

# Research on the Allocation of Higher Education Resources Driven by Increment

Wei Fan, Dong Yan

Central University of Finance and Economics, Beijing, China

Email: 412772258@qq.com

**How to cite this paper:** Fan, W., & Yan, D. (2023). Research on the Allocation of Higher Education Resources Driven by Increment. *Open Journal of Social Sciences*, 11, 221-231. <https://doi.org/10.4236/jss.2023.111017>

**Received:** December 12, 2022

**Accepted:** January 17, 2023

**Published:** January 20, 2023

Copyright © 2023 by author(s) and Scientific Research Publishing Inc.

This work is licensed under the Creative Commons Attribution International License (CC BY 4.0).

<http://creativecommons.org/licenses/by/4.0/>



Open Access

---

## Abstract

This paper proposes three main problems in the allocation of higher education resources under the current incremental drive: the limitations of incremental drive, the lack of coordination of incremental stock, and the poor effect of stock allocation. It also analyzes the causes of the problems from three aspects: concept solidification, institutional constraints, and institutional limitations. Finally, the paper proposes the key points of future reform from three aspects: establishing a broad financial concept, strengthening overall financial governance, and reasonably allocating control authority.

## Keywords

Higher Education, Resource Allocation, Increment, Stock

---

## 1. Introduction

Since the enrollment expansion of colleges and universities in 1999, the scale of higher education has expanded rapidly. The development of colleges and universities mainly depends on the incremental investment of financial funds and has achieved remarkable results. However, as the reform entered the critical stage and the growth rate of the government's financial investment in universities began to slow down under the "new normal", the marginal effect of "incremental reform" gradually weakened, and its limitations and some deep-seated problems gradually emerged (Luo, 2017).

## 2. The Main Problems in the Allocation of Higher Education Resources under the Current Incremental Drive

### 2.1. Limitations of Incremental Drive

The long-term incremental driving mode has promoted the rapid growth of in-

vestment in higher education, and the conditions for running colleges and universities have been improving, but it has also caused some deep-seated problems, which are specifically shown in the following aspects:

First, the incremental drive model leads to blind expansion. Under the incremental driving mode, colleges and universities excessively pursue an increase in financial resources in their development and focus on “competing for projects, funds, land, and policies”. The government and colleges have an obvious desire to expand. When the scale of running a school is the primary factor of resource allocation, colleges and universities tend to expand the scale of running a school as much as possible, and the problems of resource waste and repeated construction become increasingly serious.

Second, the incremental drive mode leads to resource dependency. Colleges and universities only want to obtain more new resources from national finance, which also leads to the so-called “running out of money” phenomenon. At the same time, the government controls and distributes the educational resources that universities depend on for survival, which limits the autonomy of universities. Colleges and universities ignore the promotion of the utilization efficiency of existing resources and the introduction of nonfinancial resources, which makes it difficult to achieve the connotative development of colleges and universities. However, under the new normal of economic development, the growth of financial funds is slowing down, and it is difficult to meet the rapid development of higher education demand simply by relying on the growth of financial allocations (Ma, 2015).

Third, the incremental driving mode leads to the Matthew effect. Whether it is the total amount or the average number of teachers and students, there is a large gap in the resources of each university, resulting in a huge difference in the stock endowment. From the perspective of input-output, the same amount of financial allocation invested in universities with different resource stock endowments will result in huge differences in output, even if the efforts of each university are the same. The performance indicators based on the incremental drive model cannot truly examine the degree of effort of each university. More universities with stock endowment advantages obtain more financial resources, resulting in a strong Matthew effect.

Fourth, the incremental driving mode leads to a ratcheting effect. Scale-oriented resource allocation lacks guidance and incentives for the efficiency of resource use, the use of funds is decoupled from the efficiency of asset use, and the lack of an effective incentive reward and punishment mechanism causes universities to basically ignore the cost of asset allocation and use. Even in a sense, due to the path dependence of the incremental drive mode on the amount of financial allocation in previous years, colleges and universities with large waste of stock and low efficiency tend to consume more financial funds to maintain or make up for the stock resources; instead, they will receive more incremental allocation, which will eventually lead to the “ratchet effect” of financial incremental allocation and stock allocation.

Fifth, the incremental driving mode leads to adverse selection. In the case that the financial department and the education competent department do not have information on the stock of financial resources in colleges and universities, colleges and universities may exaggerate the asset budget indicators, which makes higher education finance face huge pressure to balance revenue and expenditure. To achieve the balance of income and expenditure, the financial department and the competent education department must reduce the asset budget indicators of each university. Because of the lack of information advantages, the “one size fits all” compression method is often the final choice. As a result, universities that report information more truthfully will suffer more, and universities that can exaggerate asset demand information will be in a better position in determining the indicators. This will lead to fewer and fewer colleges and universities that truthfully report asset demand information, while increasingly more colleges and universities exaggerate asset demand information, resulting in so-called adverse selection.

Sixth, the incremental driving model leads to insufficient planning. The incremental drive mode restricts the allocation object to the annual incremental budget funds that account for a small share of the total financial resources, while the stock assets that account for a large share of the total amount are separated from the allocation decision, which in essence creates a soft constraint on the budget, making it difficult to implement strategic optimization and adjustment of resource allocation. Because the annual budget only focuses on the fund distribution in the current year, the medium-term budget is a mere formality, and budget preparation, especially asset budget preparation, is not sufficiently planned, colleges and universities have formed a short-sighted configuration concept of “spending money and living on days”, which makes higher education finance lack a substantive development orientation and sustainable development guarantee. The scientific demonstration and planning of major asset allocation projects are insufficient, and investment in fixed assets such as infrastructure and large equipment lacks long-term consideration, resulting in a huge waste of resources.

## **2.2. Lack of Coordination between Increment and Stock**

The allocation of budget funds as an increment and the allocation of state-owned assets as a stock are both links in the chain of higher education resource allocation. The unconsolidated budget is similar to a “leaky bucket”. If any link is ignored, financial resources will form a gap and drain, reducing the efficiency of higher education resource allocation. Although the relevant national measures put forwards the requirements for the combination of asset management and budget management, they did not specify or stipulate the specific combination mode and scope of asset management and budget management and lacked supporting systems and implementation rules. From the perspective of the combination effect, only a few colleges and universities have truly realized the combination of asset management and budget management and have a good combination. There is also a general lack of coordination between incremental allocation and stock al-

location of higher education resources, which is shown in the following aspects.

1) The scope of the combination of asset management and budget management in colleges and universities is too small

From the perspective of the types of combined assets, the current combination with budget management is basically fixed assets, less involving other assets such as current assets and intangible assets. From the perspective of the life cycle of assets, the current combination is mainly limited to purchase expenditure and operating income. There is still a lack of scientific accounting and overall planning for the mutual restriction and control of assets and funds, the fund support for asset allocation and sharing, and the cost compensation for asset operation and maintenance. From the perspective of asset value, the assets included in the asset allocation budget are mainly assets with large value and easy-to-measure value, such as infrastructure projects, large instruments and equipment, which are not sufficiently comprehensive and refined. From the perspective of allocation structure, an excessive proportion of higher education project funds and insufficient basic funds exist at the same time. The low level of basic funds allocation makes it difficult to fully guarantee the maintenance costs of university assets and make long-term overall planning for asset allocation. The most important thing is that the combination of asset management and budget management refers to the combination of new asset budgets and stock assets, regardless of the system provisions or practical operations, while ignoring the combination of budgets and the later operation and maintenance costs of assets. That is, the current input budget mainly focuses on the cost of asset acquisition, ignoring the cost of asset operation and maintenance. In the preparation and approval of asset budgets, it is often considered that the purchase price should be “low” without considering cost factors such as equipment service life, consumables and repair and maintenance costs. This also leads to such monstrous things as “low price and short life”, “consumables are more expensive than equipment”, “maintenance is more expensive than purchase”, “energy-saving equipment is not energy-saving”, “winning the bid first and then adding”.

2) The effectiveness of the combination of asset management and budget management in colleges and universities is low

Although colleges and universities generally set up an incremental approval process based on existing stock assets, they often fail to realize the expected purpose of activating and optimizing stock assets according to the quantity, quality and distribution of the stock assets of each unit. The user departments, teachers, students and staff and other asset users did not participate enough in the asset budget decision-making process, resulting in the combination of asset management and budget management becoming a mere formality. Driven by the interests of competing for assets and funds, it is difficult for asset management departments and user departments to transmit real information such as asset demand and asset status to budget management departments, which makes it difficult for the prepared asset budget to reflect real asset demand, hindering

the effective combination of asset management and budget management.

3) The debt problem and financial risk of higher education should not be ignored.

Logically speaking, the borrowing, use and repayment of the debt of public colleges and universities mostly depend on the state-owned assets of colleges and universities. The greater the total amount of assets, the greater the demand for debt financing, the higher the cost of assets, and the higher the risk of asset loss. The debt problem of colleges and universities is mainly due to the rapid increase in the scale of college construction, insufficient government investment, and the lack of effective aggregate control and risk prevention mechanisms. The phenomenon of blind expansion and construction of colleges and universities under the incremental driving mode is common, which leads to a huge waste of financial resources and greater debt risk. At the same time, the interest and principal of the high loan also greatly reduce the daily available funds of colleges and universities, which may lead to insufficient funds for asset operation and maintenance, reduced asset life, and ultimately lead to a vicious circle of higher education finance, which is difficult to sustain, and highlighted risks.

### **2.3. Poor Stock Allocation Effect**

1) Idle waste is relatively serious. With the remarkable improvement of the conditions for running schools and the rapid expansion of the scale of assets, there is also a widespread phenomenon of idle waste and inefficient use of assets in colleges and universities. The research shows that the utilization rate of teaching equipment and laboratories in colleges and universities in China is less than 60%, and idle or inefficient assets account for more than 20% of the total assets. The borrowing rate of university libraries continued to decline, and undergraduates borrowed fewer than 40 books in four years. Another manifestation of idle waste is the existence of a large number of assets to be scrapped, which not only causes the difference between book assets and available assets but also takes up many warehouses space resources (Chen, 2012; Cheng, 2020).

2) Asset loss is widespread. There are many reasons for the loss of state-owned assets in colleges and universities. First, some colleges and universities do not carry out their responsibilities clearly or their daily management is not in place, resulting in inconsistent accounts and lack of assets. The second is the absence of management and supervision of school-owned enterprises in the process of school enterprise restructuring, and the value of assets originally invested by the school is underestimated. Third, the examination and approval of state-owned assets management was not standardized, and the leasing, transfer and scrapping of assets did not go through the formalities for approval and filing or were significantly lower than the market price. Fourth, asset losses were caused by foreign cooperation or investment mistakes due to lack of experience. Fifth, intangible assets such as school names were infringed or abused, and intangible assets were lost due to the nonstandard transformation of scientific research achievements. Sixth, the loss was caused by university leaders' abuse of power, embezzlement

and misappropriation of university state-owned assets.

3) The coordination and sharing did not meet expectations. First, asset allocation is rigid, and it is difficult to adjust the surplus and shortage of state-owned assets between and within universities. The crux of the problem is that this kind of asset transfer usually takes the form of free transfer, and the university or college that needs to transfer assets has no enthusiasm to transfer idle assets. Universities or colleges that need to transfer assets are more motivated to purchase new assets by applying for incremental funds rather than actively obtaining second-hand old assets through asset adjustment. Second, the degree of resource sharing is not high, and the sharing effect is poor. On the one hand, the field of asset management is “fragmented” and fragmented. Once assets enter different departments, disciplines, specialties, laboratories or projects, they often turn assets into “private use” and are unwilling to share them.

4) Performance management is biased. For a long time, our government has paid more attention to the financial investment performance of higher education while ignoring the asset performance of higher education. In practical work, financial departments and education authorities often take “budget implementation progress” and “budget completion rate” as core performance evaluation indicators. Colleges and universities have to spend money suddenly to complete the budget progress on time, resulting in repeated asset allocation, excessive allocation, wrong allocation, useless allocation and other phenomena from time to time. At the same time, due to the difficulty of asset performance evaluation, the indicator setting of asset performance evaluation lacks scientific rigor, rationality and operability. Management departments at all levels generally fail to define corresponding economic responsibilities and rewards and punishments for users of state-owned assets and fail to effectively apply performance results.

### **3. Analysis of the Causes of the Problems in the Allocation of Higher Education Resources Driven by the Current Increment**

According to the above problems, the causes of the financial resource allocation of higher education in China can be roughly divided into the following three levels: the concept level, the system level and the system level.

#### **3.1. Concept Solidification: Focus on Increment and Light on Stock**

Due to the long-term influence of planned economy system thinking, the concept of “focusing on increment but ignoring stock” widely exists in the allocation of financial resources of higher education. The concept of financial resource allocation of higher education is solidified. The allocation system of financial resources of higher education has always been limited to the allocation of annual financial allocation as an increment, including budget formulation, budget implementation, supervision and audit, performance evaluation and other processes, all of which reflect a single concept of incremental allocation. The government

and universities attach great importance to the distribution and management of incremental funds but often ignore the structural quality, scale effect and use efficiency of stock assets. Although the government has issued a series of relevant regulations on strengthening the management of state-owned assets in higher education in recent years, it has always failed to view the optimization of stock assets from the perspective of financial resource allocation and achieve the overall management of incremental funds and stock assets.

### **3.2. System Constraint: Dual Financial Management**

From the perspective of the government, under the conditions of a socialist market economy, the state has a dual identity (social manager and asset owner) and dual functions (social manager and asset owner). At the same time, due to the differences between financial funds and state-owned assets in management objects, management methods and time span, to a certain extent, China has formed a dual financial management system with relatively independent financial revenue and expenditure management and state-owned assets management, which has also caused institutional constraints on the allocation of financial resources in higher education. Although the state-owned assets management function of higher education has been clearly assigned to financial departments at all levels, there is still a lack of necessary and sufficient information communication and sharing between budget management departments and asset management departments within financial departments. There is a lack of effective coordination and cohesion mechanisms between various policies, systems and implementation operations.

From the perspective of colleges and universities, the internal management system of colleges and universities is the parallel management system of budget management and asset management, but the interest objectives of the asset management department and the budget management department are not consistent. The asset management department hopes to continuously expand the scale of assets, fully reflect its functional position and role, and will not give too much consideration to the capital pressure caused by the excessive demand for school assets because the capital pressure is actually borne by the budget management department. The budget management department pays more attention to the compliance and progress control of the budget preparation and implementation process. Although it will consider the pressure of the school's asset demand on capital expenditure, it often pays more attention to the process of asset budget forming assets because it does not know the information about the school's asset stock and does not care about the use effect after the asset is formed. All these factors have caused the disconnection between asset management and budget management in colleges and universities.

### **3.3. System Limitation: Unreasonable Control Right**

First, there is the misplacement of government control. The role of the government in higher education has not been properly played. "China's universities are too dominated by the government and the competent education department, so

the autonomy of universities is very small". Too much government intervention has not fully released the organizational vitality of the subject of higher education, which not only affects the autonomy and enthusiasm of universities but also generates huge supervision costs (Zhang, 2004).

The second is "fragmentation" of the control. At the government level, the financial funds for higher education are "dismembered" by many departments. Taking the universities under the Ministry of Education as an example, the financial funds come from the Ministry of Education, the Ministry of Science and Technology, the Chinese Academy of Sciences, the Chinese Academy of Engineering, the National Development and Reform Commission, the National Natural Science Foundation Committee, local governments and many other departments. There is a large degree of overlap between government departments and central and local projects. The long-term special competition investment mode in the same direction has led to the homogenization of the development of colleges and universities, which easily causes repeated allocation of assets and waste of funds. Special funds are often accompanied by the strict requirements of the competent departments for the allocation, management and use of funds, which have caused the "fragmentation" of control power. From the perspective of colleges and universities, at present, the budget management power of financial funds of colleges and universities is mainly controlled by the financial department of the university and the fund directors of each department and project. For the assets purchased by each department, department and project with their own funds, the asset department often lacks substantive voice and management power and is difficult to manage them as a whole.

The third is the lack of control incentives. The public property rights characteristics of higher education financial resources have little impact on every manager due to asset loss or income, which leads to the low concern of managers about the resource benefit situation. The problems of property rights emptiness, property rights dispersion, property rights containment, etc., have all caused the dissipation of the rent value of higher education financial resources, resulting in the coexistence of the "tragedy of commons" and "tragedy of anti-commons". It is easy to fall into the vicious circle of "letting go of chaos and killing people". The provisions of higher education on residual claims are unclear or unreasonable, which, on the one hand, increases the impulse of university administrators to seek personal gains by using their power. On the other hand, in recent years, with increasingly stringent national supervision and accountability, many university administrators prefer to leave state-owned assets idle to avoid taking possible risks and responsibilities, resulting in a huge waste of financial resources (Jia & Yang, 2015).

#### **4. Key Points of the Reform of Higher Education Resource Allocation Driven by the Current Increment**

Through the above analysis of the main problems and causes of the current al-



location of higher education resources, the allocation of higher education resources in China should focus on the following three aspects of reform.

#### **4.1. Establish a Broad Financial Concept and Shift from Incremental Logic to Stock Logic**

To change the concept of higher education finance “emphasizing increment, ignoring stock” and “emphasizing capital, ignoring assets”, we should first establish a broad financial concept of higher education; that is, higher education financial resources include not only financial funds as incremental resources but also state-owned assets as stock resources. The allocation of higher education financial resources is the overall allocation of increment and stock so that the two can work together to achieve the best efficiency of financial resource allocation. The state-owned assets of higher education are the necessary material conditions for exerting the functions of higher education. We should fully understand the importance and necessity of the coordinated allocation of financial funds and state-owned assets of higher education, attach importance to assets as much as capital, integrate the state-owned assets of higher education into an integrated financial management framework, and realize the full life cycle management of financial resource allocation from capital to asset.

There are two path models for the reform of the financial resource allocation of higher education: incremental logic and stock logic. With national economic development and financial revenue entering the “new normal”, to achieve the grand goal of “double first-class” and the connotation and independent development of higher education, it is necessary to introduce stock logic to activate the huge “stock” resources. For a long time, the main way to solve the problem of resource shortage was to increase financial allocation, which is a typical incremental logic. The stock logic and the incremental logic emphasize the difference between the supply scale and the total supply and pay more attention to the allocation structure, allocation quality and reasonable allocation of control power of the resource stock so that the allocation subject has the ability and motivation to actively promote stock optimization and achieve the improvement of the efficiency and quality of the input and output of higher education financial resources. To promote the connotative development of higher education, it is urgent to change the internal logic of financial resource allocation, transfer the reform logic from incremental logic to stock logic, improve the efficiency of financial resource allocation through stock optimization, and solve the problem of financial resource allocation in higher education.

#### **4.2. Strengthen the Overall Financial Governance and Achieve the Overall Allocation of Stock and Increment**

Incremental funds and stock assets of higher education are both material guarantees for the healthy development of higher education. They are closely linked, interact and even transform each other. On the one hand, incremental growth will inevitably lead to the growth of the stock; on the other hand, the growth of

the stock will also lead to the growth of the later cost, which requires more incremental investment. At the same time, the allocation process of the increment and stock of higher education financial resources is also an organic whole. In practice, we must further strengthen the close combination of asset management and budget management, make overall plans for the stock and incremental allocation of financial resources, realize the combination of “finance” and “material”, improve the governance system of “making overall plans for the increase and stock”, establish the governance structure of “making overall plans for the increase and stock”, build the governance platform of higher education financial resources, improve the governance capability of higher education financial resources, and build a comprehensive higher education financial governance system of “making overall plans for the increase and stock”.

### **4.3. Reasonably Allocate Control Authority and Promote the Effective Use of Financial Resources**

Erik Ashby, a British higher educator and vice president of Cambridge University, once pointed out that “the prosperity of a university depends on who controls its interior.” Transaction costs may vary greatly under different institutional arrangements of control rights. An appropriate arrangement and structure of control rights is a prerequisite for the effective use and optimal allocation of financial resources of higher education. As an incomplete contractual arrangement, the allocation of financial resources in higher education is affected by the government, universities, markets and other forces. Give the reasonable residual control right to the university (department) or the market department to realize the reasonable matching of power and income, that is, residual control right and residual claim right, so that the actual managers of financial resources have the ability and motivation to promote the full use of resources. At the same time, with the strict punishment system, the idea of using power for personal gain will be reduced, the constraint and incentive will be combined, and the market and legal forces will be relied on to regulate the behavior of all parties, thus reducing the cost of government supervision. It is the key to solving the problem of optimizing the allocation of financial resources in higher education to reasonably allocate the control authority and give full play to the incentive and restraint role of the control authority.

### **Conflicts of Interest**

The authors declare no conflicts of interest regarding the publication of this paper.

### **References**

- Chen, H. B. (2012). Research on the Problems and Countermeasures of China’s Higher Education Resource Allocation. *Academic Exploration*, No. 7, 165-168.
- Cheng, H. W., & Liu, J. Q. (2020). Challenge and Response: The Development Direction of Chinese University Libraries. *Journal of Chinese Library*, 46, 39-59.

- Jia, Y. T., & Yang, H. M. (2015). Problems and Governance of the Decentralization Model of Higher Education since the Reform and Opening Up. *Higher Education Research*, 36, 32-40.
- Luo, Z. M. (2017). Financial Choice and Transformation of Public Colleges and Universities in the New Era—Starting from the “Century Problem” of Universities. *China Higher Education Research*, No. 10, 20-25.
- Ma, F. Q. (2015). The Second Round of Decentralization of Institutions of Higher Learning: A Perspective Based on the Theory of Resource Dependence. *Higher Education Research*, 36, 37-48.
- Zhang, W. Y. (2004). *The Logic of University*. Beijing: Peking University Press.