

Children's Education Expenditure and Household Financial Asset Allocation

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Abstract

Children's education expenditure and household financial asset allocation are core issues of households' intertemporal financial planning, yet existing literature has not reached a consistent conclusion on their correlation. This paper constructs a theoretical framework to analyze the transmission paths and constraint conditions through which education expenditure affects financial asset allocation. The study reveals that education expenditure bears dual attributes of consumption and human capital investment, and exerts an overall positive driving effect via three mechanisms: intertemporal planning, information acquisition, and asset structure adjustment. Such positive effect is restricted by housing mortgages, health risks, household wealth stock, and urban-rural financial supply gaps. This paper provides theoretical support for the synergy between family education investment and household wealth accumulation.

Keywords

Children's Education Expenditure; Household Financial Asset Allocation; Intertemporal Planning; Theoretical Mechanism.

1. Introduction

China's transformation to high-quality economic development has greatly lifted residents' income levels, while intensified intergenerational competition has pushed families to allocate a large share of income to children's human capital investment. Official survey data from the 2023 China Household Education Finance Survey indicates that the total education cost for one child from preschool to undergraduate graduation averages 287,000 CNY; households in the top 20% income bracket spend up to 580,000 CNY on average, while the bottom 20% of families still bear an average cost of 160,000 CNY. Such sustained, large-scale educational spending inevitably reshapes household intertemporal cash flow arrangements and long-term wealth allocation decisions, making the interaction between education expenditure and household financial asset allocation a vital research topic in the field of household finance.

Two competing theoretical logics dominate extant academic discussions. The crowding-out perspective originates from static budget constraint theory, which treats education spending as mandatory consumer outlay that occupies household disposable income, squeezes capital available for stocks, funds and other risky financial assets, and suppresses household financial market participation [1]. This analytical perspective only captures the short-term cash depletion characteristic of education expenditure, and ignores its long-term investment attribute oriented toward children's future labor income returns. In contrast, scholars adhering to the intertemporal synergy viewpoint apply the Life Cycle Hypothesis, arguing that predictable long-term education liabilities extend households' financial planning horizons, boost long-term savings willingness and raise the scale and diversification of financial asset holdings [2]. With the nationwide penetration of digital infrastructure, subsequent research

further supplements the digital spillover mechanism: the demand for educational policy and training information drives household internet adoption, cuts the information and transaction costs of financial investment, and indirectly lifts families' willingness to hold risk assets [3].

Despite existing preliminary explorations, the relevant literature still bears three core limitations that restrict its explanatory power for Chinese household financial behaviors. First, most prior studies artificially separate the consumption and investment attributes of education expenditure, and cannot build a unified analytical framework to judge the net composite effect of these two offsetting forces, resulting in conflicting empirical results. Second, current research only verifies scattered single channels in isolation, without systematic comparative analysis of the three core transmission mechanisms including intertemporal planning, information acquisition and asset restructuring, leaving the complete internal logical chain unclarified. Third, existing heterogeneous analysis merely conducts simple subsample regressions, without theoretical elaboration on how mortgage liabilities, health shocks, wealth endowments and urban-rural financial gaps moderate the baseline effect, failing to identify clear boundary conditions for the promotion effect to operate.

To fill the above research gaps, this paper proposes three distinct marginal contributions to household finance research. First, this study integrates the dual economic attributes of education expenditure into a unified theoretical paradigm, elaborates the game relationship between short-term crowding-out pressure and long-term promotion force, and theoretically interprets the source of inconsistent empirical findings in previous literature. Second, this paper constructs a three-channel parallel transmission system, systematically elaborates how education expenditure reshapes the scale and structure of household financial assets, and supplements intermediate mechanism research on the linkage between family education investment and wealth accumulation. Third, combined with China's unique institutional realities, this paper identifies four major heterogeneous moderating factors, sorts out their constraint logic on the baseline promotion effect, and provides theoretical support for differentiated policy design targeting various household groups.

The structure of this paper is arranged as follows: Section 2 reviews and comments on relevant literature, further clarifies research deficiencies and deduces core research logic; Section 3 builds a complete theoretical framework, elaborates three transmission mechanisms layer by layer and puts forward corresponding theoretical deductions; Section 4 conducts theoretical analysis on four categories of heterogeneous moderating factors including housing loans, health risks, household wealth and urban-rural gaps; Section 5 summarizes core theoretical conclusions and proposes multi-dimensional targeted policy implications matching China's institutional environment; Conflicts of Interest, Acknowledgements and References are attached at the end of the paper.

2. Literature Review

2.1. Research on Household Financial Asset Allocation

Research on household portfolio selection takes Modigliani's Life Cycle Hypothesis as the foundational analytical framework, which proposes that families allocate assets to smooth consumption over the whole life cycle based on expected lifetime income. Subsequent scholars expand the research system of influencing factors from three dimensions: household internal endowments, information cost constraints and external institutional supply.

From the perspective of household internal background risks, health shocks and housing mortgage loans constitute rigid liquidity constraints that suppress risk asset holdings. Lei and Zhou (2010) verified that deterioration of family members' self-reported health significantly raises demand for precautionary savings, reduces the share of risky assets, and pushes households to hold massive low-yield cash and demand deposits [4]. Housing mortgages

represent recurring long-term rigid expenditures. Zhou (2015) pointed out continuous monthly repayments squeeze investable household capital, weaken risk tolerance and substantially restrain the allocation scale of risky financial assets [5]. Household wealth stock determines families' risk buffer capacity: high-net-worth households can withstand income and expenditure fluctuations and simultaneously undertake educational investment and diversified financial allocation, while low-asset families face strict budget trade-offs between two types of outlays.

From the perspective of information access barriers, financial literacy and digital infrastructure construction form core thresholds restricting financial market participation. Lusardi and Mitchell (2011) illustrated that insufficient financial knowledge prevents households from identifying product risks and calculating long-term investment yields, leading to voluntary exclusion from formal financial markets [6]. The popularization of internet and digital finance effectively mitigates information asymmetry and transaction costs. Taking the "Broadband China" policy as a quasi-natural experiment, Li et al. (2025) confirmed that digital infrastructure construction significantly improves rural and low-income households' access to wealth management, stock and fund products [7].

From the perspective of external institutional environment, social security systems and urban-rural financial resource distribution reshape household risk expectations and investment channels. Complete medical and pension insurance hedges future uncertain expenditure risks and curbs excessive accumulation of liquid precautionary assets [9]. Restricted by the urban-rural dual economic system, rural areas lack physical banking outlets and standardized low-threshold wealth management products, resulting in single household asset portfolios dominated by cash and deposits [8].

2.2. Research on Education Expenditure and Asset Allocation

Current research forms two irreconcilable conclusions regarding the correlation between education expenditure and household financial asset allocation. The static budget crowding-out view regards education spending as compulsory consumption that erodes disposable cash and lowers the scale of financial investment [1]. The intertemporal human capital perspective argues that predictable long-term education costs stimulate long-term savings accumulation and digital information demand, lifting the diversification level of household investment portfolios [2,3].

Other related literature discusses exogenous driving factors of education expenditure such as intergenerational transmission and labor market polarization, yet only takes education outlays as the explained variable, without constructing a complete transmission chain explaining how education spending acts on asset allocation, and thus cannot resolve the divergence of existing empirical results [10,11].

2.3. Literature Gap Analysis

Synthesizing the above literature, three prominent research gaps remain:

First, existing research separates the consumption and investment dual attributes of education expenditure, and overly emphasizes the short-term crowding-out effect while ignoring its long-term human capital value.

Second, studies lack systematic sorting of multi-layer transmission paths, failing to clarify the complete causal chain through which education expenditure reshapes household portfolios.

Third, prior work neglects the moderating effect of household characteristic heterogeneity, without theoretical interpretation of boundary conditions for the crowding-out or promotion effect to dominate.

Combined with China's reality of high household housing debt, incomplete medical security and unbalanced urban-rural financial supply, this paper puts forward a unified theoretical

judgment: children's education expenditure exerts an overall positive promoting effect on household financial asset accumulation via three channels, namely intertemporal savings expansion, digital information penetration and low-yield asset substitution. Nevertheless, this facilitating effect will be significantly weakened by housing mortgage liabilities, family health risks and insufficient wealth reserves; rural households with limited formal financing channels exhibit stronger marginal responses to education-driven savings motives.

3. Theoretical Analysis

3.1. Intertemporal Planning Mechanism

Different from temporary daily consumer goods expenditure, children's education outlays feature predictability, long cycles and irreversibility. Tuition fees, extracurricular training charges and teaching auxiliary expenses must be paid at fixed time points in each academic stage; once families enter a certain education phase, there is limited room to cut relevant spending arbitrarily. Such rigid multi-period payment obligations extend households' financial planning horizons and form three stable savings characteristics.

First, households raise the overall savings rate. To reserve sufficient funds for future education obligations, families reduce proportion of income used for instant consumption and allocate more disposable income to savings and financial assets.

Second, households extend the maturity structure of savings. Instead of holding idle demand deposits with ultra-low yields, families prefer medium and long-term financial instruments to match the multi-year education funding cycle.

Third, households strengthen savings discipline. Fixed periodic education costs restrain impulsive discretionary consumption and reduce the probability of premature interruption of long-term wealth accumulation plans.

This mechanism can be coherently explained by integrating Precautionary Savings Theory and the Life Cycle Hypothesis. Education expenditure combines predictable total payment scale and uncertain future returns of children's human capital. The coexistence of foreseen outlays and unquantified future labor income jointly strengthens households' sustained accumulation motivation, expanding the total stock of household financial assets over the whole education cycle.

3.2. Information Acquisition Mechanism

Active participation in financial markets relies on low-cost access to credible investment information. Parents need to continuously collect admission policies, training institution information and home-school communication resources for children, which becomes the core incentive for families to access internet devices.

After completing digital access to satisfy educational information demands, the marginal cost of searching wealth management, stock and fund information declines sharply without additional learning costs. In regions with fierce education competition and complex admission rules, this digital spillover effect becomes more salient. For households without prior internet usage habits, children's educational information demand serves as the primary trigger for digital adoption, which fundamentally lowers the information and technical threshold of formal financial market participation.

3.3. Asset Structure Adjustment Mechanism

Cash and bank demand deposits carry zero liquidity risk but extremely low nominal yields, which fail to offset long-term inflation erosion and will continuously deplete the real purchasing power of education reserve funds. Faced with continuous multi-year education funding pressure, households will actively optimize portfolio composition by replacing low-yield liquid

assets with time deposits, treasury bonds and low-volatility funds to lift the comprehensive yield of total financial assets.

This portfolio restructuring behavior reflects passive rational financial decision-making rather than active pursuit of high risk appetite. The larger the total scale of planned education expenditure and the longer the preparation cycle, the stronger households' willingness to reduce liquid asset ratio and allocate medium-long term value-preserving financial products.

4. Heterogeneous Moderating Factors

4.1. Housing Mortgage Constraint

Housing loans constitute long-term monthly rigid cash outflows. When mortgage repayments and children's education spending overlap, household disposable cash flow is severely compressed, and the intertemporal savings planning mechanism cannot operate effectively. For mortgage-free families without recurring housing debt pressure, liquidity space is sufficient to simultaneously implement education savings and diversified financial allocation, hence the promotion effect of education expenditure is statistically more significant.

4.2. Health Risk Constraint

Unhealthy household members bring unexpected large medical expenditures and amplify the demand for precautionary liquid assets. Faced with potential medical shocks, households tend to hoard more cash and deposits, reducing the proportion allocated to medium-long term financial instruments and restraining the asset restructuring channel. Complete medical insurance and critical illness insurance can effectively hedge health risks and weaken this crowding-out constraint on long-term financial investment.

4.3. Household Wealth Constraint

High-net-worth households possess abundant wealth buffers, and education spending barely generates obvious impact on daily cash flow. Such families can simultaneously fulfill human capital investment and diversified financial asset allocation. In contrast, low-wealth households face tight budget limits, and education outlays will produce prominent crowding-out effects on funds available for financial investment.

4.4. Urban-Rural Financial Constraint

Rural households face single asset options and limited access to formal financial institutions, so education savings motives become the core driving force of financial asset accumulation, presenting stronger marginal promotion effects. Urban families own diversified asset categories including real estate, stocks and wealth management products, and multiple factors interfere with their financial decisions, diluting the marginal impact of children's education expenditure and leading to weaker statistical correlation between the two variables.

5. Conclusion and Policy Implications

5.1. Main Theoretical Conclusion

This paper constructs an integrated theoretical framework to unpack multi-channel impacts and heterogeneous boundary conditions of children's education expenditure on household financial asset allocation, and draws three core theoretical inferences.

First, the correlation between children's education outlays and household financial assets cannot be simplified as a unidirectional crowding-out effect. Education expenditure carries dual economic attributes: immediate consumption cash outflow and forward-looking human capital investment with expected future labor income gains. The net composite influence on

household portfolios depends on the relative strength of these two offsetting forces, which reconciles contradictory findings documented in prior empirical literature.

Second, three mutually reinforcing transmission channels jointly generate the positive linkage between education investment and household financial asset accumulation. The intertemporal planning channel extends financial decision horizons and elevates long-term savings propensity. The digital information channel stimulates internet adoption to cut financial market entry costs. The asset restructuring channel motivates substitution of low-yield liquid assets to preserve education fund purchasing power against inflation. All three channels operate simultaneously to boost both the scale and quality of household financial portfolios.

Third, the facilitating effect of education expenditure is subject to distinct moderating constraints originating from household balance sheets, health risks and urban-rural institutional gaps. Recurring mortgage payments squeeze coordinated savings capacity; uninsured health shocks boost precautionary liquidity hoarding; insufficient wealth endowments force trade-offs between education and financial investment; underdeveloped rural financial infrastructure amplifies the marginal sensitivity of savings to education commitments, while diversified urban investment channels dilute this response. These heterogeneous moderators systematically explain inconsistent regression results across existing empirical research.

5.2. Policy Implications

Based on the theoretical mechanisms and heterogeneous constraints identified above, this paper proposes hierarchical, differentiated policy packages covering public education supply, multi-tier social safety nets and inclusive rural financial construction.

First, expand fiscal input on basic public education and standardize off-campus training industries to reduce involuntary household education burdens. Governments ought to increase investment in preschool and compulsory education public services, implement progressive education subsidies targeting low and middle-income households, and strengthen regulatory oversight on training institution pricing and anxiety-inducing marketing tactics. Reducing lumpy unplanned education outlays releases household liquidity space and fully activates the intertemporal savings transmission channel.

Second, consolidate multi-tier medical insurance systems to mitigate health-driven precautionary savings distortions. Policymakers shall raise reimbursement ratios of basic medical insurance and expand critical illness insurance coverage. Preferential tax policies can be launched to support commercial medical and critical illness insurance products, strengthening household risk buffering capacity. By hedging unexpected medical expenditure shocks, families will reduce excessive cash deposits and allocate more education reserves to medium-long term value-preserving financial instruments.

Third, deepen inclusive financial construction to bridge urban-rural financial resource gaps. Regulators and local governments shall expand physical and digital financial service outlets in counties and villages, design low-threshold, low-volatility education savings and annuity products tailored for rural residents. Local schools and village committees can act as public platforms for regular digital financial literacy training, enabling rural families to acquire financial information alongside educational resources and activate the information transmission channel uncovered in this research. Such interventions narrow the urban-rural efficiency gap of translating education investment into sustainable household wealth accumulation.

Fourth, develop specialized financial products and free public financial planning services for mortgage-burdened low-liquidity households. Financial institutions should launch long-maturity, low-risk dedicated education savings schemes with flexible installment terms. Communities and primary schools can jointly organize free household intertemporal financial

planning workshops, guiding families to reasonably coordinate mortgage amortization schedules, children's education funding targets and medium-long term financial investment arrangements, alleviating the crowding pressure generated by dual rigid expenditures.

Collectively, a coordinated policy system integrating public education support, comprehensive social risk hedging and tiered inclusive finance can construct a favorable institutional environment where children's human capital investment and household wealth accumulation form a mutually reinforcing virtuous cycle, facilitating inclusive wealth growth and steady expansion of China's middle-income group.

Conflicts of Interest

The authors declare that they have no conflict of interest.

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