A Review of Domestic and Foreign Research on Real Estate Financial Management

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Abstract: With the tightening of house purchase policies in recent years, the introduction of financial and land restriction policies, as well as the impact of the COVID-19 pandemic, real estate bombshells are common. Real estate is in the critical stage of transformation and upgrading, and industrial development is facing dire challenges and pressure for survival. As an important part of enterprise management, financial management is directly related to the success or failure of enterprise development. Facing the financial risks emerging in the financial management of the real estate industry at this stage, this review begins from financial management personnel training, investment calculation management, budget management, and asset management in the effort of optimizing the real estate financial management operating mechanism under the new situation and ensuring the healthy and stable development of real estate enterprises, while maintaining core competitiveness.

Keywords: Real estate; Financial management; Investment calculation; Budget

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1. Research background and significance
Financial management has garnered widespread interest from real estate companies in recent years. However, the current financial management still has certain problems and deficiencies, such as flawed institutional systems, lack of informatization dynamic management, and long-term planning. Enterprises need to speed up innovation, reform financial management models, and improve the financial comprehensive management level, truly and ideally reflect the company’s financial status, operating status, and future feasibility forecast analysis, effectively avoid blind investment, reduce the probability of financial risks, maximize the company’s economic and social benefits, and assist real estate companies gain a greater advantage in the fierce competitive environment.

2. Literature search
The main sources of English literature were Web of Science, Chinese Social Sciences Citation Index (CSSCI), and Engineering Index (EI) databases; the keywords used included “real estate financing,” “real estate budget management,” “real estate financial management,” “real estate tax planning,” “real estate taxation system,” “investment in real estate,” “real estate sales payment,” and “real estate supervision funds,” with priority given to highly cited papers; the main source of Chinese literature was China National Knowledge Infrastructure (CNKI), and the keywords used were “房地产财务管理” (real estate financial management), “房地产税务筹划,” (real estate tax planning), “房地产预算管理,” (real estate budget management), “房地产测算,” (real estate calculation), “房地产土地增值税” (real estate land appreciation tax), and “房地产投资管理” (real estate investment management). The articles were all carefully reviewed,
studied, and taken into consideration with work experience to focus on screening. Major key points were extracted and recorded.

3. Research status at home and abroad
3.1. Financial management personnel training
At present, the skill level of financial personnel in the real estate industry is uneven; most of them are occupational personnel with rigid working methods and little management awareness. Judging from the status quo of China’s real estate business operations, the sales, cost, and engineering departments are more valued by enterprises because they directly affect project sales, costs, and progress. Most enterprises do not see the value of financial management as well as the significance and requirement of financial departments, thereby greatly limiting enterprise construction and development and dampening the enthusiasm of financial personnel.

Under the new situation of the real estate market, enterprises must improve their awareness of financial management and strengthen the construction of financial teams. Finance, as the core of enterprise management, plays a very important role in improving enterprise operation and improving enterprise economic efficiency. According to Smith et al., a good overall management practice effect can be achieved through the optimal configuration of corporate financial management teams. Enterprises should introduce financial management professionals through multiple channels, strengthen benchmarking learning with high-quality enterprises, increase financial management system training, ensure that everyone has solid financial management understanding and financial knowledge, as well as improve their overall financial management level. On the other hand, financial management personnel should cultivate the concept of “lifelong learning,” actively communicate with their colleagues, and obtain qualification certificates to enhance their professional quality. Other than that, it is necessary to optimize the financial information management and control system, strengthen the construction of financial information, provide clear instructions on the content, management process, and management methods of financial management and control, establish important institutional standards for financial management and control, and ensure that financial management and control develop in the direction of normalization, standardization, and systematization.

3.2. Investment calculation management
With the rapid development of the real estate market, the operating environment of real estate development companies has undergone tremendous changes, and the average profit margin of the industry has seen a gradual decline. The characteristics of the real estate industry include large investment quota, long development and construction cycle, as well as wide coverage and poor liquidity, indicating that there are not only market risks, such as business risks and financial risks, in the development process, but also policy risks, caused by changes in national macroeconomic policies and real estate control policies that highlight the importance of investment calculations in the decision-making period of development projects. For development companies to avoid the risk of unprofitability or even loss as much as possible, it is necessary to analyze the feasibility of projects under various risk conditions through investment calculations. Arnold et al. proposed that companies, in real estate investment management, should supervise their own strategic risk management from the perspective of strategic management and improve their ability to resist risks in order to cope with new regulatory requirements. An essential part of financial management is accurate investment estimation. Finance should understand the real situation of each business sector, boldly question and present the estimated data, as well as constantly verify the estimated data to help enterprises make correct decisions. For example, in order to obtain land plots and achieve short-term sustainable operations, if business departments perform blind calculations in their financial reports, artificially increase
the value of goods, reduce their costs and expenses, and cause subsequent inversions, such as higher costs and lower prices, data distortion may occur \cite{7} and their businesses may be at risk of loss. Armstrong et al. suggested that financial and taxation management should strategically avoid uncertainties or factors that are unfavorable to the enterprise before business activities are carried out \cite{8}. Johannesen et al. pointed out that tax planning is helpful to the future development of enterprises. Only by rationally arranging financial management activities can enterprises achieve the goal of maximizing corporate profits. At the same time, they recommended that enterprises should formulate suitable planning plans based on different development stages as well as analyze and solve planning problems at different stages one by one \cite{9}. Financial management should be fully incorporated into investment calculations, conduct comprehensive, in-depth, and systematic calculations and analysis of real estate investment, provide risk warning and control for enterprises, look for high-quality investment projects, and maximize corporate income.

### 3.2.1. Sales plan and land value-added tax planning

The real estate industry business is complex, involving many different types of taxes, with heavy tax burden. Among them, the three most important taxes are value-added tax, corporate income tax, and land value-added tax. From the perspective of enterprise development, Brys et al. assert that real estate enterprises should pay attention to tax planning issues, i.e., to achieve the goal of maximizing corporate profits to the greatest extent through scientific and standardized financial management activities \cite{10}. The amount of corporate income tax and land value-added tax payment is inversely proportional to the overall profit of the real estate company. Therefore, in the case of a certain planned sales floor area, it is not true that the profit will be higher with higher sales price and greater overall value of goods. Sales plan, taxes, and profits are all closely related. Marques et al. pointed out that tax planning space is positively correlated with corporate income tax rate, in which the higher the corporate income tax rate, the greater the tax planning space \cite{11}. Cummings proposed the combination of real estate financial investment and price forecasting \cite{12}. Francois et al. linked the tax burden level of real estate companies with the sales price of houses, indicating that attention should be paid to the impact of housing prices \cite{13}. Finance and taxation personnel should actively participate in the sales pricing of real estate projects and determine the selling price with the aid of the critical point of value-added rate planning. If ordinary houses are involved, they should also make full use of the 20% critical point tax preferential policy to avoid paying land value-added tax \cite{14, 15} and convert the enterprise tax burden into customer income; real estate enterprises should change their framework of planning first and then formulating planning objectives, carry out various tax planning work based on prior planning, give full play to the guiding role of planning objectives, and effectively standardize their tax planning model.

Finance should take into consideration of the current situation of enterprise projects to compare product positioning and sales strategies with multiple plans, such as choosing hardcover delivery or rough delivery, bundled sales or discounted sales, etc.; reasonably and scientifically plan sales revenue, analyze its impact on taxation, and determine the impact on the overall performance of the project. Attention should also be paid to the impact of the overall payment collection cycle of the project on the full-cycle cash flow, while fully considering the time of investment project fund recovery and effectively controlling the change in the time value of money to reduce financial risks.

### 3.2.2. Development cost and land value-added tax planning

In order to maximize profit efficiency, many real estate development companies are now advocating the idea of reducing costs and increasing efficiency in addition to proposing several effective measures that can save operating costs \cite{16}. However, this brings negative impact on the economic benefits of the land value-added tax. Therefore, high benefits cannot be achieved simply by reducing costs. Enterprises should make
full use of the land value-added tax cost deduction policy, i.e., enterprises engaged in real estate development are allowed to deduct the sum of the amount paid when acquiring the land use right and the real estate development cost multiplied by 20%; by reasonably increasing the cost and the deduction amount and reducing the value-added amount, the amount of land value-added tax payable is reduced. This provision leaves room for real estate companies to plan for land value-added tax. Since enterprises mainly acquire land through bidding, auction, and listing, without room for manual manipulation, the same goes for land cost; hence, the only other way is from the development cost of the project. From the assumption of building an equilibrium model of housing price and quality in a balanced competitive space, Maydew et al. asserted that local fiscal policies will affect the construction of public facilities. If real estate companies improve and optimize tax planning, they will promote the construction of public facilities and the development of the region. For example, enterprises can increase costs by improving the overall standard of landscape and infrastructure facilities. On the one hand, they can optimize the community environment, improve the infrastructure and market competitiveness, as well as actively accumulate brand reputation. On the other hand, it is beneficial to cost-plus deduction, which lowers taxes.

The collection of development costs also plays a vital role in the planning of land value-added tax. For example, among multiple liquidation units, if the amount of the deducted items can be collected directly according to different liquidation units, it should be collected directly; if it cannot be collected directly, it should be reasonably apportioned according to the area occupied by each liquidation unit, the salable building area, etc. For the apportionment of the amount of different types of real estate or sold and unsold deduction items in the same liquidation unit, if it can be collected directly according to different types of real estate, it should be collected directly; the amount that cannot be collected directly shall be apportioned according to the construction area of different types of real estate first and then apportioned according to the sold and unsold areas of different types of real estate. In the calculation of real estate investment, finance should comprehensively compare and analyze whether the development cost should be collected directly or apportioned reasonably, which would be beneficial to the planning of land tax increase. For those that can be directly attributed to the cost, the contract should be signed separately. However, if the contract cannot be signed separately, the amount should be indicated separately when the contract is settled and the invoice is issued so as to facilitate the direct collection and allocation of costs and expenses later. In short, within the scope allowed by the legal system, the relationship between cost and land tax increase planning should be carefully considered through legal actions so that the enterprise’s product reputation and profits can be achieved.

Karayan et al. pointed out that tax planning should not only be discussed from the financial point of view, but also be considered and implemented at the overall strategic level of an enterprise. The previous concept of only paying attention to the current tax payment should be transformed from the perspective of continuous operation. The taxation issue should be considered from a different perspective and matched with the dynamic process of actual enterprise operation. Hondroyiannis et al. proposed that an enterprise’s life cycle should be fully considered in tax planning and different tax planning strategies should be adopted according to different cycles. Cárdenas et al. studied the correlation between tax planning and enterprise location selection and found that there is a continuous interaction between the location selection of the company and the tax planning activities within the company. For example, the urban maintenance and construction tax implements a three-level proportional tax rate with regional differences, there are also large regional differences in land value-added tax, and the standards are not uniform, such as the “dichotomy” and “three-division method” in the settlement of land value-added tax; whether the underground parking space is within the scope of liquidation, the regional restrictions need to be taken into account when planning the land value-added tax, and tax planning should be reasonably carried out.
Accounting issues should be taken into consideration. For example, the reduced output tax due to the land price deducted from sales can be recorded in three different ways: “principal business cost,” “principal business income,” and “other income.” It is necessary to compare and analyze its impact on major tax types, such as value-added tax and land value-added tax; select the most reasonable accounting treatment method; and straighten out the accounting treatment of this business in advance. This would aid the settlement of land value-added tax for “new real estate projects.”

In terms of design schemes, construction progress, etc., finance should conduct comprehensive analyses and calculation of real estate projects in all aspects, from multiple dimensions, and at all stages. At the same time, it is necessary to conduct an in-depth investigation of the local government’s planning, policies, market, and other factors related to the real estate industry so as to identify the degree of risk of investment projects. At present, there is a general trend of informatization and intelligent application. Enterprises should make full use of network information technology to obtain accurate information and materials about investment projects and carry out in-depth research on the implementation stages of project construction through diversification from various angles and in consideration of multiple factors. In order to obtain the correct project selection, carrying out systematic research and analysis scientifically and rationally through various methods, such as internal rate of return, cost profit rate, investment payback period, break-even point, etc., to evaluate its feasibility and risk plays a very forward-looking and guiding role.

3.3. Financial budget management

Budget is a systematic way for an enterprise to allocate various resources. By carrying out budgeting work, the established strategic goals of the enterprise can be achieved, and the completion progress of the strategic goals can also be monitored and controlled. The specific amount of expenditure, forecast profit, and cash flow can be monitored throughout the process.

The application of budget management in Chinese enterprises is still in its infancy. At present, many enterprises are making financial budgets, but the participation of financial personnel in the budget work is limited to data collection, summary, and result presentation, without substantial participation in budget review, analysis, and control. Since financial management cannot comprehend budgets and treats budget management as a fund plan, it cannot fulfill the role of a staff.

For real estate companies, budget management is a very important tool, which can be used to control various costs, maximize the utilization rate of corporate funds, and increase profit margins. According to Chrisman et al., the comprehensive implementation of budget management is the result of years of accumulated management experience of many foreign companies. It is a reasonable upgrade for modern companies and represents a management ability or level that fully integrates the company’s operations, organizational strategies, and culture. Budget is by no means as simple as it appears on the surface. Lindquis et al. divided budget management into four stages: budget goal setting, budget preparation, budget adjustment, and budget incentives. Budget management runs through all aspects of business operations and requires participation from various departments. Based on the future planning of enterprises and the financial indicators of projects, professional financial judgments are put forward, analyses and judgements are made from multiple perspectives, such as cash flow, rate of return, and taxation, and a decision-making basis is provided for the strategic deployment of enterprises.

3.3.1. Standardize budgeting

Budget preparation is an important basis for budget management work. Only when the budget preparation data are real and feasible can budget management be carried out effectively. The budget management in real estate development enterprises is highlighted by the lack of scientifcity in preparation, the use of
historical data, poor accuracy, the dissociation from the strategic goals of enterprises, the actual development situation, and the economic environment, as well as the lack of support. At present, the management does not pay enough attention to budget preparation, and enterprises do not have systematic and instrumental budget management. Excel remains the main tool for budget preparation. The logic report verification of basic data relies on manual work; thus, the inspection of huge data volumes is time-consuming and inefficient [26]. Some real estate development companies still uphold the principle that the general budget is managed by financial departments, thereby neglecting the synergy of various departments. When enterprises carry out budget management, they must first strengthen the scientific nature of budget preparation. The most important thing is to organize and implement it based on the business objectives and strategic goals of real estate development enterprises and change the conventional “short-term” behavior into long-term strategic and forward-looking budget preparation. In the specific implementation process, it is necessary to focus on the overall development strategy of real estate development enterprises, refine and decompose the strategic goals, and form a phased or annual business plan to facilitate later comparisons and assessments. In addition, the enthusiasm and initiative of various departments to participate in budget preparation should be strengthened, and corresponding coordination mechanisms, coordination models, and collaborative relationships should be established, with each department undertaking the corresponding responsibilities and tasks, i.e., dividing labor without separating it [27]. At the same time, the financial management department should also strengthen communication with the sales department, cost department, design department, and engineering department; explore the substantive business of each department; gauge the accuracy of various data; summarize income and expenditure data; as well as analyze, process, and obtain real and reliable financial data in time. All these play an important role in the relevant business decision-making of enterprises. In order to ensure a more scientific budget management, there is a need to extensively solicit opinions from various departments and comprehensively design the budget preparation work, while constantly revising and improving it [28].

3.3.2. Strengthen budget execution
In the process of budget management, there is a lack of sufficient analysis, monitoring, and control mechanisms. The budget system is a mere formality; therefore, it is unable to fulfill its mission. Budget execution cannot be effectively coordinated and controlled, nor can it be accurately assessed and monitored in real time. There is poor awareness of operating cash flow management and control in corporate financial management [29], and companies often assume building first-class real estate brands and services as their overall development goal and are prone to overemphasize on market development, while neglecting cash flow. Budget overruns are common since budget preparation is not only poorly executed, but also frequently adjusted. Therefore, ensuring good budget control is a major issue that real estate development companies need to examine carefully; otherwise, it would lead to budget management failures and even major risks.

Hope et al. pointed out that in the process of reviewing the budget development process, budget criticism will not affect the budget itself fundamentally, but rather resolve the various problems in the business management process [30]. Enterprises need to continuously strengthen budget execution, increase training and guidance for various departments and relevant personnel so that they can develop a sense of responsibility, as well as assume the implementation of various goals, tasks, and requirements of budget management as one of the key tasks. Financial management should be guided by the budget, the rolling budget should be used as the starting point, and the sales revenue and expenditure of the enterprise should be reversed to achieve a reasonable balance of capital inflow and outflow. In addition, it is imperative to continue to decompose and refine the annual budget indicators on a monthly basis, give early warning of problems by exposing them as quickly as possible, analyze and solve problems on a monthly basis, coordinate with various departments to ensure efficiency, identify the risk factors in a timely manner based
on operational analysis, and strengthen the construction of budget adjustment mechanisms. In order to establish a dynamic adjustment model \cite{31}, it is necessary for the finance management to effectively strengthen the analysis of various budget data, use big data technology to organize the implementation, establish a big data budget analysis platform, identify the deviations, make timely, comprehensive adjustments, formulate safeguard measures and plans, assign responsibilities to individuals, form a dual-line mechanism for promotion and reporting, condense budget goals, direct enterprises to move forward on the set track, and improve the ability of enterprises to resist risks.

Enterprises should pay more attention to the income and expenditure deviations of operating cash flow, which would directly affect the enterprise’s interest-bearing liabilities, financial expenses, and fund balances. Andreas et al. used a model to analyze the investment and use of funds; combined with the evaluation indicators related to the development project, they adjusted the cash flow dynamically, laying a solid foundation for future development project financial evaluation and cash flow statement management \cite{32}. The research results of Francis et al. \cite{33} on cash flow management and risk control measures are also worthy of reference. Finance should always remind the enterprise to pay attention and make immediate adjustments and guarantee plans if there are deviations. For example, the inflow of real estate funds mainly involves sales receivables. Sales should fully investigate the surrounding conditions of the project, design a feasible repayment plan for the project, make changes in a timely manner, and formulate safeguard measures; the finance department should actively communicate with financial institutions and the project department, promote the standardization of the mortgage payment process, improve the efficiency of mortgage approval, ensure that the process is controllable, and ascertain that the mortgage payment is returned. Moreover, finance should also actively strengthen communication and relationship maintenance with the tax bureau and make full use of policies, such as incremental tax refunds, to reduce the burden on the company’s working capital. In terms of capital outflow, various payment methods should be explored, such as supply chain financing, house arrival, and financial company bills, to enhance the concept of time value of funds and accelerate the efficiency of capital turnover; capital payment should also be guaranteed and stressed, and the key points involved in development should be inflated. The key funds of the nodes are invested to improve the efficiency of fund payment approval, ensure that the overall development progress is controlled, reduce all unnecessary expenditures, and strictly manage project expenditure budgets.

3.3.3. Strengthen the budget review mechanism

Brownell et al. proposed budget participation as a means to improve organizational and individual performance. With the development of the principal-agent mechanism, the problem of asymmetric information between superiors and subordinates as well as various parallel departments is aggravated. This problem can be alleviated to a certain extent by the participation of each member in the budget \cite{34}. An appropriate assessment mechanism is a prerequisite to support the budget system. However, the current budget assessment mechanism of real estate enterprises is flawed; the main reason is that the corresponding assessment indicators are not clear enough and the assessment process is not strictly followed. Hence, there is a need to improve the budget execution system and optimize the reward and punishment measures for budget execution \cite{29}. Good budget management outcomes can only be attained by implementing budget management earnestly.

3.4. Asset management

In the case of such fierce competition in the market economy, strengthening enterprise asset management can reduce enterprise investment risks and maintenance costs as well as provide protection for the healthy development of enterprises. Fundraising has a significant impact on the life cycle of projects. Real estate projects require large amounts of funds, and companies often opt for bank loans. Okafor et al. investigated
whether commercial banks can be used as a financing source for real estate enterprises through questionnaire survey and interviews. Through an in-depth analysis of their financing difficulties, the results indicated that commercial banks are not the best choice as short-term commercial bank deposits do not match with the long-term real estate development cycle. Squires et al. conducted a study on issues related to the innovation and development of financing models of real estate companies. The results showed that the degree of diversification of corporate financing models directly affects the decline in corporate financing costs, indicating that enterprises must diversify their financing models in order to increase their value. Therefore, in the process of fundraising, finance should ensure good preliminary research; conduct comprehensive comparative analyses of loan conditions, time, interest rates, and other factors for different financial institutions and different financing modes; obtain loans with long periods, low interest rates, and favorable conditions to reduce financial risks; improve the development and operation efficiency; and provide assistance to enterprises to obtain more economic benefits. At the same time, the credit management of enterprises should be strengthened so that enterprises with good credit will have more abundant cooperation resources and cooperation conditions. Second, there must be a plan for fundraising. According to project investment calculations and budgeted cash flow conditions, the loan amount should be strictly controlled, and repayment should be made in a timely manner according to the repayment situation.

For assets such as accounts receivable, finance should cooperate with other relevant departments to carry out regular asset inventory and collection of accounts receivable, make calm analysis of the market according to the current situation of the real estate market, grasp the relevant trend in time, and speed up fund recovery.

For pre-sale supervision funds, we should learn from the successful experience of western countries. In foreign commercial housing pre-sale fund supervision models, supervision through third-party agencies, such as agencies in the United Kingdom, real estate notarization companies in Belgium, and the real estate transaction guarantee system in the United States, is more common. In addition to the above, finance should emphasize on the significance of communication with government departments, obtain as much government financial support as possible, and appropriately reduce the amount of key regulatory funds; focus on the release of regulatory funds and rationally reverse the sales online signing work arrangement according to the deposit and withdrawal progress of regulatory funds to increase the capital turnover rate; reduce capital occupation by communicating with financial institutions to issue letters of guarantee and use these letters of guarantee to replace pre-sale regulatory funds; speed up project management progress to meet the supervision fund withdrawal conditions as soon as possible, while ensuring project quality.

4. Research dearth and prospects
4.1. Research dearth
The real estate industry is a high-risk and -profit industry. The risks and benefits of financial management coexist. Especially in the current economic environment, it is necessary to analyze the risks of real estate financial management and address them. A good corresponding management and control work is also important. This paper focuses on four aspects: financial management personnel training, investment calculation management, budget management, and asset management. There are certain problems and deficiencies in the extensiveness and comprehensiveness of research. In addition, system construction, tax management, risk management, cost management, supervision and management, etc. are also crucial aspects of financial management that should be studied and analyzed.

4.2. Prospects
The estimated range of cash inflow and cash outflow of a development project has a significant impact on
the risk and the income of the project; hence, the estimated range should be as accurate as possible. In future research, the accuracy of the estimated range should be strengthened. The real option theory can be used to reduce the risks of development projects and make correct investment decision-making analyses. There is a need to continue to study the applicability of different financial evaluation models and the sensitivity of risk warnings corresponding to different real estate companies in order to avoid corporate financial risks and prevent crises.

With the continuous innovation and development of corporate financial management systems and by standardizing the management system and using rationalized management methods, in-depth research on corporate financial management risks will significantly improve, thereby strengthening pre-prevention and post-event management and supervision as well as the construction of an ideal overall financial management system for real estate enterprises.

5. Conclusion
Under the new situation, whether in the operation or development process, real estate is facing significant challenges. The operating mechanism of financial management is directly related to the development and growth of enterprises. Financial management is the core link in the management of real estate enterprises. The current level of financial management still requires improvement; hence, enterprises should pay more attention to it, provide training for financial management personnel, improve the financial investment calculation and management capabilities, introduce new budget management concepts at home and abroad, establish an asset management and control system, and carry out good risk management. Early warning and countermeasures can help ensure the compliance and professionalization of financial management, improve the internal management capabilities of real estate companies, and promote the long-term and stable development of real estate industries in China.

Disclosure statement
The author declares no conflict of interest.

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