Background

The term "convergence" implies dynamics, or movement toward some common outcome. Convergence has been defined and examined most often as convergence in income levels. Barro and Sala-i-Martin (1992) defined beta convergence, in which the income growth of lower income regions or countries is faster than the world average and that of high-income regions is slower. The faster growth rates imply that lower income regions will eventually "catch up" with higher income regions and all regions will reach a "steady state." The concept of convergence has been applied to food expenditures to assess for example, if income dynamics and market integration, in the European Union (Hermann and Röder, 1995; Gil et al., 1995) are overcoming historical differences in preferences.

In food demand, the dynamics leading to convergence are driven primarily by income growth. It has long been recognized that diets change in predictable ways as incomes rise. For example Bennett's Law states that the share of animal products in calories consumed increases as incomes rise (Bennett, 1941; Delgado et al., 1999). Recent research has highlighted how dietary upgrades in middle- and high-income countries include high-value products, in addition to meat (Regmi and Gehlhar, 2005). Generally, these changes in food consumption patterns include an increased demand for services and quality attributes, and are accompanied by the modernization of the retail sector (Reardon and Berdegué, 2002). Seale et al. (2003) demonstrate that lower income consumers make bigger changes in food expenditures as income levels change. For example, an average consumer in the United States is expected to increase meat expenditures by 1-percent for every 10-percent increase in income. But, in a middle-income country such as Brazil, a 10-percent increase in income is likely to translate to a 7-percent increase in meat expenditures. As income-induced changes occur more rapidly in lower income countries, consumption patterns across countries trend toward convergence. The projected outcome is some universal "saturation" level of demand for food, including demand for higher quality food, which is achieved at high income levels.

Regmi and Unnevehr (2005) examined whether the coefficient of variation (CV) in food expenditures among 18 high-income countries was declining over time, and found convergence in broad categories such as cereals, meats, and overall food expenditures. The study also indicated convergence in food retailing across these countries from 1998 to 2004, with standardized outlets such as supermarkets and hypermarkets replacing independent stores. (Convergence in food retail outlets was not formally tested.) Finally, similar food products appeared to be introduced in the United States and Europe, with the number of products claiming greater convenience, better quality, or improved natural or nutritional attributes growing.

In this report, Regmi and Unnevehr's study is expanded to cover 47 countries that are grouped into the original 18 high-income countries, 10 other high-income countries, 7 upper middle-income countries, and 12 lower middle-income countries (table 1). Convergence is tested using β-convergence, as defined by Barro and Sala-i-Martin (1992). Convergence tests are extended beyond total food expenditures, to method of food delivery, as evident in

sales of different retail and foodservice outlets. Finally, product label claims, assumed to reflect underlying consumer preferences, are again examined to ascertain whether the product trends noted among a few high-income countries are apparent in the larger cross-section of countries.

Table 1
Countries included in the analysis

Original 18 countries		Other high-income	Upper middle-income	Lower middle-income
Canada	Belgium	Norway	Czech Republic[1]	Brazil[1]
USA[1]	Finland	Switzerland	Hungary[1]	Colombia
Australia	Greece	Singapore	Poland	Peru
Japan[1]	Italy	South Korea	Chile	China[1]
France[1]	Spain	Taiwan	Mexico[1]	Indonesia[1]
UK[1]	Sweden	New Zealand	Malaysia[1]	Philippines
Germany[1]	Denmark	Israel	South Africa[1]	Thailand[1]
Netherlands	Ireland	Kuwait		Algeria[2]
Austria	Portugal	Saudi Arabia		Egypt[1]
		United Arab Emirates		Jordan
				Morocco
				Tunisia

Countries are grouped based on World Bank's classification, using 2003 PPP data.

[1]Denotes countries for which product label data were available.

[2]Excluded in the analysis of packaged foods.