The Impact of Diet Costs on Diet Quality

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Establishment of measures improving population’s diet quality

The positive

Based on Lancaster’s theory of consumer demand for product characteristics a diet quality index (DQ) is

According to studies that found an important impact of costs on food

The addressed question is: Does a healthier diet cost more than an

Analyze the association between diet costs and diet quality

Determine whether and to what extend a healthier diet costs

If

Previous studies that have analyzed the costs of a healthy diet came

This scanner data set records quantities and prices for food

15.0

Consumer’s implicit price of diet quality within the framework of a hedonic analysis is measured

Develop a new diet quality index based on the guidelines of the

These questions could have important implications in the context of

Establishment of measures improving population’s diet quality requires a profound knowledge of factors that are associated with observed food consumption behavior.

According to studies that found an important impact of costs on food consumption behavior, a diet quality index (DQ) is introduced in a food expenditure equation


• To check whether DQ is an endogenous variable a Hausman-Test is conducted.

• The hypotheses that DQ is exogenous can’t be rejected, therefore DQ is included as an explanatory variable

Develop a new diet quality (DQ) index:

The German Nutrition Society (DGE) recommends:

1. The diet should be composed of six main food groups. The shares are given in terms of weight (Diet Circle).

2. Within the six main food groups healthier items should be consumed more, unhealthier less (Food Pyramid).

Objectives

• German Consumer Panel Survey 2010 considering 190,961 purchases of 300 households.

• This scanner data set records quantities and prices for food items at a very detailed level (EAN Code).

• Further data information: (1) socio-demographic household characteristics and (2) several attitude variables of the person who is responsible for the food purchases.

• The Consumer Panel Survey is merged with the German Table of Nutrient Content which has information on 130 nutrients.

Introduction

Methods

Estimation approach:

• Consumer’s implicit price of diet quality within the framework of a hedonic analysis is measured

• Based on Lancaster’s theory of consumer demand for product characteristics a diet quality index (DQ) is introduced in a food expenditure equation


• To check whether DQ is an endogenous variable a Hausman-Test is conducted.

• The hypotheses that DQ is exogenous can’t be rejected, therefore DQ is included as an explanatory variable

Develop a new diet quality (DQ) index:

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Objectives

• Develop a new diet quality index based on the guidelines of the German Nutrition Society (DGE)

• Analyze the association between diet costs and diet quality

• Determine whether and to what extend a healthier diet costs more than an unhealthy one

Data

• German Consumer Panel Survey 2010 considering 190,961 purchases of 300 households.

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• Further data information: (1) socio-demographic household characteristics and (2) several attitude variables of the person who is responsible for the food purchases.

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Results and Conclusion

Explanatory Variables

Coeff. t-value

Constant

-109.94

-2.932

Diet Quality

129.26

3.247

Household income per month (€)

0.012

3.268

Number of people in the household

29.98

8.181

Age (head of the household)

1.44

4.880

Price awareness

-7.45

-0.860

Quality awareness

19.49

2.189

R² (adj.)

0.26

• The positive and significant coefficient for diet quality imply that consumers are willing to pay to consume a healthier diet according to German food guidelines.

Results of the hedonic regression on food expenditures

Predicted food expenditures with higher adherence to food guidelines

• Additional food expenditures (in %) compared to a reference household (variable values from sample means)

• The additional costs of moving from a medium diet to a diet at the 75% (95%)-percentil is 4.7% (13.6%)

• If this result can be confirmed in further studies, recipients of social payments who have to consume a healthier diet due to illnesses should get additional money of at least 4.7%

• Given that the current social payment food rate for poor individuals in Germany is 128 € per month this amount adds to additional support of 6 € per month