

Quantifying the Fiscal Benefits of Obesity Prevalence Reduction in China: A Public Economic Perspective

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Introduction

The rising obesity prevalence is imposing an increasingly burden on the Chinese healthcare system and productivity. Therefore, this study estimated the fiscal consequences of lowering the obesity prevalence rate taking a Chinese government perspective to provide evidence for decision-making.

Methods

This study adapted an age-specific prevalence model built in Microsoft Excel®, validated and applied in previous studies from Canada, Japan and Australia. The model encompassed four key dimensions, including tax revenue, disability pension, retirement payments, and healthcare costs attributable to obesity. Two cohorts were established under the scenarios of current obesity prevalence status and prevalence reduction assumption. Fiscal impacts were analyzed by comparing the difference on four dimensions between two cohorts (figure 1). A targeted literature review was conducted to identify the model inputs, primarily from secondary data in publications and yearbooks. Costs were adjusted to 2024 level by CPI. One-way sensitivity analysis was conducted to verify result robustness.

Results

The estimated annual fiscal burden of obesity in China amounts to ¥608.17 billion, representing approximately 0.482% of the national GDP. This figure is based on the current adult obesity prevalence rate of 16.4% (defined as a body mass index [BMI] $\geq 28 \text{ kg/m}^2$), as reported by the China National Nutrition Surveys. A reduction of just one percentage point in obesity prevalence—equivalent to around 11 million adults returning to a healthy weight—is projected to yield ¥37.08 billion in net fiscal gains for the government. This figure included revenue gain of ¥20.87 billion and ¥4.08 billion from direct and indirect tax, cost saving of ¥6.15 billion and ¥6.71 billion on disability pensions and healthcare costs, and ¥0.37 billion increase in retirement payments. (table 1).

The cumulative incremental fiscal flows, which consist of increased tax revenues, reduced transfers, and savings in excess healthcare costs, are projected to about RMB 400 billion by 2034 (figure 2). The decomposition further highlights that the dominant component of fiscal benefits derives from additional tax revenues, while expenditure savings through lower transfers and healthcare costs also contribute meaningfully to the overall effect.

One-way sensitivity analysis showed the results were most sensitive to the odds ratio for labor force participation (obese/non-obese).

Figure 1. Technical Framework Diagram

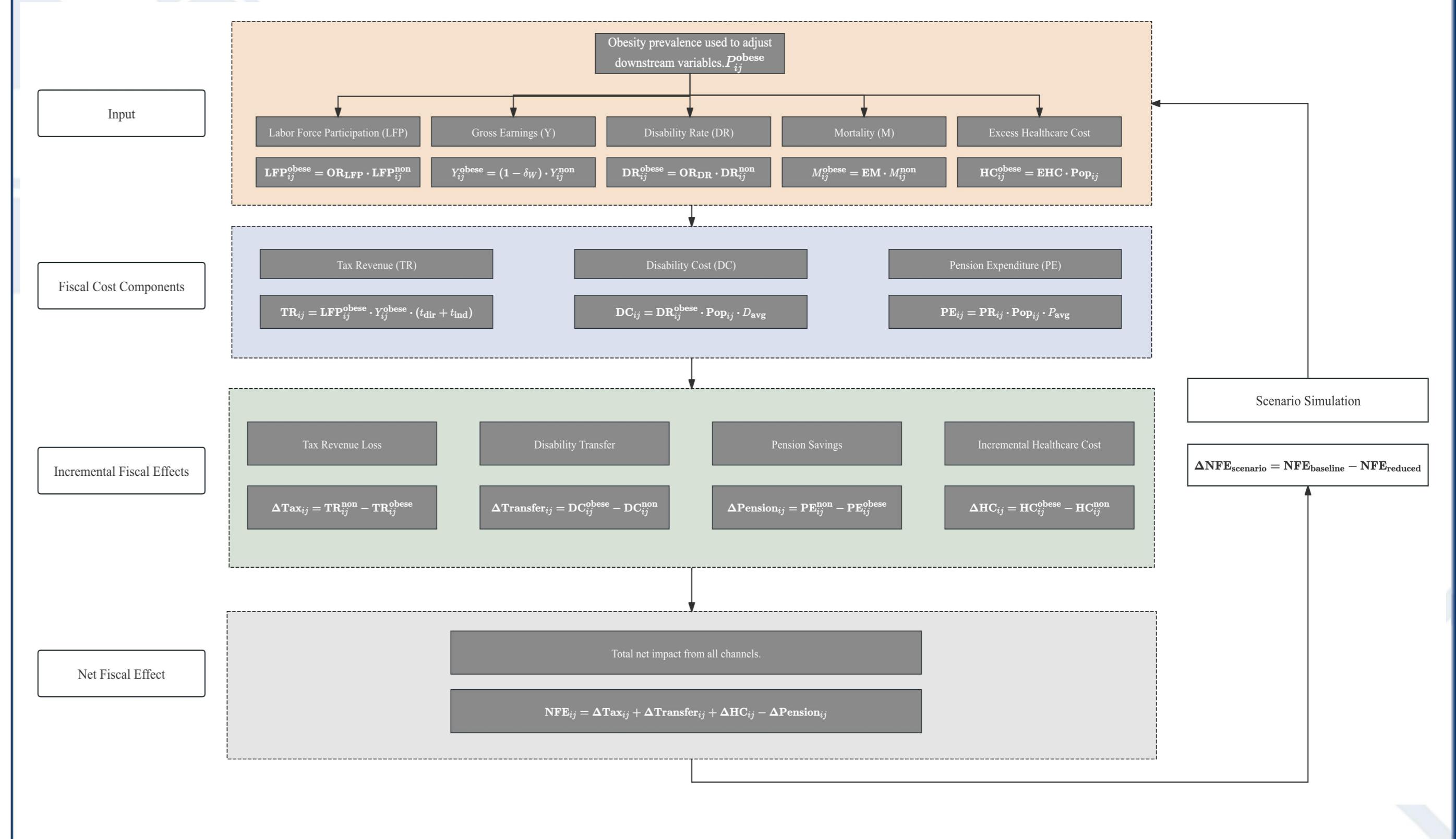
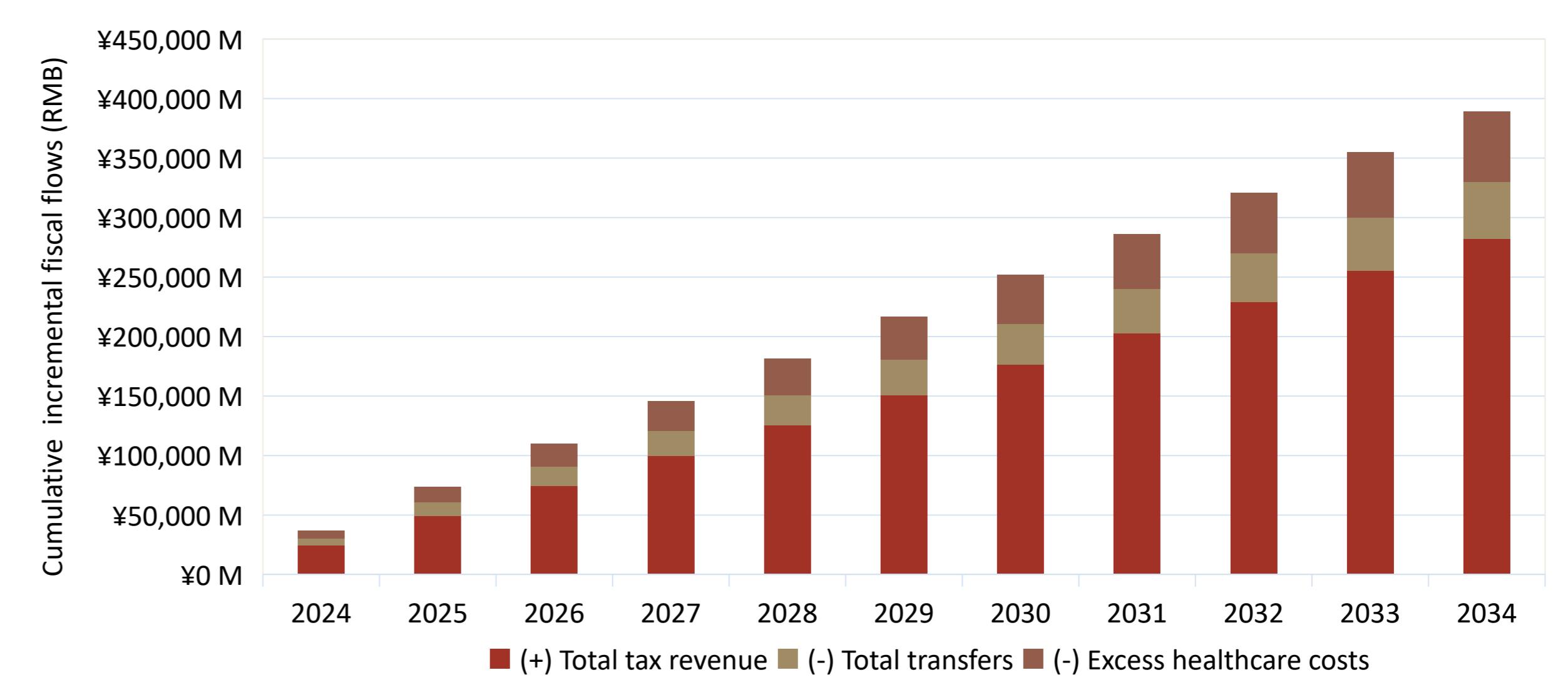


Table 1. Fiscal impact of Obesity in China, 2024

	Fiscal burden of obesity (RMB billions)	Fiscal Increment of 1% Reduction in Obesity Prevalence (RMB billions)
<i>Direct taxes from employment(+)</i>	¥342.20B	¥20.87B
<i>Indirect taxes from employment(+)</i>	¥66.88B	¥4.08B
<u>Transfers</u>		
Disability pension(+)	¥100.96B	¥6.15B
State pension(-)	¥6.1B	¥0.37B
Indirect taxes paid from transfers(-)	¥5.69B	¥0.35B
Healthcare costs(+)	¥109.92B	¥6.71B
Net fiscal effect	¥608.17B	¥37.08B

Figure 2. Projected Cumulative Incremental Fiscal Benefit of One Percentage Point Reduction in Obesity Prevalence in China, 2024–2034



Conclusions

Obesity not only imposes a substantial burden on the healthcare system but also exacerbated the fiscal pressure on the government and taxpayers. Reducing the obesity prevalence by just one percentage point is expected to yield positive fiscal benefits for the government. Obesity prevention and intervention efforts should be adequately explored in China.

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