Financial Economics Research; Vol.3, No.6; 2026
E-ISSN: 3006-3663 P-ISSN: 3006-3655
DOI: https://doi.org/10.70267/fer.v3n6.0914
Published by: Zeus Press

Crowding out Effect of Commercial Insurance Holding on Residents' Self-funded Preventive Health Investment

Ziyun Zhou*

School of Finance, Zhejiang University of Finance and Economics, Hangzhou 310018, China

**Corresponding author: Ziyun Zhou.*

Abstract

In recent years, according to the national health development strategy, the national health literacy level has improved compared with the past, and residents' willingness to purchase commercial insurance has increased, but the groups with chronic diseases and sub-health status are still expanding. The purchase of commercial insurance should play a role in promoting self-funded preventive health investment, but in fact there is indeed a crowding-out effect. Based on this, this paper analyzes the relevant mechanisms and reasons from the perspectives of family asset allocation theory and behavioral finance. It is found that the purchase of commercial insurance can bring a certain role to residents. For risk-averse residents, the purchase of insurance can gain short-term benefits in limited expenditure, so residents will subjectively think that insurance is more cost-effective than self-funded preventive health investment, which brings long-term and hidden benefits. The crowding-out effect brought by the holding of commercial insurance will also bring practical harm such as increasing the risk of chronic diseases and compressing the coverage of commercial insurance with the increase of the degree.

Keywords

commercial insurance, extrusion effect, health investment, behavioral finance

1. Introduction

Since the reform and opening up, China's health sector reform and development has made remarkable achievements. Since the release of the “Healthy China 2030” Planning Outline by the Central Committee of the Communist Party of China in 2016, commercial insurance has developed new organizational forms such as health management organizations. The further expansion of commercial insurance services has increased coverage and played a significant role in alleviating the medical burden on the public. According to the National Health Commission, by 2025, China's residents' health literacy level will reach 33.69%, showing an increase compared to previous years. However, data indicates that over half of the working-age population exhibits multiple abnormal indicators in health check-ups, while groups with chronic diseases and suboptimal health conditions continue to expand, resulting in high insurance demand and a situation of accelerated depreciation of health capital stock as described by Grossman [1].

The mainstream view in the industry is that commercial insurance can promote residents' health input with various health value-added services, and some documents have verified that self-protection behavior at the health level can promote the development of commercial insurance, and the two have a complementary

© 2026 The Author(s). Authors retain copyright in their articles.

relationship [2]. However, the synchronous growth at the macro-statistical level may cover up the theoretical possibility that funds are crowding out each other within the micro-family.Some scholars also found the existence of "crowding out effect", but the related literature confirmed the substitution crowding out relationship between insurance types, and almost did not include self-funded preventive health investment in the analysis category [3].

In this paper, referring to Xiong Deping's definition of preventive health investment, combined with some brief examples, this paper explains the self-funded preventive health investment, and analyze the crowding-out mechanism of commercial insurance on self-funded preventive health investment with some theories. At the same time, this paper discusses the reasons behind the crowding-out effect and point out some negative effects from the perspective of behavioral finance [4].

2. Definition of Core Concepts and Theoretical Basis

2.1 Self-funded Preventive Health Investment

In this study, the concept of "self-funded preventive health investment" is divided into three attributes to understand.

First of all, out-of-pocket expenditure means that the residents themselves must bear the cost, which involves the marginal decision of family budget. Third-party payment projects, such as public health services paid by medical insurance as a whole, do not belong to the self-funded category defined in this paper. There is a special dispute about the medical examination service provided by insurance companies with the insurance policy: if the medical examination rights are already included in the premium consideration paid by the insured, it will indirectly constitute the family's cost expenditure at the family budget level. This paper takes the expenses incurred by purely extra out-of-pocket expenses as the main analysis object of crowding out effect.

Secondly, the attribute of prevention means that the purpose of expenditure is to reduce future health risks or delay the depreciation of health capital, which occurs before the disease is diagnosed. This definition refers to the definition of "self-protection" by Ehrlich and Becker, that is, to reduce the probability of bad state by making efforts beforehand, rather than bearing losses afterwards [5]. Physical examination and in-depth screening, long-term fitness and exercise, nutrition and dietary intervention are all preventive expenditures, while therapeutic expenditures such as outpatient service, hospitalization and drug purchase after the disease is diagnosed are not in this range.

Finally, investment refers to spending at the expense of current consumption in exchange for the maintenance or improvement of future healthy stock, which is essentially different from hedonic consumption such as leisure massage.

2.2 Extrusion Effect

Crowding-out effect refers to the phenomenon that the increase of government expenditure leads to the decrease of private investment. In insurance economics, crowding-out effect is extended to the phenomenon that the expansion of one security system leads to the substitution of another security system or behavior. The existing literature has confirmed the crowding-out effect between social medical insurance and commercial health insurance, and the crowding-out effect of universal supplementary medical insurance such as Huimin insurance on traditional critical illness insurance, etc. These confirmed crowding-out effects point to a common logic, that is, when one risk prevention and control mechanism covers a certain risk exposure, residents will choose a way that is beneficial to them, thus reducing the investment in another risk prevention and control mechanism [2]. Based on the existing research, the crowding-out effect discussed in this paper includes two paths: the first is the budget constraint path, that is, under the condition of limited family budget, the rigid expenditure of commercial health insurance premiums squeezes out the disposable funds that can be used for self-funded preventive health investment. The second is the path of behavioral cognitive deviation, that is, subjective cognitive changes cause residents to actively reduce their willingness to invest in self-funded preventive health.

© 2026 The Author(s). Authors retain copyright in their articles.

2.3 Theoretical Basis: Family Asset Allocation Theory.

Family finance theory holds that families allocate income to consumption, savings and various financial assets under budget constraints to maximize intertemporal utility [6]. Traditional family finance research pays more attention to the allocation efficiency of financial assets, and rarely brings “health” into the analysis framework of asset allocation [7-9]. The reason why health capital is included in the framework of family risk management in this study is that health capital not only has consumption attributes, but also can generate future benefits, that is, high health stock means less future medical expenses and longer labor income cycle. From the perspective of asset allocation, under the constraint of family disposable budget, the rigid expenditure of commercial insurance premium and self-funded preventive health investment will form a resource competition relationship, and the premium expenditure will take up the family budget first, so the flexible health investment may be compressed. There are also complementary theoretical possibilities between the two. Based on the theory of family asset allocation, this paper analyzes the mechanism and internal causes of crowding out effect.

3. Mechanism of Crowding-out Effect of Commercial Insurance Holdings on Self-funded Preventive Health Investment

3.1 Risk Perception Weakening Mechanism: Insurance Coverage Reduces Residents' Preventive Motivation.

Moral hazard refers to the behavior that the main body of economic activity does harm to the interests of others in the pursuit of maximizing its own utility, the core of which is the asymmetry of risk and responsibility. However, the investment in commercial insurance often leads to moral hazard in advance, that is, after the contract is signed and before the actual occurrence of risk events, one party changes its behavior because it is difficult for the other party to fully observe or supervise its behavior, thus increasing the possibility of risk occurrence. Commercial insurance provides risk protection for residents, and some policyholders will focus on the insurance payment after the occurrence of diseases. Subconsciously, they think that there is insurance coverage after suffering from major diseases, and the subjective risk perception has declined, and the fear of losses caused by diseases has weakened, thus actively reducing self-funded preventive health investment in physical examination and health care; Adding bad living habits will further push up the potential risks of insurance claims. It should be noted that this is only a theoretical deduction path from the perspective of moral hazard beforehand, and some policyholders may also increase preventive investment because they attach importance to their own health.

3.2 Consumption Substitution Mechanism: Insurance Protection Replaces Self-funded Prevention Expenditure.

After purchasing commercial insurance, residents regard insurance as the main coping tool for health risks. Once medical expenses are needed, commercial insurance can bring observable compensation to residents. Compared with the chronic and imperceptible effects brought by preventive health investment, residents are more inclined to directly invest in commercial insurance. In the case of limited family health budget, residents often choose insurance and give priority to the allocation of insurance premiums, so there is no more spare money to invest in preventive health expenditures, which also leads to the situation that insurance is squeezed out of self-funded prevention. In addition, the consumer awareness of “reimbursement by insurance, no need to prevent in advance” is also affecting residents' decision-making. Even if residents have extra assets, once they lose their awareness of active health management, it will not help, and it will still create the crowding-out effect of commercial insurance on self-funded preventive health investment.

3.3 Cost-benefit Cognitive Bias Mechanism: Weakening the Value of Long-term Health Investment

The income from self-funded preventive health investment has the characteristics of long-term and recessive. On the one hand, it is difficult for some residents to accept the long-term return model, and they will see the return immediately after they pursue investment more. On the other hand, even if preventive health investment is carried out, bad living habits such as staying up late will offset the health gains brought by some investments, and health capital will still depreciate. This reality is easy for residents to misunderstand: they

© 2026 The Author(s). Authors retain copyright in their articles.

spend money on prevention, but they have not achieved the expected results, and subjectively judge that such long-term investments are low in cost performance. Compared with preventive health investment, commercial insurance has a shorter investment period, and once there is a need to pay medical expenses, insurance will play its role in helping residents reduce their medical burden, which will bring clear risks and benefits to residents. This short-term visible effect brings more satisfaction to residents than the long-term hidden health value of preventive health investment, so residents may take the initiative to increase commercial insurance expenditure and reduce preventive health expenditure.

4. The Deep-seated Causes and Practical Problems of Commercial Insurance Crowding Out Preventive Health Investment

4.1 Defects in the Design of Insurance Products: Pay More Attention to Ex Post Compensation than to Ex Post Incentive.

Most traditional commercial insurance products focus on paying for medical expenses after hospitalization, treatment, etc., and rarely set up direct subsidies or preferential rates for preventive actions such as physical examination and rehabilitation. The product functions are mainly based on post-event risks. This sense of security brought by the bottom of the bag may not necessarily enhance residents' awareness of prevention beforehand, and in some cases there is still a theoretical possibility to replace self-funded preventive health investment; There are also a few innovative products that set up health incentive mechanisms related to exercise and physical examination. As for some commercial insurance that includes health products such as physical examination, although it can help residents to carry out health prevention, these health products are mostly additional products given after purchasing insurance, which cannot be included in the self-funded category and do not meet the definition of self-funded preventive health investment. Secondly, the commercial insurance includes the prevention of health products, to some extent, it also inhibits rather than encourages residents to take preventive measures in advance. In their view, after purchasing commercial insurance, they can also give away health products, saving extra self-expense, so buying insurance is killing two birds with one stone, and they are more inclined to buy insurance. Furthermore, once commercial insurance with health products is purchased, it is more likely to weaken residents' awareness of health prevention. Residents are prone to the illusion that they have spent money on health. They think that since insurance has provided health and safety protection, spending money on prevention will become repeated investment. This psychological merging mechanism makes premium expenditure not only crowd out the budget objectively, but also crowd out the willingness to pay for preventive expenditure subjectively.

4.2 Residents' Health Cognition is Short-sighted: Risk Cognition is Lagging Behind.

As a rational investor, it is often risk-averse [10]. For self-funded preventive health investment, which is a long-term investment, the investment period is longer and the duration is longer. Residents often demand higher returns to repay the high risks brought by the long-term investment. However, the reality is that the return on investment has not been clearly reflected, and residents can no longer stand this hidden return that cannot be seen immediately. The purchase of commercial insurance can carry out risk transfer, and pay the probability of future health loss to insurance to meet the situation that residents generally attach importance to economic risk avoidance. However, residents often ignore physical health risks, fail to pay attention to the depreciation of health capital in time, and underestimate the long-term value of preventive investment. At present, residents are more inclined to choose the option with high current income and high future cost, but lack patience with the option with low current cost and high future income. Premium is the capital expenditure determined at present, which has a high weight in residents' decision-making; However, the future health improvement is a probabilistic benefit, which is easily underestimated subjectively, thus forming a cognitive distortion situation: paying a certain premium to hedge the uncertain risk of illness, but giving up the self-funded preventive health investment that can improve the probability of health improvement.

4.3 The Realistic Harm Caused by Extrusion Effect

Crowding-out effect makes residents reduce self-funded preventive health investment and weaken pre-existing health risk management and intervention. Chronic diseases such as “San Gao”, which are recessive

© 2026 The Author(s). Authors retain copyright in their articles.

and have no obvious symptoms in the early stage, have gradually increased health risks if they lack preventive actions such as physical examination and health care. Even if commercial insurance can reimburse part of medical expenses, it can only share economic losses and cannot offset the physical damage caused by the disease and the physical and mental consumption caused by future rehabilitation. Secondly, the reduction of preventive health investment has not eliminated the disease risk, but shifted the health cost from the previous small preventive expenditure to the large medical expenditure afterwards, and the increase of medical expenses is also crowding out other family resources [11]. For low-and middle-income families, this deferred health cost impact is more obvious. Furthermore, the current situation that residents attach importance to paying after the event and neglect prevention in advance will also lead to an increase in the probability and amount of compensation by insurance companies. Faced with the rising pressure of compensation, insurance companies tend to increase the pricing of product premiums and pass on the cost of compensation to policyholders, while the increase in premiums will inhibit the willingness of some residents to apply for insurance, thus further reducing the coverage of commercial health insurance. If a large number of residents reduce pre-health intervention, the scale of chronic diseases and severe diseases will increase, which will become one of the factors that aggravate the pressure of outpatient and specialist diagnosis and treatment in hospitals, aggravate the contradiction between supply and demand of medical resources, and reduce the operational efficiency of overall medical services; Of course, the shortage of medical resources is also affected by many other factors such as population structure and medical demand.

5. Conclusion

This paper starts from the current background. Although most viewpoints confirm that there is a positive complementary relationship between commercial insurance and self-funded preventive health investment, there are also phenomena that there is crowding out effect between them. Based on the description and definition, this paper analyzes the extrusion path from the mechanism of extrusion effect, and at the same time, explores its deep reasons from the perspective of behavioral finance and points out some negative effects of extrusion effect from different angles. This paper is mainly based on theoretical qualitative analysis, lacking micro-empirical data as support. All kinds of action mechanisms derived in this paper have specific applicable conditions, and the effect strength is heterogeneous, which is not suitable for all family scenes. At the same time, there are obvious endogenous problems in this topic: the group who chooses to buy commercial insurance pays more attention to their own health and is more willing to invest in self-funded preventive health, and the self-selection of this sample will interfere with the identification of effects. Follow-up research can carry out empirical tests, scientifically set explanatory variables and explained variables, choose instrumental variable method to deal with two-way causal endogenous problems, carry out heterogeneity analysis, identify the crowding-out effect under different family groups, and further improve the related research on this topic.

References

[1] Grossman, M. (1972). On the concept of health capital and the demand for health. Journal of Political economy, 80(2), 223-255.https://www.journals.uchicago.edu/doi/abs/10.1086/259880

[2] Chen Ying & Zhao Guiqin. (2022). Social medical insurance, self-protection and commercial health insurance. Financial Theory and Practice, 43 (5), 42-48. https://doi.org/10.16339/j.cnki.hdxbcjb.2022.05.006.

[3] Xing Xiaowei & Kuang Xianming. (2024). Crowding in or Crowding out: Analysis on the Effect of Basic Medical and Health Services on Commercial Health Insurance Consumption. Insurance Research, (3), 71-86. https://doi.org/10.13497/j.cnki.is.2024.03.006.

[4] Xiong Deping, Sun Yilei, Yang Mengyuan & Huang Jirong. (2026). Health investment promotes intergenerational income mobility: prevention or treatment? . Contemporary Economic Science, 48 (2), 146-158. https://doi.org/10.20069/j.cnki.djkx.2026022.

[5] Ehrlich, I., & Becker, G. S. (1972). Market insurance, self-insurance, and self-protection. Journal of political Economy, 80(4), 623-648.https://www.journals.uchicago.edu/doi/abs/10.1086/259916

© 2026 The Author(s). Authors retain copyright in their articles.

[6] Campbell, J. Y. (2006). Household finance. The journal of finance, 61(4), 1553-1604.https://onlinelibrary.wiley.com/doi/full/10.1111/j.1540-6261.2006.00883.x

[7] Ru Weixin. (2024). Study on the Influence of Family Structure and Asset Allocation on the Demand of Commercial Medical Insurance (Master's Dissertation, Guangdong University of Finance and Economics). Master's degree in https://doi.org/10.27734/d.cnki.ggdsx.2024.000797.

[8] Hua Qiuling, Han Yaduo, Huang Cairui & An Yu. (2023). Health Risk Impact and Family Asset Allocation. Journal of Social Sciences, Jilin University, 63 (4), 158-173+240. https://doi.org/10.15939/j.jujsse.2023.00020202023

[9] Zhou Huijun, Shen Ji & Gong Liutang. (2020). The health status of middle-aged and elderly people and the allocation of family assets-from the perspective of asset mobility. Economic Research, 55(10),193-208. https://kns.cnki.net/kcms2/article/abstract?v=HTCMX8yYpPGrEhnkspVjmW0t86duPuyXJccsmOjl1XtsbYXuCq56UOeQ-_bzWHEAU_Og9pbMh-WhmI9ypdR-izGR5iIS5cEP7MDqQML4oS1mcMveBmKHc9oEwoT9pgohcTVwUxt4tY5oFzb5r2tj1-5B6keojyGDG70EdvjVaIfesPsqq-yErA==&uniplatform=NZKPT&language=CHS

[10] Hu Zhihao & Liu Qian. (2022). Behavioral Finance Explanation of Market Volatility Anomalies under Heterogeneous Subjects —— Based on Computational Finance. Economics Trends, (7),90-108. https://kns.cnki.net/kcms2/article/abstract?v=5NzxYzB6HGqcuLdqBiZMtnOf0mswNR8MXSGyDW_9d7LDc53n0VyIQh2z7WAxL54DeLc7NN6dBWIAwpDW3x264nilDzfDogIxPYamO5Vfg3ZlocUt4q6diy3IaOogqqcsn0brY-ZsClYYqotuAA5Vnvl06VcvlY_82WaSNNSQXu0=&uniplatform=NZKPT

[11] Bian Shu&Li Dongyang. (2021). The Influence of Participating in Commercial Medical Insurance on the Consumption of Middle-aged and Elderly Families —— An Empirical Analysis Based on CHARLS Data. Journal of Jiangxi University of Finance and Economics, (1), 68-79. https://doi.org/10.13676/j.cnki.cn36-1224/f.2006.

Funding

This research received no external funding.

Conflicts of Interest

The authors declare no conflict of interest.

Acknowledgment

This paper is an output of the science project.

Copyrights

Copyright for this article is retained by the author (s), with first publication rights granted to the journal. This is an open-access article distributed under the terms and conditions of the Creative Commons Attribution license (http://creativecommons.org/licenses/by/4.0/).

© 2026 The Author(s). Authors retain copyright in their articles.