

Research Article

Financial Shared Services Empower the Real Economy: The Evidence from China

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As a product of digital technology, financial shared services can be deeply integrated into enterprise operation and management, which is significant to accelerate the financial transformation of real enterprises and achieve high-quality development. Based on this, this paper examines whether and how financial shared services empower the real economy, using data from listed companies in China from 2008 to 2017 as a sample. The research results show that financial shared services can significantly improve enterprise value and thus empower the real economy, and the optimization of operational efficiency is an important path for financial shared services to empower the real economy. Further research finds that the empowering effect of financial shared services on the real economy mainly exists in enterprises with many subsidiaries, large scale, and high labor intensity. This paper not only bridges the gap between financial shared services and micro-enterprise related research but also provides references and lessons for how to implement financial shared services in the real economy.

1. Introduction

In the current era of digital economy, information technologies such as AI, blockchain, cloud computing, data tech, edge computing, and so on are changing rapidly and continue to create new increment and new space for the real economy. The support and empowerment of science and technology innovation to the real economy will promote the entry of science and technology achievements into the main battlefield of economy and society and further form a powerful “new dynamic energy” for high-quality development. Finance shared service center (FSSC or finance sharing), as an innovative financial management model, is a specific application of information technology in the field of finance [1], which makes finance continuously paperless, online, and automated. It plays an important role in reducing corporate costs [2], strengthening group control [3], refining management in real time [4], improving internal resource allocation [5], and promoting the implementation of corporate strategies [6]. Facing the globalized market with intensified competition and complex and changing business

environment, how to enhance sustainable competitiveness in an uncertain environment has become an important issue of concern for enterprises. Financial shared service, with its stronger resilience [7], faster and more timely response capability [8], more accurate forecasting and risk control capability [9], and self-reinventing management capability [10] to cope with uncertainty, enables enterprises to develop sustainably and with high quality. The research reports on China Huawei and Haier Group show that the shared services have improved the efficiency of these enterprises and promoted the standardization of business processing processes. At the same time, the shared service center has become a data center for these enterprises, enabling financial decisions and business strategies to be more closely aligned with corporate reality and effectively improving operational efficiency [2, 4].

With the continuous adjustment of accounting, taxation, and other related policies in China, such as electronic invoices and electronic files, which prompted the issuance, delivery, and flow of invoices and the management of accounting files to undergo a sea change, more and more large

enterprise groups are implementing financial shared services. By the end of 2020, there were more than 1,000 shared service centers in China [1]. This shows that financial shared services are being accepted or applied by more and more Chinese enterprises, helping them to improve their financial management and achieve financial digital transformation. Can financial shared services truly empower the real economy? And how will it empower the real economy? Existing studies on financial shared services mainly focus on the motivation of its implementation [11–13], key factors [14–16], and impact on company performance [17, 18] but have not yet systematically explored the impact of financial shared services on the operation of the real economy. As financial shared services will have a direct impact on the operation management of the enterprise such as accounts receivable and payable, cash management, cost and expense management, asset turnover, and so on, we chose the perspective of operation management as the entry point of the study, in an attempt to open the black box of how financial shared services empower the real economy, in order to further enrich the research related to financial shared services and microeconomics and to provide possible references and lessons for the high-quality operation of the real economy.

In view of this, this paper takes the data of Shanghai and Shenzhen A-share listed companies from 2008–2017 as a sample and explores the impact of financial shared services on the real economy using operation management as a research perspective. Compared with previous studies, the contributions of this paper are mainly in the following aspects. First, it makes up for the lack of empirical studies related to financial shared services. Existing studies on financial shared services mainly use case studies, questionnaires, and literature induction to construct a framework [16, 18–20]. There are relatively few empirical studies based on credible financial data of listed companies. This paper collects financial shared services data by hand to conduct a large sample test, and the findings are more convincing. Second, studies have shown that the effects of financial shared services may vary among different enterprises and industries [20]. This paper not only enriches the research on the impact of financial shared services but also makes the research on financial shared services more relevant and applicable. Third, it deepens the research on financial shared services and the real economy. Existing studies have not explored the impact of financial shared services on the real economy in depth. This paper analyzes in depth the impact of financial shared services on various aspects of enterprise operation and management from the operational management practices of real enterprises, involving various value chain aspects such as production, operation, inventory, and finance, revealing the black box of the impact of financial shared services on the real economy from the theoretical and practical levels, which is a breakthrough compared with previous studies. The research in this paper not only expands the research related to financial shared services and microeconomics and further enriches the theoretical system of financial shared services but also provides reference for how enterprises can better carry out financial shared services.

2. Literature Review and Research Hypothesis

2.1. Impact of Financial Shared Services on the Real Economy. Based on the resource-based view and the dynamic capability view, from a strategic perspective, a firm is a collection of various resources that are valuable, scarce, difficult to replicate, and difficult to replace, and if the firm has the ability to leverage and develop these resources, it can gain a sustained competitive advantage and create superior performance [21, 22]. While companies need to remain competitive through the constant pursuit of efficiency gains and cost reductions, forward-looking organizations gain competitive advantage by making organizational structures flexible and resilient [23].

Financial shared service is a valuable, scarce, hard-to-replicate, and hard-to-replace strategic resource for enterprises. Some studies have shown that financial shared services have significantly improved the business processing efficiency and financial management capabilities of enterprises through organizational changes and process reengineering and enhanced the market competitiveness of enterprises [5, 7, 20]. Relying on information technology, financial shared services centralize the same and repeatedly set up financial processes among different internal business units to an independent sharing center for processing [12]. The scope of business focuses on financial accounting processes that are less relevant to management decisions, occur frequently, and are easily standardized, mainly including expense reimbursement, purchase to payment, order to receipt, cost accounting, fixed asset accounting, general ledger to report, and so on [2, 13]. The impact of financial shared services on entity enterprises is mainly reflected in the following aspects.

Firstly, financial shared services provide unified, professional, and standardized efficient services for internal customers through the IT system. Through the optimization of business processes and rules, redundant, repetitive, and non-value-added operations are eliminated, and business operations are refined, standardized, or even simplified, realizing a reduction in personnel without an increase in business volume, which is conducive to achieving the purpose of enhancing organizational integration of resources, improving efficiency, and reducing costs [6, 11]. Secondly, through the IT system, the same standard operation process is adopted for all subsidiaries to achieve cross-regional and cross-departmental data integration, which makes data aggregation and analysis no longer time-consuming and laborious and can provide standardized financial analysis reports for each information demander and provide all-round management data for the group's strategic finance and business finance through deep digging of financial data [24] to support management decisions and promote the digitalization of the enterprise [8]. The centralization of finance, human resources, information management, and other functions in the shared service center can help enterprises establish new businesses faster and improve their flexibility in adapting to the market, while the centralization of professional staff can help the shared center establish a knowledge base system that meets its needs and

improve the concentration and efficiency of knowledge utilization [7]. Finally, financial shared services free managers from the complicated non-core business, which helps them focus more on the company's core business and can provide services quickly for the newly established subsidiaries or acquired companies of the enterprise [25], all of which can greatly enhance the integration and analysis capabilities of the enterprise. Based on the above analysis, this paper proposes the following hypothesis.

Hypothesis 1. Financial shared services can enhance enterprise value.

2.2. The Path Mechanism of Financial Shared Services to Empower the Entity. The fundamental goal of the financial shared services model is to reduce the cost and strengthen the management of the enterprise [2, 4], creating more revenue for the enterprise. At the business accounting level, financial shared services drive business and process changes to a certain extent [1], bringing significant changes to the enterprise's settlement management and tax management [9]. In terms of accounts receivable and payable, the integration of business and finance not only enables business and finance to interoperate, making finance staff understand business better and reducing unnecessary troubles in payment and collection, but also facilitates the finance department to analyze business data and provide strong support for business development at the tactical or strategic level. It also enhances the integration and automation of invoicing process, realizes automatic payment according to the billing period, reduces payment links, realizes smooth collection and payment in the unified settlement cycle and capital security, reduces unnecessary occupation of funds, and helps shorten cash and business cycles. In terms of cost and expense, the information system based on the close connection with business scenarios supports the front management of cost and expense, which can track and dynamically respond to all operational activities of the enterprise and eliminate and reduce non-value-added effects, thus achieving the purpose of reducing personnel cost [25] and improving efficiency.

At the level of operation management, through process reengineering and information system integration, the integration of business and finance makes finance extend to the front end of business (including procurement, suppliers, and customers), breaks the boundary between accounting and business and accounting and external stakeholders, makes the enterprise organically integrate with external customers, suppliers, and markets, integrates the enterprise's internal procurement, R&D, production, and sales, and directly generates financial data from production activities. Generate financial data, directly transform material activities in physical form into capital activities in value form, and then realize real-time reflection of logistics, capital flow, work flow, and information flow [7], which can not only provide enterprises with a large amount of information, enable them to effectively control and manage the whole business process, and improve the efficiency of resource

utilization but also realize the sharing, real-time control, and timely collection of internal and external value chain information [26], which is beneficial to strategic decision making of the enterprise. Based on the above analysis, this paper proposes the following hypothesis.

Hypothesis 2. Financial shared services enhance enterprise value by optimizing operational efficiency.

3. Study Design

3.1. Variable Design. The explanatory variable is firm value. This paper uses three indicators, return on total assets (ROA), return on net assets (ROE), and Tobin's Q (Tobin), to measure enterprise value. The explanatory variable is financial shared service, which takes the value of 1 if the listed company has implemented financial shared services and 0 otherwise. In this paper, the following steps were taken to determine whether the listed companies had implemented financial shared services: first, the keywords "shared services" and "financial shared services" were extracted from the annual reports of listed companies in China for screening; second, the relevant text in the annual reports, the reports on the company's website, etc. were carefully read, and the research reports on the sharing sector in China in the past years were combined to check whether the listed companies had established financial shared services service centers.

The intermediate variable is operational efficiency, and since the core business processes of enterprises in production and operation include procurement, production, inventory, sales, and so on, which involve the management of assets, operations, personnel, and other aspects, this paper selects operating cost ratio (Cost), total asset turnover ratio (TATR), current asset turnover ratio (CATR), accounts receivable turnover ratio (ARTR), accounts payable turnover rate (APTR), inventory turnover days (ITD), business cycle (Bcycle), cash cycle (Cash), and personnel efficiency (Tfp) as the measures of operational efficiency.

The control variables mainly include firm size (Size), gearing ratio (Lev), business growth rate (Growth), firm age (FmAge), nature of ownership (Soe), equity concentration (Top1), proportion of independent directors (Ind), dual position (Dual), board size (Board), and Lerner index (Pcm) [16]. In addition, year and industry dummy variables are introduced in this paper to control for year and industry related effects, respectively.

These variables are defined as shown in Table 1.

3.2. Sample Selection and Data Sources. China implemented the shareholding reform in 2006, and relatively few companies implemented financial shared services in 2007 due to the financial crisis. Therefore, the sample of this paper is selected from A-share listed companies from 2008 to 2017, excluding financial and insurance companies and ST and ST* companies, and a total of 422 samples of Chinese listed companies that implemented financial shared services are obtained. Further excluding the samples with incomplete

TABLE 1: Main variables and their specific definitions.

Variable type	Variable name	Variable symbols	Variable values and method descriptions
Explained variables	Total net asset margin	ROA	Net profit/total assets
	Return on net assets	ROE	Net income/net assets
	Tobin's Q value	Tobin	Company market value/book value
Explanatory variables	Financial shared services	FSSC	If the listed company is implementing financial shared services, the value is 1; otherwise, it is 0
Intermediate variables	Operating cost ratio	Cost	Operating costs/operating revenue
	Total assets turnover ratio	TATR	Operating income/average balance of total assets
	Current asset turnover ratio	CATR	Operating income/average balance of current assets
	Accounts receivable turnover ratio	ARTR	Operating income/(net notes receivable + net accounts receivable)
	Accounts payable turnover ratio	APTR	Operating costs/average balance of accounts payable
	Inventory turnover days	ITD	360/(operating cost/average inventory balance)
	Business cycle	Bcycle	Days of turnover of accounts receivable + days of turnover of inventories
	Cash cycle	Cash	Days of turnover of accounts receivable + days of turnover of inventory - days of turnover of accounts payable
	Personnel efficiency	Tfp	Borrowing from Lei Yu and Guo Jianhua's calculation to measure employee efficiency
Control variables	Company size	Size	Natural logarithm of total assets
	Gearing ratio	Lev	Total liabilities/total assets
	Business growth rate	Growth	(Current amount of operating income - previous amount of operating income)/(previous amount of operating income)
	Company age	FmAge	The year in which the company is in minus the year in which it is listed
	Nature of ownership	Soe	The value is 1 if it is state-owned enterprise; otherwise, it is 0
	Shareholding concentration	Top1	Percentage of shareholding of the largest shareholder
	Percentage of independent directors	Ind	Number of independent directors/number of board of directors
	Two jobs in one	Dual	The value is 1 if the board of directors and the general manager are combined; otherwise, it is 0
	Board size	Board	Natural logarithm of the total number of board members
Lerner index	Pcm	Lerner index, measured by (operating revenue - operating costs - selling expenses - administrative expenses)/operating revenue; the smaller the Pcm, the smaller the competitive position of the company	

relevant financial data, a total of 404 samples with financial shared service implementation were obtained. The financial shared services data were mainly obtained from Sina Finance, annual reports of listed companies, China Shared Services Research Report, and the website of International Financial Shared Services Management Association, etc. The financial data were mainly obtained from Wind database and CSMAR database. In this paper, companies that implemented financial shared services were used as the experimental group, and in order to maintain the comparability of samples, companies that did not implement financial shared services were selected as the control group through the PSM one-to-one with put-back matching method, so that the companies in the treatment group and the control group were as similar as possible in terms of total return on assets, company size, growth, industry, corporate governance, etc. A total of 14,865 samples were obtained, including 404 in the experimental group and 14,461 in the control group. Table 2 shows the descriptive statistics of the sample matching results. From the comparison results of the

matched samples, the p values of the two groups of samples in the experimental group and the control group are no longer significant after matching, i.e., no significant differences are achieved in terms of asset size, growth, capital structure, corporate governance, product market competition, etc. This indicates that the two groups of samples are equally likely to implement financial shared services or not, i.e., a rational matching result is achieved.

The distribution of the sample is shown in Table 3. It can be seen that the industries implementing financial shared services are mainly concentrated in manufacturing, wholesale, and retail industries, among which the industry with the most implementation is manufacturing, accounting for 60.19%. The next industry is the wholesale and retail industry, accounting for 11.85%. It can be seen that the companies implementing financial shared services are mainly concentrated in labor-intensive industries. This is mainly due to the fact that the scope of financial shared services business is focused on financial accounting processes that are less relevant to management decisions, occur

TABLE 2: Descriptive statistics of matching results.

Variables	Matching process	Experimental group	Control group	Deviation rate (%)	Deviation reduction (%)	T value	p value
Size	Before matching	23.597	21.983	121.000	97.500	26.40	0.001
	After matching	23.597	23.557	3.000		0.390	0.696
Lev	Before matching	0.504	0.433	35.300	99.000	6.720	0.001
	After matching	0.504	0.505	-0.400		-0.050	0.958
Growth	Before matching	0.203	0.219	-3.200	-113.500	-0.580	0.564
	After matching	0.203	0.236	-6.700		-0.910	0.365
FmAge	Before matching	12.441	9.344	48.500	89.400	9.580	0.001
	After matching	12.441	12.767	-5.100		-0.730	0.465
Soe	Before matching	0.488	0.411	15.400	77.300	3.090	0.002
	After matching	0.488	0.470	3.500		0.490	0.623
Top1	Before matching	39.174	35.370	24.000	90.800	5.060	0.001
	After matching	39.174	38.825	2.200		0.300	0.764
Ind	Before matching	0.384	0.372	21.500	68.300	4.610	0.001
	After matching	0.384	0.388	-6.800		-0.850	0.395
Dual	Before matching	0.171	0.239	-16.900	81.800	-3.180	0.001
	After matching	0.171	0.183	-3.100		-0.460	0.645
Board	Before matching	2.194	2.151	21.800	91.900	4.340	0.001
	After matching	2.194	2.191	1.800		0.240	0.808
Pcm	Before matching	0.103	0.104	-0.300	-7313.600	-0.050	0.963
	After matching	0.103	0.031	23.700		0.650	0.517

TABLE 3: Timing and industry of financial shared service implementation in sample companies.

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Total
Manufacturing	8	12	13	17	18	20	26	29	44	56	243
Wholesale and retail trade	1	1	1	3	5	5	5	6	9	14	50
Information transmission, software, and information technology services	0	1	1	1	2	3	4	6	8	12	38
Construction	0	0	0	0	1	2	2	3	5	7	20
Transportation, storage, and postal services	0	0	0	0	1	1	2	2	3	4	13
Real estate	0	0	0	1	1	1	2	2	2	4	13
Mining	0	0	0	0	0	0	0	0	3	4	7
Electricity, heat, gas, and water production and supply industry	0	0	0	0	0	0	0	1	3	2	6
Culture, sports, and entertainment	0	0	0	0	0	0	0	1	2	2	5
Leasing and business services	0	0	0	0	0	0	1	1	1	1	4
General industry	0	0	0	0	0	0	0	0	1	1	2
Water, environment, and public facilities management industry	0	0	0	0	0	0	0	0	0	1	1
Health and social work	0	0	0	0	0	0	0	0	0	1	1
Agriculture, forestry, animal husbandry, and fishery	0	0	0	0	0	0	0	0	0	1	1
Total	9	14	15	22	28	32	42	51	81	110	404

frequently, and are easily standardized. In terms of implementation time, the number of implemented companies has been increasing year by year since 2014, with an average annual increase of 25%.

3.3. *Model Setting.* In order to investigate the impact of financial shared services on the real economy and the mechanism of the impact, the following regression model is developed:

$$\begin{aligned} \text{Performance} = & \alpha_0 + \alpha_1 \text{FSSC} + \sum \text{Control} \\ & + \sum \text{Industry} + \sum \text{Year} + \lambda, \end{aligned} \quad (1)$$

$$\begin{aligned} \text{Operation} = & \beta_0 + \beta_1 \text{FSSC} + \sum \text{Control} \\ & + \sum \text{Industry} + \sum \text{Year} + \eta, \end{aligned} \quad (2)$$

$$\begin{aligned} \text{Performance} = & \lambda_0 + \lambda_1 \text{FSSC} + \lambda_2 \text{Operation} + \sum \text{Control} \\ & + \sum \text{Industry} + \sum \text{Year} + \mu. \end{aligned} \quad (3)$$

In the model, Control represents the control variable. According to the test procedure recommended by Wen et al. [27], in the first step, model (1) is used to test the effect of the implementation of financial shared services on firm value and examine α_1 . The first step is to examine whether the effect of financial shared services on firm value is significant, and if so, the effect is considered as mediating effect; otherwise, the effect is considered as masking effect. Examine α_1 . If it is significant, the model is based on the mediating effect; otherwise, the model is based on the masking effect. In the second step, test model 2 for β_1 and model 3 for λ_2 in turn. If both of them are significant, then the indirect effect is

TABLE 4: Descriptive statistics for grouping of main variables.

	Average value		Diff	Median		Diff
	FSSC = 1	FSSC = 0		FSSC = 1	FSSC = 0	
ROA	0.06	0.05	0.01	0.05	0.04	0.01
ROE	11.23	8.83	2.40***	9.9	8.4	1.50***
Tobin	1.79	2.37	-0.58***	1.15	1.77	-0.62***
Cost	0.72	0.73	-0.01	0.75	0.76	-0.01
TATR	0.89	0.67	0.22***	0.76	0.56	0.2***
CATR	1.72	1.33	0.39***	1.47	1.06	0.41***
ARTR	37.01	31.87	5.15	4.57	4.71	-0.14
APTR	6.08	8.57	-2.48***	4.76	4.97	-0.21
ITD	132.6	244	-111.40***	76.88	101.8	-24.92***
Bcycle	201.7	322.8	-121.04***	137.8	185.4	-47.6***
Cash	100.64	230.81	-130.17***	59.48	108.91	-49.43***
Tfp	1.17	0.1	1.07***	1.12	0.05	0.07***

Note. After we compared the group differences in asset size between the experimental and control groups, the test results showed that the asset size of the experimental group was significantly larger than that of the non-implemented group at 1% level, thus causing Tobin of the experimental group to be lower than that of the control group. *T* values are in brackets; ***, ** and * indicate $p < 0.001$, $p < 0.01$ and $p < 0.05$, respectively.

significant and go to the third step; if at least one of them is not significant, then use the Bootstrap method to test $H_0: \beta_1\lambda_2 = 0$; if significant, then the indirect effect is significant; otherwise, the indirect effect is not significant; stop the analysis; In the third step, test the model 3 for λ_1 . If it is not significant, it means that there is only a mediating effect; if it is significant, the direct effect is significant, and then compare $\beta_1\lambda_2$ and λ_1 . If the symbols are in the same direction, it indicates a partial mediation effect, and if they are in different directions, it indicates a masking effect.

4. Empirical Results and Analysis

4.1. Descriptive Statistical Analysis. Table 4 shows the results of descriptive statistics for the grouping of the main variables, and the results show that the mean or median of enterprises implementing financial shared services (experimental group) and enterprises not implementing financial shared services (control group) is significantly different from each other, except for ROA, Cost, and ARTR, which are not significantly different, i.e., ROE, TATR, CATR, and Tfp are significantly greater in the experimental group than those in the control group, while ITD, APTR, Bcycle, and Cash are significantly lower than those of the non-implemented group, indicating that the enterprises implementing financial shared services have higher total asset turnover, current asset turnover, accounts receivable turnover, and personnel efficiency, while inventory turnover days, accounts payable turnover, business cycle, and cash cycle are lower. The above indicators initially reflect that the enterprises implementing financial shared services have stronger asset management capability, higher operational efficiency, and thus higher overall value. Thus, the overall value is higher. However, Tobin of the implemented group is lower than that of the unimplemented group, which is inconsistent with our expectation. This is mainly due to the fact that most of the companies implementing financial shared services are large-scale enterprises, and the asset growth ability of large-scale enterprises is often slower than that of small-scale enterprises.

TABLE 5: Impact of financial shared services on the real economy.

	(1) ROA	(2) ROE	(3) Tobin
FSSC	0.605*** (2.66)	1.387*** (3.14)	0.242*** (3.34)
Size	0.802*** (9.58)	1.587*** (10.31)	-0.458*** (-26.17)
Lev	-10.705*** (-18.43)	-6.732*** (-6.39)	-2.902*** (-27.87)
Growth	1.395*** (10.90)	2.911*** (12.43)	0.349*** (9.52)
FmAge	0.011 (1.31)	0.030** (2.01)	-0.001 (-0.21)
Soe	-0.892*** (-8.58)	-1.783*** (-8.77)	-0.319*** (-10.90)
Top1	0.025*** (9.69)	0.046*** (9.26)	0.004*** (4.60)
Ind	-2.803*** (-3.93)	-6.686*** (-4.70)	1.790*** (6.65)
Dual	0.044 (0.50)	0.090 (0.55)	0.140*** (4.13)
Board	0.334* (1.68)	-0.106 (-0.26)	0.147** (1.99)
Pcm	7.463*** (2.75)	12.675*** (2.75)	0.913*** (2.77)
_Cons	-9.879*** (-7.34)	-24.281*** (-9.48)	11.509*** (32.76)
<i>N</i>	14865	14865	14865
Adj. R^2	0.330	0.216	0.484
<i>F</i>	132.414	54.597	259.252

T values are in brackets; ***, ** and * indicate $p < 0.001$, $p < 0.01$ and $p < 0.05$, respectively.

4.2. Impact of Financial Shared Services on the Real Economy

4.2.1. The Impact of Financial Shared Services on the Real Economy. First, this paper examines the impact of financial shared services on the real economy. Columns (1)–(3) in Table 5 are based on model (1), and the effects of financial shared services on total net asset margin, return on net assets, and Tobin's Q are empirically tested. The results show that the coefficients of *FSSC* are all significantly positive at

TABLE 6: Robustness tests.

	Substitution of explanatory variables			Heckman two-stage		PSM without playback
	(1) ROA _{t+1}	(2) ROE _{t+1}	(3) Tobin _{t+1}	(4) FSSC	(5) ROA	(6) ROA
FSSC	1.048*** (3.74)	2.181*** (3.86)	0.352*** (4.11)		0.633*** (2.77)	1.149*** (4.02)
Size	0.475*** (7.70)	1.009*** (8.47)	-0.474*** (-29.24)	0.397*** (15.52)	-0.223 (-0.18)	0.616*** (5.38)
Lev	-8.515*** (-20.60)	-3.035*** (-4.03)	-2.746*** (-28.49)	-0.904*** (-6.31)	-8.650*** (-2.81)	-9.892*** (-8.75)
Growth	0.766*** (7.25)	1.573*** (7.35)	0.213*** (7.43)	-0.036 (-0.76)	1.447*** (15.34)	0.974*** (3.68)
FmAge	0.037*** (4.36)	0.047*** (3.00)	0.006** (2.15)	0.019*** (4.75)	-0.043 (-0.81)	-0.016 (-0.63)
Soe	-0.865*** (-7.90)	-1.793*** (-8.31)	-0.314*** (-10.18)	-0.303*** (-5.27)	-0.131 (-0.14)	0.267 (0.78)
Top1	0.025*** (8.93)	0.044*** (8.24)	0.005*** (5.43)	0.002 (1.51)	0.020** (2.57)	0.015 (1.50)
Ind	-2.208*** (-2.73)	-5.373*** (-3.33)	1.527*** (5.53)	1.117** (2.44)	-5.789* (-1.87)	-1.776 (-0.74)
Dual	0.051 (0.50)	0.187 (0.98)	0.130*** (3.54)	-0.062 (-0.97)	0.199 (1.09)	-0.423 (-1.12)
Board	0.308 (1.34)	-0.022 (-0.05)	0.105 (1.39)	0.077 (0.57)	0.097 (0.32)	0.227 (0.31)
Pcm	9.949*** (5.76)	16.006*** (5.80)	1.198*** (5.17)	-0.222*** (-3.36)	7.704** (2.38)	24.023*** (10.08)
Sons				0.001** (2.12)		
IMR					-2.910 (-0.89)	
_Cons	-4.195*** (-3.50)	-13.631*** (-5.73)	12.932*** (36.34)	-11.303*** (-19.15)	21.181 (0.59)	-7.507*** (-2.75)
N	12152	12149	12152	13994	13993	805
Adj. R ²	0.267	0.161	0.479		0.325	0.482
F	82.147	34.886	211.508		118.255	7.14

T values are in brackets; ***, ** and * indicate $p < 0.001$, $p < 0.01$ and $p < 0.05$, respectively.

1% level, indicating that financial shared service helps to promote the increase of the company’s operating performance and long-term value, i.e., it helps to enhance corporate value, and Hypothesis 1 is verified.

4.2.2. *Robustness Test.* For the reliability of the above regression results, the following robustness tests were conducted in this paper. (1) Replacing the explanatory variables, ROA, ROE, and Tobin in the future period are used to measure the current firm value, and columns (1)–(3) of Table 6 show that the coefficients of FSSC, ROA_{t+1}, ROE_{t+1}, and Tobin_{t+1} are all significantly positive at 1% level, which again verifies Hypothesis 1. (2) Considering the problem of possible sample self-selection bias, this paper adopts the Heckman two-step correction method to correct the estimation bias. In the first stage, based on the control of existing variables, the number of subsidiaries (Sons) of listed companies is introduced, and the probability of implementing financial shared services in listed companies is estimated using the Probit model and the inverse Mills ratio is calculated; in the second stage, the inverse Mills ratio is brought into model (1) to correct the sample selectivity bias. Column (5) test results find that the regression coefficients of

the inverse Mills ratio are not significant, indicating that the endogeneity problem caused by sample self-selection is well controlled, again indicating the robustness of the regression results of Hypothesis 1. (3) This paper also applies the propensity score matching method (PSM) to control for systematic differences between firms implementing financial shared services and those not implementing financial shared services. A total of 805 samples were obtained based on one-to-one no-release nearest neighbor matching of all control variables in the treatment and control groups in this paper. A multiple regression test of the relationship between financial shared services and firm value was conducted using the matched samples, and the results in column (6) show that the coefficient of financial shared services is still significantly positive at 1% level, and Hypothesis 1 is again tested.

4.2.3. *The Path Mechanism of Financial Shared Services to Empower the Real Economy.* Second, this paper tests the path mechanism of financial shared services to empower the real economy. According to model (2), the coefficients of FSSC in columns (1)–(9) in Table 7 are all significantly positive (negative), i.e., financial shared service is significantly positively related to total asset turnover, current asset

TABLE 7: Path mechanisms of financial shared services to empower the real economy (I).

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Cost	TATR	CATR	ARTR	APTR	ITD	Bcycle	Cash	Tip
FSSC	-0.020*** (-3.09)	0.149*** (6.29)	0.158*** (3.15)	10.615* (1.71)	-2.429*** (-6.70)	-63.709*** (-7.76)	-60.321*** (-6.51)	-64.668*** (-7.51)	0.556*** (7.41)
Size	0.001 (0.22)	0.001 (0.19)	0.084*** (7.82)	-4.750*** (-3.97)	-0.052 (-0.41)	-7.386** (-2.10)	-15.766*** (-4.29)	-12.975*** (-3.78)	0.243*** (17.16)
Lev	0.274*** (12.22)	0.370*** (13.31)	0.603*** (10.38)	27.744*** (4.05)	-6.983*** (-8.57)	82.084*** (3.98)	118.669*** (5.49)	51.097*** (2.60)	0.529*** (6.70)
Growth	-0.002 (-0.40)	0.122*** (13.74)	0.196*** (11.17)	-3.622 (-1.55)	0.626*** (2.69)	-46.882*** (-5.82)	-48.123*** (-5.78)	-44.680*** (-5.89)	0.217*** (7.88)
FmAge	-0.000 (-0.07)	0.001* (1.76)	0.011*** (7.01)	-0.070 (-0.31)	0.130*** (5.80)	2.083*** (3.86)	-0.321 (-0.56)	0.595 (1.11)	-0.001 (-0.55)
Soe	0.031*** (8.79)	0.046*** (5.01)	0.115*** (5.80)	4.372 (1.35)	-1.174*** (-4.44)	-14.773* (-1.83)	-23.141*** (-2.74)	-28.539*** (-3.62)	0.006 (0.19)
Top1	0.000* (1.94)	0.003*** (13.75)	0.006*** (10.73)	0.069 (0.81)	0.035*** (5.06)	0.067 (0.33)	0.067 (0.33)	-0.276 (-1.38)	0.004*** (5.37)
Ind	-0.082*** (-3.64)	-0.212*** (-3.06)	-0.101 (-0.65)	10.824 (0.53)	5.519*** (2.64)	61.657 (1.16)	82.224 (1.45)	73.578 (1.38)	-0.620*** (-2.59)
Dual	-0.015*** (-5.11)	-0.021*** (-2.64)	-0.068*** (-4.14)	-1.591 (-0.74)	-0.063 (-0.25)	32.223*** (5.10)	35.881*** (5.25)	34.349*** (5.43)	0.049* (1.80)
Board	-0.017*** (-2.70)	0.012 (0.59)	0.133*** (2.81)	10.631 (1.42)	-0.313 (-0.53)	-52.763*** (-3.19)	-68.818*** (-3.91)	-68.177*** (-4.13)	-0.201*** (-2.90)
Pcm	-0.312*** (-2.87)	-0.159** (-2.14)	-0.302** (-2.12)	56.617*** (4.72)	-6.442*** (-2.58)	165.841*** (2.58)	152.534** (2.41)	138.218*** (2.62)	0.174 (1.43)
_Cons	0.730*** (15.31)	0.405*** (3.95)	-1.098*** (-4.42)	94.933*** (3.05)	15.181*** (5.20)	450.431*** (5.33)	693.302*** (7.86)	625.085*** (7.49)	-5.662*** (-17.12)
N	14865	14854	14855	14103	14838	14725	14859	14833	14855
Adj. R ²	0.396	0.296	0.285	0.148	0.080	0.570	0.518	0.518	0.316
F	235.001	170.003	175.301	19.806	63.749	113.077	108.888	103.339	157.391

T-values are in brackets; ***, **, and * indicate $p < 0.001$, $p < 0.01$ and $p < 0.05$, respectively. Due to missing data for Cost, TATR, CATR, ARTR, APTR, ITD, Bcycle, and Cash, the number of samples involved in the regression is not consistent with the total sample (same below).

TABLE 8: Path mechanisms of financial shared services to empower the real economy (II).

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	ROA	ROA	ROA	ROA	ROA	ROA	ROA	ROA	ROA
Cost	-8.946***								
TATR		(-7.84) 2.750***	(16.58) 0.703***						
CATR			(10.50) 0.001***						
ARTR				(2.92) 0.003					
APTR					(0.67) -0.001***				
ITD						(-5.18) -0.001***			
Bicycle							(-7.60) -0.001***		
Cash									
Tip									0.734*** (22.83)
FSSC	0.428* (1.92)	0.195 (0.92)	0.495** (2.17)	0.781*** (3.56)	0.685*** (3.09)	0.618*** (2.85)	0.609*** (2.80)	0.595*** (2.72)	0.198 (0.92)
Size	0.808*** (13.06)	0.800*** (9.13)	0.743*** (8.28)	0.646*** (8.84)	0.698*** (9.89)	0.687*** (9.44)	0.675*** (9.25)	0.681*** (9.41)	0.623*** (6.99)
Lev	-8.250*** -9.739***	-9.922*** (-19.57)	-9.843*** (-21.79)	-9.765*** (-20.92)	-9.881*** (-21.18)	-9.881*** (-21.93)	-9.881*** (-18.98)	-11.723*** -11.096***	-11.129*** (-33.33)
Growth	1.379*** (13.70)	1.058*** (7.35)	1.259*** (9.16)	1.199*** (10.57)	1.243*** (11.76)	1.163*** (10.78)	1.186*** (11.00)	1.187*** (11.06)	1.234*** (9.40)
FmAge	0.011 (1.45)	0.007 (0.88)	0.003 (0.41)	0.028*** (3.79)	0.016** (1.94)	0.021** (2.47)	0.016* (1.94)	0.018** (2.09)	0.012 (1.46)
Soe	-0.616*** (-7.32)	-1.018*** (-10.24)	-0.973*** (-9.66)	-0.752*** (-7.03)	-0.811*** (-7.89)	-0.820*** (-8.09)	-0.842*** (-8.46)	-0.852*** (-8.55)	-0.899*** (-8.76)
Top1	0.026*** (10.79)	0.016*** (5.87)	0.021*** (7.81)	0.021*** (8.81)	0.023*** (9.40)	0.024*** (9.64)	0.023*** (9.36)	0.023*** (9.46)	0.022*** (8.55)
Ind	-3.535*** (-5.04)	-2.214*** (-3.18)	-2.727*** (-3.86)	-2.500*** (-3.75)	-2.619*** (-3.81)	-2.689*** (-3.94)	-2.445*** (-3.56)	-2.511*** (-3.65)	-2.341*** (-3.37)
Dual	-0.089 (-1.06)	0.097 (1.16)	0.087 (1.02)	-0.016 (-0.20)	0.018 (0.22)	0.051 (0.62)	0.061 (0.74)	0.063 (0.77)	0.005 (0.06)
Board	0.181 (1.60)	0.306 (1.60)	0.246 (1.25)	0.348* (1.74)	0.317 (1.62)	0.293 (1.65)	0.235 (1.21)	0.227 (1.17)	0.488** (2.53)
Pcm	4.674** (2.24)	7.895*** (2.69)	7.669*** (2.72)	14.068*** (5.75)	11.384*** (4.88)	11.645*** (4.71)	11.560*** (4.86)	11.552*** (4.88)	7.337*** (2.63)
_Cons	-3.345*** -8.248***	-8.567*** (-8.27)	-8.035*** (-6.49)	-7.611*** (-7.12)	-7.701*** (-6.24)	-5.721*** (-5.92)	-5.721*** (-6.03)	-5.721*** (-4.02)	-11.019*** (-9.125)
Intermediary effect	0.177***	0.411***	0.111***	0.010*	-0.007*	0.067***	0.078***	0.083***	0.408***
Direct effect	0.428**	0.195	0.495**	0.781***	0.685***	0.618***	0.609***	0.595***	0.198***
Total effect	0.605***	0.606***	0.606***	0.791***	0.768***	0.685***	0.687***	0.678***	0.606***
N	14865	14854	14855	14103	14838	14725	14859	14833	14855
Adj. R ²	0.386	0.378	0.345	0.405	0.373	0.377	0.380	0.380	0.368
F	175.734	152.539	136.873	147.382	136.412	135.526	139.136	139.893	150.978

T values are in brackets; ***, **, * and * indicate $p < 0.001$, $p < 0.01$ and $p < 0.05$, respectively.

TABLE 9: Further studies.

	Number of subsidiaries		Revenue size		Labor-intensive	
	More	Less	Big	Small	High	Low
	(1)	(2)	(3)	(4)	(5)	(6)
	ROA	ROA	ROA	ROA	ROA	ROA
FSSC	0.878*** (3.60)	0.135 (0.29)	1.039*** (5.00)	-0.063 (-0.10)	0.806*** (3.02)	0.055 (0.13)
Size	0.608*** (6.23)	0.974*** (6.90)	-0.010 (-0.19)	0.388** (2.31)	0.619*** (4.68)	0.836*** (6.05)
Lev	-10.414*** (-12.16)	-10.638*** (-15.13)	-10.515*** (-33.18)	-9.110*** (-17.68)	-11.386*** (-10.65)	-9.336*** (-16.55)
Growth	1.262*** (8.64)	1.444*** (8.45)	1.056*** (11.14)	1.450*** (8.54)	1.500*** (7.73)	1.286*** (9.13)
FmAge	0.041*** (4.80)	-0.027* (-1.95)	0.024*** (3.19)	-0.038*** (-2.76)	0.012 (1.22)	0.001 (0.09)
Soe	-0.682*** (-4.37)	-1.082*** (-7.02)	-0.576*** (-5.99)	-0.674*** (-4.54)	-0.909*** (-4.87)	-0.670*** (-5.12)
Top1	0.020*** (6.55)	0.031*** (7.55)	0.014*** (5.11)	0.032*** (7.61)	0.019*** (5.24)	0.028*** (7.24)
Ind	-2.532*** (-3.03)	-2.486** (-2.11)	-1.523** (-2.01)	-3.010** (-2.58)	-1.396 (-1.62)	-3.570*** (-3.11)
Dual	0.303** (2.53)	-0.223* (-1.82)	0.193* (1.76)	-0.023 (-0.19)	-0.026 (-0.22)	0.124 (1.00)
Board	-0.293 (-1.21)	1.228*** (3.67)	-0.428* (-1.96)	0.787** (2.26)	-0.243 (-0.90)	0.866*** (2.72)
Pcm	12.248*** (2.98)	5.868** (2.14)	23.804*** (35.42)	5.173** (2.37)	13.042** (2.43)	5.557** (2.14)
_Cons	-5.381*** (-3.60)	-15.160*** (-5.55)	8.094*** (7.15)	-2.679 (-0.82)	-5.764*** (-2.58)	-11.327*** (-4.49)
N	7916	6953	7907	6962	7819	7050
Adj. R ²	0.404	0.293	0.547	0.281	0.416	0.282
F	100.490	51.276	160.164	52.429	102.420	56.333

Note. Labor-intensity indicator is obtained by referring to the study of Lu et al. [28], using the logarithm of the number of employees/logarithm of main business revenue; in the grouping of number of subsidiaries, revenue size, and labor intensity, they are grouped according to the sub-year and sub-industry medians of the number of subsidiaries, main business revenue, free cash flow, and labor intensity of listed companies, respectively. *T* values are in brackets; ***, ** and * indicate $p < 0.001$, $p < 0.01$ and $p < 0.05$, respectively.

turnover, accounts receivable turnover, and personnel efficiency and significantly negatively related to operating cost rate, accounts payable turnover, inventory turnover days, operating cycle, and cash cycle, indicating that the implementation of financial shared services can not only speed up the flow of assets, accelerate the speed of fund recovery, and improve personnel output but also reduce operating costs, extend the time of using external funds, shorten inventory turnover days, and optimize the operating cycle and cash cycle, thus improving the overall operational efficiency of the enterprise.

Based on model (3), the coefficients of operating cost ratio (Cost), inventory turnover days (ITD), operating cycle (Bcycle), and cash cycle (Cash) are significantly negative in columns (1) and (6)–(8) of Table 8. The coefficients of total asset turnover ratio (TATR), current asset turnover ratio (CATR), accounts receivable turnover ratio (ARTR), and personnel efficiency (Tfp) are significantly positive, indicating that there is a significant mediating role of the above indicators in the relationship between both financial shared services and enterprise value. Meanwhile, according to the third step of the mediating utility test, the directions of the coefficients of FSSC in model (2) and the product of the coefficients of the above indicators are compared with the

coefficients of FSSC in model (3) in turn, and it is found that the above indicators play only a partial mediating role in the relationship between financial shared services and enterprise value. In column (5), the coefficient of accounts payable turnover ratio (APTR) is insignificant and passes the significance test using Bootstrap method, indicating that accounts payable turnover also plays a mediating utility in the relationship between financial shared services and enterprise value.

It is indicated that financial shared service optimizes operational efficiency by reducing operating costs, improving total asset turnover, accounts receivable turnover, current asset turnover, and personnel efficiency, and reducing inventory turnover days, accounts payable turnover, operating cycle, and cash cycle, thereby improving enterprise value, and operational efficiency plays a mediating variable in the relationship between financial shared services and enterprise value, and Hypothesis 2 is verified.

5. Further Research

Since the companies implementing financial shared services are mainly large enterprise groups with large revenue scale and a large number of subsidiaries as well as those belonging

to labor-intensive industries [2, 13], this paper applied the number of subsidiaries, revenue size, and labor-intensity indicators as grouping variables for the grouping regression of the sample, respectively. The empirical results are shown in Table 9. The regression results in columns (1)–(6) of Table 9 show that the impact of financial shared services on the real economy is significant only in enterprises with many subsidiaries, large revenue scale, abundant free cash flow, and high labor intensity, indicating that financial shared service is more adapted to enterprises with a large number of subsidiaries, large revenue scale, and high labor intensity. This is mainly because, on the one hand, the scope of financial shared services is focused on financial accounting processes that are less relevant to management decisions, occur frequently, and are easily standardized; on the other hand, these enterprises have a more urgent need to improve the efficiency of financial management, so the implementation of financial shared services is more effective in promoting the real economy.

6. Conclusions and Recommendations

This paper investigates the impact of financial shared services on the real economy by using data related to A-share listed companies in Shanghai and Shenzhen from 2008–2017 and concludes the following. Firstly, financial shared services help to enhance enterprise value. Secondly, operational efficiency is the mediating variable in the relationship between financial shared services and enterprise value. Financial shared services empower the real economy by reducing business operating costs, improving total asset turnover, current asset turnover and personnel efficiency, and accounts receivable turnover, and reducing inventory turnover days, accounts payable turnover, operating cycle, and cash cycle. Finally, further research found that the empowering effect of financial shared services on the real economy exists only in enterprises with many subsidiaries, large scale, and high labor intensity.

According to the conclusion of this paper, the following recommendations are made. First, in the era of digital economy, data has become a key production factor and strategic resource, and the digital transformation of finance can empower the real economy and form a “new dynamic energy” for high-quality development of the real economy. Therefore, enterprises should pay attention to the application of financial shared services, accelerate financial digital transformation, use information technology and digital technology to promote business and financial process reengineering, optimize their operation and management capabilities, and achieve “overtaking” in the digital era. Second, financial shared services are not suitable for all enterprises. In large enterprise groups and labor-intensive industries, financial shared services can better play the scale and centralization effects and highlight the improvement of control and service efficiency. Therefore, enterprises should choose and design their financial management models according to their own characteristics and long-term strategies. Third, financial shared services are crucial to improving the operation and management capabilities of

enterprises, and enterprises should make good use of financial shared services to continuously empower their operation and management and transform them into wealth creation capabilities of enterprises, so as to ultimately enhance the contribution and competitiveness of China’s real economy in the world economy.

Data Availability

The data used to support the findings of the study were obtained from the Wind database and CSMAR database.

Conflicts of Interest

The author declares that there are no conflicts of interest.

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