Analysis of Fixed Asset Depreciation Method Selection Based on Corporate Income Tax: A Case Study of Company S

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Abstract. The issue of fixed asset depreciation is of significant concern to corporate managers, accounting professionals, and accounting standard-setting bodies. On one hand, fixed assets represent a substantial portion of financial statements, and their depreciation significantly impacts the book value of assets and net profit. On the other hand, the choice of depreciation methods largely depends on accounting estimates and the professional judgment of accountants, which provides room for earnings management and profit manipulation. Given the substantial proportion of fixed assets in enterprises and the considerable impact of depreciation on profits, ensuring the quality of fixed asset depreciation information is crucial for the interests of all stakeholders. This paper examines the effects of various fixed asset depreciation methods on enterprises, leveraging favorable policies to maximize corporate value. Such analysis aids investors in making informed decisions and helps creditors understand and evaluate corporate performance. The study focuses on the calculation and comparison of four depreciation methods and analyzes their impact on corporate income tax.

Keywords: Corporate income tax; Straight-line method; Accelerated depreciation method; Tax planning.

1. Introduction

1.1. Research Background

With continuous socio-economic growth and deepening inflation, the business environment has become increasingly challenging, with rising uncertainties that complicate financing and investment opportunities. The principle of prudence, widely applied in corporate accounting, prevents overstatement of assets and income while understating liabilities and expenses, thereby mitigating risks. However, in practice, this principle is sometimes exploited for profit manipulation. Therefore, measures must be taken to ensure the objectivity of accounting information.

Enterprises should leverage the prudence principle to select appropriate accounting methods, such as fixed asset depreciation methods, to minimize tax liabilities and maximize profits within legal boundaries. The holistic and value-added nature of corporate financial goals requires not only sound tax and financial management concepts but also proficiency in financial regulations and corporate management techniques. The choice of fixed asset depreciation methods can significantly impact corporate assets and tax obligations.

1.2. Research Purpose and Significance

This paper employs a case study approach, using Company S as an example, to design a tax planning scheme that complies with tax laws. The goal is to reduce corporate tax burdens, alleviate financial pressure, and enhance competitiveness. The study aims to analyze tax planning for Company S, ensuring compliance with legal provisions while optimizing corporate income tax to improve overall efficiency.

The significance of this research lies in:First of all,enhancing the financial expertise of corporate accountants and raising awareness of tax planning among employees, thereby improving financial management and internal cost control;Secondly,reducing corporate tax liabilities or deferring tax payments through effective tax planning;Finally,promoting tax law awareness and fostering a culture of lawful tax compliance, ensuring stable national tax revenues for reinvestment.

1.3. Literature Review

Numerous scholars have extensively studied the selection of fixed asset depreciation methods. Tax planning emerged relatively late in China, whereas it has been a subject of research abroad since the 1930s. The case of *Commissioner of Inland Revenue v. Duke of Westminster* (1935) in the UK established the principle that taxpayers may arrange their affairs to minimize tax liabilities within legal bounds, sparking academic interest in tax planning.

The choice of depreciation methods directly affects cost calculations. Scholars generally advocate for a cautious approach, selecting methods based on specific corporate and asset conditions. Accelerated depreciation methods are often preferred as they allow deferred tax payments, providing enterprises with the benefit of time value of money.

In developed countries, corporate tax planning has a long history, with many enterprises establishing dedicated departments staffed by financial professionals. In China, theoretical research on tax planning is mature, with scholars agreeing on key principles:First,tax planning aims to reduce tax burdens and increase profits;What is more,it is a legal activity, distinct from tax evasion;Thirdly,planning must consider the broader tax environment and employ scientific methods.

2. Concepts of Corporate Income Tax Planning

Tax preference is a means of economic regulation. It is a preferential measure for the government to achieve some specific political and economic goals through laws and regulations. It is a preferential measure to transfer part of fiscal revenue and reduce the tax burden of some tax objects. According to the definition of tax planning, through the analysis of the definition of tax planning, it can be concluded that tax planning is a reasonable planning of enterprise economic business through legal means before tax liability, the purpose is to make enterprises pay less taxes and reduce the tax burden of enterprises. It can be concluded from the definition of tax planning that tax planning contains three meanings of legality, planning and purpose. Legality is the most basic characteristic of tax planning, which means that tax planning is an enterprise behavior permitted by law and recognized by tax authorities. Planning means that the time point of tax planning is before the occurrence of tax liability, which is planned in advance. Purposiveness means that enterprise tax planning is an economic activity for the purpose of tax saving. The tax planning of enterprise income tax has the characteristics of legality, planning, professionalism, risk and purpose.

3. Case Study: Company S

3.1. Background

Enterprise S has a fixed asset with an original value of 180× yuan, an estimated salvage value rate of 5%, and a useful life of 5 years. The profit and output of the enterprise before depreciation within 5 years are 760× yuan and 760× pieces in the first year, 800× yuan and 800× pieces in the second year, 900× yuan and 900× pieces in the third year, 1 000× yuan and 1 000× pieces in the fourth year, 1 200× yuan and 1 200× pieces in the fifth year, respectively. Assume that the enterprise is subject to an income tax rate of 25%.

The following calculation shows that the enterprise should pay corporate income tax using different depreciation methods, and the calculation results are shown in Table 1.

3.2. Depreciation Methods and Tax Impact

The following table compares the tax impacts of four depreciation methods:

Table 1. Impact of Depreciation Methods on Corporate Income Tax (Unit:yuan).

Depreciation Method		Year 1	Year 2	Year 3	Year 4	Year 5	Total Tax
Straight-line	Amount of depreciation	342 000	342 000	342 000	342 000	342 000	1710 000
	Taxable income	7 258 000	7 658 000	8 658 000	9 658 000	11 658000	44 890000
	Income tax payable	1 814 500	1 914 500	2 164 500	2414 500	2914 500	11 222 500
Units-of-production	Amount of depreciation	278884.12	293 562.23	330 257.51	366 952.79	440 343.35	1 710000
	Taxable income	7321115.88	7706437.77	8669742.49	9633047.21	11559656.65	44 890 000
	Income tax payable	1830278.97	1926609.44	2167435.62	2408261.80	2889 914.16	11 222 500
Double-declining	Amount of depreciation	720 000	432 000	259 200	149 400	149 400	1 710000
	Taxable income	6 880 000	7 568 000	8 740 800	9 850 600	11 850 600	44 890 000
	Income tax payable	1 720 000	1 892 000	2 185 200	2 462 650	2 962 650	11 222 500
Sum-of-years' digits	Amount of depreciation	570 000	456 000	342 000	228 000	114 000	1 710000
	Taxable income	7 030 000	7 544 000	8 658 000	9 772 000	11 886 000	44 890 000
	Income tax payable	1 757 500	1 886 000	2 164 500	2443 000	2 971 500	11 222 500

The results show that while the total tax liability remains the same across methods, accelerated depreciation methods (double-declining and sum-of-years' digits) reduce tax payments in early years, deferring liabilities to later years. This provides enterprises with an interest-free loan effect.

Table 2. Present Value of Tax Liabilities (Discount Rate: 10%) (Unit:yuan).

Year	discount rate	Straight-line	Units-of-production	Double-declining	Sum-of-years' digits
Year 1	O.9091	1649561.95	1 663 906.61	1 563 652.00	1 597 743.25
Year 2	0.8264	1 582 142.80	1 592 150.04	1 563 548.80	1 558 590.40
Year 3	0.7513	1 626 188.85	1 628 394.38	1 641 740.76	1 626 188.85
Year 4	0.6830	1 649 103.50	1 644 842.81	1 681 989.95	1 668 569.00
Year 5	0.6209	1 809 613.05	1 794 347.70	1 839 509.39	1 845 004.35
Total		8 316610.15	8 323 641.55	8 290 440.90	8 296 095.85

Considering the time value of money, accelerated depreciation methods yield the lowest present value of tax liabilities, further validating their advantages.

4. Recommendations for Selecting Depreciation Methods

4.1. Selecting the depreciation method of fixed assets based on the status of fixed assets

(1) For general fixed asset enterprises, different methods can be selected according to accounting standards. If financing is needed, the double decreasing balance method and the sum of years method can be used to obtain an interest-free loan.

(2) For fixed assets with low value, stable loss in the whole service life and low depreciation amount in each period, such as houses, buildings and means of transportation, different depreciation methods are used to compare the financial status of each period. The tax burden will not have much impact; you can choose the simple and easy to operate the average life method of depreciation.

(3) For fixed assets with high value, uneven loss and uneven economic benefits brought to the enterprise during the benefit period, such as precision machinery and transportation equipment, it is reasonable to use the workload method to calculate depreciation. The more work completed in each period, the greater the amount of income brought by it.

4.2. Selecting the depreciation method of fixed assets considering the current situation of the enterprise

(1) For loss-making small and medium-sized enterprises, which cannot bear the pressure of accelerated depreciation for the time being, they can still continue to use the average life method to calculate depreciation.

(2) For the small and medium-sized enterprises that can only maintain the current situation without profit or loss, if the double diminishing balance method and the sum of years method can be partially implemented, the equipment can be updated as soon as possible, which is conducive to the enterprises to get out of the predicament. Therefore, the double decreasing balance method and the sum of years method can be implemented for some fixed assets of such enterprises, such as machinery and equipment. For houses, buildings and other fixed assets, the average life method can still be used to gradually increase the rate of depreciation.

(3) For small and medium-sized enterprises with good economic benefits and no need for external financing, the double decreasing balance method and the sum of years method can be used to calculate depreciation, which can recover most of the investment in fixed assets in advance, accelerate the renewal and transformation of equipment, and reduce and make up for the value loss of enterprises under the condition of inflation. Although the double decreasing balance method and the sum of years method extract more depreciation in the first few years, which will inevitably increase the product cost and relatively reduce the profit, and affect the short-term economic benefits of the enterprise, the later period will obtain more economic benefits by reducing the depreciation, increasing the profit and speeding up the equipment renewal.

(4) For newly established enterprises and small and medium-sized enterprises in the development period, they are facing the situation of lack of funds and need to absorb a large amount of funds from the outside, so they need to make their financial statements attractive.

5. Conclusion

Adjusting the depreciation life or any other means can not guarantee that the enterprise can continuously obtain stable profits in several years. Therefore, it is necessary to pay attention to the situation that may affect the profit of the enterprise, adjust the treatment of depreciation of fixed assets according to the actual situation of the current period, and strive to maximize the tax deduction effect of depreciation. Moreover, although the Enterprise Income Tax Law allows losses incurred in the enterprise tax year to be carried forward to future years, the maximum period of carrying forward shall not exceed five years. Therefore, if the company's profit before deducting depreciation is not high, it must carefully consider the new purchase of fixed assets and reasonably grasp the degree of shortening the depreciation life or accelerating depreciation, so as to avoid losses in the depreciation life caused by high depreciation amount. Because after the end of the depreciation period, this part of the loss is likely to exceed the carry forward years and cannot offset the taxable income, but lead to the company to pay more taxes. Reasonable tax saving measures must avoid this situation.

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