,





aiming to provide a deeper analysis of how expenditure structure affects financial performance and how financial support mediates this relationship within local colleges and universities. Thirdly, the examination of the impact of expenditure structure on financial performance in local colleges and universities holds significant important theoretical guidance significance for the study of the impact of expenditure structure on financial performance in other fields.

From a practical perspective, this study aims to investigate the expenditure structure, financial performance, the impact of expenditure structure on financial performance, and the mediating effect of financial support on the relationship between expenditure structure and financial performance in local colleges and universities. Therefore, it can guide and encourage colleges and universities to actively optimize its expenditure structure, strive for more financial support, and improve the financial performance of colleges and universities, enhance their financial management capabilities, and elevate the quality of education. The study can contribute to optimizing the expenditure structure of local colleges and universities, enhancing their financial performance, elevating their financial management level, bolstering their comprehensive competitive, and fostering sustainable long-term development. It will assist the management of local colleges and universities in steering financial performances toward the achievement of overall purposes, goals, and objectives of these institutions. Hence, this study offers insights for the formulation of policies aimed at enhancing financial performance. This is beneficial to improve the quality of talent cultivation, the level of scientific research, and promoting regional economic development and social stability to fulfill the threefold mission of colleges and universities.





1.9 Scope of this Study

This study will be conducted in China. Chinese colleges and universities encompass ministerial institutions and local colleges and universities, with the latter including local general colleges and universities, as well as other local colleges and universities (Development Planning Department of the Ministry of Education, 2021). It analyzes expenditure structure and financial performance of local colleges and universities, focusing on the impact of expenditure structure on financial performance and the mediating role of financial support in the relationship between expenditure structure and financial performance of these institutions. Furthermore, the study will collect data from the Yearbook of Education Statistics and the Statistical Yearbook of Education Expenditure disclosed on the website of the Ministry of Education of the People's Republic of China. Therefore, this study excludes other colleges and universities. In addition, because of their relevance to the study's topic and variables, theories such as principal agent theory, cost sharing theory, and system theory are employed. Consequently, other theories are marginally used in this study.

1.10 Operational Definitions

The following definitions are given in this study to facilitate understanding of the terms used.





a. Local colleges and universities

Colleges and universities are classified into local colleges and universities and ministerial colleges and universities. Additionally, they can be categorized into undergraduate colleges and universities, junior colleges, and adult colleges (Yang, 2013; Zhou, 2023). The local colleges and universities discussed in this study refer to colleges and universities that are subordinated to each province, autonomous region, and municipality, most of which are supported by local government and funded by local administrations.

b. Expenditure of colleges and universities

There are different criteria for categorizing expenditure in Chinese colleges and universities. In studies of expenditure of colleges and universities, most classify expenditures based on either their content or function. According to the function of expenditure, expenditures are categorized into teaching expenditure, scientific research expenditure, public service expenditure, culture, sports and media expenditure, and other expenditure. Based on the content, expenditures can be classified into personnel expenditure, public expenditure, and capital construction expenditure (Department of Laws and Regulations of the Ministry of Finance, 2022). In this study, expenditures refer to personnel expenditure, public expenditure, and capital construction expenditure. Personnel expenditure includes financial aid expenditure, while public expenditure is further divided into goods and services expenditure and capital expenditure.





c. Personnel expenditure

Personnel expenditure refers to the expenditure allocated for salaries and welfare of teaching staff in teaching, research, and other activities in colleges and universities (Li, 2023). Personnel expenditure includes the wage and welfare expenditure and subsidies for individuals and families. Wage and welfare expenditure reflects the various labor remuneration of in-service employees and long-term employees outside the establishment, as well as the social insurance premiums paid for the above-mentioned personnel. Meanwhile, subsidies for individuals and families reflect the government's expenditure on subsidies for individuals and families (Department of Laws and Regulations of the Ministry of Finance, 2022). In this study, personnel expenditure encompasses the compensation of faculty members (professors, lecturers, researchers), administrative staff, and non-academic personnel within local colleges and universities.

d. Public expenditure

The public expenditure refers to the expenditure incurred by colleges and universities in conducting teaching, scientific research, and other business activities. It includes both goods and services expenditure and capital expenditure (Department of Laws and Regulations of the Ministry of Finance, 2022). Public expenditure refers to the investment in public services to ensure the smooth operation of core business activities such as teaching and research in colleges and universities (Li, 2023). Public expenditure in this paper refers to the educational outlays made by local colleges and





universities on goods, services, and activities that support their general operations and fulfill their mission. This category typically covers expenditures that are not directly related to personnel or individuals but are necessary for the day-to-day functioning of the institution.

e. Capital construction expenditure

The capital construction expenditure refers to the expenditure incurred by colleges and universities for campus capital construction, reflecting the expenditure purchasing and constructing facilities such as office, living, teaching, and research buildings, student dormitories, and canteens (Lu & Yue, 2013; Department of Laws and Regulations of the Ministry of Finance, 2022). Capital construction expenditure in this study refers to the educational resources allocated to the development, improvement, and maintenance of physical infrastructure at local colleges and universities. This includes costs related to the construction of new buildings, expansion or renovation of existing facilities, and the acquisition of fixed assets that support the institution's long-term operational needs.

f. Goods and services expenditure

The goods and services expenditure reflects the expenditure on goods and services purchased by colleges and universities, excluding the capital expenditure for the acquisition of fixed assets and strategic reserves for addressing material shortages (You, 2008; Department of Laws and Regulations of the Ministry of Finance, 2022).





The goods and services expenditure in this study mainly includes office fees, printing fees, consulting fees, handling fees, water fees, labor costs, maintenance fees, etc.

g. Capital expenditure

Capital expenditure reflects the funds allocated by colleges and universities for capital investment, including expenditure for colleges and universities to purchase office equipment, specialized equipment, books, intangible assets, and large-scale repairs (Department of Laws and Regulations of the Ministry of Finance, 2022). Capital expenditure in this paper refers to the educational resources invested by local colleges and universities in acquiring, maintaining, or upgrading long-term assets. These assets typically include physical infrastructure, equipment, and other fixed resources necessary to support the institution's operations over an extended period.

h. Financial aid expenditure

Financial aid expenditure, which is part of the subsidies for individuals and families, reflects university student financial aid, scholarships, student loans, study abroad, etc (Department of Laws and Regulations of the Ministry of Finance, 2022). Students in American colleges and universities can receive various forms of subsidies and rewards from various sources, including government, private donations, and school funding. These funds are mainly used to subsidize miscellaneous expenses, living expenses, and rewards for outstanding students (Chen, 2006). The financial aid





expenditure for this study refers to expenditures directly used for students, mainly including scholarships, grants, and activity expenses for students.

i. Expenditure structure of colleges and universities

Expenditure structure encompasses both the allocation structure and use structure of funds. The expenditure structure of colleges and universities is typically assessed by examining the proportion of various expenditures relative to the total expenditures during a given period (Lu & Yue, 2013; Li, 2023). In this study, the expenditure structure of colleges and universities refers to the proportion of each expenditure in the total expenditure of colleges and universities.



The expenditure structure of colleges and universities is categorized based on the content of expenditure, encompassing the proportions of personnel expenditure, public expenditure, capital construction expenditure, goods and services expenditure, capital expenditure, and financial aid expenditure. The proportion of personnel expenditure denotes the ratio of personnel expenditure to the total expenditure. The proportion of public expenditure represents the ratio of public expenditure to the total expenditure. The proportion of capital construction expenditure signifies the ratio of capital construction expenditure to the total expenditure. The proportion of goods and services expenditure indicates the ratio of goods and services expenditure to the total expenditure. The proportion of capital expenditure refers to the proportion of capital expenditure to the total expenditure. The proportion of financial aid expenditure denotes the ratio of financial aid expenditure to the total expenditure.





j. Financial support

Financial support refers to the financial assistance provided by the central or local government to colleges and universities to facilitate the fulfillment of their three major functions: talent cultivation, scientific research, and social services. The financial support methods for colleges and universities encompass direct subsidies, financial rewards, risk compensation, the establishment of government guidance funds, and loan interest subsidies (Zhao, Luo, & Kuang, 2019). Financial support for this study refers to funds provided by local, regional, or national government agencies to support educational activities, research initiatives, and infrastructure development at local colleges and universities.



Performance originally meant "execution" and "completion". It is used to reflect the final result or effect of an activity. There are mainly two views on the meaning of performance. One view believes that performance is a behavior of taking action to achieve goals, emphasizing the process. Another view is that performance is the degree of achievement of goals or the fulfillment of responsibilities, emphasizing results (Ge, 2016). Performance, within the context of colleges and universities, can also be defined similarly to general organizational performance. Organizational performance is defined as transforming inputs into outputs that accomplish specific goals and achieve desired outcomes (Shibru et al., 2017). The basic meaning of performance in this study refers to the effect and benefit, which is a comprehensive





evaluation of the behaviour and results of organizations or individuals to test the achievement of its expected goals.

1. Financial performance of colleges and universities

The financial performance of colleges and universities refers to the quantitative results, efficiency, and effectiveness produced by investing a certain amount of educational funds (Yu, 2013). In the case of colleges and universities, financial performance encompasses the achievement, effect, efficiency, and effectiveness attained in performing the three functions of talent cultivation, scientific research, and social services (Xu, 2018c). The effect denotes the combined quantity and quality of the final useful results produced by colleges and universities, such as talent cultivation and scientific and technological achievements. Efficiency is represented by the ratio between inputs and outputs of colleges and universities, providing a comprehensive reflection the degree of financial potential. The effectiveness indicates the degree to which predetermined goals are achieved and economic benefits are realized (Zhao, Liu, & Wang, 2010). Performance of colleges and universities refers to the achievements and benefits obtained in the process of cultivating talents, conducting scientific research, and providing services to society, while education expenditure refers to the financial investment made by colleges and universities to achieve the three major functions. From this perspective, the financial performance of colleges and universities can be seen as a reflection of whether the allocation of education funds in colleges and universities is reasonable and if the efficiency of their use is high (Li, 2023).





Due to the financial characteristics unique, local colleges and universities also possess distinct features. Generally speaking, financial performance of local colleges and universities primarily encompasses the performance of inputs, processes, production, and effects. In this paper, the financial performance of colleges and universities refers to the achievements and effects resulting from the performance of the three functions: talent cultivation, scientific research, and social services. It serves as a comprehensive evaluation of the expenditures incurred by the colleges and universities to fulfill these functions, which are also serve as a measurement of financial performance in local colleges and universities.

m. Measurement of financial performance of colleges and universities



From the analysis of the literature view on financial performance indexes of colleges and universities in Chapter 2, based on the three dimensions of talent cultivation, scientific research, and social services, indicators for measuring financial performance of colleges and universities are talent cultivation, scientific research, and social services. The details are shown in Table 2.4.

n. Talent cultivation

Talent cultivation is a major task undertaken by colleges and universities to nurture senior professionals. It is believed that the most fundamental goal of colleges and universities is to cultivate talents, and using the number of students selected as the output standard evaluates the rationality of their expenditure structure (Wang, 2022a).





Talent cultivation in this study refers to local colleges and universities' ability to educate and develop students, equipping them with the skills, knowledge, and qualifications necessary to contribute effectively to society and the workforce.

o. Scientific research

Scientific research in colleges and universities is mainly divided into basic research, applied research, and development research. Scientific research of local colleges and universities primarily focuses on applied and development research. This entails conducting practical research to explore new methods and processes according to international needs and leveraging existing knowledge to carry out technological transformation and process innovation (Liu, 2011). Scientific research in colleges and universities originates from the needs of seeking knowledge, exploration, clarification, and teaching in the process of teaching and learning. From this perspective, scientific research is the foundation and prerequisite for doing a good job in talent cultivation; the transformation results of scientific research can also provide feedback to teaching and serve economic and social development (Lin, 2020; Li, Zhang, Zhang, Xia, & Tong, 2022). Scientific research for this study encompasses the institution's efforts to produce scholarly and scientific outputs that contribute to the advancement of knowledge at local colleges and universities. This includes both basic and applied research carried out by faculty and students.





p. Social services

Social services of colleges and universities refers to the production service activity conducted outside of the teaching and scientific research within the institutions. The purpose is to fully utilize the knowledge and scientific research advantages of colleges and universities to provide social services (Liu, 2011). The social service function of colleges and universities relies on their advantages in knowledge, technology, and talent to directly transform these intellectual resources into activities that can serve society. Its practicality is stronger, and the ways and means of serving society are also more direct (Li, 2020a). Social services in this study refer to local colleges and universities' engagement with the broader society and their contributions to social development, including outreach programs, partnerships with local organizations, and initiatives that address societal needs.



1.11 Summary

This chapter provides background information on this study, identifies the issues and gaps, and presented the problem statement. The research objectives and questions are stated, along with the significance and scope of the study. Definitions of terms are discussed, followed by a summary of the chapter. This chapter explains the background of the study and highlights the problems related to expenditure structure, financial support, and financial performance of colleges and universities. The persistent coexistence of constrained funds, limited financial support, and unoptimized expenditure structure contributes to inefficiencies in fund utilization





within colleges and universities. The evaluation of fund utilization efficiency is determined by financial performance of colleges and universities, yet the absence of a standardized index for financial performance complicates accurate measurement. Given the constraints of education funds in colleges and universities, it is imperative for institutions to allocate funds judiciously, optimize expenditure structures, and enhance fund utilization efficiency and financial performance. This study attempts to explore the impact of expenditure structure on financial performance and the mediating role of financial support on the relationship between expenditure structure and financial performance of local colleges and universities. In the subsequent chapter, the literature pertaining to expenditure structure, financial support, and financial performance in colleges and universities will be explored, along with the impact of expenditure structure on financial performance and the mediating effect of financial support on the relationship between expenditure structure and financial performance for these institutions.

