

are generally conducted independently from the food nomenclature of consumption data.

These arguments mainly show the disadvantages of the use of household food acquisition data such as the SECODIP database. Nevertheless, they also present many advantages compared to the individual food record survey mainly used in France in the food safety context:

- As mentioned before, households respond for a long period of time (the average is 4 years in the SECODIP panel) which allows us to observe long term behaviors and avoid some well known biases of individual food record surveys. For example, respondents might over- (under-) declare certain foods with a good (bad) nutritional value either deliberately or just because they increased (reduced) their consumption for the short (7 days) period of the survey.
- The individual surveys are expensive and very difficult to conduct. Highly trained interviewers are required and extraordinary cooperation is required from respondents. Household food acquisition data can serve many other applications (economics or marketing) and, at least for the SECODIP data, acquisition recording is simplified by optical scanning of food barcodes.

## Conclusion

In this paper, we proposed a methodology to assess chronic risks related to food contamination using the example of methylmercury exposure through seafood consumption. This methodology includes the definition of a Kinetic Dietary Exposure Model (KDEM) that integrates the fact that contaminants are eliminated from the body at different rates, the rate being measured by the half life of the contaminant. In this paper, the estimation is based on the use of household food acquisition data which are first decomposed into individual intake data through a disaggregation model accounting for the dependence among household members. Several extensions of this methodology are currently studied. First, the disaggregation model could be improved by considering a preliminary step in which we determine what member is an actual consumer, in the spirit of the Tobit model. The KDEM idea is also currently being developed by studying the stability and ergodic properties of the underlying continuous time piecewise deterministic Markov process (Bertail *et al.*,