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Diet in China during Substantial Economic Growth: Quality, Inequality, Trends, and Determinants.

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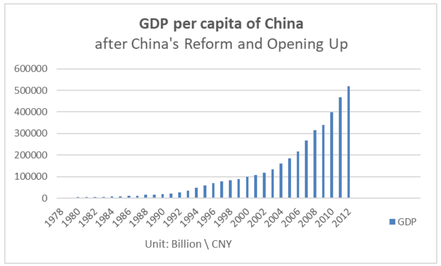
Introduction

- Low-income households purchase and eat less-healthy diets than wealthier households.
- Poor diet quality is a leading contributor to morbidity and mortality associated with cardiovascular disease, surpassing other modifiable risk factors.
- Dietary inequality remains a pressing global public health challenge, with significant implications for the well-being of socioeconomically disadvantaged populations.
- Dietary disparity should be particularly concerning in low and middle-income countries, where economic development-driven nutritional transitions contribute to rising obesity rates and non-communicable diseases (NCDs).
- China's significant economic transformation in the early 2000s presents a valuable case study for examining dietary inequality during rapid development.



Objectives

- Examine the evolving dietary quality in China during its pivotal phase of economic transition in the early 2000s.
- Mark a first attempt to measure and quantify dietary inequalities among the Chinese population.
- Employ a decomposition approach to analyze various determinants influencing nutritional inequality and its changes in China through time.
- Illuminate the primary drivers of dietary disparities and offer policy recommendations for addressing them.

Methods

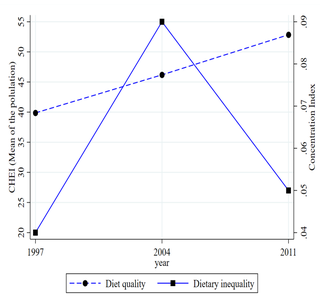
We use **three direct approaches** to analyze diet quality, inequality, trends, and determinants: the Chinese Healthy Eating Index (CHEI), the concentration index (CI), and the Blinder-Oaxaca decomposition method.

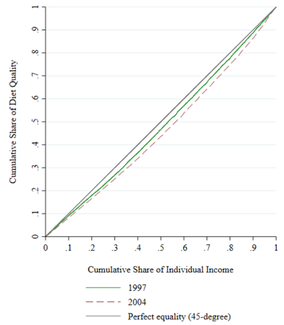
- **CHEI**: The CHEI is a widely accepted measure of diet quality, adapted from the Healthy Eating Index (HEI) based on the updated Dietary Guidelines for Chinese (DGC 2016). Each individual has a CHEI score ranging from 0 to 100, where higher scores indicate better diet quality.
- **CI**: The CI, derived from the Gini coefficient, is a common measure of inequality in health consequences. We employ the CI to assess the distribution of diet quality across income in the China population. The CI ranges between -1 (perfect pro-poor inequality) and +1 (perfect pro-rich inequality), with a larger absolute value indicating greater inequality. We also use a decomposition procedure to decompose the CI into the contributions of determinants to total inequality.
- **Blinder-Oaxaca decomposition method**: We use this method to explain the changes in dietary inequalities over two periods: 1997-2004 and 2004 to 2011. This widely used method allows us to compare disparities between two periods and decompose changes in inequality into changes in determinants and changes in the elasticities of these determinants.

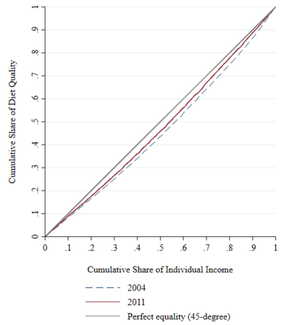
Results & Discussion

- Over the 14 years, there has been a significant improvement in the dietary quality of adults in China, reflected by notable constant increases in CHEI scores. However, females, rural residents, and individuals of Han ethnicity consistently had lower diet quality compared to other subgroups, and this disparity continued to widen from 1997 to 2011.
- Dietary inequality in China is pro-rich, indicating that high-quality diets are more prevalent among the high-income group. Dietary inequality became more pronounced from 1997 to 2004, but there was a significant trend of alleviation between 2004 and 2011.

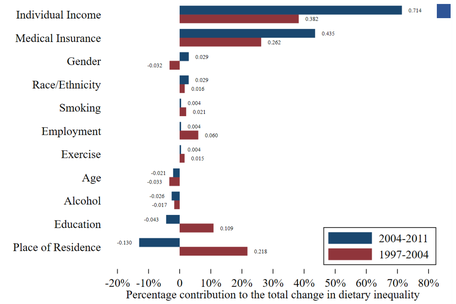
Year	1997	2004	2011
Concentration index	0.0443	0.0868	0.0511
Standard error	(0.0027)	(0.0021)	(0.0017)
Observations	8014	7953	10584
P-value	0.0000	0.0000	0.0000



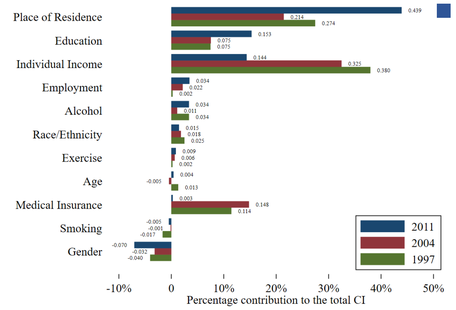




Conclusions & Implications



- The fairer improvement in diet quality from 2004 to 2011 was mainly because of higher income and the Basic Health Insurance Scheme (BHIS), which helped socioeconomically disadvantaged groups.



- Irrespective of the time period, the place of residence (urban, suburban, rural) had a negative impact on the improvement of dietary inequality.

Our research shows that diet quality is a valuable indicator for monitoring economic development and its distribution. Socioeconomic factors like income, education, and place of residence play a significant role in dietary inequality. Extending health insurance coverage is an effective policy to promote equity and access to nutritious diets in developing countries. Targeted efforts are needed to reduce persistent disparities in diet quality among different ethnicities, genders, and urban-rural populations in China.

Presenter Information

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2023 AAEA ANNUAL MEETING WASHINGTON DC JULY 23-25, 2023