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Are Diets Converging Globally? A Comparison of Trends Across Selected Countries

Anita Regmi and Laurian Unnevehr

Converging food demand is tested in two ways. First, the convergence of food expenditures among 18 high-income countries is examined from 1990 to 2004. Convergence is apparent in total expenditures, cereals, and meats, but not in other categories. Second, specific food-retailing and product-introduction patterns are examined for selected countries. These indicate increasing shares for retail outlets selling standardized products and increased preference for convenience, upscale, and natural product attributes across all the countries examined.

Past studies of food demand and food retailing have suggested growing similarity or convergence between the EU and the U.S. Blandford (1984) and Herrmann and Röder (1995) found evidence of convergence in food-expenditure patterns among OECD countries, particularly in meat demand. Cotterill (1997) argued that global demand for multi-national brands would drive increasing trans-Atlantic convergence. As these studies are about a decade old, it seemed timely to re-examine this question and also to inquire whether the noted past similarities may hold for other countries. More foreign-style products are available in the U.S. than just a few years ago, and many U.S. brands and food services have been introduced in the EU and other countries during the past decade. Whether or not food systems are converging continues to be an important question, as it has implications for food-policy issues regarding nutrition, standards, and trade.

In this paper, we address the question of convergence with three different kinds of data that provide new insights. First, we examine food expenditures by major category using Euromonitor data from 1990 through 2004 for 18 high-income countries. Second, we focus on selected countries for a more detailed examination of food-retailing systems and food-product introductions. All three kinds of data tend to support convergence. We conclude with the implications for policy.

Conceptual Framework

The term “convergence” implies dynamics, or movement toward some common model. In food de-

mand, these dynamics are driven by income growth. It has long been recognized that diets change in predictable ways as incomes rise. These include the changes summarized by Bennett’s Law, which states that the share of animal products in calories consumed increase as incomes increase (Bennett 1941). Recent research has highlighted how dietary changes in middle- and high-income countries include other 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 also accompanied by the modernization of the retail sector (Reardon and Berdegúe 2002).

High-income countries, such as the U.S., the EU, Japan, and Australia, have highly evolved food systems and increasingly sophisticated consumers. Higher income and more information lead to greater product differentiation in food systems by leading to more effective demand for quality attributes. We hypothesize that quality differentiation is occurring along similar paths (converging) among high-income countries. In other words, a greater variety of products is increasingly available throughout the world, but the range of product offerings is also increasingly similar among countries. Higher incomes may also facilitate greater accommodation of specific local or individual tastes. Therefore, we expect that there will be some limits to convergence.

While diet convergence is not formally tested for the middle-income countries, retail sales data indicate a trend toward convergence in retail outlets in these countries. As incomes continue to rise and food-retailing systems become more similar to those in high-income countries, food-consumption patterns in developing countries will also likely converge. In the remainder of this paper, we examine the evidence for convergence in food products and in food-product attributes.

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Convergence in Expenditures

Annual per-capita food expenditure data are available on an international basis from Euromonitor for the years 1990 through 2004. We selected 18 high-income countries for analysis of expenditure convergence: Canada, U.S., Australia, Japan, France, UK, Germany, Netherlands, Austria, Belgium, Finland, Greece, Italy, Spain, Sweden, Denmark, Ireland, and Portugal. Thus the set includes countries from North America, Europe, and Asia, countries with diverse cultures and traditions. Per-capita food-expenditure data are available for all food and for several broad product categories.

Convergence is examined by looking at the coefficient of variation (CV) in expenditures among the countries (so-called sigma convergence). If the CV is declining over time, then expenditures are converging (Barro and Sala-i-Martin 1992). The results

show significant convergence in total food expenditures (a decline in CV from 0.32 to 0.19 over the past decade), which appears to result from convergence in expenditures for cereals and meats (Figure 1). These two categories together account for about 40 percent of total food expenditures in most of these countries, so they can have a significant influence on overall convergence. Sigma convergence is also apparent in fish and in vegetables, two high-value food items that have increased importance in global diets and trade (Regmi, Ballenger, and Putnam 2004). Other food-expenditure categories did not show sigma convergence (Figure 2).

Convergence in Food Preferences

Countries were selected to examine whether preferences for food services and quality attributes are also converging. Data on retail outlets share of food

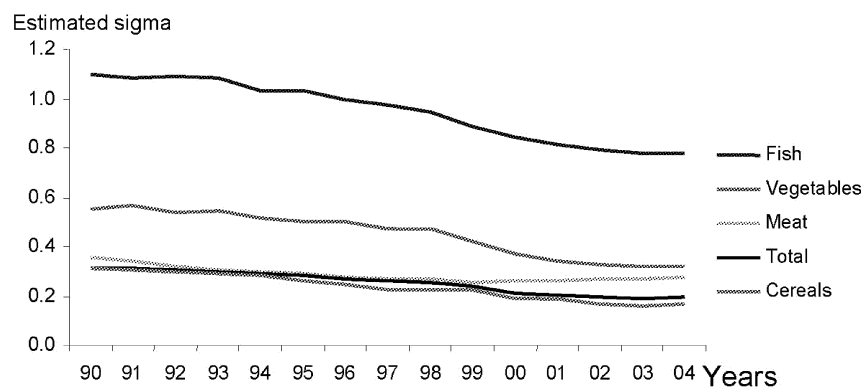


Figure 1. Coefficient of Variation for Expenditure Categories with Convergence.

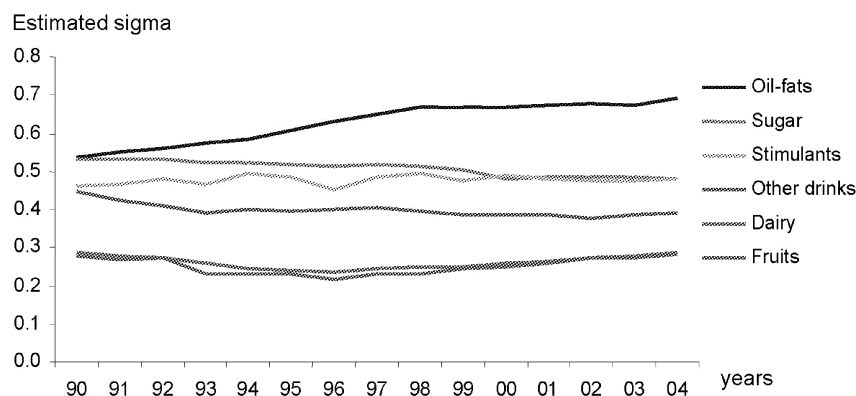


Figure 2. Coefficient of Variation for Expenditure Categories without Convergence.

sales from 1998 to 2004 are from Euromonitor Inc. Given data availability, retail-sales data analysis is broadened to include certain middle-income countries such as Brazil, Colombia, Poland, Thailand, and China. Product-introduction data from 1986 through April 2005 are from Productscan data, a service of Datamonitor. While two decades of data are available for high-income countries, data on middle-income countries are available only for the last four or five years. Therefore, this paper compares product-introduction data to examine consumer preferences for convenience and quality attributes only across selected high-income countries.

Retail-outlet categories include supermarkets, hypermarkets, discounters, convenience stores, independent food stores, and all other. We have added the shares for the first four outlets—supermarkets, hypermarkets, discounters, and convenience stores—to represent outlets that provide standardized products, often from multi-national food companies. While the services provided by these four outlets differ somewhat, they all provide a similar standard for service and product quality. In contrast, independent food stores and “other” include a wide variety of outlets, including specialty shops and markets that may or may not provide standardized products or services.

Figure 3 shows the shares for these three types of outlets in 1998 and in 2004 for the selected countries. In all countries, standardized outlets have grown at the expense of other kinds of outlets. Independent retail outlets remain relatively important in middle-income countries such as Brazil, Colombia, Poland, and China, where standardization in food retailing began much later than in high-income countries (Reardon and Berdegué 2002), but the trends in how food is purchased for consumption at home are clearly working towards convergence in all these countries. New product introductions thus reach most consumers through standardized outlets providing economies of scale in marketing.

Next, we examine the nature of product-attribute demand as reflected in new product introductions. As earlier mentioned, comparisons can be made only across high-income countries due to data availability. For illustration, we compare data across five North American and European countries: Canada, U.S., France, Germany, and the UK. To make comparisons, we calculate the share of new introductions in each country with different kinds of

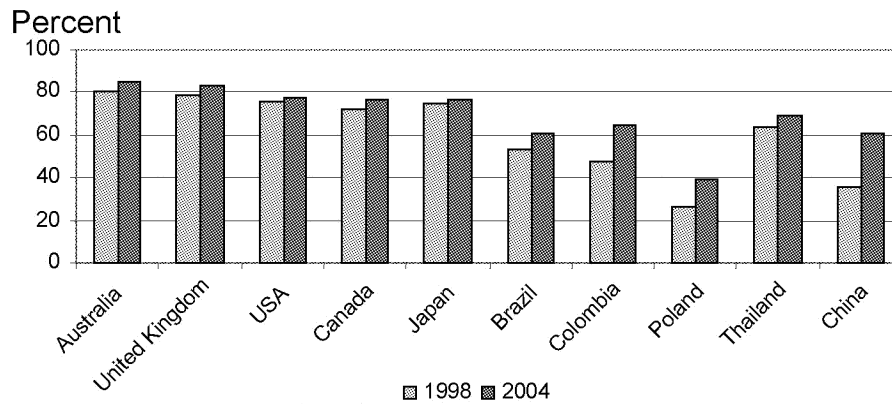
attributes. We focus on indicators of convenience, quality, health or nutrition, and environmentally-friendly or natural attributes. The data in Tables 1 and 2 show that the share of products with these attributes has increased over the last twenty years. We have divided the table into two parts to show which attributes are most popular and which are less popular as claims in new product introductions.

Certain claims have increased remarkably in popularity (Table 1). These include convenience, low or no amounts of unhealthy nutrients, enhanced amounts of good nutrients, and upscale or natural attributes. Claims related to allergens, environmentally friendly packaging, vegetarian content, or targeted to demographic groups have also increased, but are not as popular (Table 2).

The “natural” category has become particularly important in North America. This includes claims such as no artificial additives, organic, non-GM, and no added hormones. Presumably the latter two claims are taken for granted by many consumers within the EU countries, relying either on government regulation or retailer reputation to ensure these attributes. Convenience has been consistently popular over time and in all countries. Microwaveable, instant, hand-held, and single serving products have been increasingly introduced in the North American and European markets to meet consumer demand for convenience.

Nutrient claims were fewer in North America in the latter half of the 1990s, following the implementation of the Nutrition Labeling and Education Act of 1990 (NLEA), which suppressed certain kinds of advertising (Ippolito and Pappalardo 2002). But they have rebounded in the new century, although positive claims for beneficial nutrients still lag behind negative claims for the absence of unhealthy ones. In both the European and North American markets the nutritional claims have shifted based on changing consumer awareness and media coverage of food attributes. In the 1980s, dietary fiber and calcium contents were highlighted in product labels; in recent years, beneficial label claims indicate Omega-3 and various vitamin contents. Similarly, while product labels indicated low or no calories and fats in the 1980s, current labels may indicate “low glycemic” and “no trans fat.”

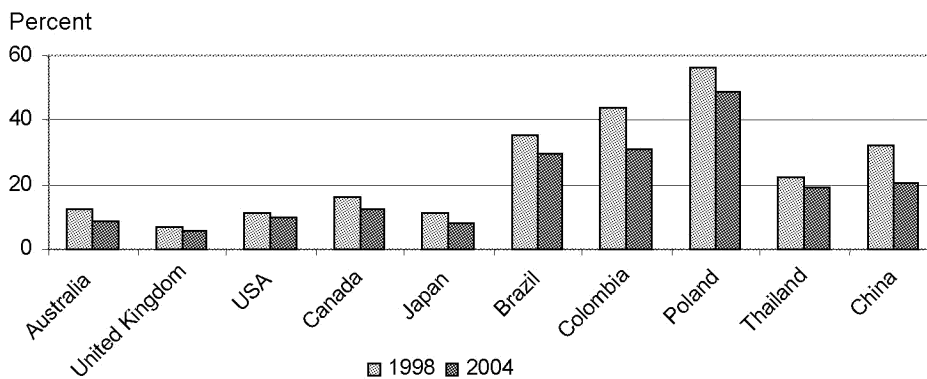
While this comparison of product attributes cannot be expanded to cover middle-income countries, there are indications that wealthier consumers in developing countries may follow diet trends set by



Source: Euromonitor Inc.

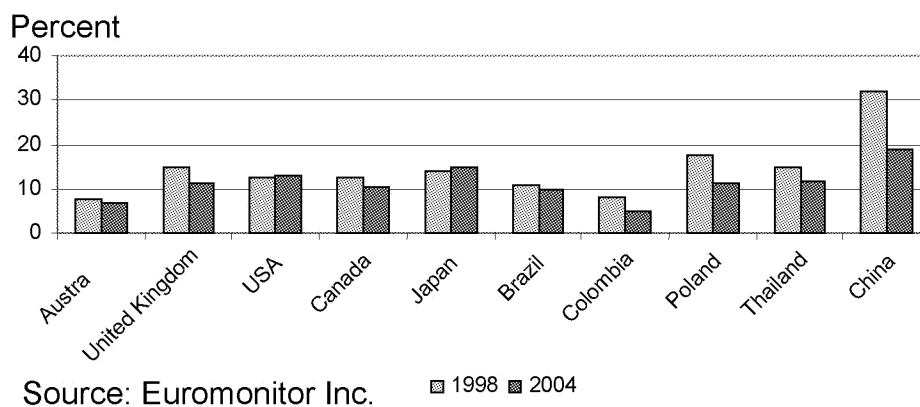
Outlets include supermarkets, hypermarkets, convenience stores and discounters.

Figure 3A. Packaged Food Retail Sales Share of “Standardized Outlets.”



Source: Euromonitor Inc.

Figure 3B. Packaged Food Retail Sales Share of Independent Stores.



Source: Euromonitor Inc.

Figure 3C. Packaged Food Retail Sales Share of “Other Stores.”

Table 1. New Product Introductions with Most Popular Attributes (%).

	86–90	91–95	96–00	01–05*
Natural Products				
Canada	37	29	50	81
U.S.	47	59	58	74
France	9	11	11	23
Germany	7	6	7	26
UK	33	18	17	33
Convenience				
Canada	55	19	20	43
U.S.	18	18	25	37
France	8	17	20	34
Germany	4	22	15	13
UK	13	16	15	28
Higher quality indications, eg. "upscale," gourmet				
Canada	17	25	42	62
U.S.	15	26	45	55
France	5	9	6	13
Germany	2	5	7	9
UK	5	8	15	25
Low or no bad nutrients, fat, calories, sodium				
Canada	34	49	38	42
U.S.	39	58	43	42
France	16	9	11	14
Germany	8	16	9	14
UK	10	19	14	20
High in specific good nutrients, minerals, vitamins, Omega-3, etc.				
Canada	10	11	12	34
U.S.	15	7	12	25
France	18	4	13	16
Germany	15	4	8	10
UK	9	4	4	9

Note: Total shares in a country do not add to 100 since the same product may have more than one claim.

* 2001 through April 30, 2005.

Source: Productscan, Datamonitor.

Table 2. New Product Introductions with Less Popular Attributes (%).

	86–90	91–95	96–00	01–05*
Allergen alert				
Canada	0	0	1	8
U.S.	1	3	4	5
France	0	0	2	1
Germany	0	0	0	2
UK	1	1	1	6
Targeting demographic groups				
Canada	0	4	13	8
U.S.	0	2	9	12
France	0	1	12	8
Germany	0	2	6	7
UK	0	3	11	11
Environmentally friendly packaging				
Canada	2	2	3	2
U.S.	1	2	3	2
France	0	1	0	5
Germany	0	0	0	11
UK	0	0	0	4
Vegan, vegetarian				
Canada	0	2	2	7
U.S.	1	2	4	5
France	0	0	1	2
Germany	1	0	1	2
UK	2	3	8	14

Note: Total shares in a country do not add to 100 since the same product may have more than one claim.

* 2001 through April 30, 2005.

Source: Productscan, Datamonitor.

consumers in high-income countries. For instance, new food products introduced in Poland during the last five years have label claims indicating product convenience, quality, naturalness, and healthfulness (Table 3). As the food-retailing sector modernizes in developing countries, newer products similar to those sold in high-income countries are introduced, in turn promoting diet convergence.

Conclusions

Convergence in food expenditures among high-income countries has continued during the past decade, primarily through continued convergence in expenditures for cereals and meats. This appears to result from underlying convergence in tastes and preferences. One factor fueling overall food-expenditure convergence is the increasing standardization of packaged food-product delivery at the retail level.

New product introductions provide insight into how food trends are reflected in global markets. Similar products are introduced on both sides of the Atlantic. Furthermore, consumers on both continents are seeing greater numbers of products with claims alluding to convenience, quality, natural, or nutritional attributes. Although North American consumers may see more of such claims, these trends in demand seem to be global. They reflect similar developments in the household economies of industrialized nations as well as international awareness of advances in nutrition and appreciation for environmental amenities.

As food consumption and marketing systems

trend toward global convergence, there is growing pressure for food-policy issues with respect to standards, including those for nutrition and food safety, to also converge (Roberts and Unnevehr 2003). Moreover, convergence in food systems will mean that both benefits and problems associated with high-income-country diets, such as the current obesity epidemic, will rapidly become global issues.

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Table 3. Demand for Product Attributes in Poland.

	2001	2002	2003	2004
	Number of new products introduced			
Convenience	3	11	12	13
Upscale	1	1	4	3
Natural	4	2	4	24
Healthy	0	5	10	26
Total*	8	44	125	116

* Product categories do not add to total products.

Source: Productscan, Datamonitor.

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