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## EFFECTS OF HEALTH INFORMATION ON THE DEMAND FOR FOOD: EU AND US EXPERIENCES

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Increasing concerns about health risks related to diets have had significant effects on food consumption patterns in the United States and the European Union. The measurement of 'health information' parameters and the quantification of likely impacts on food and nutrient intake are important subjects of inquiry. The objective of this mini-symposium was to provide a forum for analysts to report and discuss 'state-of-the-art' developments in this area.

The programme began with an introduction by Wen Chern (USA) about the purpose and the focus of each session. Chern then presented his findings on the impact of a fat and cholesterol information index on American demand for ten food items with high to low fat content. The index was computed as a weighted average of the number of medical journal articles related to fats and cholesterol, with the weights declining over time. This eliminated the problem of the index proxying for the time trend. Health risk information, as measured by the index, increased the consumption of fresh fruit, vegetables and dairy products, but decreased the consumption of meats, eggs, and fats and oils.

In a similar vein, Rudy Nayga (USA) presented a cross-section study to assess the effect of nutrition label use on the intake of key nutrients as well as the overall diet quality of American adults. It used data from the 1994–6 *Continuing Survey of Food Intakes by Individuals* (CSFII) and the *Diet and Health Knowledge Survey* (DHKS). Nayga's results suggested that nutrition labels improved diet quality by as much as 4–6 points on a 100 point Healthy Eating Index scale.

The key variable mediating the effect of health information on food and dietary choices is educational attainment. Using quantile regression estimates, Jay Variyam (USA) showed that, for total fat, saturated fat and cholesterol intake of American men, the effect of education and nutrition information is much greater at the upper end of the intake distributions. Therefore the 'beneficial' effect of education on dietary behaviour may have been underestimated owing to the previous focus on conditional mean estimates. Justo Manrique (Spain) and Helen Jensen (USA) used Becker's household production model to show how nutrition knowledge affected total fat and cholesterol intakes of low-income American people. Greater self-assessed importance of avoiding too much fat translated into lower total fat

intakes. Also better awareness of cholesterol-related health problems reduced cholesterol intakes.

The second day's session began with an introduction by Kyrre Rickertsen (Norway) concerning a European project to assess the impact of health information on food demand. The project involved the development of a common model as well as country-specific models using an 'Adjusted Global Index' as the health information measure. Stephan von Cramon-Taubadel (Germany) presented the results from the common model. While health information affected demand for the meat and fish group, this effect was significant only for Scotland. Combined with other unexpected findings, this suggested that a common model is too restrictive, and country-specific models would be more desirable. The spread of diet-health information has made consumers think more in terms of food nutrients than in terms of food products. This motivated A.M. Angulo, J.M. Gil and A. Garcia (Spain) to analyse food demand incorporating income, prices and nutrient intakes as its main determinants. Nutrient elasticities provide guidance for changes that would take place if nutritionists' recommendations were taken into account.

Susanne Wildner (Germany) and Stephan von Cramon-Taubadel's study compared the evolution of the demand for meat and fish and the response to health information in East and West Germany since reunification. A comparison of the effects of the Global Information Index and two German-specific indexes suggested that only the former produced plausible results. Health information effects were stronger in the West than in the East.

The third session focused on producer response to health information and methodology of incorporating information in microeconomic models. John Santarossa and David Mainland (Scotland) noted that attempts at altering the diet of the Scottish population by advertising campaigns have been unsuccessful. Therefore they considered the effects of a fiscal policy approach to reducing dietary fat intake. Simulations using an estimated demand model suggested that a tax policy could lower total fat intake as a percentage of energy to 30 per cent from the existing 38 per cent.

Since consumers have been shown to respond disproportionately to negative information, advertising campaigns financed by beef and pork producers may be relatively ineffective at countering negative publicity stemming from medical research that links dietary cholesterol to heart disease. Using an equilibrium-displacement model of the US meat sector, Henry Kinnucan (USA) and Oystein Myrland (Norway) estimated that the 7 per cent increase in the Health Information Index during 1993 generated losses to beef and pork producers equal to 8.1 and 3.9 per cent of farm revenue, respectively. Thus, to counter the adverse effects of health information, beef and pork producers should probably focus on product redesign, as advertising is likely to be ineffectual.

Diffusion of information about cholesterol-health linkage has been found to be a major reason for the decline of American egg consumption. Since individuals differ in exposure to media sources and in skills to process health information, aggregate time-series measures of health information may not fully capture consumers' specific health concerns. Kamhon Kan (Taiwan) and

Steven Yen (USA) used CSFII-DHKS micro data to estimate the effects of cholesterol information on egg consumption. Information, decisions to consume and the level of consumption were correlated, suggesting the importance of joint estimation of these equations.

Wen Chern concluded the symposium by stressing the need for quantifying the information about food products so that the estimates could become useful for policy makers. At present, micro studies use a variety of health information measures and there is need for standardization to ensure comparability. Validation of the measures is also essential. Studies need to report more descriptive statistics to aid interpretation of results.