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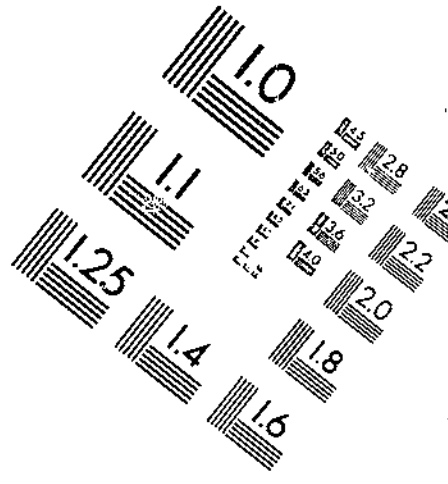
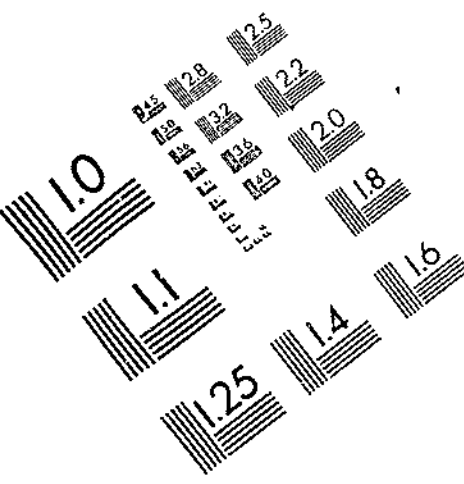
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A SURVEY BY EATING OCCASION, TYPE OF FOODSERVICE
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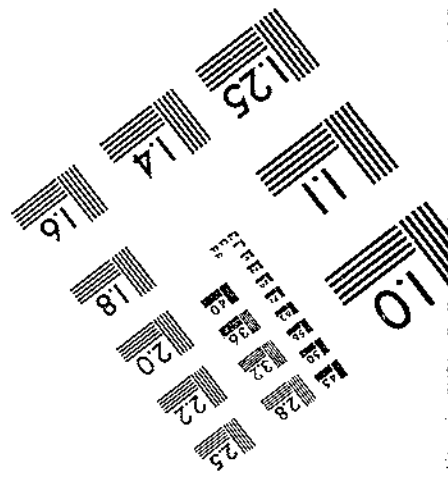
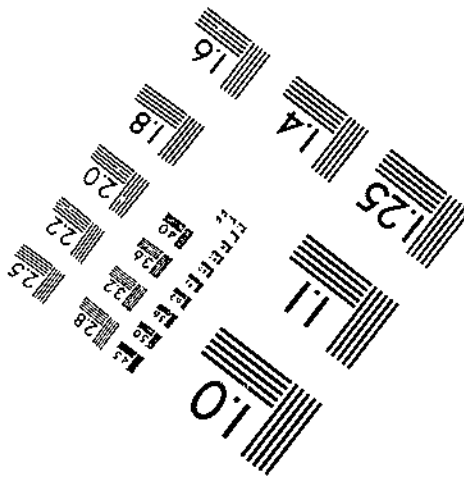
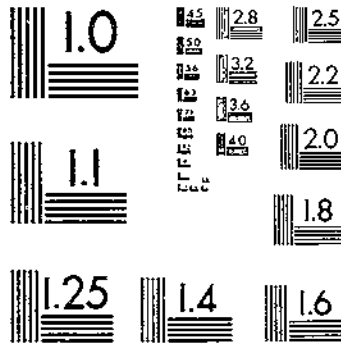
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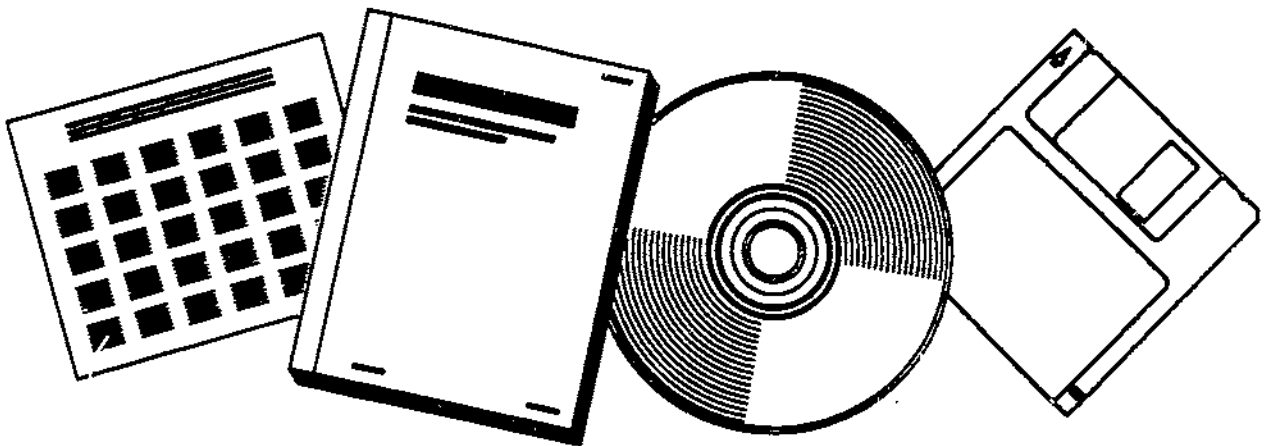
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**U.S. TRENDS IN EATING AWAY FROM HOME
1982-89: A SURVEY BY EATING OCCASION
TYPE OF FOODSERVICE ESTABLISHMENT
AND KIND OF FOOD**

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REPORT DOCUMENTATION PAGEForm Approved
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1. PB96-143870



2. REPORT DATE

December 1995

3. REPORT TYPE AND DATES COVERED

SB-926

4. TITLE AND SUBTITLE

U.S. Trends in Eating Away From Home, 1982-89: A Survey by Eating Occasion, Type of Foodservice Establishment, and Kind of Food

5. FUNDING NUMBERS

6. AUTHOR(S)

Jesus C. Dumagan and John W. Hackett

7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)

Economic Research Service
U.S. Department of Agriculture
Washington, DC 20005-47888. PERFORMING ORGANIZATION
REPORT NUMBER

SB-926

SPONSORING/MONITORING NAME(S) AND ADDRESS(ES)

10. SPONSORING/MONITORING
AGENCY REPORT NUMBER

11. SUPPLEMENTARY NOTES

12a. DISTRIBUTION/AVAILABILITY STATEMENT

12b. DISTRIBUTION CODE

13. ABSTRACT (Maximum 200 words)

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14. SUBJECT TERMS

National Purchase Diary Group, food away from home, restaurant meals or snacks, commercial food service

15. NUMBER OF PAGES

84

16. PRICE CODE

17. SECURITY CLASSIFICATION
OF REPORT
Unclassified18. SECURITY CLASSIFICATION
OF THIS PAGE
Unclassified19. SECURITY CLASSIFICATION
OF ABSTRACT
Unclassified20. LIMITATION OF
ABSTRACT
Unlimited



United States
Department of
Agriculture



Statistical
Bulletin
Number 926

An Economic Research Service Report

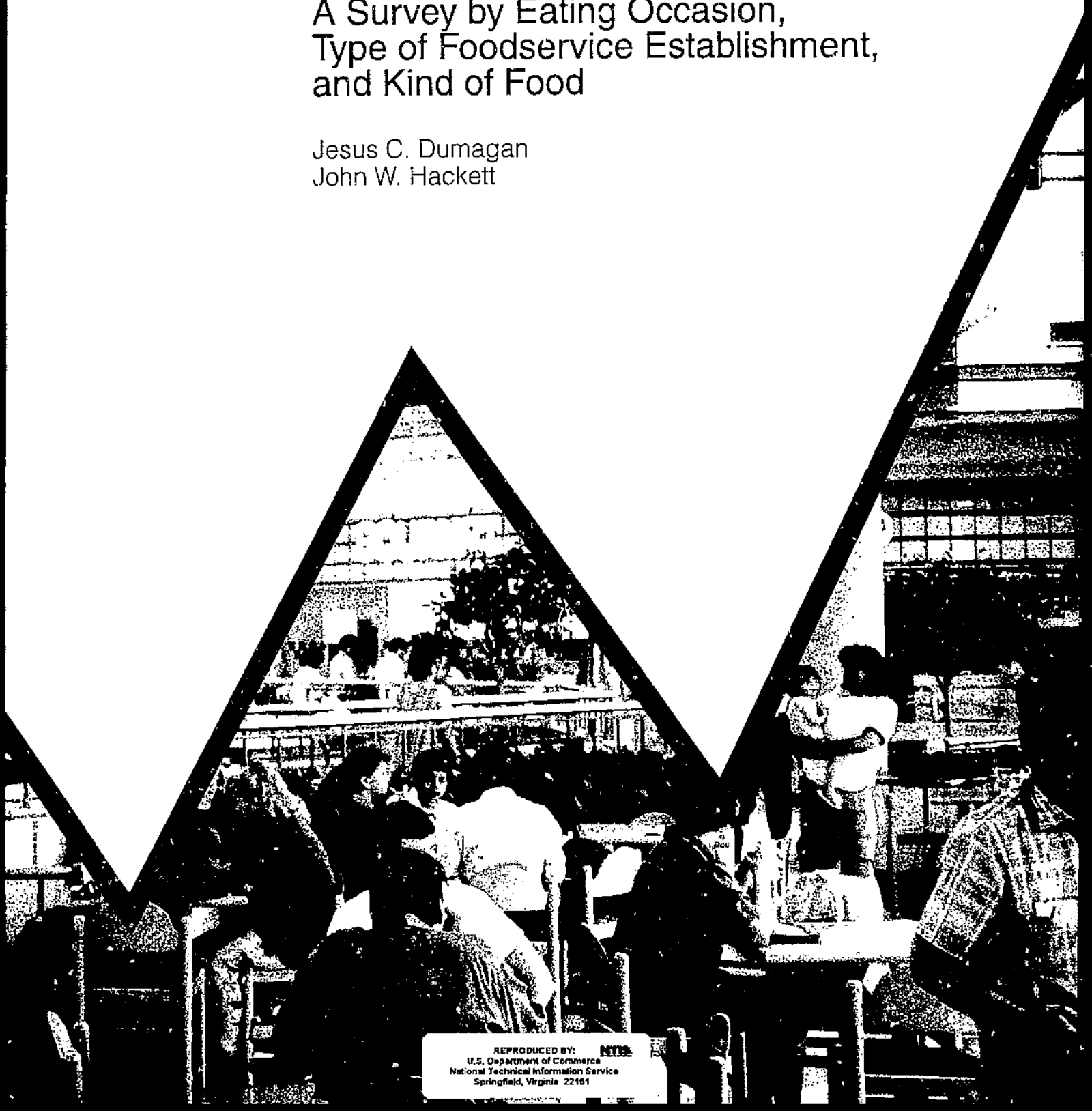


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A Survey by Eating Occasion,
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Jesus C. Dumagan
John W. Hackett



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P896-143870



Abstract

American consumers are inching ever closer to a dining watershed. The continued growing popularity of eating away from home has brought Americans to the verge of spending as much on food away from home as they do on food prepared at home. In 1970, Americans spent 34 percent of their food dollars away from home. Today, the figure is about 46 percent. This is part of a wealth of new information on America's away-from-home food habits in this report. In addition to examining general trends on spending in restaurants and other commercial eating places, it is the first USDA publication to offer detailed statistics on the types of eating places frequented, the kinds of foods consumed, and whether the food constituted a snack or a meal.

Keywords: National Purchase Diary Group, food away from home, restaurant meals or snacks, commercial food service.

Acknowledgments

The authors are very grateful to Doreen Zavada and Ellen Metzner of the National Purchase Diary Group, Inc. (NPD) for insuring that the calculations in this bulletin are consistent with NPD definitions and procedures; to Jim Blaylock, Alden Manchester, Dave Smallwood, and Shannon Hamm of the Economic Research Service (ERS) for helpful substantive comments; and to Lindsay Mann and Linda Hatcher of ERS for expert editorial assistance from the start to final publication.

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Highlights

American consumers are inching ever closer to a dining watershed. The continued growing popularity of eating away from home has brought Americans to the verge of spending as much on food away from home as they do on food prepared at home. In 1970, Americans spent 34 percent of their food dollars away from home. Today, the figure is about 46 percent. This is part of a wealth of new information on America's away-from-home food habits in this report. In addition to examining general trends on spending in restaurants and other commercial eating places, it is the first USDA publication to offer detailed statistics on the types of eating places frequented, the kinds of foods consumed, and whether the food constituted a snack or a meal.

Report Highlights

Total U.S. Household Spending Rises: Total U.S. household spending with tips on meals and snacks commercially prepared away from home rose from \$84.4 billion in 1982 to \$118.7 billion in 1989 in nominal (not adjusted for inflation) dollars, a 5-percent-per-year increase.

Real Spending Per Household Declines: Although the amount spent per household on commercially prepared meals and snacks from 1982 to 1989 rose 3.8 percent annually in nominal dollars, it fell in real (inflation adjusted) dollars by 0.4 percent over the same period.

Percentage of Households Eating Out Declines: The percentage of American households that bought away-from-home food declined from 79 percent in 1982 to 76.8 percent in 1989.

Meals and Snack Occasions Rise: Although the number of eating occasions or restaurant visits per household rose 1.5 percent per year during 1982-89, the number of meals and snacks served rose 2.2 percent per year.

Dinner Most Expensive: The most expensive meal in nominal dollars, including tips, was dinner, followed by lunch, breakfast, evening snack, afternoon snack, and morning snack. The cost of all meals and snacks rose in nominal dollars, but fell, except for afternoon snacks, in real dollars.

Tippling Most Generous at Breakfast: As a share of the pre-tip cost, the highest average tip by meal or snack occasion was breakfast (9.2 percent), dinner (8.1 percent), lunch (5.6 percent), evening snacks (4.6 percent), morning snacks (4.0 percent), and afternoon snacks (3.0 percent).

Fast Food/Drive-Ins and Take-Outs Rise in Popularity: Fast food/drive-in and take out places increased their share of total eating occasions, meals and snacks served, and expenditures during 1982-89. The shares fell for atmosphere/specialty restaurants, cafeterias, and coffee shops.

Pizza Is Hot: Pizza was the hottest food item when it came to consumer spending during 1982-89, with an annual rate of spending growth of 12.0 percent in nominal dollars, or 7.6 percent in real dollars. Other top performers were places specializing in oriental food (9.6 percent) and Italian food (9.5 percent). Weaker performers were places specializing in donuts (0.9 percent) and steak (3.5 percent). Moreover, spending in real dollars fell 3.1 percent in donut shops and 0.6 percent in steak and fish/seafood restaurants.

The Report Also Details: The average cost of meals and snacks by restaurant type, which establishments served the largest parties, and which meals (breakfast, lunch, dinner) or snacks dominated spending in which establishments.

U.S. Trends in Eating Away From Home, 1982-89

A Survey by Eating Occasion, Type of Foodservice Establishment, and Kind of Food

Jesus C. Dumagan
John W. Hackett

Introduction

This bulletin presents a statistical review of food-away-from-home (FAFH) expenditures based on data provided by the National Purchase Diary (NPD) Group, Inc., from surveys of U.S. household purchases of meals and snacks prepared by commercial foodservice establishments. The data from these surveys, which have been available to the foodservice industry since 1976, track the trend in household purchases of ready-to-eat meals and snacks prepared away from home. These purchases take place in restaurants, hotels or motels, trains, fast food or drive-in outlets, delicatessens, refreshment stands, carry-out places, coffee shops, donut shops, ice cream shops, and eating places inside variety or other retail stores. USDA has access only to data for the period 1982-89.

This bulletin is the first in a series designed to present descriptive statistics on expenditure trends in commercially prepared meals and snacks. The specific results presented in this issue are classified by eating occasion—namely, breakfast, lunch, and dinner meals and morning, afternoon, and evening snacks. The summary statistics cover costs per meal or snack, with

and without tips, total eating occasions, eating party size per occasion, total number of meals and snacks, total expenditures for meals or snacks, and expenditures per household, with and without tips.

The NPD restaurant consumer survey provides the most comprehensive data set available on purchase patterns of commercially prepared meals and snacks, including information on the economic and demographic characteristics of households.¹ For example, there are about 150 food and beverage items classified into 22 groups, 16 income classes, 12 life cycle categories, 11 occupations, 9 household sizes, 9 census regions, 8 age groups, 7 household compositions, 7 residence types, 6 market sizes, 6 meal or snack occasions, 4 race types, and 3 types of foodservice establishments, among other categories.

This statistical review is limited to classifications according to eating occasions, types of commercial foodservice establishment, and kinds of food. Future bulletins will offer further analyses based on other economic and demographic classifications noted above.

Dumagan formerly worked with the Food and Consumer Economics Division, Economic Research Service (ERS), U.S. Department of Agriculture (USDA). He currently is an economist with the U.S. Department of Commerce. Hackett is a computer analyst with the Information Services Division, ERS, USDA.

¹However, in communicating his review of this manuscript on May 12, 1994, Robert O'Brien (Vice President, NPD CREST Division) acknowledged a general deficiency of coverage in NPD's data. For example, company cafeterias and private catering do not fall into NPD's survey sample. As a result, he stated that it is their "working understanding" that NPD's projections of total expenditures account for 80 percent of actual spending in commercial foodservice establishments.

The NPD Restaurant Consumer Survey

The data for this study cover the 32 quarters between 1982 and 1989, beginning with the first quarter of 1982 (winter—December, January, and February) up to the fourth quarter of 1989 (fall—September, October, and November). The data for each quarter include expenditures on commercially prepared meals and snacks of approximately 12,800 households consisting of 9,400 family households and 3,400 nonfamily households, which are chosen to be a representative sample of the 93 million households in the contiguous 48 States. Different groups of about 985 to 1,000 households receive a diary each Monday over the 13 weeks in a quarter so that the full sample of 12,800 households is reached every quarter. Each household keeps a diary for 2 weeks (beginning on the Monday the diary is received) to record FAFH consumption.² These diaries generate 50,000 raw observations on FAFH transactions every quarter.

Household panelists in the NPD restaurant consumer survey sample are encouraged to participate by letting

them select a gift valued at \$25-\$35 from a list of household items, which are provided after 1 year's participation and annually thereafter. To improve representativeness, the sample is stratified by a 288-cell matrix, where each cell is defined by a combination of factors among which are census regions, household income, size, composition, member characteristics, and whether or not the household resides in a Metropolitan Statistical Area. These cells are used as controls to maintain a demographic and geographic balance between the NPD household panel composition and household estimates of the Census Bureau. About 25 percent of households in the NPD survey fail to report all four quarters in a given year, although the present panelist attrition rate has declined to almost 15-20 percent annually.³ However, households that drop out are replaced using a stratified quota sampling technique for matching certain characteristics to maintain the sample size and proper demographic balance with census estimates.

²Unlike the Continuing Consumer Expenditure Survey of the Bureau of Labor Statistics and the Nationwide Food Consumption Survey of the U.S. Department of Agriculture, both of which contain aggregate data on FAFH purchases, the NPD restaurant consumer survey provides detailed information on household FAFH purchases.

³B.W. Bobst, R.E. Branson, R.C. Haidacher, E.A. Jacobs, R. Raunika, B.J. Senauer, D. Smallwood, D.S. Tilley, and L.R. de Zapata, "Data Sources for Demand Analysis," *Food Demand Analysis: Problems, Issues, and Empirical Evidence*, eds. R. Raunika and C.-L. Huang, Ames, IA: Iowa State University Press, 1987, pp. 33-53.

Overall Food Expenditures

Depending on the data source, estimates of either food-at-home (FAH) or food-away-from-home (FAFH) expenditures could differ given the same estimates of total food expenditures. For instance, in the NPD restaurant consumer survey, purchases of meals and snacks prepared away from home are considered FAFH expenditures regardless of where these meals and snacks are consumed. Similarly, the Continuing Consumer Expenditure Survey of the Bureau of Labor Statistics includes food purchased at restaurants, carryouts, and similar types of foodservice places and carried home for consumption as part of FAFH expenditures. In contrast, the Nationwide Food Consumption Survey of the U.S. Department of Agriculture includes the above purchases in FAH expenditures.⁴ This difference carries over when estimates of FAFH expenditures are further broken down between commercial and noncommercial or institutional foodservice establishments.

The most comprehensive definition of FAFH covers meals and snacks supplied by commercial foodservice establishments and by eating facilities in noncommercial institutions. These include meals and snacks in the following categories: (1) purchased by families or households and individuals, (2) expense account meals, (3) food furnished to employees, inmates, and patients, and (4) food and cash donated to schools and institutions.⁵ Thus, overall FAFH data include expenditures in eating and drinking places, hotels and motels, retail stores (including vending machine sales, except for sales by vending machines operated by organizations), recreational places (for example, movie houses, bowling alleys, pool parlors, sports arenas, amusement parks, camps, and golf and country clubs), schools and colleges (including school food subsidies), and "all other places" (for example, military exchanges and clubs, railroad dining cars, airlines, and food service in manufacturing plants, institutions, hospitals, boarding houses, fraternity and sorority houses, and civic and social organizations, and food facilities for military forces, civilian employees, and child day care).

However, the NPD restaurant consumer survey covers only expenditures for meals and snacks prepared away from home by commercial foodservice establishments. This would cover those in item (1) above, except purchases from eating facilities in noncommercial or nonprofit institutions. Thus, food provided by schools, prisons, and hospitals is not included in NPD calculations. Also, NPD excludes some commercial transactions—for example, food provided by company cafeterias or by private catering.

Food Away From Home and Food at Home

Noticeable changes in the eating habits of U.S. consumers are reflected by the decrease in the proportion of FAH expenditures or by the increase in the proportion of FAFH expenditures out of total food expenditures (fig. 1). In nominal dollars, total food spending in 1982 was \$345.9 billion, out of which \$206.1 billion (59.6 percent) was spent on FAH and \$139.8 billion (40.4 percent) on FAFH.⁶

In 1986, the corresponding values were \$429.1 billion for total food expenditures, \$245.0 billion (57.1 percent) for FAH, and \$184.1 billion (42.9 percent) for all FAFH. The data for 1989 show \$522.0 billion for total food spending, \$287.4 billion (55.1 percent) for FAH, and \$234.6 billion (44.9 percent) for all FAFH. The share of total food spending represented by overall FAFH expenditures has risen from 40.4 percent in 1982 to 42.9 percent in 1986 and to 44.9 percent in 1989.

Commercially Prepared Meals and Snacks

During 1982-89, NPD surveys show that total household spending on commercially prepared meals and snacks increased 5 percent per year. Also, these expenditures reached a level higher than the overall level of income in some States. For instance, the expenditures in 1989 exceeded the combined total personal income of Alaska (\$11.4 billion), Delaware (\$12.4 billion), Idaho (\$13.9 billion), Montana (\$11.3 billion), North Dakota (\$9.0 billion), Rhode Island

⁴David M. Smallwood, Noel Blisard, and James R. Blaylock, *Food Spending in American Households, 1980-88*, SB-824, Econ. Res. Serv., U.S. Dept. Agr., May 1991.

⁵Alden C. Manchester, *Developing an Integrated Information System for the Food Sector*, AER-575, Econ. Res. Serv., U.S. Dept. Agr., Aug. 1987.

⁶For revised estimates up to 1993, see the recent updates to Alden C. Manchester, *Developing an Integrated Information System for the Food Sector*, AER-575, Econ. Res. Serv., U.S. Dept. Agr., Aug. 1987.

(\$17.9 billion), South Dakota (\$9.8 billion), Vermont (\$9.3 billion), Wyoming (\$6.9 billion), and the District of Columbia (\$14.2 billion). In 1989, these States and the District of Columbia had a combined total personal income of \$116.1 billion compared with the U.S. total of \$118.7 billion spent on commercially prepared meals and snacks.⁷ Total tips, \$7.8 billion, exceeded the 1989 total personal income of Wyoming.

While spending on meals and snacks commercially prepared away from home has increased, it has decreased as a proportion of total food spending (fig. 1). NPD restaurant consumer surveys show that U.S. household expenditures in nominal dollars on commercially prepared meals and snacks in 1982 amounted to \$84.4 billion, which was 24.4 percent of total food spending. In 1986, total household spending on meals and snacks prepared away from home reached \$102.2 billion, which accounted for 23.8 percent of overall food expenditures. In 1989, expenditures on commercially prepared meals and snacks reached \$118.7 billion, or 22.7 percent of total food expenditures.

⁷These States and the District of Columbia each had less than \$18.0 billion of total State personal income in 1989. Of these States, Rhode Island had the highest 1989 total personal income, \$17.9 billion. See The Council of State Governments, *The Book of the States*, 1992-93 Edition, Volume 29, Table 6.32, p. 418.

However, the observation above that expenditures on commercially prepared meals and snacks decreased as a proportion of total food expenditures is at best tentative. One reason, earlier noted in footnote 1, is that NPD's projections are lower than actual spending in the commercial foodservice industry. Also, figure 1 is based on USDA's breakout of total food expenditures into "food for off-premise use" (food at home) and "meals and snacks" (food away from home).⁸ In figure 1, the sum of "meals and snacks commercially prepared away from home," which are estimated in this study from NPD's data, and "other food away from home" equals "meals and snacks," referred to here as food away from home. Because of differences between NPD's and USDA's definitions as to what is "commercial" and "institutional or noncommercial" food away from home, it cannot be stated for certain that expenditures for meals and snacks commercially prepared away from home have decreased as a proportion of total food expenditures. A more definitive assertion requires further study, which is beyond the scope of this bulletin.

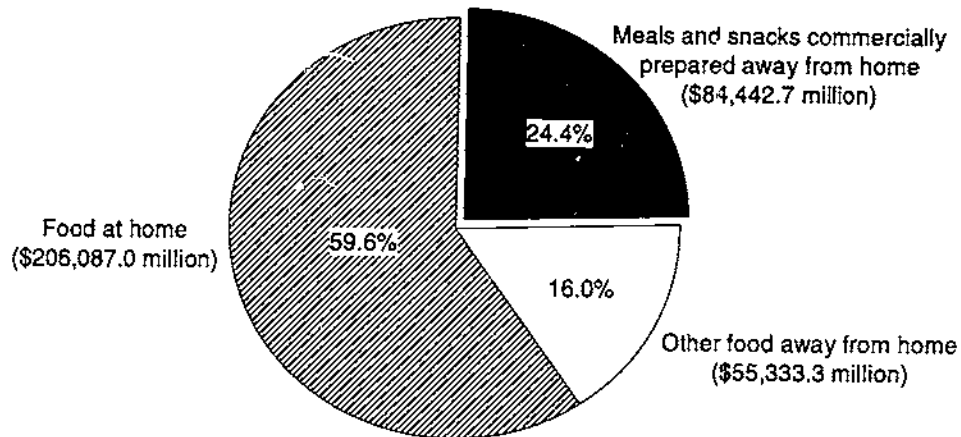
⁸See footnote 6 for the reference in USDA's food expenditure categories.

Figure 1

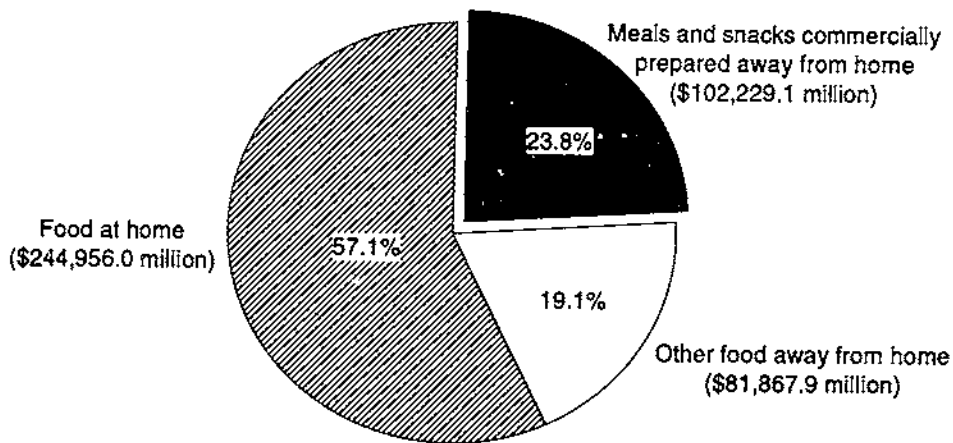
Total U.S. food expenditures in current dollars, 1982-89

Total U.S. household spending on meals and snacks commercially prepared away from home decreased as a proportion of total food expenditures

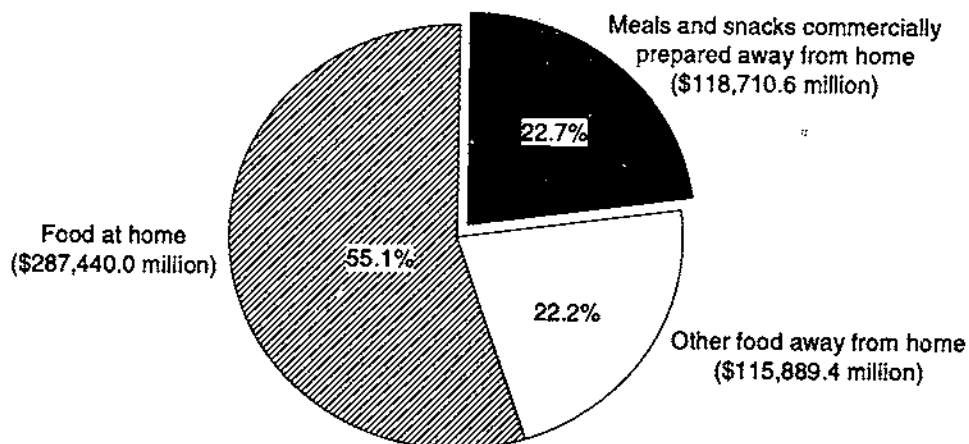
1982 (\$345,863.0 million)



1986 (\$429,053.0 million)



1989 (\$522,040.0 million)



Analysis of the NPD Restaurant Consumer Survey

The NPD restaurant consumer survey provides direct estimates of household expenditures on commercially prepared ready-to-eat-meals and snacks. As in the case of the Continuing Consumer Expenditure Survey, it does not matter in the NPD survey where the food is eventually consumed. Purchases of meals and snacks prepared away from home are considered part of FAFH expenditures even when consumption takes place at home.

Expenditures Per Household

NPD household counts for 1982-89 show an increase in the number of households or families buying FAFH, although this number is declining slightly as a proportion of the total number of households (appendix H). In 1982, there were 82.8 million U.S. households, out of which 65.4 million (79 percent) bought commercially prepared away-from-home meals and snacks during the quarterly survey period. In 1986, out of 87.3 million households, 68.1 million (78 percent) bought commercially prepared meals and snacks. In 1989, 71.0 million (76.8 percent) out of 92.4 million households bought meals and snacks from commercial foodservice establishments.

Expenditures per household for all households increased 3.4 percent per year in nominal dollars but decreased 0.8 percent per year when adjusted for inflation (fig. 2). Per household expenditures (in nominal dollars) for commercially prepared meals and snacks were \$1,020, including \$68 in tips, in 1982, \$1,171, including \$77 in tips, in 1986, and \$1,284, including \$84 in tips, in 1989.

Among households that purchased meals or snacks during the survey period, expenditures per buying household increased 3.8 percent per year in nominal dollars but decreased 0.4 percent per year when adjusted for inflation (fig. 3). Expenditures per buying household (in nominal dollars) for commercially prepared meals and snacks were \$1,290, including \$86 in tips, in 1982, \$1,500, including \$99 in tips, in 1986, and \$1,671, including \$110 in tips, in 1989.

Household expenditures for commercially prepared FAFH vary systematically with the season (figs. 2 and 3). Expenditures per household or per buying

household are lowest in winter (first quarter) and highest in summer (third quarter).

Cost and Tip Per Meal or Snack

The cost per dinner in nominal dollars with tip was the most expensive, followed by the costs of lunch, breakfast, evening snacks, afternoon snacks, and morning snacks (fig. 4). The quarterly range in cost per dinner was \$4.65-\$4.76 in 1982, \$4.90-\$5.06 in 1986, and \$5.31-\$5.43 in 1989, a rise of 1.9 percent per year. The range in cost per lunch was \$3.02-\$3.05 in 1982, \$3.37-\$3.46 in 1986, and \$3.69-\$3.80 in 1989, an annual increase of 3.1 percent. The range in cost per breakfast was \$2.25-\$2.35 in 1982, \$2.43-\$2.52 in 1986, and \$2.67-\$2.89 in 1989, an increase of 2.8 percent per year.

The costs of snacks, including tips, in nominal dollars follow the above time-of-day pattern; that is, the evening snack is the most expensive, followed by the afternoon snack and the morning snack. The quarterly range in cost per evening snack was \$1.55-\$2.09 in 1982, \$1.74-\$2.25 in 1986, and \$1.90-\$2.36 in 1989, a rise of 2.6 percent annually. Cost of an afternoon snack was \$1.24-\$1.42 in 1982, \$1.44-\$1.58 in 1986, and \$1.71-\$1.98 in 1989, an annual increase of 4.9 percent. Cost of a morning snack was \$1.04-\$1.26 in 1982, \$1.20-\$1.27 in 1986, and \$1.36-\$1.50 in 1989, an annual increase of 2.9 percent per year. Cost per snack exhibits more quarterly or seasonal variation than the cost per breakfast, lunch, or dinner.

Although cost in nominal dollars per meal or snack increased, cost in real dollars (1982-84=100) over the same period declined (fig. 5). Cost per dinner in constant dollars was \$4.86-\$4.96 in 1982, \$4.29-\$4.49 in 1986, and \$4.13-\$4.25 in 1989, a decline of 2.2 percent per year. Cost per lunch was \$3.10-\$3.24 in 1982, \$2.98-\$3.05 in 1986, and \$2.89-\$2.95 in 1989, an annual decrease of 1 percent. Cost per breakfast in real dollars was \$2.38-\$2.44 in 1982, \$2.19-\$2.23 in 1986, and \$2.13-\$2.25 in 1989, a decrease of 1.3 percent per year.

Cost per evening snack in real dollars was \$1.61-\$1.95 in 1982, \$1.54-\$2.03 in 1986, and \$1.48-\$1.88 in 1989,

a decline of 1.5 percent annually. The corresponding figures for an afternoon snack were \$1.28-\$1.51 in 1982, \$1.27-\$1.41 in 1986, and \$1.35-\$1.58 in 1989, a slight increase of 0.7 percent annually. Cost in real dollars of a morning snack was \$1.08-\$1.32 in 1982, \$1.08-\$1.11 in 1986, and \$1.09-\$1.16 in 1989, a decrease of 1.2 percent per year.

As a percentage of the cost (before adding a tip), the average tip per meal or snack occasion was highest for breakfast (9.2 percent), followed by dinner (8.1 percent), lunch (5.6 percent), evening snack (4.6 percent), morning snack (4.0 percent), and afternoon snack (3.0 percent) (fig. 6).

Because the costs for the same year are deflated by the same FAFH consumer price index, the ranking of costs between meals and snacks from most to least expensive is the same in nominal and real dollars. Also, the tip as a share of costs (excluding tip) per meal or snack is the same in nominal or real dollars.

Eating Occasions for Meals or Snacks

For any given year and for any meal or snack, the number of eating occasions increases from the first quarter to the second quarter, reaches a peak in the third quarter, and decreases in the fourth quarter. This observed pattern holds almost without exceptions. The rare exceptions are only for morning snacks when total occasions fell slightly from the first to the second quarters of 1982 and also fell from the second to the third quarters of 1983 and 1988.

Over the 8-year period, the number of eating occasions increased at an average annual rate of 1.5 percent. However, the distribution of total occasions remained relatively stable, except in the case of morning snacks for which both the number of occasions and its share of the overall total decreased (fig. 7). During this period, the average share of breakfast occasions was 10.3 percent, lunch accounted for an average of 42.8 percent, and dinner had an average share of 32.9 percent. Morning snacks had an average share of 3.3 percent, afternoon snacks had 5.5 percent, and evening snacks accounted for 5.2 percent of total eating occasions.

In 1982, the number of eating occasions totaled 14,155.2 million, with breakfast at 1,297.3 million (9.2 percent); lunch, 6,241.9 million (44.1 percent); dinner, 4,497.9 million (31.7 percent); morning snacks, 574.9 million

(4.1 percent); afternoon snacks, 777.6 million (5.5 percent); and evening snacks, 765.6 million (5.4 percent).

In 1986, the number of eating occasions reached 15,046.3 million, with breakfast at 1,615.1 million (10.7 percent); lunch, 6,342.2 million (42.2 percent); dinner, 4,963.7 million (33.0 percent); morning snacks, 526.3 million (3.5 percent); afternoon snacks, 830.5 million (5.5 percent); and evening snacks, 768.5 million (5.1 percent).

In 1989, the total was 15,729.4 million eating occasions, with breakfast at 1,582.8 million (10.1 percent); lunch, 6,641.3 million (42.2 percent); dinner, 5,341.7 million (34.0 percent); morning snacks, 482.3 million (3.1 percent); afternoon snacks, 900.7 million (5.7 percent); and evening snacks, 780.6 million (4.9 percent).

Eating Party Size Per Occasion

For any given year and for any meal or snack, the eating party size increases from the first quarter to the second quarter, reaches a peak in the third quarter, and decreases in the fourth quarter. There are on average more eaters per occasion in the summer than at any other time of the year. However, the eating party size per occasion has remained remarkably stable from year to year for each type of meal or snack (fig. 8).

The average number of eaters over the 8-year period and the corresponding average annual rate of increase are as follows: breakfast, 1.66 eaters per occasion (0.45 percent); lunch, 1.57 (0.64 percent); dinner, 2.19 (0.75 percent); morning snack, 1.48 (0.49 percent); afternoon snack, 1.76 (0.06 percent); and evening snack, 2.11 (0.18 percent).

Number of Meals and Snacks

Over the 8-year period, the number of meals and snacks served increased at an average annual rate of 2.2 percent. However, the distribution of this total has remained relatively stable, except for morning snacks. As in the case of eating occasions (fig. 7), both the number of morning snacks served and its share of the overall total declined over the period (fig. 9). The average annual share of breakfast was 9.4 percent; lunch, 36.9 percent; and dinner, 39.6 percent. Morning snacks had an average share of 2.8 percent; afternoon snacks, 5.3 percent; and evening snacks, 6.0 percent.

In 1982, the number of meals and snacks served totaled 25,058.6 million. Breakfast accounted for 2,120.1

million meals (8.5 percent); lunch, 9,567.8 million (38.2 percent); dinner, 9,562.7 million (38.2 percent); morning snacks, 833.0 million (3.3 percent); afternoon snacks, 1,368.6 million (5.4 percent); and evening snacks, 1,606.4 million (6.4 percent).

In 1986, the total was 27,718.1 million meals and snacks, with breakfast at 2,723.0 million (9.8 percent); lunch, 10,041.9 million (36.2 percent); dinner, 11,046.2 million (39.9 percent); morning snacks, 802.6 million (2.9 percent); afternoon snacks, 1,475.7 million (5.3 percent); and evening snacks, 1,628.7 million (5.9 percent).

In 1989, the number of meals and snacks reached 29,242.2 million, with breakfast at 2,668.6 million (9.1 percent); lunch, 10,644.0 million (36.4 percent); dinner, 11,958.9 million (40.9 percent); morning snacks, 721.2 million (2.5 percent); afternoon snacks, 1,591.3 million (5.4 percent); and evening snacks, 1,658.2 million (5.7 percent).

There were more eating occasions for lunch than for dinner (fig. 7). However, there were more eaters per dinner than eaters per lunch (fig. 8). Thus, while the shares of lunch and dinner in total meals and snacks were about the same in 1982, the shares of dinner were larger in 1986 and 1989 (fig. 9).

Expenditures for Meals and Snacks

Expenditures, including tips, for all meals and snacks grew at an average annual rate of 5 percent. However, the distribution of expenditures has remained relatively stable (fig. 10).

Breakfast averaged 6.4 percent of the total; lunch, 33.7 percent; and dinner, 53.7 percent. Morning snacks averaged 0.9 percent; afternoon snacks, 2.2 percent; and evening snacks, 3.1 percent.

In 1982, expenditures, including tips, in nominal dollars for all meals and snacks amounted to \$84,442.7 million. Breakfast accounted for \$4,885.3 million (5.8 percent); lunch, \$28,981.8 million (34.3 percent); dinner, \$44,964.1 million (53.2 percent); morning snacks, \$969.4 million (1.2 percent); afternoon snacks, \$1,771.0 million (2.1 percent); and evening snacks, \$2,871.1 (3.4 percent).

In 1986, the total reached \$102,229.1 million, with breakfast at \$6,760.7 million (6.6 percent); lunch, \$34,190.8 million (33.4 percent); dinner, \$54,860.0 million (53.7 percent); morning snacks, \$993.2 million (1.0 percent);

afternoon snacks, \$2,237.4 million (2.2 percent); and evening snacks, \$3,187.0 million (3.1 percent).

In 1989, the total amounted to \$118,710.6 million, with breakfast at \$7,467.5 million (6.3 percent); lunch, \$39,805.9 million (33.5 percent); dinner, \$64,014.0 million (53.9 percent); morning snacks, \$1,018.8 million (0.9 percent); afternoon snacks, \$2,867.2 million (2.4 percent); and evening snacks, \$3,537.2 million (3.0 percent).

Total tips in nominal dollars were \$5,614.4 million in 1982, \$6,690.5 in 1986, and \$7,785.2 in 1989 (fig. 11). While tips increased in absolute size, the proportion of tips relative to total expenditures, excluding tips, remained about the same, around 7 percent, during 1982-89. That is, total tips increased at the same rate as total expenditures on meals and snacks net of total tips.

The \$5,614.4 million in tips in 1982 may be broken down as follows: breakfast, \$412.4 million (7.4 percent); lunch, \$1,557.9 million (27.7 percent); dinner, \$3,417.2 million (60.9 percent); morning snacks, \$33.2 million (0.6 percent); afternoon snacks, \$57.5 million (1.0 percent); and evening snacks, \$136.2 million (2.4 percent).

The \$6,690.5 million in tips in 1986 were breakfast, \$563.4 million (8.4 percent); lunch, \$1,824.0 million (27.3 percent); dinner, \$4,054.5 million (60.6 percent); morning snacks, \$36.8 million (0.6 percent); afternoon snacks, \$68.6 million (1.0 percent); and evening snacks, \$143.2 million (2.1 percent).

The \$7,785.2 million in tips in 1989 were breakfast, \$657.9 million (8.5 percent); lunch, \$2,107.0 million (27.1 percent); dinner, \$4,758.9 million (61.1 percent); morning snacks, \$38.5 million (0.5 percent); afternoon snacks, \$73.7 million (0.9 percent); and evening snacks, \$149.2 million (1.9 percent).

The number of eating occasions and eating party size per occasion tend to be highest in the third (summer) quarter. Thus, the share of total expenditures is also highest in the third quarter (fig. 12).

The third quarter share of total expenditures with tips has remained relatively stable at around 28 percent during the period. The other quarterly shares have also remained relatively stable, about 25 percent in the second quarter, 24 percent in the fourth, and 23 percent in the first quarter.

Figure 2

Expenditures per U.S. household on food commercially prepared away from home, 1982-89

Per household spending for all households varied systematically with the season, being lowest in winter (first quarter) and highest in summer (third quarter)

Nominal and real (1982-84=100) dollars

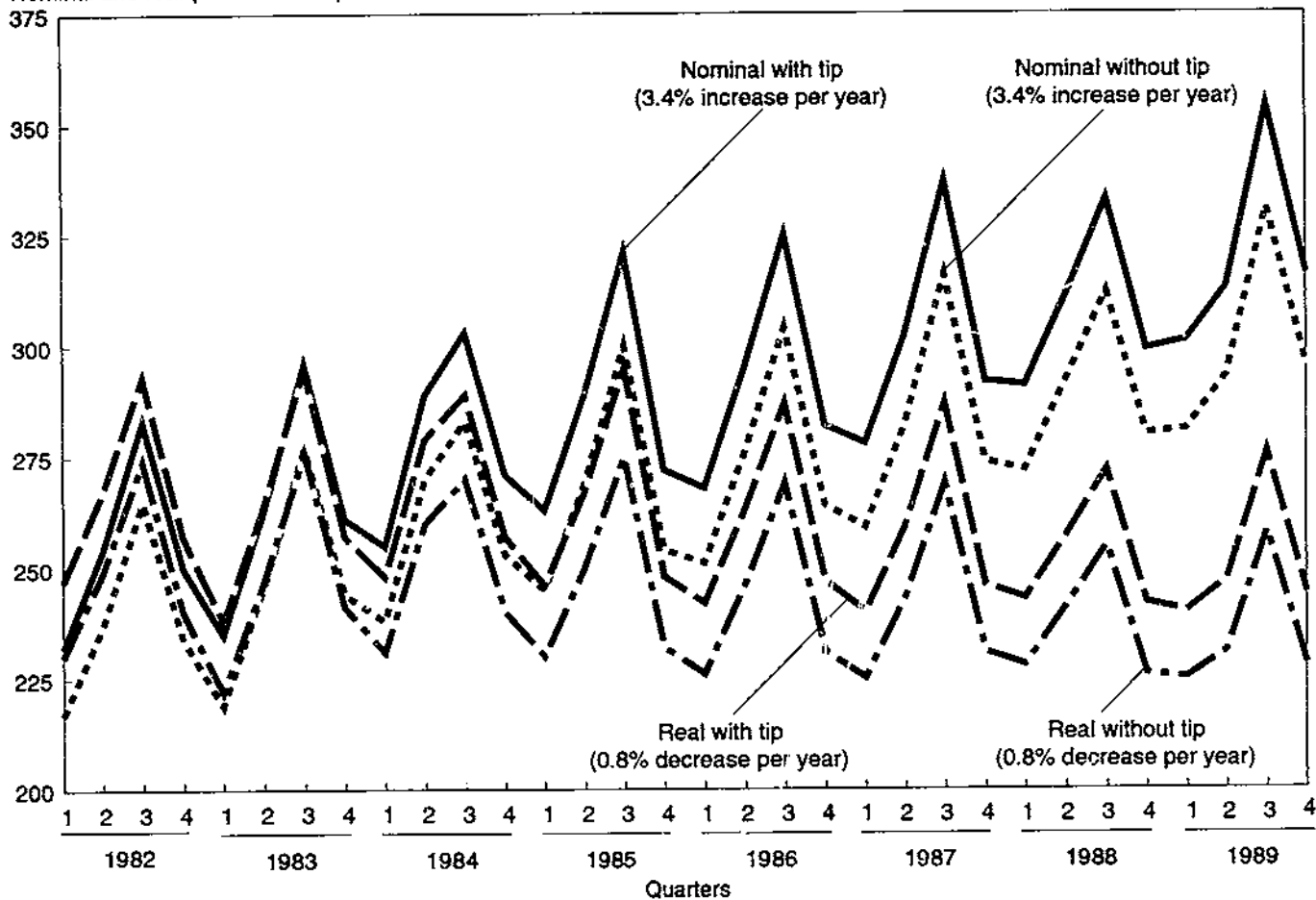


Figure 3

Expenditures per buying U.S. household on food commercially prepared away from home, 1982-89

Buying households, or those that purchased a meal or snack during the survey period, made up 76-80 percent of all households in each quarter; for these households, spending was lowest in winter and highest in summer

Nominal and real (1982-84=100) dollars

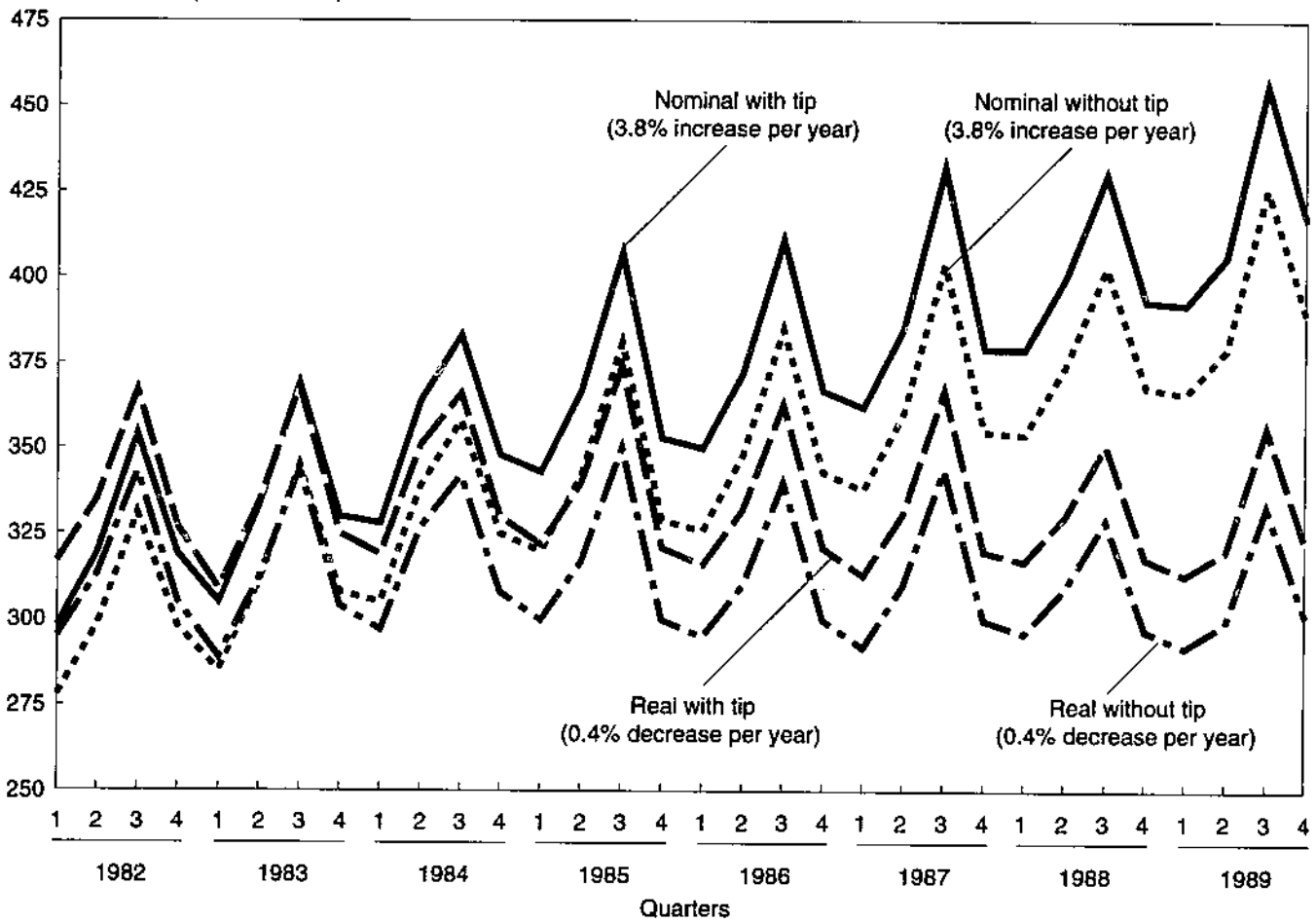


Figure 4

Costs with tip per meal or snack commercially prepared away from home, United States, 1982-89

In addition to an upward annual trend in costs, there was a seasonal variation, especially in the costs of afternoon and evening snacks, which were highest in winter (first quarter) and lowest in summer (third quarter)

Nominal dollars

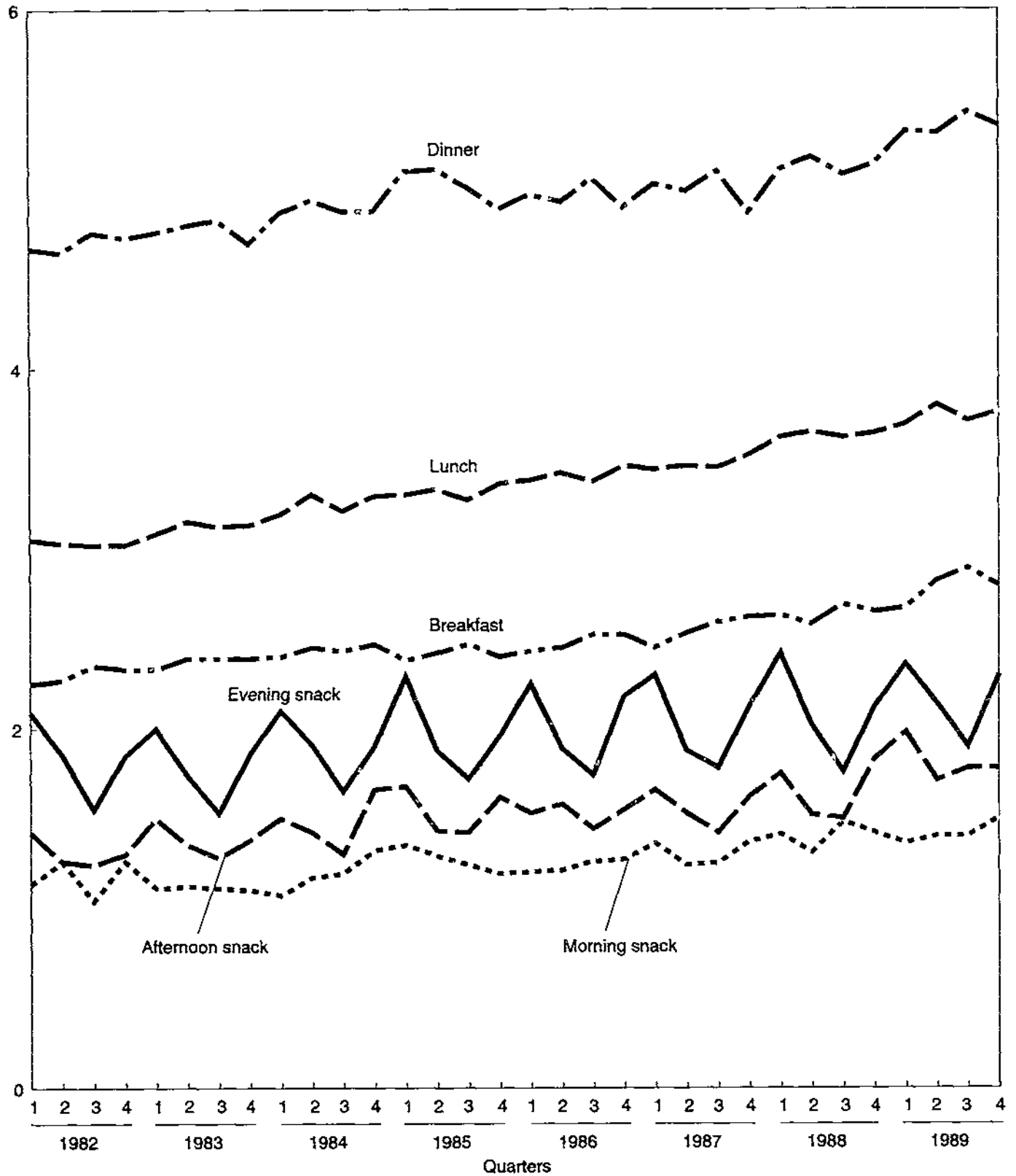


Figure 5

Costs with tip per meal or snack commercially prepared away from home, United States, 1982-89

Costs of meals and snacks fell when adjusted for inflation

Real (1982-89=100) dollars

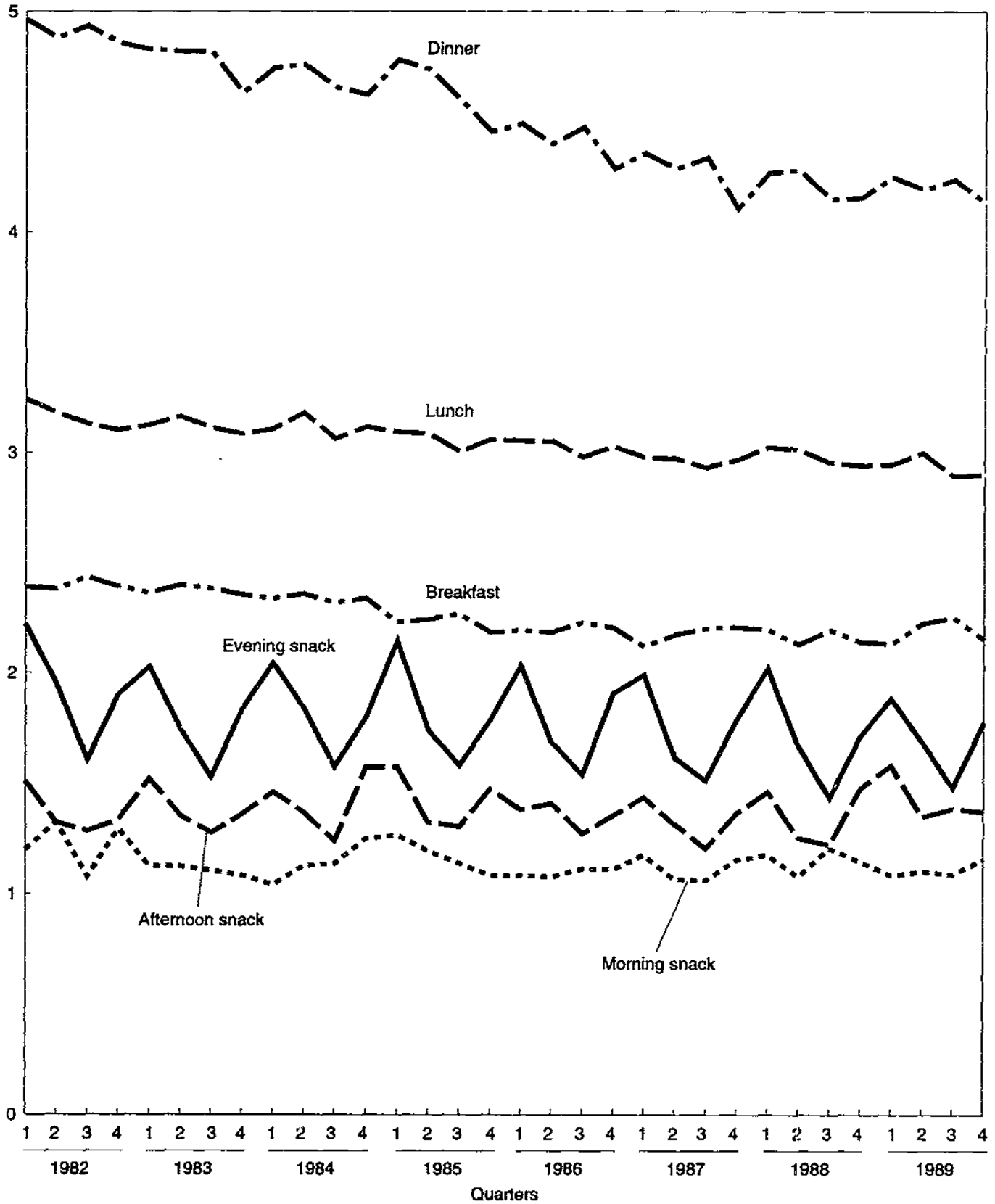


Figure 6

Percentage tip per meal or snack commercially prepared away from home, United States, 1982-89

As a percentage of expenditures, tips were higher for regular meals than for snacks

Percent

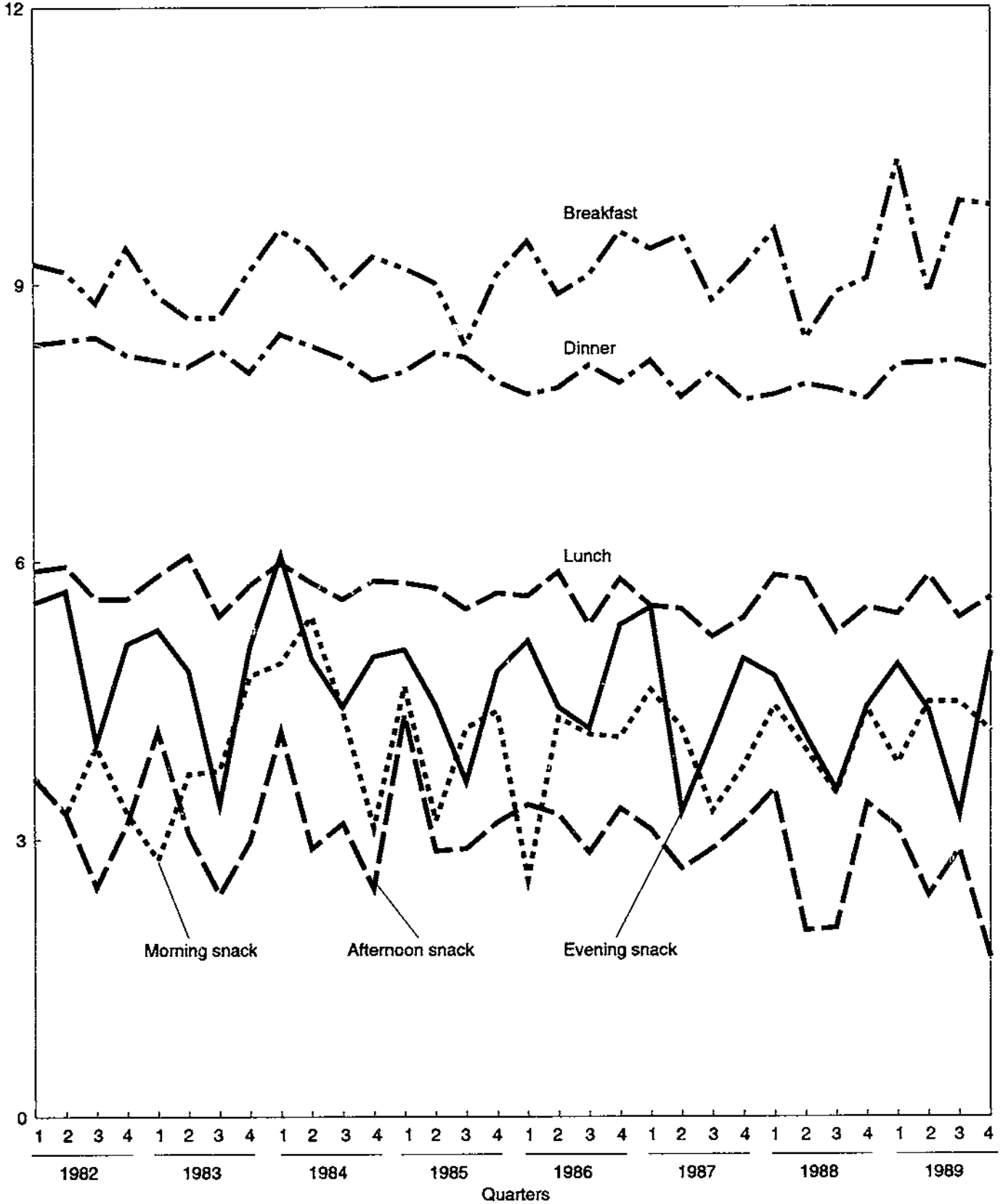
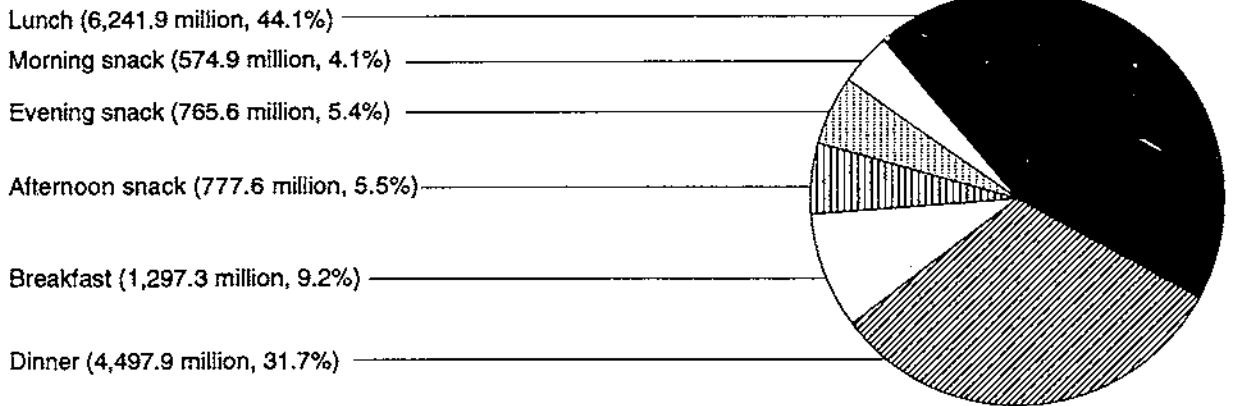


Figure 7

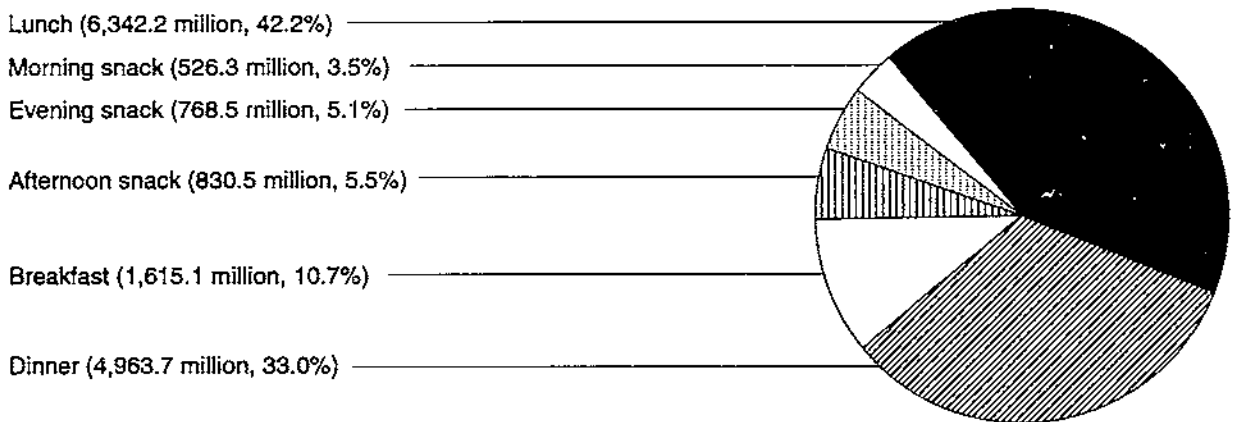
Share of eating occasions by type of meal or snack commercially prepared away from home, United States, 1982-89

The number of eating occasions increased for all types of meals and snacks, except for morning snacks

1982 (14,155.2 million)



1986 (15,046.3 million)



1989 (15,729.4 million)

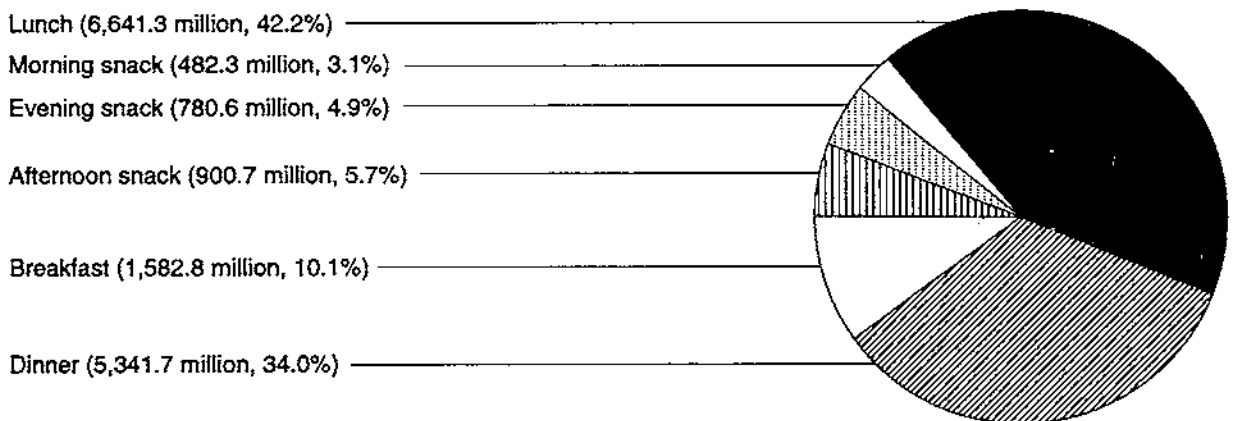


Figure 8

Eating party size per eating occasion by type of meal or snack commercially prepared away from home, United States, 1982-89

The trend in eating party size was flat but varied seasonally, with the smallest sizes in winter and the largest in summer. This trend contrasted with the seasonal variation in costs, which were highest in winter and lowest in summer

Number of people

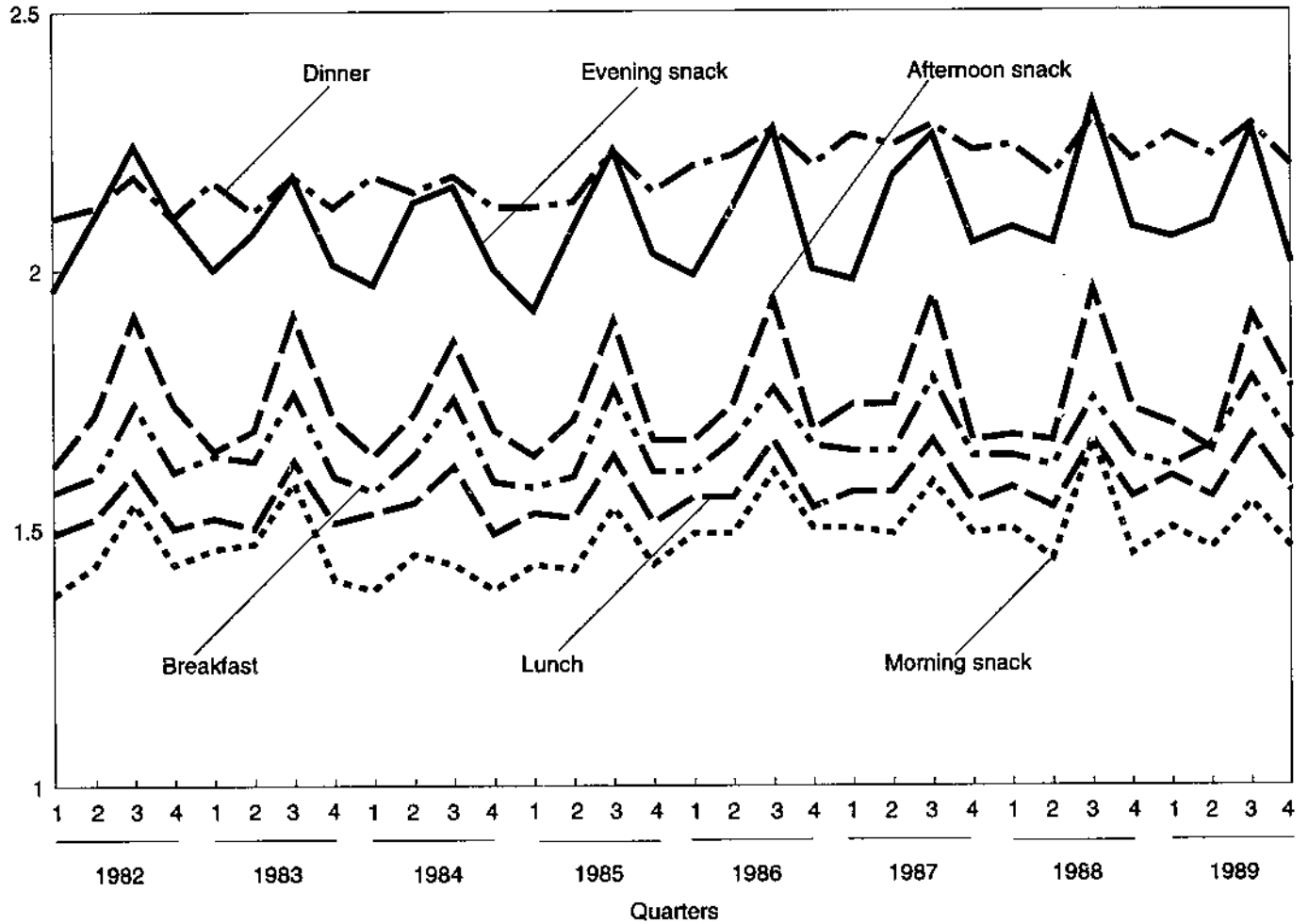
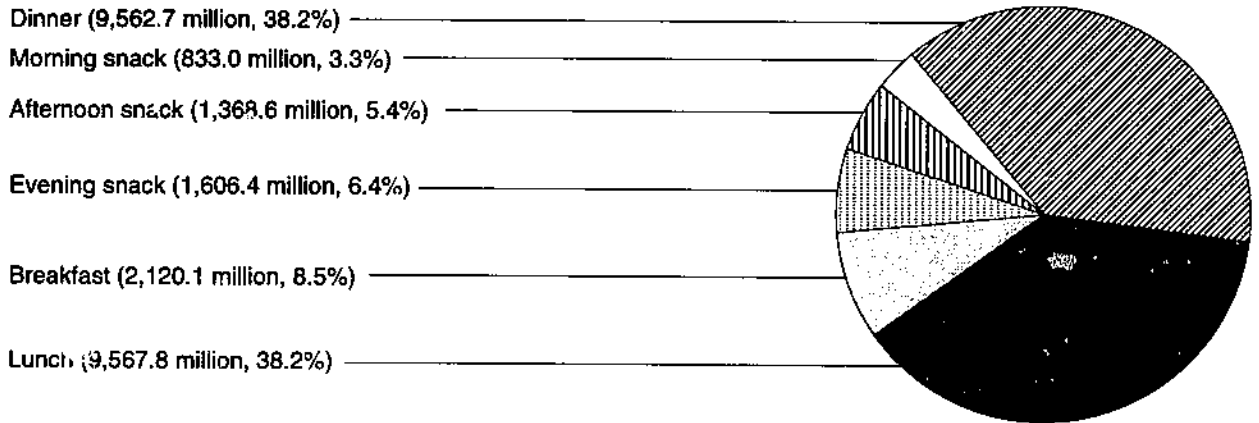


Figure 9

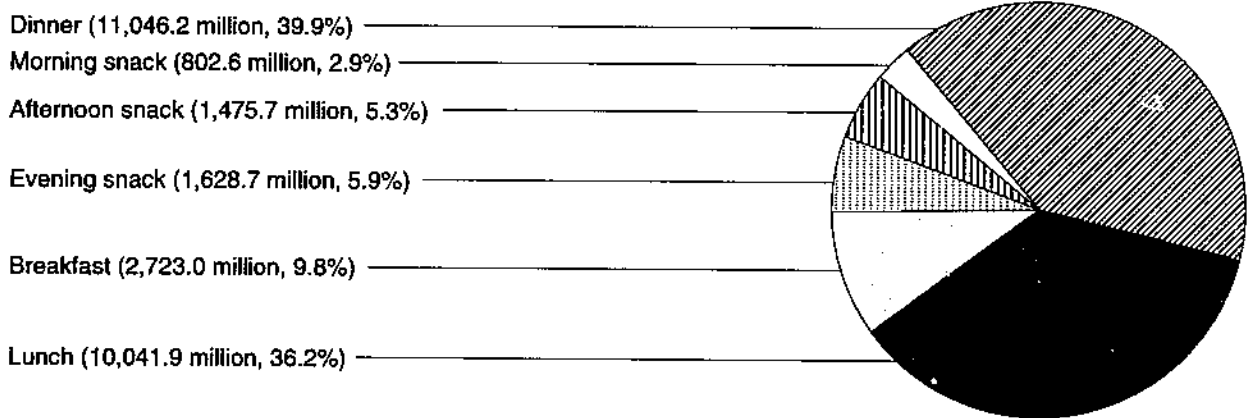
Share of meals and snacks commercially prepared away from home, United States, 1982-89

The number of meals and snacks increased, except for morning snacks

1982 (25,058.6 million)



1986 (27,718.1 million)



1989 (29,242.2 million)

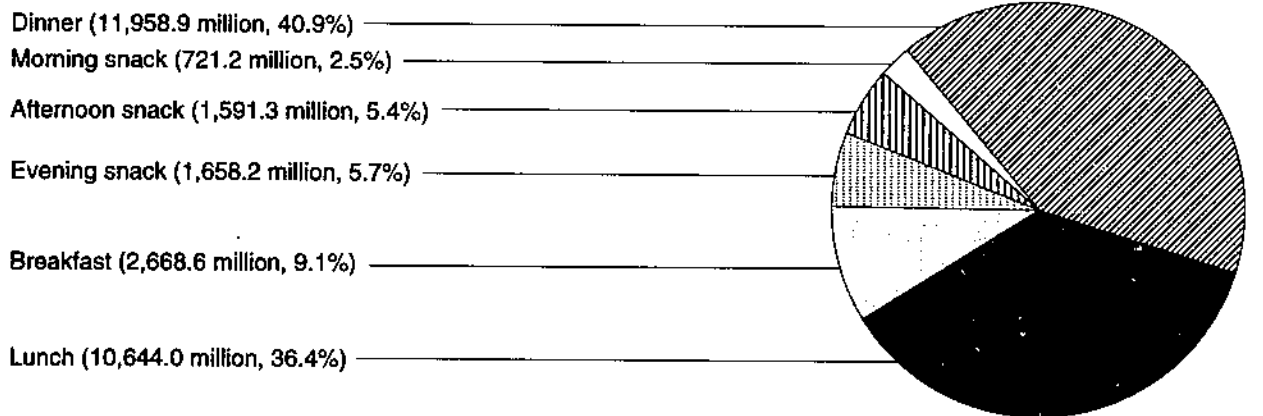


Figure 10

Share of expenditures with tips, in nominal dollars, by type of meal or snack commercially prepared away from home, United States, 1982-89

Although spending increased, shares were relatively unchanged

1982 (\$84,442.7 million)

Dinner (\$44,964.1 million, 53.2%)

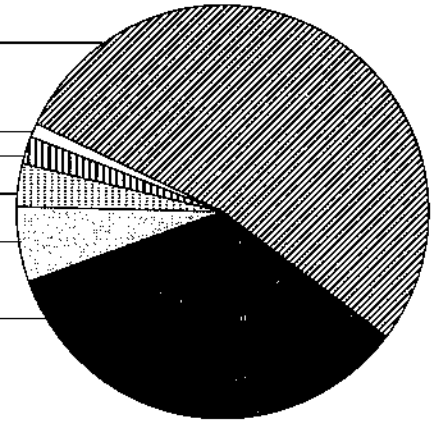
Morning snack (\$969.4 million, 1.2%)

Afternoon snack (\$1,771.0 million, 2.1%)

Evening snack (\$2,871.1 million, 3.4%)

Breakfast (\$4,885.3 million, 5.8%)

Lunch (\$28,981.8 million, 34.3%)



1986 (\$102,229.1 million)

Dinner (\$54,860.0 million, 53.7%)

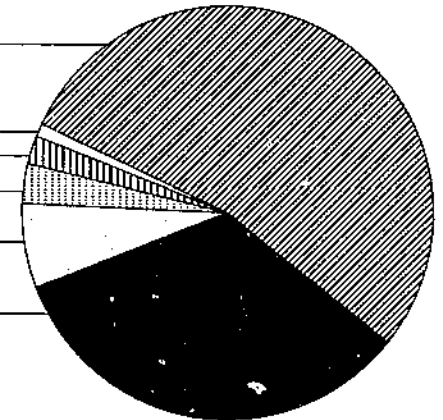
Morning snack (\$993.2 million, 1.0%)

Afternoon snack (\$2,237.4 million, 2.2%)

Evening snack (\$3,187.0 million, 3.1%)

Breakfast (\$6,760.7 million, 6.6%)

Lunch (\$34,190.8 million, 33.4%)



1989 (\$118,710.6 million)

Dinner (\$64,014.0 million, 53.9%)

Morning snack (\$1,018.8 million, 0.9%)

Afternoon snack (\$2,867.2 million, 2.4%)

Evening snack (\$3,537.2 million, 3.0%)

Breakfast (\$7,467.5 million, 6.3%)

Lunch (\$39,805.9 million, 33.5%)

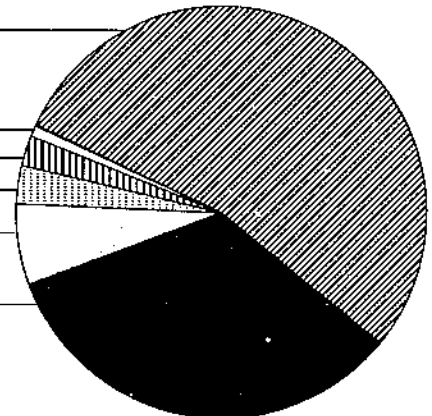


Figure 11

Share of tips, in nominal dollars, by type of meal or snack commercially prepared away from home, United States, 1982-89

While tips increased, shares were relatively unchanged

1982 (\$5,614.4 million)

Dinner (\$3,417.2 million, 60.9%)

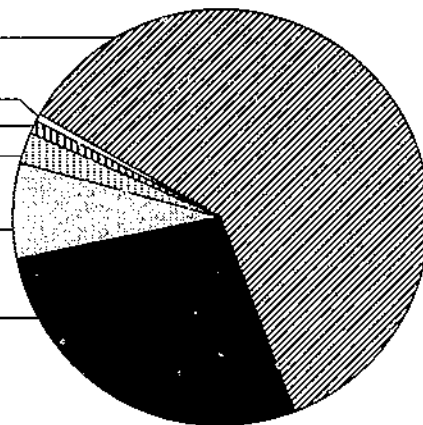
Morning snack (\$33.2 million, 0.6%)

Afternoon snack (\$57.5 million, 1.0%)

Evening snack (\$136.2 million, 2.4%)

Breakfast (\$412.4 million, 7.4%)

Lunch (\$1,557.9 million, 27.7%)



1986 (\$6,690.5 million)

Dinner (\$4,054.5 million, 60.6%)

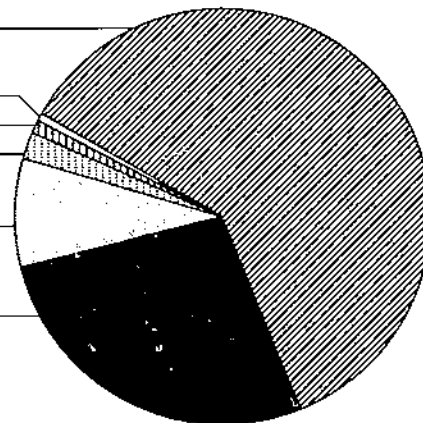
Morning snack (\$36.8 million, 0.6%)

Afternoon snack (\$68.6 million, 1.0%)

Evening snack (\$143.2 million, 2.1%)

Breakfast (\$563.4 million, 8.4%)

Lunch (\$1,824.0 million, 27.3%)



1989 (\$7,785.2 million)

Dinner (\$4,758.9 million, 61.1%)

Morning snack (\$38.5 million, 0.5%)

Afternoon snack (\$73.7 million, 0.9%)

Evening snack (\$149.2 million, 1.9%)

Breakfast (\$657.9 million, 8.5%)

Lunch (\$2,107.0 million, 27.1%)

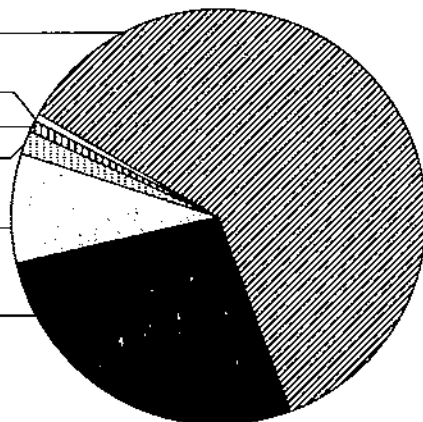
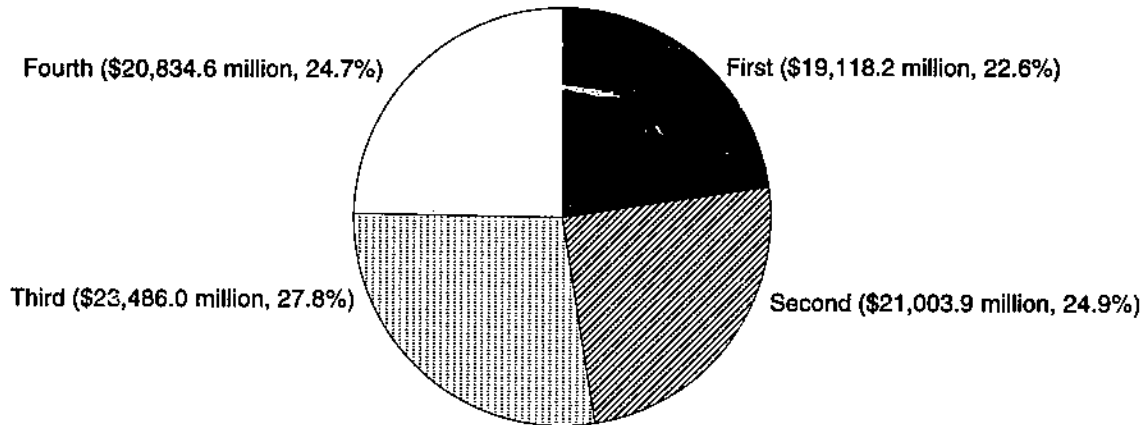


Figure 12

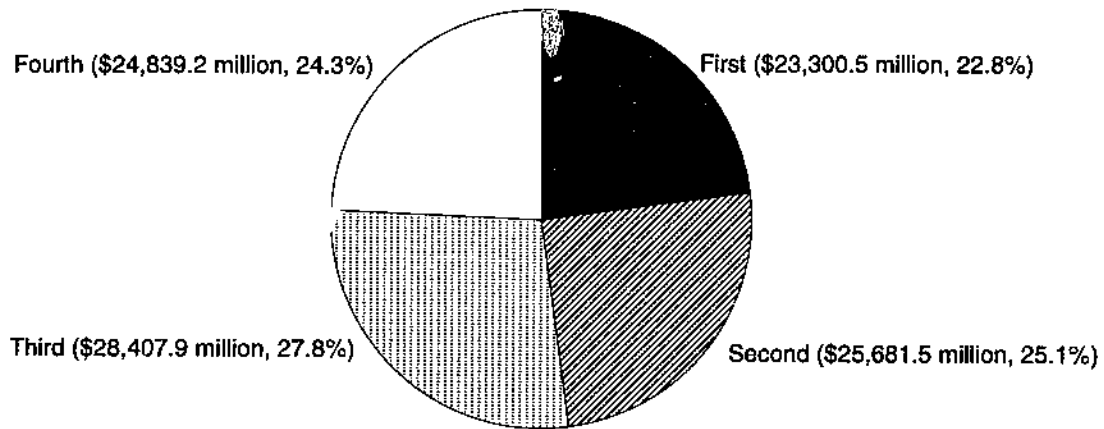
Share of quarterly expenditures with tips, in nominal dollars, on food commercially prepared away from home, United States, 1982-89

While expenditure shares were lowest in the first quarter (winter) and highest in the third quarter (summer), differences in quarterly shares remained relatively small

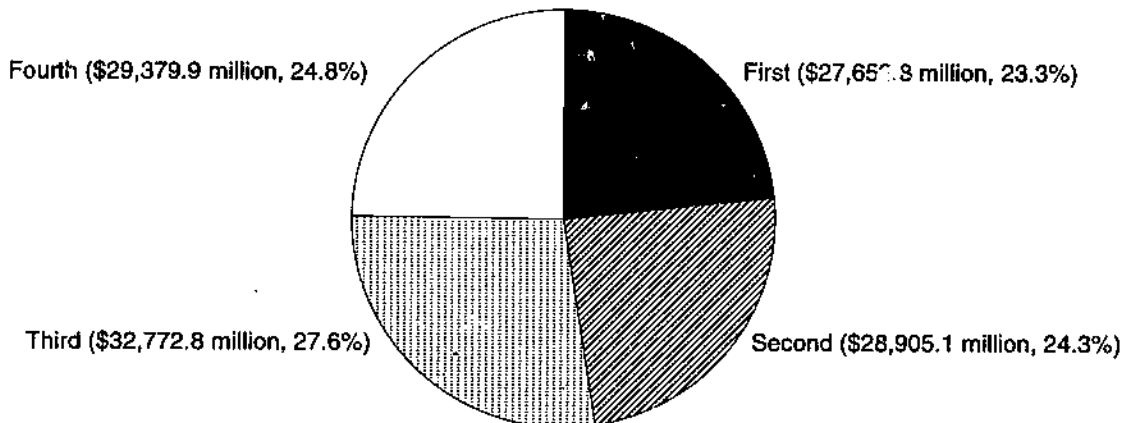
1982 (\$84,442.7 million)



1986 (\$102,229.1 million)



1989 (\$118,710.6 million)



Restaurant Consumption by Type of Eating Place

The preceding section described the overall trends in cost per meal or snack, total number of eating occasions, eating party size per occasion, total number of meals and snacks, and total expenditures on meals and snacks. In this section, these trends are examined with more detail, by types of eating establishment—namely, fast food and drive-in places, family-type restaurants, eating places with atmosphere/specialty, cafeterias, coffee shops, take-out places, and all others lumped in the “unidentified” category. However, while the overall trends in the preceding section were examined by quarter, the more detailed examination of each trend by type of eating establishment at each point in time introduces more data than are necessary for a descriptive analysis. Thus, for economy of space, this section presents the data on an annual basis. (See appendix G for a discussion of computing annual values from the quarterly computations of the variables in this bulletin.)

Cost and Tip Per Meal or Snack

The cost per meal with tip (that is, breakfast, lunch, or dinner) is highest in eating places classified as having atmosphere/specialty, followed by family-type restaurants, cafeterias, and coffee shops. The fifth and sixth highest cost switches between fast food/drive-in and take-out places (figs. 13 and 14). In the case of morning, afternoon, and evening snacks, the highest and next highest costs are also in places with atmosphere/specialty and in family-type restaurants. However, the third to the sixth highest cost per snack switches between the last four types of eating places. This relative ranking of costs applies as well to the costs including tip per meal or snack in real dollars.

Over the 8-year period, the increase in cost per breakfast ranged from a low of 2.3 percent (fast food) to a high of 3.9 percent (family-type) (fig. 15). The increase in cost per lunch ranged from 2.8 percent (atmosphere/specialty) to 4.7 percent (cafeteria). The range for dinner was from 2.5 percent (family-type) to 5.3 percent (take-out). The range for morning snacks was from 1.8 percent (atmosphere/specialty) to 3.7 percent (family-type); for afternoon snacks, from 2.7 percent (cafeteria) to 6.4 percent (take-out); and for

evening snacks, from 2.2 percent (family-type and atmosphere/specialty) to 5.4 percent (take-out).

The percentage tip in fast food places ranged from a low of 0.5 percent (lunch) to a high of 0.8 percent (breakfast and afternoon snack) over the 8-year period (fig. 16). The range in percentage tip in family-type restaurants was from 8.3 percent (afternoon snack) to 14.0 percent (breakfast); in atmosphere/specialty restaurants, from 7.8 percent (afternoon snack) to 12.9 percent (breakfast); in cafeterias, from 1.7 percent (lunch) to 4.0 percent (breakfast); in coffee shops, from 4.2 percent (morning snack) to 11.0 percent (dinner); and in take-out places, from 0.4 percent (morning snack) to 1.7 percent (dinner).

Percentage tips are highest in atmosphere/specialty and family-type restaurants, followed by coffee shops and cafeterias, and lowest in take-out and fast food places.

Because the costs for the same year are deflated by the same FAFH consumer price index, the ranking of costs between meals and snacks from most to least expensive is the same in nominal and in real dollars. Similarly, the tip as a percentage of costs (without tip) per meal or snack is the same in either nominal or real dollars.

Number of Eating Occasions

Over the 8-year period, the total number of eating occasions increased at an average annual rate of 1.5 percent. The number of eating occasions totaled 14,155.2 million in 1982, 15,046.3 million in 1986, and 15,729.4 million in 1989 (fig. 17). In 1982, 1986, and 1989, the distribution of total eating occasions by type of eating place was fast food, 35.8, 39.8, and 41.3 percent; family-type, 23.9, 26.0, and 24.8 percent; atmosphere/specialty, 13.9, 11.0, and 10.6 percent; cafeterias, 6.9, 4.0, and 3.3 percent; coffee shops, 6.1, 4.6, and 4.0 percent; take-out, 12.3, 13.2, and 14.3 percent; and unidentified places, 1.1, 1.4, and 1.7 percent.

During 1982-89, the shares in total eating occasions of both fast food and take-out places increased (fig. 17). In contrast, the shares of atmosphere/specialty restaurants, cafeterias, and coffee shops declined. Total eating

occasions in cafeterias and coffee shops declined as well. However, the shares of family-type restaurants, on average, remained the same over the period.

Eating party sizes are largest for dinner and evening snacks, for which the average is more than two eaters per occasion (figs. 18 and 19). For both dinner and evening snacks, take-out places have the largest eating party sizes, with 2.29-2.55 eaters per dinner and 2.26-2.29 per evening snack. For lunch, family-type restaurants have the largest eating parties, with 2.20-2.30 eaters.

For morning snacks, atmosphere/specialty restaurants have the largest party sizes, with 1.51-1.76 eaters. In the case of breakfast and afternoon snacks, there is no clear indication as to which type of eating place has the largest eating party per occasion. However, cafeterias have the smallest eating parties per breakfast, with 1.25-1.50 eaters, and per morning snack, with 1.13-1.48 eaters. Coffee shops have the smallest eating party sizes for lunch, with 1.27-1.32 eaters, and for dinner, with 1.63-1.78 eaters.

Number of Meals and Snacks

Over the 8-year period, the total number of meals and snacks served increased at an average annual rate of 2.2 percent. The number of meals and snacks totaled 25,058.6 million in 1982, 27,718.1 million in 1986, and 29,242.2 million in 1989. For each of these 3 years, the share of total meals and snacks by type of eating place was fast food, 36.6, 39.5, and 40.5 percent; family type, 25.5, 27.4, and 26.4 percent; atmosphere/specialty, 14.4, 11.2, and 10.9 percent; cafeterias, 5.3, 3.3, and 2.8 percent; coffee shops, 5.0, 3.9, and 3.2 percent; take-out, 12.2, 13.5, and 14.7 percent; and unidentified places, 1.0, 1.2, and 1.5 percent (fig. 20).

During 1982-89, the shares of eating places in total meals and snacks served mirrored those with respect to total eating occasions. The shares of both fast food and take-out places in total meals and snacks increased, while the shares of atmosphere/specialty restaurants, cafeterias, and coffee shops declined. The total number of meals and snacks in cafeterias and coffee shops declined. At the same time, the shares of family-type restaurants, on average, remained the same during the period.

Expenditures for Meals and Snacks

Total expenditures, including tips, in nominal dollars for all meals and snacks grew at an average annual rate

of 5 percent during the period 1982-89. The shares in total expenditures of fast food and, especially, take-out places increased, and the shares of atmosphere/specialty restaurants, cafeterias, and coffee shops decreased (fig. 21). In particular, total expenditures in cafeterias also decreased. At the same time, the share of family-type restaurants has remained stable. This is a mirror image of the relative distribution in shares and trend in shares observed earlier in the case of total eating occasions and total meals and snacks.

In 1982, expenditures, including tips, in nominal dollars for all meals and snacks amounted to \$84,442.7 million, with fast food at \$18,886.0 million (22.4 percent); family-type, \$27,977.4 million (33.1 percent); atmosphere/specialty, \$24,857.0 million (29.5 percent); cafeterias, \$3,645.1 million (4.3 percent); coffee shops, \$2,777.7 million (3.3 percent); take-out, \$5,596.1 million (6.6 percent); and unidentified places, \$703.4 million (0.8 percent).

In 1986, the total reached \$102,229.1 million, with fast food at \$25,793.8 million (25.2 percent); family-type, \$36,710.3 million (35.9 percent); atmosphere/specialty, \$24,072.8 million (23.6 percent); cafeterias, \$3,089.3 million (3.0 percent); coffee shops, \$2,530.0 million (2.5 percent); take-out, \$8,917.4 million (8.7 percent); and unidentified places, \$1,115.4 million (1.1 percent).

In 1989, expenditures amounted to \$118,710.6 million, with fast food at \$31,434.0 million (26.5 percent); family-type, \$41,591.1 million (35.0 percent); atmosphere/specialty, \$26,521.8 million (22.3 percent); cafeterias, \$3,086.4 million (2.6 percent); coffee shops, \$2,570.2 million (2.2 percent); take-out, \$12,079.5 million (10.2 percent); and unidentified places, \$1,427.5 million (1.2 percent).

While tips increased in absolute size, the proportion of tips relative to total expenditures, excluding tips, remained at around 7 percent during 1982-89. Tips collected in fast food and take-out places dramatically increased, while tips in coffee shops decreased (fig. 22).

Tips in nominal dollars totaled \$5,614.5 million in 1982, \$6,690.5 in 1986, and \$7,785.3 in 1989. For 1982, 1986, and 1989, the shares of total tips by type of eating place were fast food, 1.9, 1.9, and 2.5 percent; family-type, 44.4, 50.8, and 51.5 percent; atmosphere/specialty, 46.9, 40.3, and 38.5 percent; cafeterias, 1.3, 0.9, and 1.0 percent; coffee shops, 4.2, 3.2, and 2.7

percent; take-out, 0.6, 1.9, and 2.8 percent; and unidentified places, 0.7, 1.0, and 1.0 percent.

While expenditures in atmosphere/specialty restaurants, family-type restaurants, take-out places, and unidentified places were mostly for dinner, expenditures in coffee shops, cafeterias, and fast food/drive-in places were mostly for lunch (figs. 23-29). The average share of dinner expenditures for 1982-89 in atmosphere/specialty restaurants was 68.0 percent; family-type, 58.4 percent; take-out, 48.9 percent; and unidentified places, 45.9

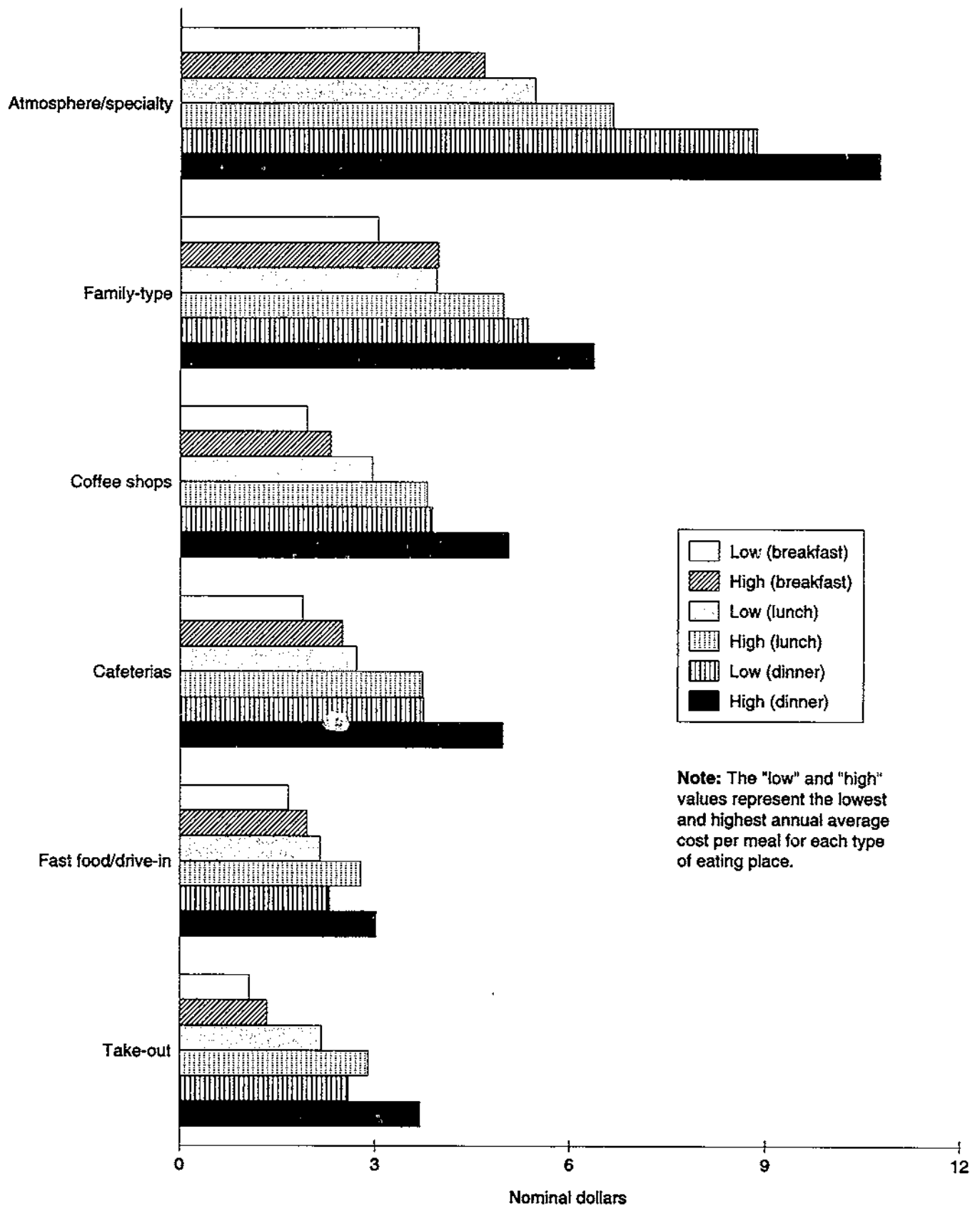
percent. The average share of lunch expenditures in coffee shops was 39.3 percent; cafeterias, 54.7 percent; and fast food/drive-in places, 46.2 percent.

The pattern of expenditures in coffee shops seems noteworthy. Breakfast expenditures accounted for close to 30 percent of total expenditures in coffee shops but less than 10 percent in each of the other types of eating places. Dinner expenditures accounted for less than 20 percent of total expenditures in coffee shops but 30-70 percent in each of the other eating places.

Figure 13

Range of cost with tip per meal by type of eating place, United States, 1982-89

The average cost of breakfast was the lowest of all meals in all eating places; the cost of dinner was the highest

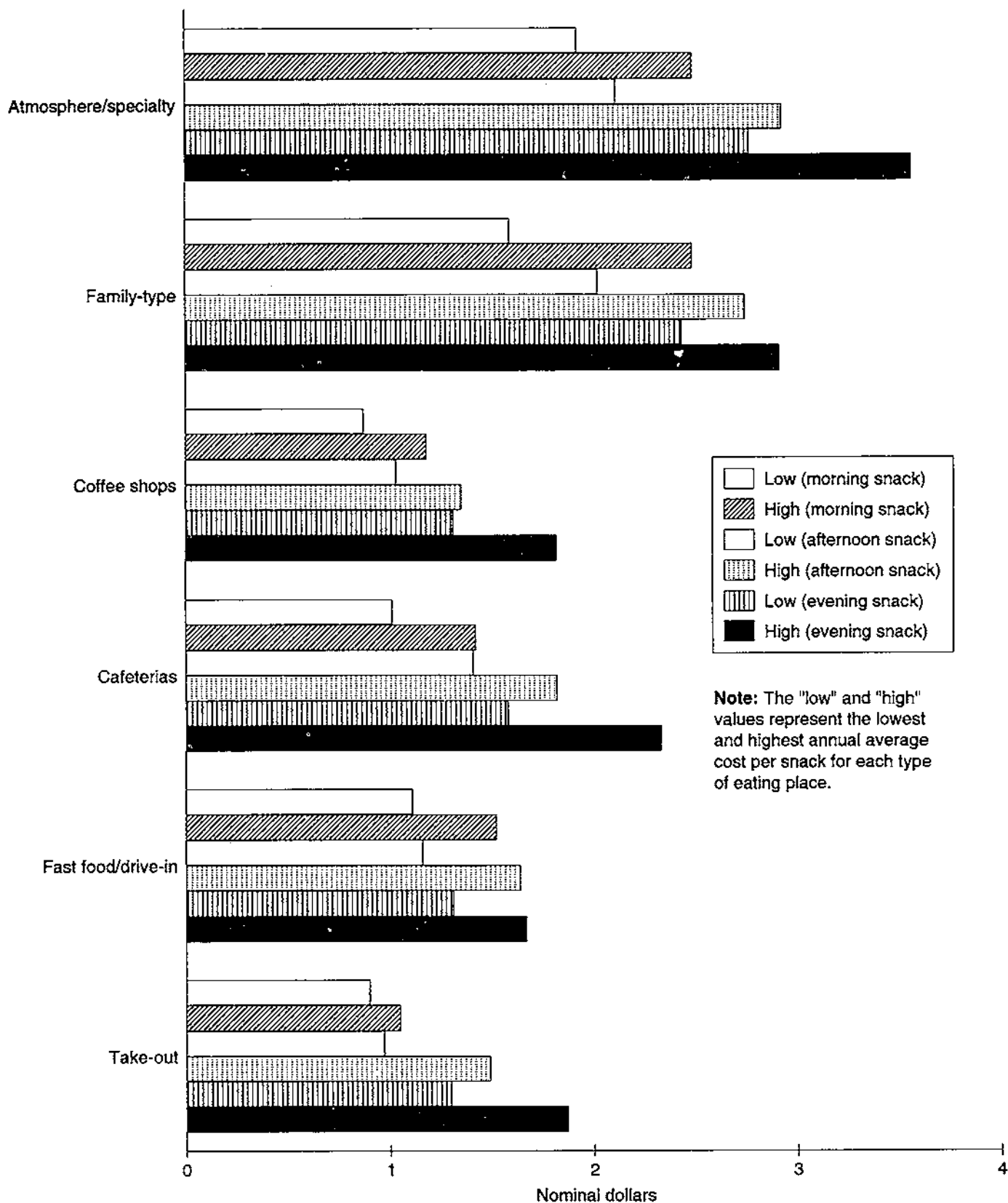


Note: The "low" and "high" values represent the lowest and highest annual average cost per meal for each type of eating place.

Figure 14

Range of cost with tip per snack by type of eating place, United States, 1982-89

The average cost of morning snacks was the lowest of all snacks in all eating places; the cost of evening snacks was the highest



Note: The "low" and "high" values represent the lowest and highest annual average cost per snack for each type of eating place.

Figure 15

Percentage change in cost with tip, in nominal dollars, per meal or snack by type of eating place, United States, 1982-89

Average percentage increases in costs were lowest in atmosphere/specialty and family-type restaurants and highest in fast food/drive-in and take-out places

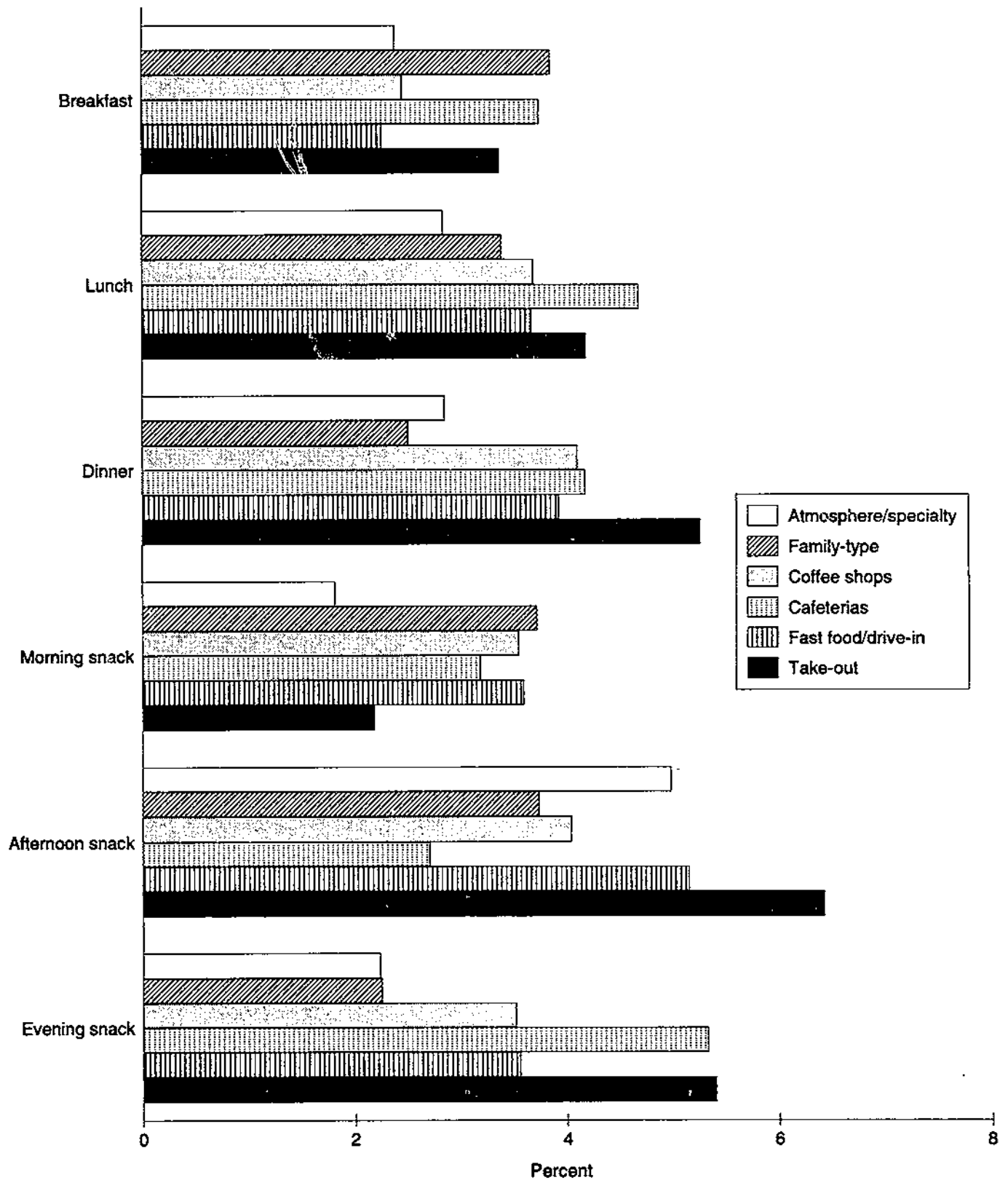


Figure 16

Percentage tip, in nominal dollars, per meal or snack by type of eating place, United States, 1982-89

Average percentage tips were highest in atmosphere/specialty and family-type restaurants and lowest in fast food/drive-in and take-out places

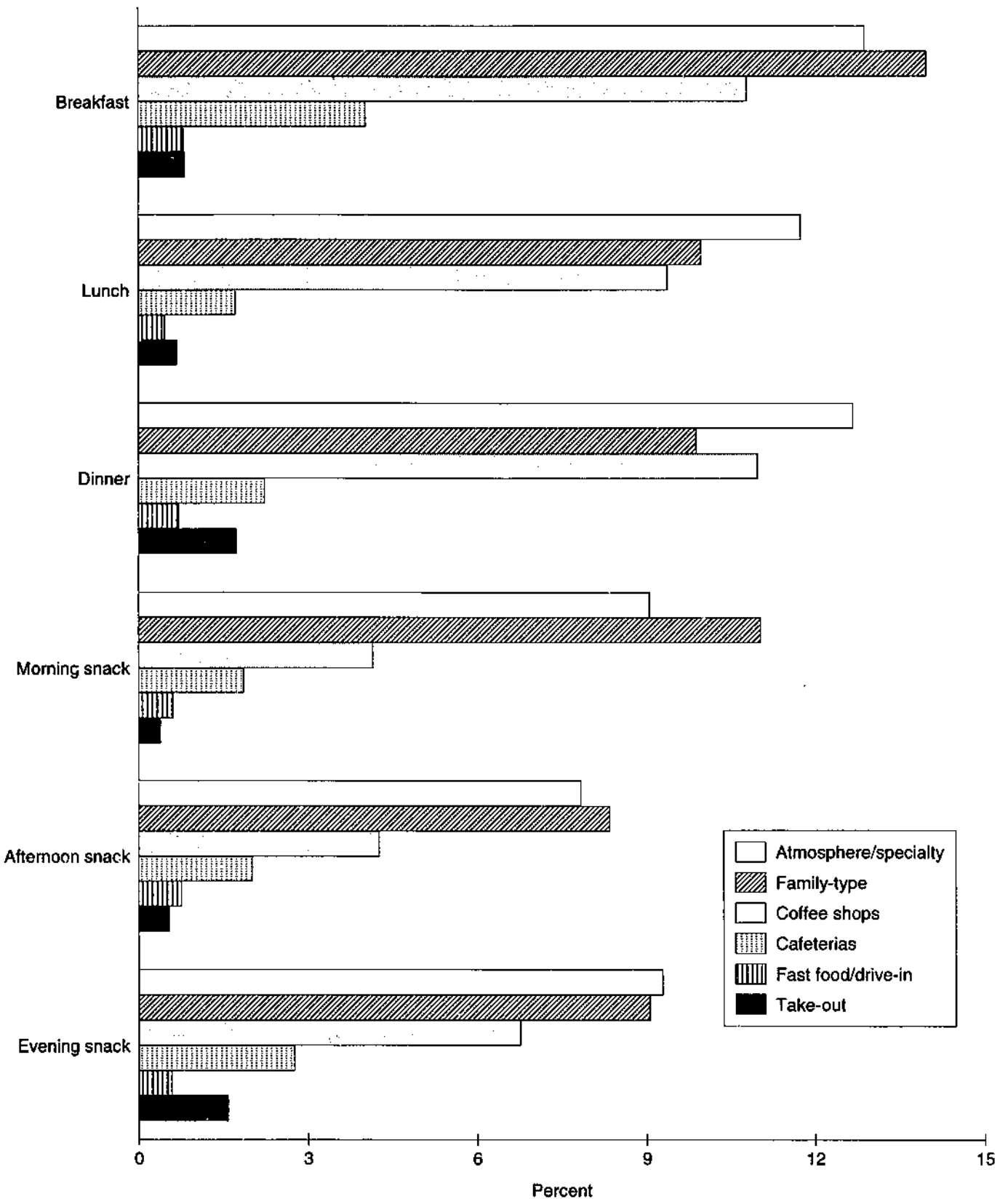
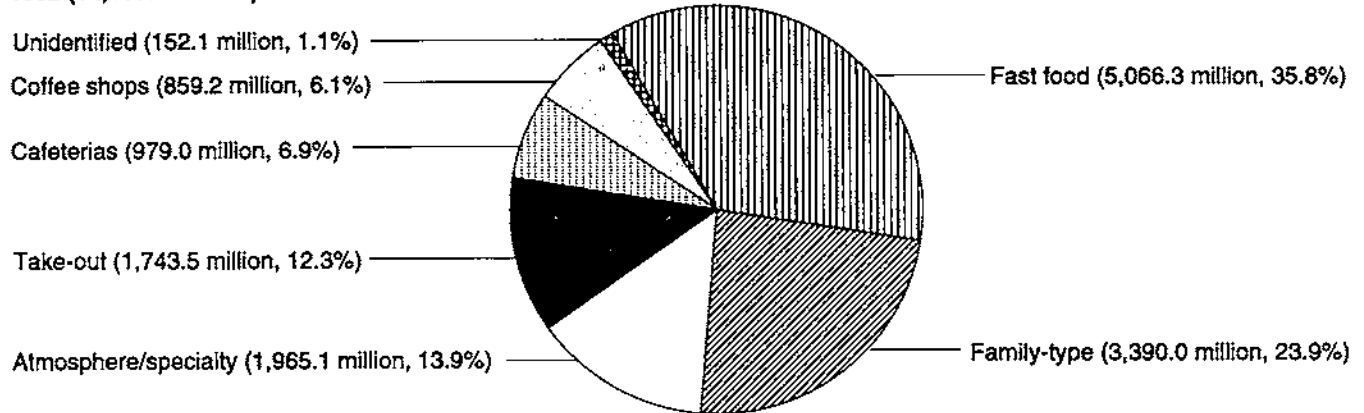


Figure 17

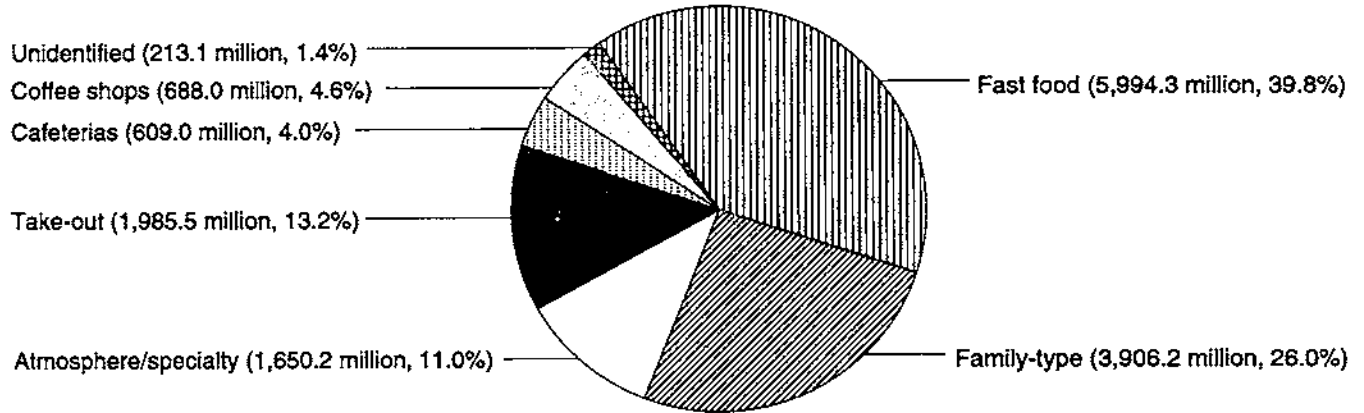
Share of eating occasions by type of eating place, United States, 1982-89

The number of eating occasions in take-out and fast food/drive-in places rose at a faster rate than in other eating places but fell in atmosphere/specialty restaurants, coffee shops, and cafeterias

1982 (14,155.2 million)



1986 (15,046.3 million)



1989 (15,729.4 million)

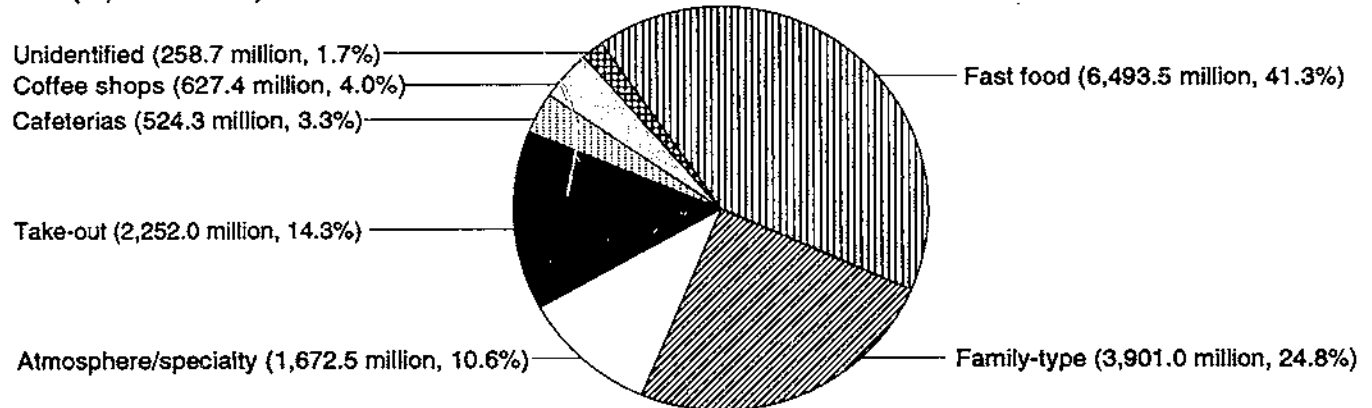


Figure 18

Range of eating party size per meal occasion by type of eating place, United States, 1982-89

Average party size for meals was smallest at lunch and largest at dinner in all eating places

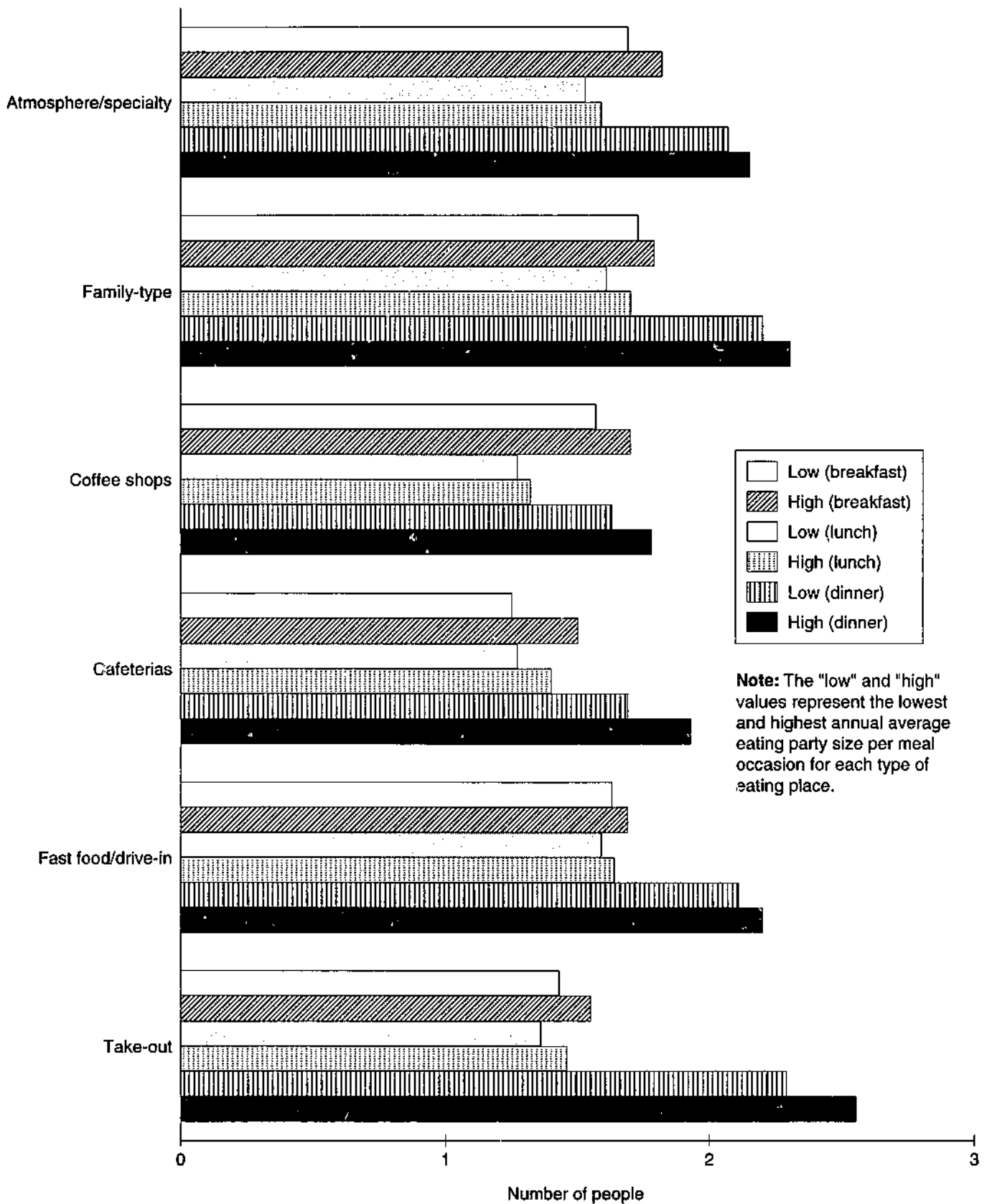


Figure 19

Range of eating party size per snack occasion by type of eating place, United States, 1982-89

Average party size for snacks was smallest in the morning and largest in the evening in all eating places

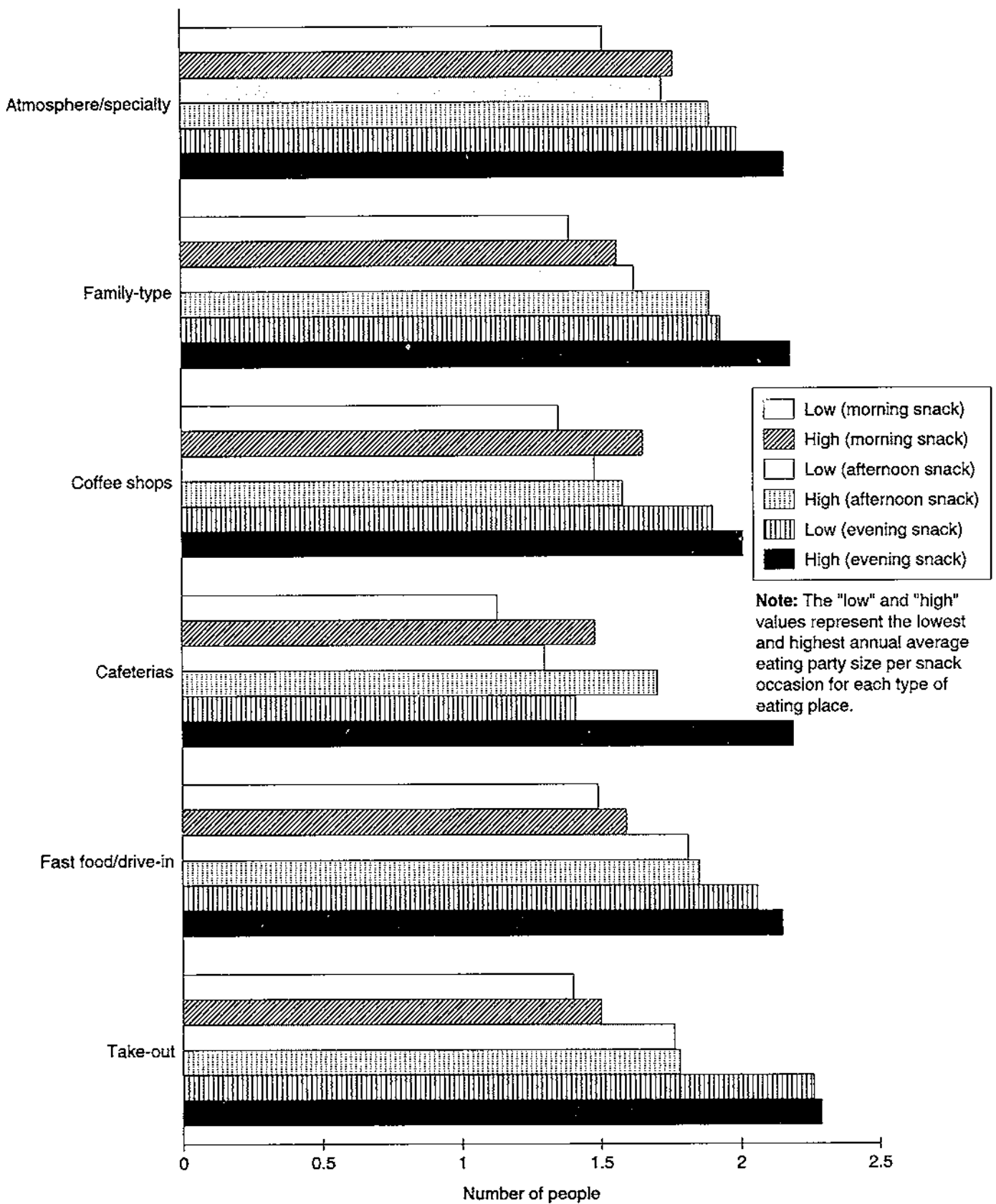
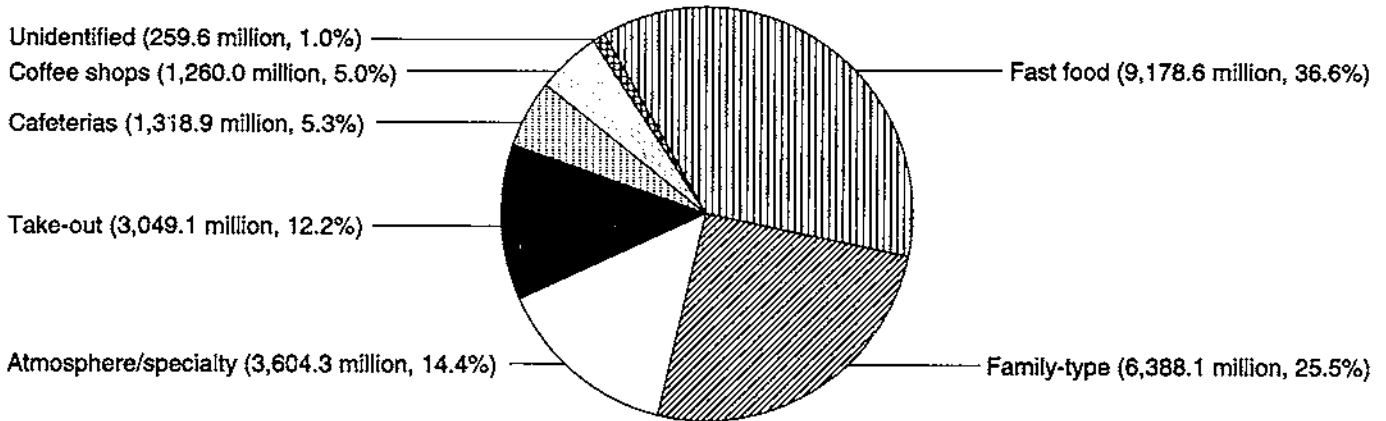


Figure 20

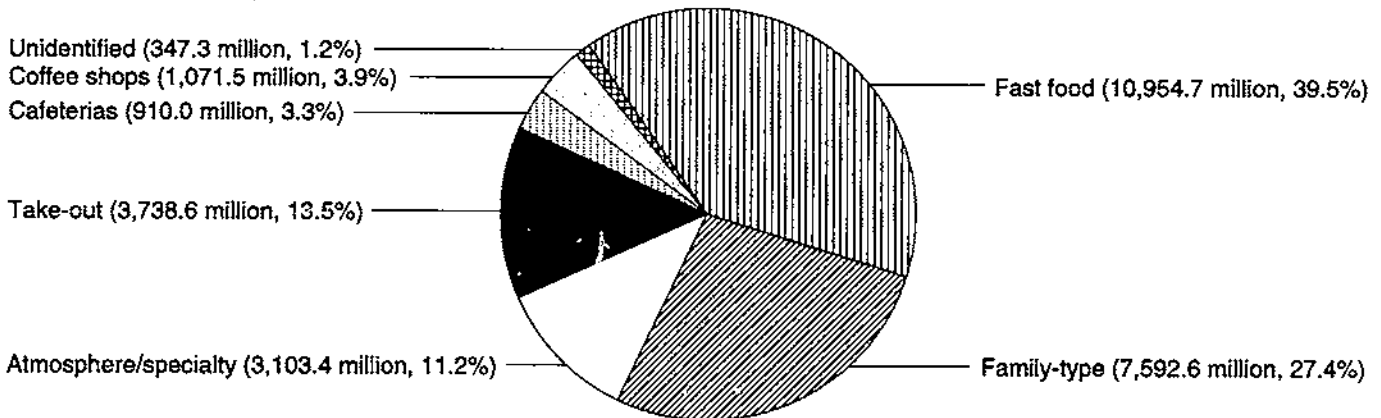
Share of meals and snacks by type of eating place, United States, 1982-89

The number of meals and snacks prepared in take-out and fast food/drive-in places rose faster than in other eating places but fell in coffee shops and cafeterias

1982 (25,058.6 million)



1986 (27,718.1 million)



1989 (29,242.2 million)

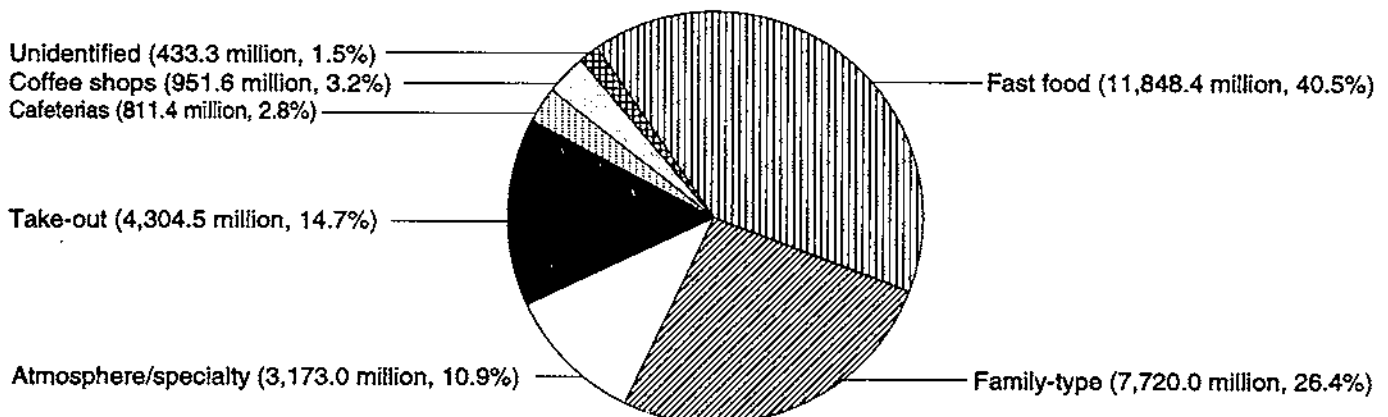
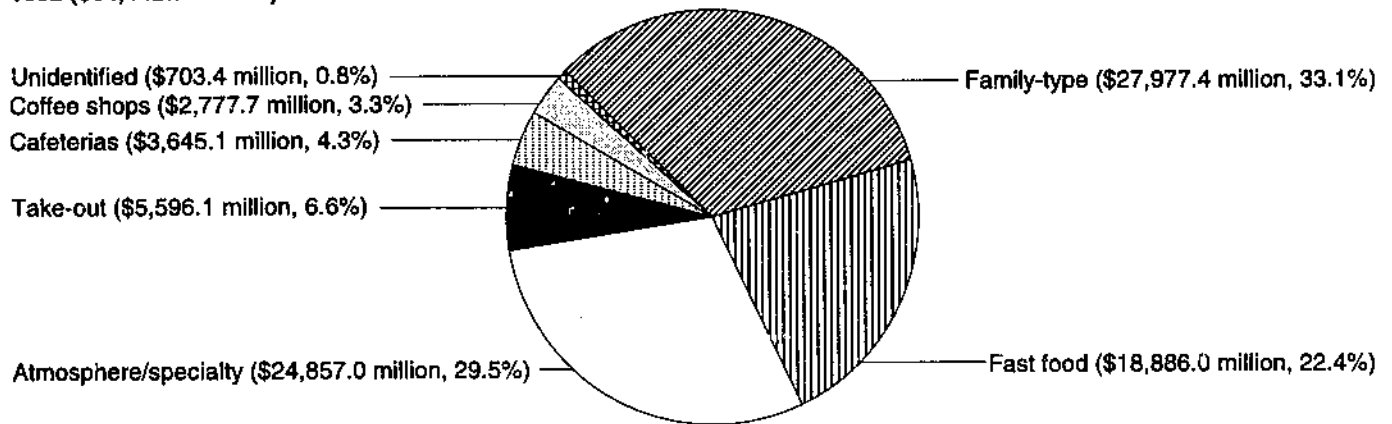


Figure 21

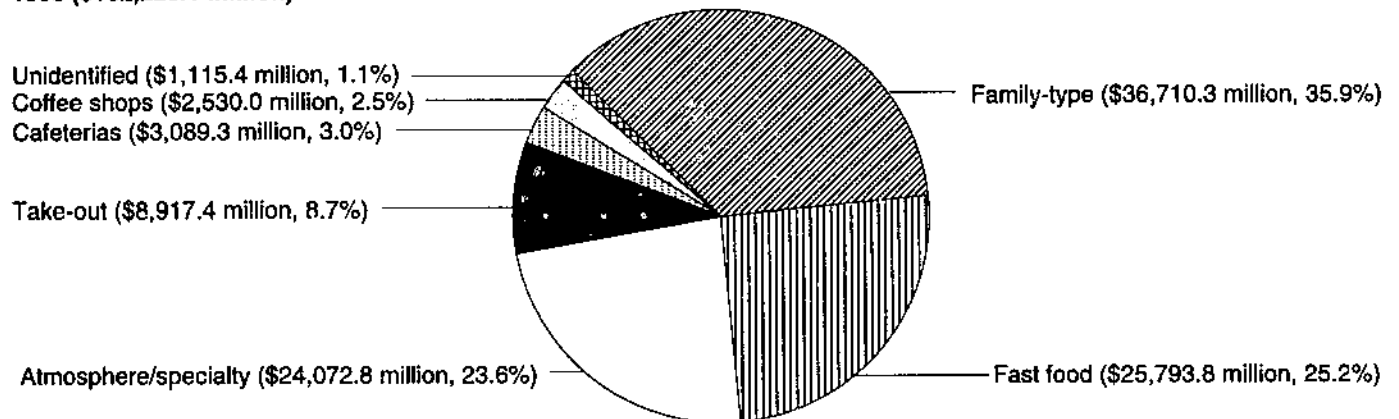
Share of expenditures with tips, in nominal dollars, by type of eating place, United States, 1982-89

Expenditures in take-out and fast food/drive-in places rose faster than in other eating places but fell particularly in cafeterias

1982 (\$84,442.7 million)



1986 (\$102,229.1 million)



1989 (\$118,710.6 million)

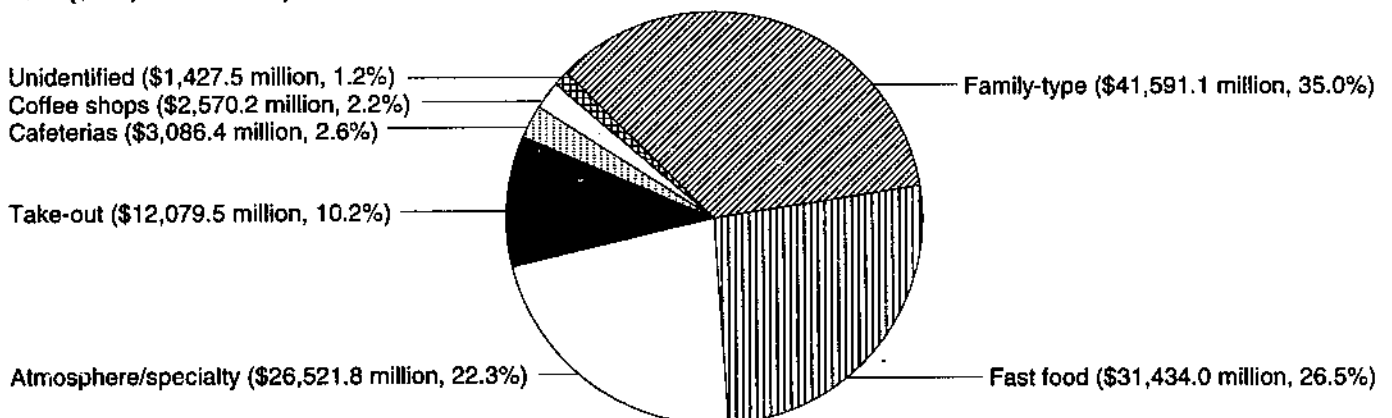
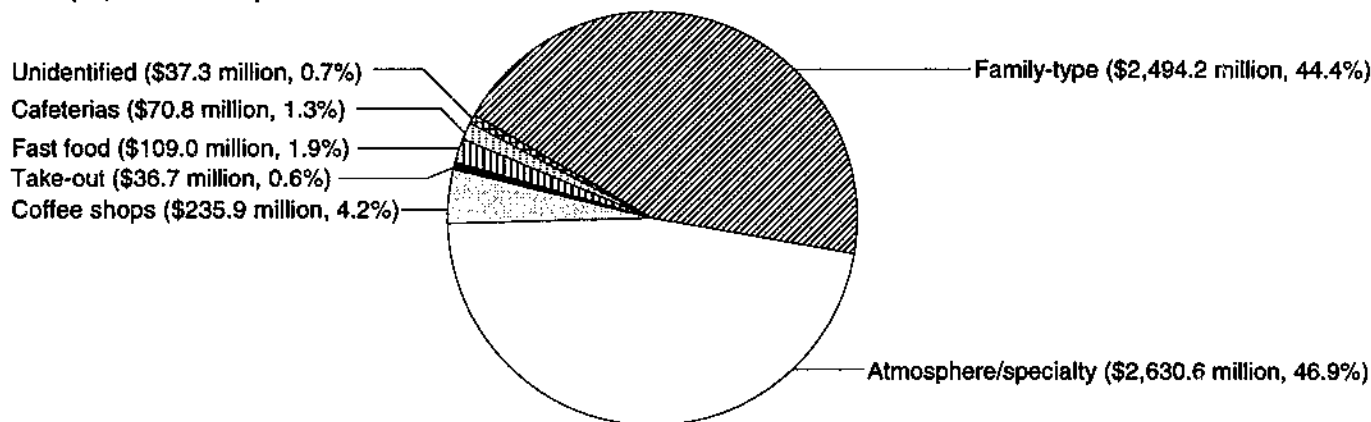


Figure 22

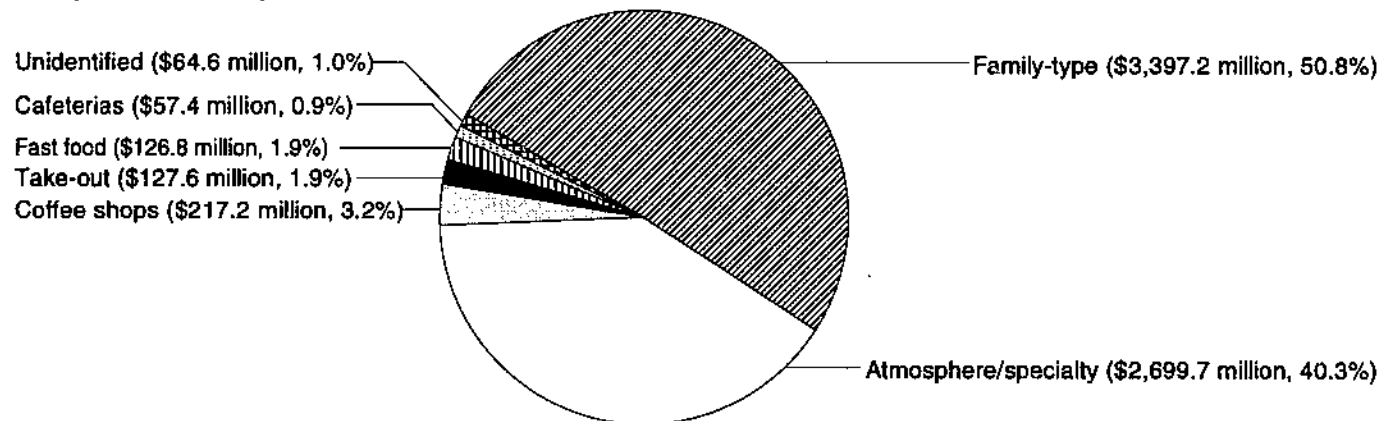
Share of tips, in nominal dollars, by type of eating place, United States, 1982-89

Tips in take-out and fast food/drive-in places rose faster than in other eating places but fell particularly in coffee shops

1982 (\$5,614.5 million)



1986 (\$6,690.5 million)



1989 (\$7,785.3 million)

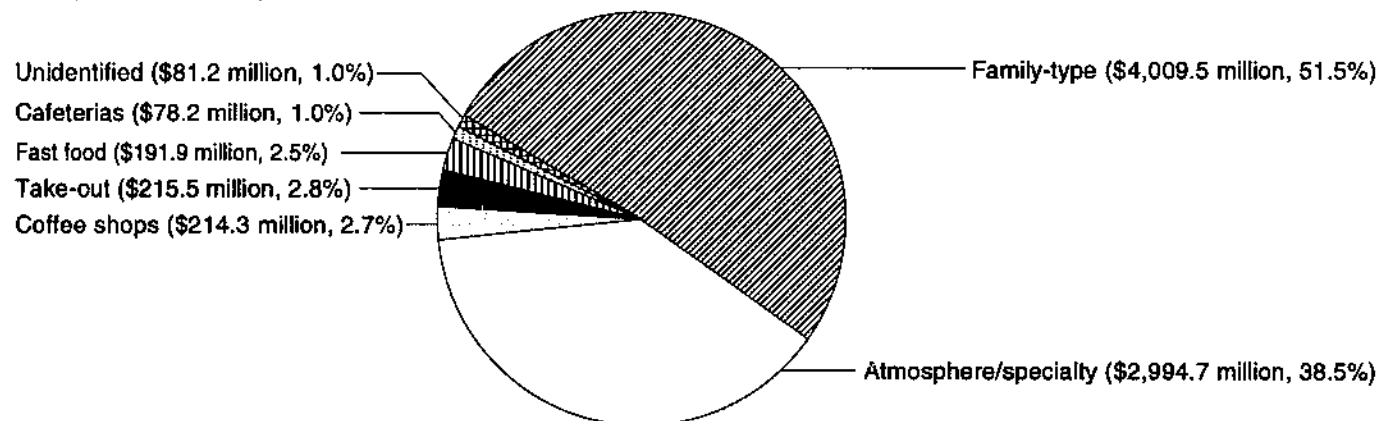


Figure 23

Share of expenditures with tips, in nominal dollars, in atmosphere/specialty restaurants, United States, 1982-89

Overall spending, particularly for lunch, dinner, and evening snacks, fell by 1986 but rose again by 1989; spending for breakfast and afternoon snacks steadily rose as spending for morning snacks steadily fell

1982 (\$24,857.0 million)

Lunch (\$6,265.9 million, 25.2%)

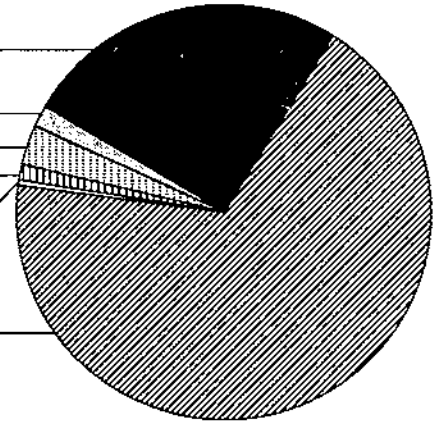
Breakfast (\$414.5 million, 1.7%)

Evening snack (\$782.3 million, 3.1%)

Afternoon snack (\$313.4 million, 1.3%)

Morning snack (\$98.9 million, 0.4%)

Dinner (\$16,982.0 million, 68.3%)



1986 (\$24,072.8 million)

Lunch (\$6,181.5 million, 25.7%)

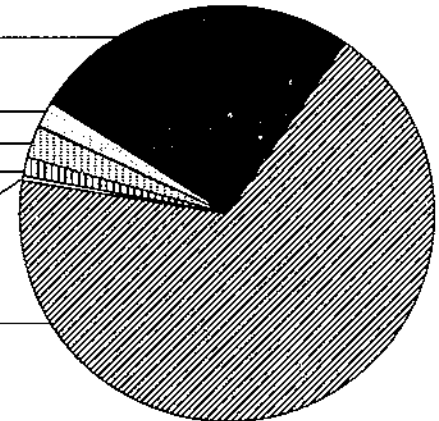
Breakfast (\$493.4 million, 2.0%)

Evening snack (\$605.0 million, 2.5%)

Afternoon snack (\$344.5 million, 1.4%)

Morning snack (\$89.9 million, 0.4%)

Dinner (\$16,358.5 million, 68.0%)



1989 (\$26,521.8 million)

Lunch (\$6,799.0 million, 25.7%)

Breakfast (\$565.6 million, 2.1%)

Evening snack (\$637.2 million, 2.4%)

Afternoon snack (\$404.6 million, 1.5%)

Morning snack (\$84.5 million, 0.3%)

Dinner (\$18,030.9 million, 68.0%)

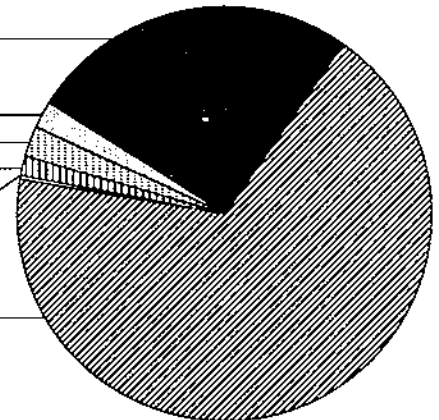


Figure 24

Share of expenditures with tips, in nominal dollars, in family-type restaurants, United States, 1982-89

Spending in family-type restaurants rose, except that for morning snacks, which was lower in 1989

1982 (\$27,977.4 million)

Lunch (\$8,245.9 million, 29.5%)

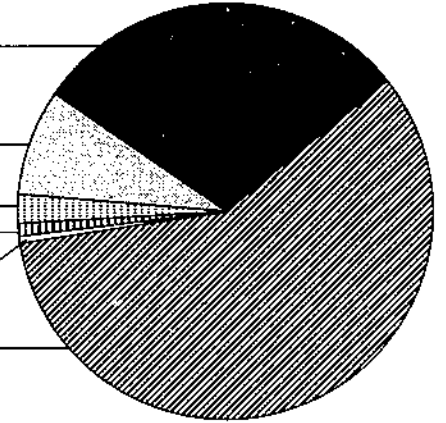
Breakfast (\$2,321.7 million, 8.3%)

Evening snack (\$604.6 million, 2.2%)

Afternoon snack (\$275.2 million, 1.0%)

Morning snack (\$176.4 million, 0.6%)

Dinner (\$16,353.6 million, 58.4%)



1986 (\$36,710.3 million)

Lunch (\$10,555.6 million, 28.7%)

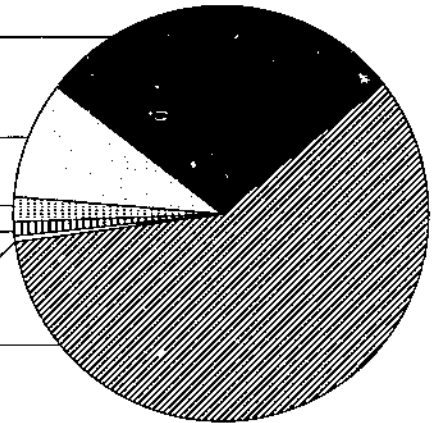
Breakfast (\$3,327.7 million, 9.1%)

Evening snack (\$704.3 million, 1.9%)

Afternoon snack (\$386.5 million, 1.1%)

Morning snack (\$198.1 million, 0.5%)

Dinner (\$21,538.1 million, 58.7%)



1989 (\$41,591.1 million)

Lunch (\$12,128.2 million, 29.2%)

Breakfast (\$3,714.4 million, 8.9%)

Evening snack (\$741.6 million, 1.8%)

Afternoon snack (\$428.7 million, 1.0%)

Morning snack (\$190.3 million, 0.5%)

Dinner (\$24,388.0 million, 58.6%)

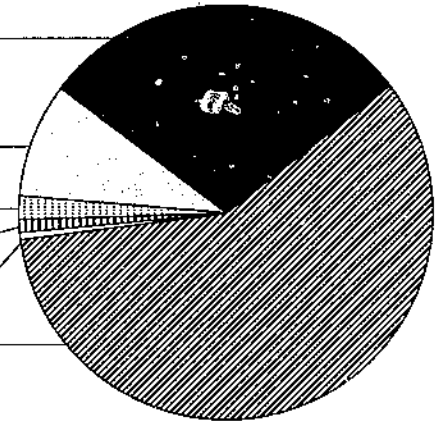
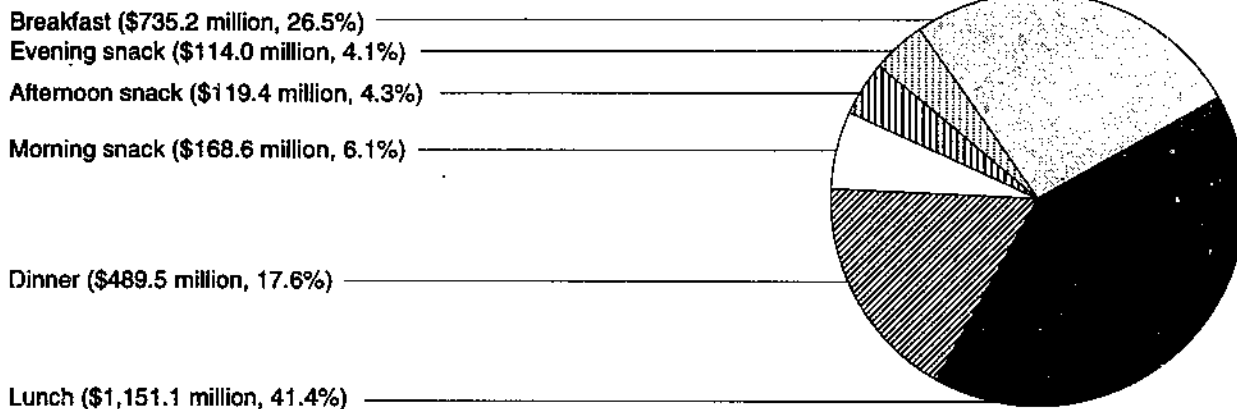


Figure 25

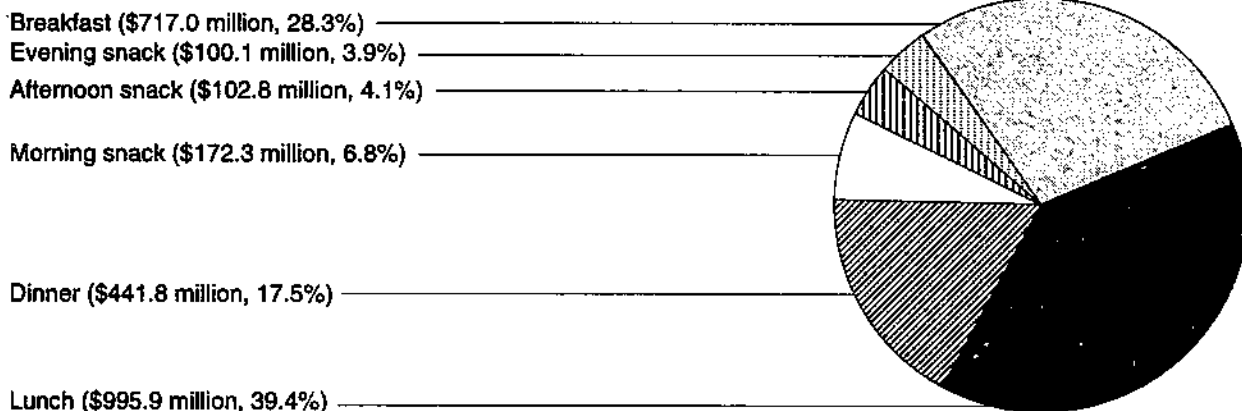
Share of expenditures with tips, in nominal dollars, in coffee shops, United States, 1982-89

Spending declined in coffee shops, particularly for lunches and evening snacks

1982 (\$2,777.7 million)



1986 (\$2,530.0 million)



1989 (\$2,570.2 million)

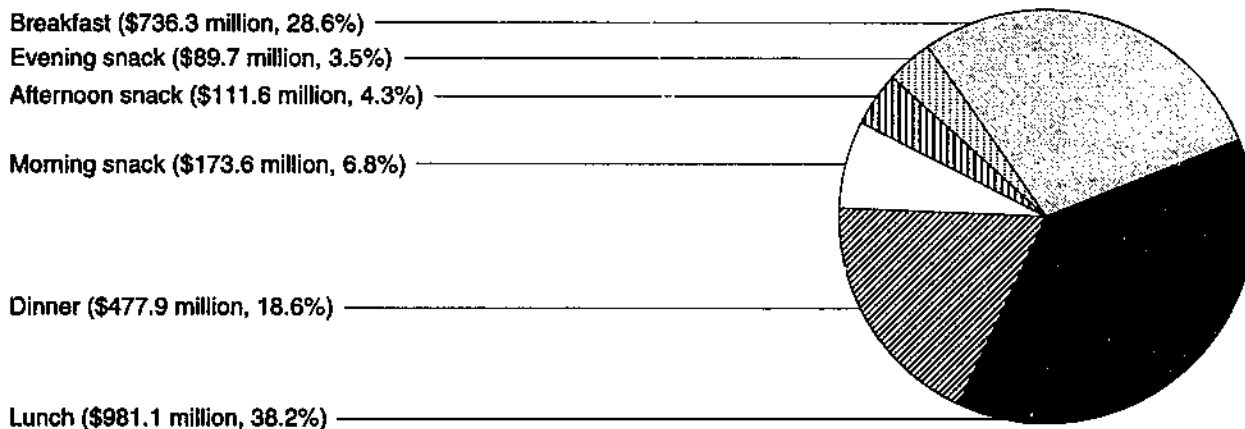


Figure 26

Share of expenditures with tips, in nominal dollars, in cafeterias, United States, 1982-89

Spending declined in cafeterias, particularly for breakfast and morning snacks

1982 (\$3,645.1 million)

Lunch (\$2,077.7 million, 57.0%)

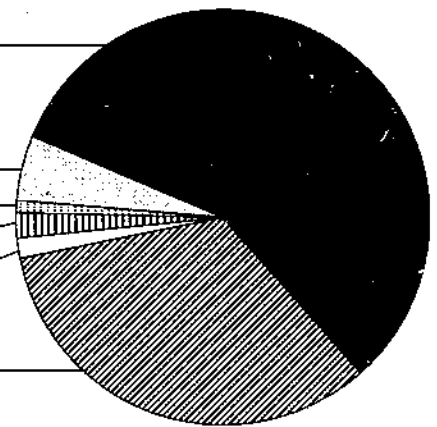
Breakfast (\$187.3 million, 5.1%)

Evening snack (\$33.4 million, 0.9%)

Afternoon snack (\$72.8 million, 2.0%)

Morning snack (\$58.7 million, 1.6%)

Dinner (\$1,215.2 million, 33.3%)



1986 (\$3,089.3 million)

Lunch (\$1,659.5 million, 53.7%)

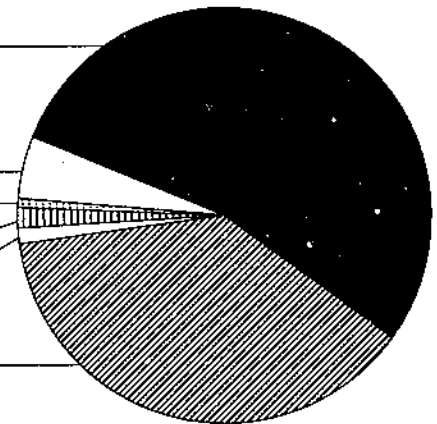
Breakfast (\$152.3 million, 4.9%)

Evening snack (\$21.2 million, 0.7%)

Afternoon snack (\$49.6 million, 1.6%)

Morning snack (\$38.1 million, 1.2%)

Dinner (\$1,168.7 million, 37.8%)



1989 (\$3,086.4 million)

Lunch (\$1,690.6 million, 54.8%)

Breakfast (\$120.1 million, 3.9%)

Evening snack (\$33.3 million, 1.1%)

Afternoon snack (\$52.1 million, 1.7%)

Morning snack (\$27.4 million, 0.9%)

Dinner (\$1,162.9 million, 37.7%)

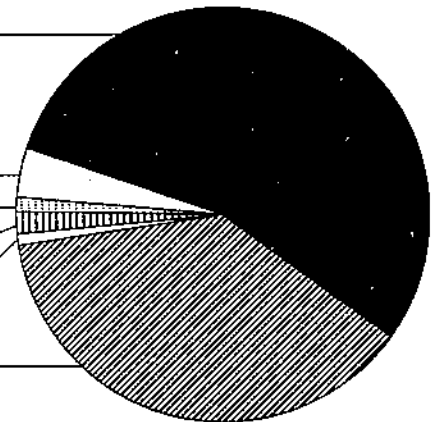


Figure 27

Share of expenditures with tips, in nominal dollars, in fast food/drive-in places, United States, 1982-89

Spending rose in fast food/drive-in places

1982 (\$18,886.0 million)

Lunch (\$8,988.3 million, 47.6%)

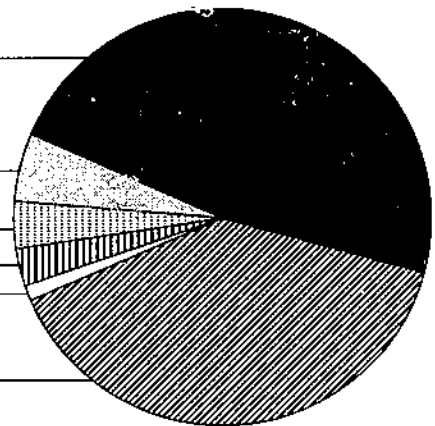
Breakfast (\$996.6 million, 5.3%)

Evening snack (\$698.5 million, 3.7%)

Afternoon snack (\$553.6 million, 2.9%)

Morning snack (\$232.5 million, 1.2%)

Dinner (\$7,416.6 million, 39.3%)



1986 (\$25,793.8 million)

Lunch (\$11,901.1 million, 46.1%)

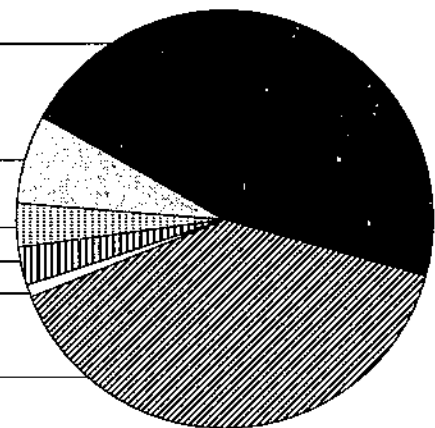
Breakfast (\$1,753.4 million, 6.8%)

Evening snack (\$862.5 million, 3.3%)

Afternoon snack (\$772.5 million, 3.0%)

Morning snack (\$263.2 million, 1.0%)

Dinner (\$10,241.0 million, 39.7%)



1989 (\$31,434.0 million)

Lunch (\$14,518.4 million, 46.2%)

Breakfast (\$1,958.7 million, 6.2%)

Evening snack (\$1,058.7 million, 3.4%)

Afternoon snack (\$1,028.3 million, 3.3%)

Morning snack (\$322.6 million, 1.0%)

Dinner (\$12,547.2 million, 39.9%)

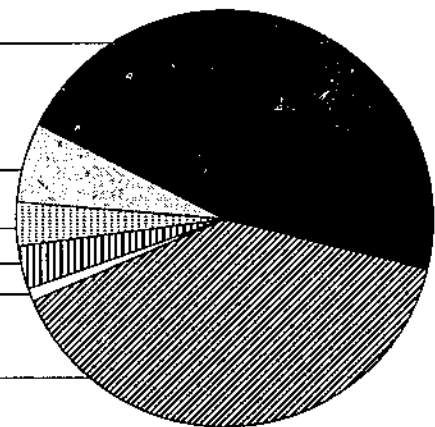


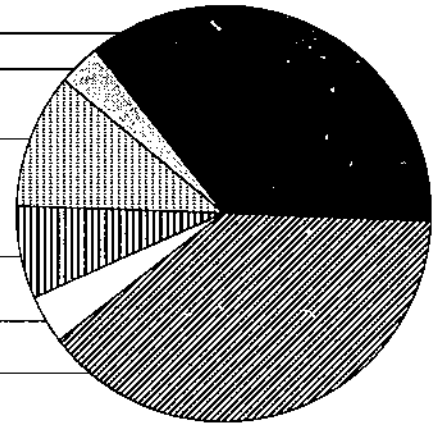
Figure 28

Share of expenditures with tips, in nominal dollars, in take-out places, United States, 1982-89

Spending in take-out places rose, except that for morning snacks

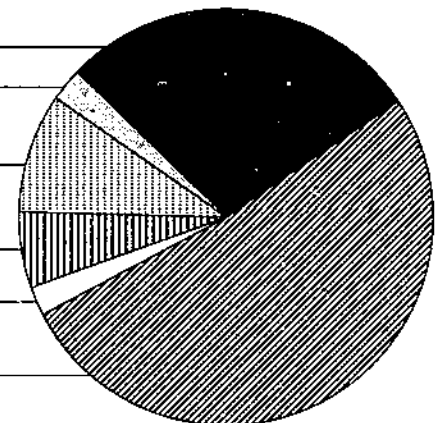
1982 (\$5,596.1 million)

- Lunch (\$2,018.9 million, 36.1%)
- Breakfast (\$186.5 million, 3.3%)
- Evening snack (\$590.2 million, 10.5%)
- Afternoon snack (\$404.0 million, 7.2%)
- Morning snack (\$214.4 million, 3.8%)
- Dinner (\$2,182.1 million, 39.0%)



1986 (\$8,917.4 million)

- Lunch (\$2,513.6 million, 28.2%)
- Breakfast (\$234.6 million, 2.6%)
- Evening snack (\$823.0 million, 9.2%)
- Afternoon snack (\$529.0 million, 5.9%)
- Morning snack (\$206.4 million, 2.3%)
- Dinner (\$4,610.8 million, 51.7%)



1989 (\$12,079.5 million)

- Lunch (\$3,225.1 million, 26.7%)
- Breakfast (\$273.0 million, 2.3%)
- Evening snack (\$906.3 million, 7.5%)
- Afternoon snack (\$735.8 million, 6.1%)
- Morning snack (\$193.8 million, 1.6%)
- Dinner (\$6,745.5 million, 55.8%)

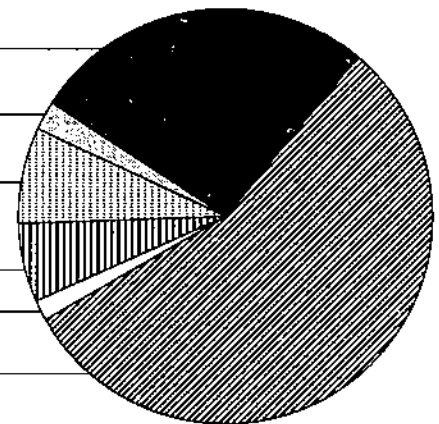
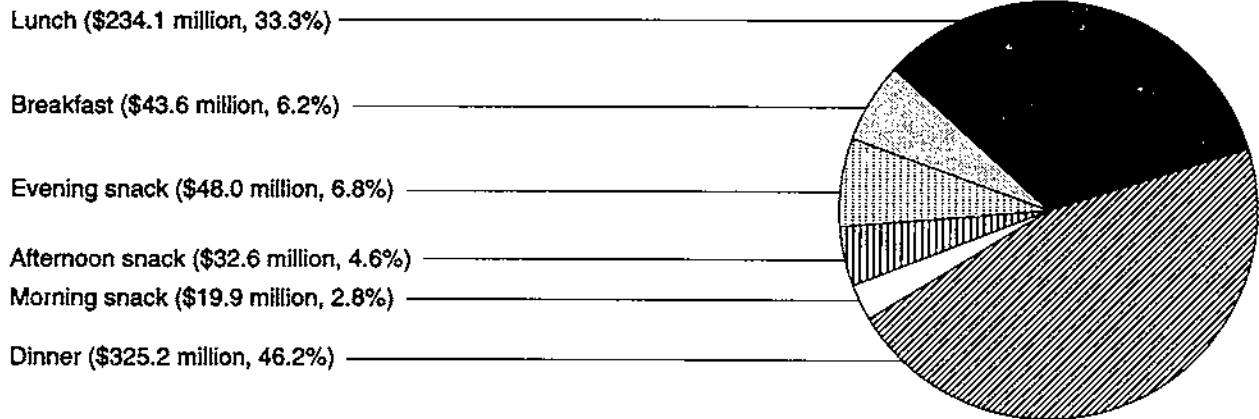


Figure 29

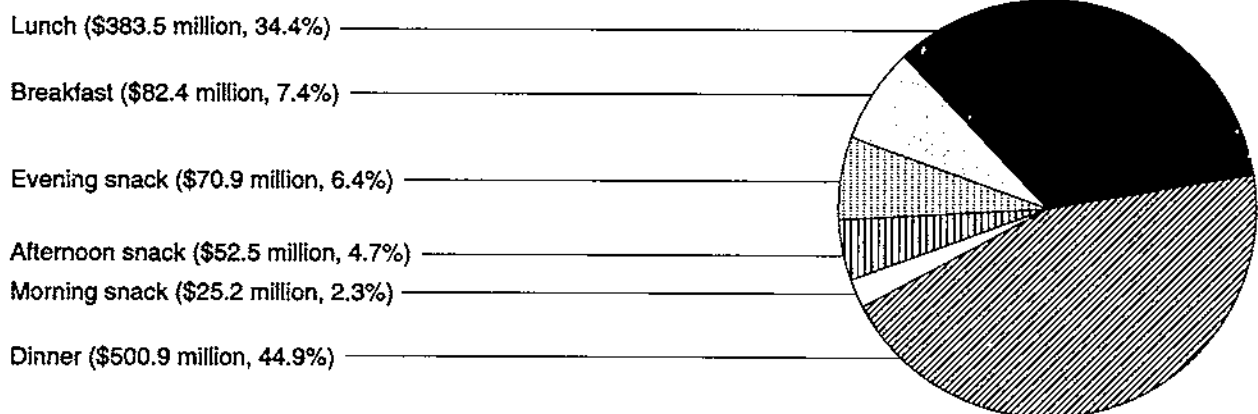
Share of expenditures with tips, in nominal dollars, in unidentified places, United States, 1982-89

Spending rose in unidentified places

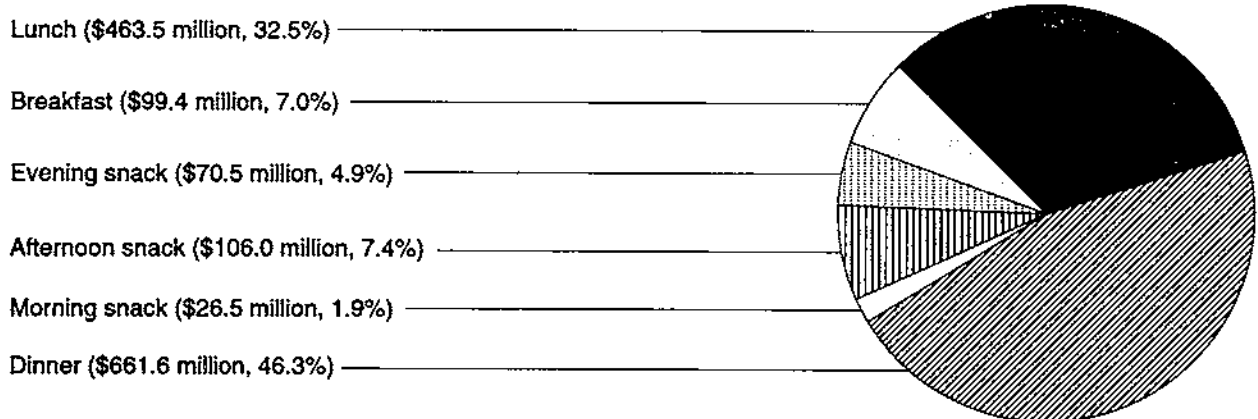
1982 (\$703.4 million)



1986 (\$1,115.4 million)



1989 (\$1,427.5 million)



Restaurant Consumption by Type of Food

In this section, the trends in cost per meal or snack, total number of eating occasions, eating party size per occasion, total number of meals and snacks, and total expenditures on meals and snacks are examined in relation to the types of food that eating places feature—namely, donuts, ice cream, hamburgers, other sandwiches, chicken, pizza, Mexican, oriental, steak, fish/seafood, Italian, and all the remaining “other” food category.⁹

Expenditures and Tips

Total U.S. household expenditures with tips on food prepared away from home by commercial foodservice establishments increased 5 percent in nominal dollars, or 0.8 percent in real (1982-84=100) dollars, per year during 1982-89 (fig. 30). Nominal expenditures increased at a lower annual rate in the following food specialty eating places: donut (0.9 percent), ice cream (4.4), steak (3.5), and fish/seafood (3.5). In fact, real expenditures decreased in donut shops (3.1 percent) and steak (0.6) and fish/seafood (0.6) restaurants. In contrast, nominal expenditures increased faster in eating places specializing in hamburgers (6.1 percent), other sandwiches (9.5), chicken (6.7), pizza (12.0), and Mexican (8.7), oriental (9.6), and Italian (9.5) cuisine. Expenditures in pizza places had the highest annual growth rate of 12.0 percent in nominal dollars, or 7.6 percent in real dollars.

In 1982, total expenditures with tips of \$84.4 billion in nominal dollars (\$88.1 billion in real dollars) were distributed among food specialty eating places as follows: donut (0.6 percent), ice cream (1.8), hamburger (14.0), other sandwich (2.3), chicken (3.7), pizza (8.2), Mexican (3.4), oriental (3.8), steak (4.8), fish/seafood (5.3), Italian (2.0), and other food (50.1).

In 1986, expenditures plus tips reached \$102.2 billion nominal (\$90.8 billion real). The distribution was donut (0.6 percent), ice cream (1.8), hamburger (14.7), other sandwich (2.6), chicken (4.3), pizza (11.6), Mexican (4.1), oriental (4.7), steak (4.7), fish/seafood (5.1), Italian (2.2), and other (43.7).

⁹For purposes of this study, each of the food categories (Mexican, oriental, steak, fish/seafood, and Italian) covers the quick-service, midscale, and upscale restaurants in the NPD data base. The “other” food category includes all NPD food types other than those identified above.

In 1989, the total expenditures with tips were \$118.7 billion nominal (\$93.2 billion real). Expenditure shares were donut (0.4 percent), ice cream (1.7), hamburger (15.1), other sandwich (3.1), chicken (4.1), pizza (12.9), Mexican (4.3), oriental (5.0), steak (4.4), fish/seafood (4.7), Italian (2.7), and other (41.7).

Total tips accounted for 7 percent of annual total expenditures before tips during 1982-84. Total tips increased 4.8 percent per year in nominal dollars, or 0.6 percent per year in real dollars (fig. 31). Total tips were \$5.6 billion nominal (\$5.9 billion real) in 1982, \$6.7 billion nominal (\$6.1 billion real) in 1986, and \$7.8 billion nominal (\$6.1 billion real) in 1989. In 1982, 1986, and 1989, the share of tips by food specialty was donut (0.2, 0.2, and 0.2 percent), ice cream (0.6, 0.4, and 0.3), hamburger (0.8, 0.6, and 0.6), other sandwich (0.2, 0.3, and 0.3), chicken (0.8, 0.9, and 1.0), pizza (4.5, 7.3, and 8.8), Mexican (4.0, 4.7, and 4.6), oriental (5.3, 6.5, and 6.5), steak (5.2, 5.6, and 6.0), fish/seafood (6.7, 6.6, and 6.3), Italian (3.5, 3.7, and 4.7), and other (68.2, 63.4, and 60.7).

Eating Occasions

Over the 8-year period, the number of eating occasions increased at an average annual rate of 1.5 percent (fig. 32). The number of eating occasions totaled 14.2 billion in 1982, 15.1 billion in 1986, and 15.7 billion in 1989. For 1982, 1986, and 1989, the distribution of eating occasions by food specialty was donut (2.1, 1.9, and 1.5 percent), ice cream (3.8, 3.7, and 3.5), hamburger (23.4, 24.9, and 25.4), other sandwich (3.8, 4.0, and 4.7), chicken (4.1, 4.8, and 4.4), pizza (6.4, 8.9, and 9.7), Mexican (2.8, 3.6, and 4.3), oriental (1.9, 2.6, and 2.8), steak (2.5, 2.4, and 2.2), fish/seafood (2.6, 2.5, and 2.4), Italian (0.9, 1.0, and 1.2), and other (45.7, 39.7, and 37.9).

Meals and Snacks

Over the 8-year period, the number of meals and snacks increased at an average annual rate of 2.2 percent (fig. 33). The number of meals and snacks totaled 25.1 billion in 1982, 27.7 billion in 1986, and 29.2 billion in 1989. For each of these 3 years, the distribution of meals and snacks by food specialty was donut (2.2, 2.1, and 1.5 percent), ice cream (4.6, 4.3, and 4.0), hamburger (24.0, 24.6,

and 24.7), other sandwich (3.4, 3.7, and 4.2), chicken (4.8, 5.2, and 4.8), pizza (8.6, 11.9, and 13.2), Mexican (2.8, 3.6, and 4.2), oriental (1.9, 2.7, and 2.8), steak (2.8, 2.7, and 2.5), fish/seafood (2.9, 2.8, and 2.6), Italian (0.9, 1.0, and 1.3), and other (41.0, 35.5, and 34.2).

Eating Party Size Per Meal or Snack

The number of eaters per breakfast ranged from 1.2 to 2.3 eaters. Donut shops had the highest average party size per breakfast (fig. 34). The range per lunch was 1.4-1.9 eaters. Pizza places had the highest average party size per lunch. The party size per dinner was 1.6-2.8 eaters. Pizza places also had the highest average party size of almost three eaters per dinner.¹⁰ For morning snacks, the party size was in the range of 1.1-2.7 eaters and fish/seafood places had the highest average (fig. 35). The party size was 1.3-2.1 eaters for afternoon snacks and 1.7-2.4 eaters for evening snacks. Ice cream places had the highest average number of eaters for both afternoon and evening snacks.

Cost and Tip Per Meal or Snack

Eating places serving oriental, steak, fish/seafood, and Italian food tended to be on the high range of costs per meal or snack (figs. 36 and 37). The costs per meal or snack in chicken, pizza, and Mexican restaurants fell in the middle range. Donut, ice cream, hamburger, and other sandwich places had costs per meal or snack in the low range. Donut shops were the least expensive as they had the lowest range of costs for any meal or snack.

During 1982-89, the increase in cost per breakfast ranged from a low of 0.7 percent (Mexican) to a high of 26.6 percent (Italian) (fig. 38). The increase in cost per lunch ranged from almost zero (Italian) to 4.3 (chicken). The range for dinner was from 0.2 (Mexican) to 22.6 (donut). The range for morning snacks was 2.5 (Mexican) to 35.6 (Italian); for afternoon snacks, from 2.4 (oriental) to 14.8 (Italian); and for evening snacks, from 2.1 (fish/seafood) to 5.9 (donut).

The percentage tip was in the high range (8.4-11.6 percent) in oriental, steak, fish/seafood, and Italian restaurants; the middle range (3.1-6.8 percent) in donut shops, pizza places, and Mexican restaurants; and the low range

(0.3-2.9 percent) in ice cream, hamburger, other sandwich, and chicken places (fig. 39). This grouping mirrored the grouping of food types by the high, middle, and low ranges of cost per meal or snack (figs. 36 and 37).

Food Type Expenditures by Meal and Snack Occasion

During 1982-89, expenditures in both nominal and real dollars increased in the following food categories (figs. 40 and 41): ice cream (4.4 percent nominal, 0.3 percent real), hamburger (6.1, 1.9), other sandwich (9.5, 5.2), chicken (6.7, 2.4), pizza (12.0, 7.6), Mexican (8.7, 4.4), oriental (9.6, 5.2), and Italian (9.5, 5.1). However, while nominal expenditures increased, real expenditures decreased in donut shops (0.9 percent increase in nominal dollars, 3.1 percent decrease in real dollars) and steak (3.5 increase, 0.6 decrease), fish/seafood (3.5 increase, 0.6 decrease), and other (2.3 increase, 1.8 decrease) restaurants. Pizza expenditures had the fastest annual growth rate of 12.0 percent in nominal dollars, or 7.6 percent in real dollars.

Breakfast expenditures accounted for the largest proportion of total expenditures in donut places, 48.7 percent for 1982-89 and 52.2 percent in 1989 (fig. 40). Lunch expenditures were the largest proportion of total expenditures in hamburger places (48.8 percent, 1982-89; 49.7 percent, 1989) and other sandwich places (56.3, 1982-89; 55.3, 1989) (figs. 42 and 43). Dinner expenditures accounted for the largest proportion of total expenditures in the following food categories: chicken (59.8, 1982-89; 61.2, 1989); pizza (72.6, 1982-89; 74.1, 1989); Mexican (59.7, 1982-89; 56.7, 1989); oriental (72.4, 1982-89; 72.8, 1989); steak (72.1, 1982-89; 71.4, 1989); fish/seafood (73.2, 1982-89; 71.6, 1989); Italian (78.5, 1982-89; 77.7, 1989); and other places (49.7, 1982-89; 49.1, 1989) (figs. 44-51).

Expenditures for evening snacks accounted for the largest proportion of expenditures in ice cream shops (an average of 30.9 percent, 1982-89; 31.1 percent, 1989) (fig. 41). Morning or afternoon snack expenditures did not account for the largest proportion of expenditures in any food category. However, morning snacks accounted for the second largest proportion of expenditures in donut shops. Except in ice cream and donut shops, lunch and dinner together accounted for an average of over 80 percent of total expenditures. In fact, lunch and dinner accounted for 85-95 percent of total expenditures in hamburger, other sandwich, chicken, and pizza places and over 95 percent of expenditures in Mexican, oriental, steak, fish/seafood, and Italian restaurants.

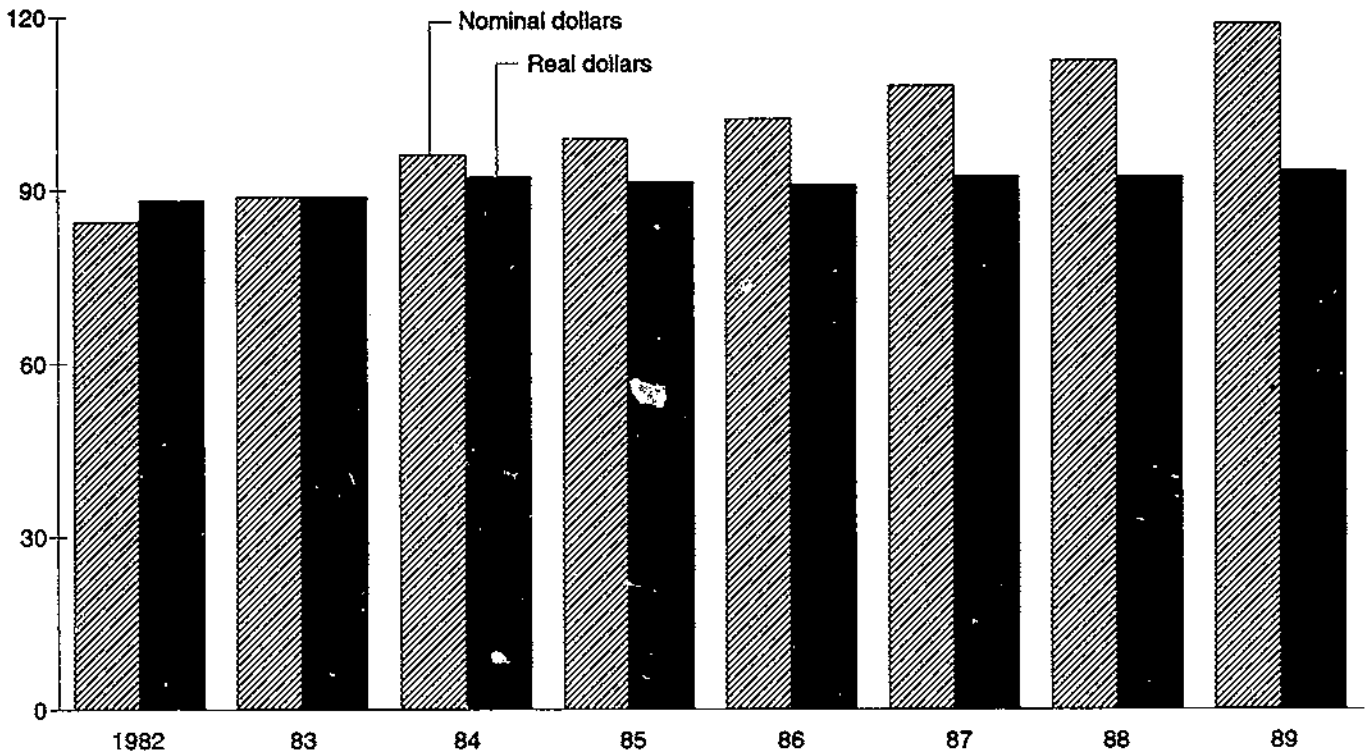
¹⁰The "low" and "high" values of the range in eating party size represent the lowest and highest annual average eating party size per meal or snack occasion for each type of food during 1982-89. This explanation applies as well to the "low" and "high" values of the range in cost with tip per meal or snack discussed in the next section.

Figure 30

U.S. household expenditures with tips, in nominal and real (1982-84=100) dollars, on food commercially prepared away from home, 1982-89, and share of expenditures by type of food, 1989

Expenditures increased 5.0 percent per year in nominal dollars and 0.8 percent per year in real dollars

Billion dollars



1989 (\$118.7 billion nominal; \$93.2 billion real)

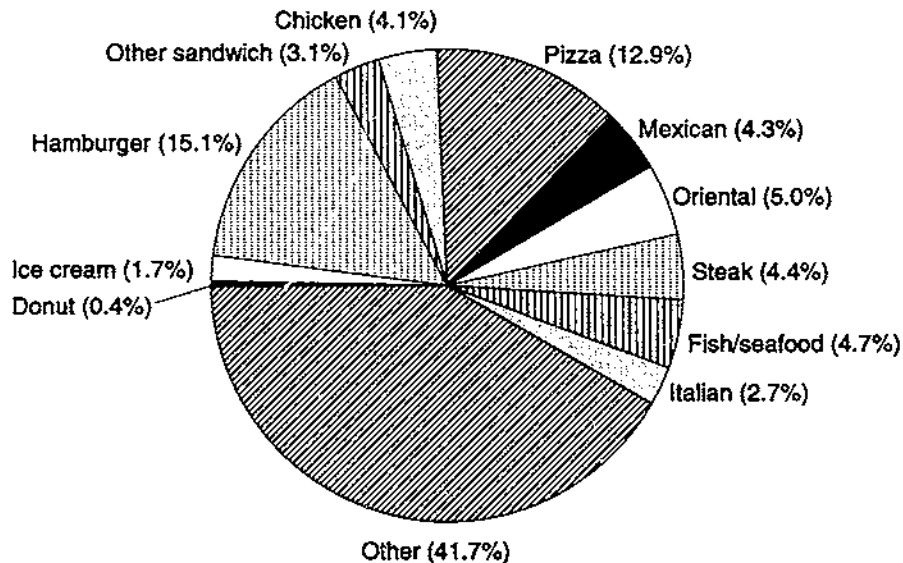
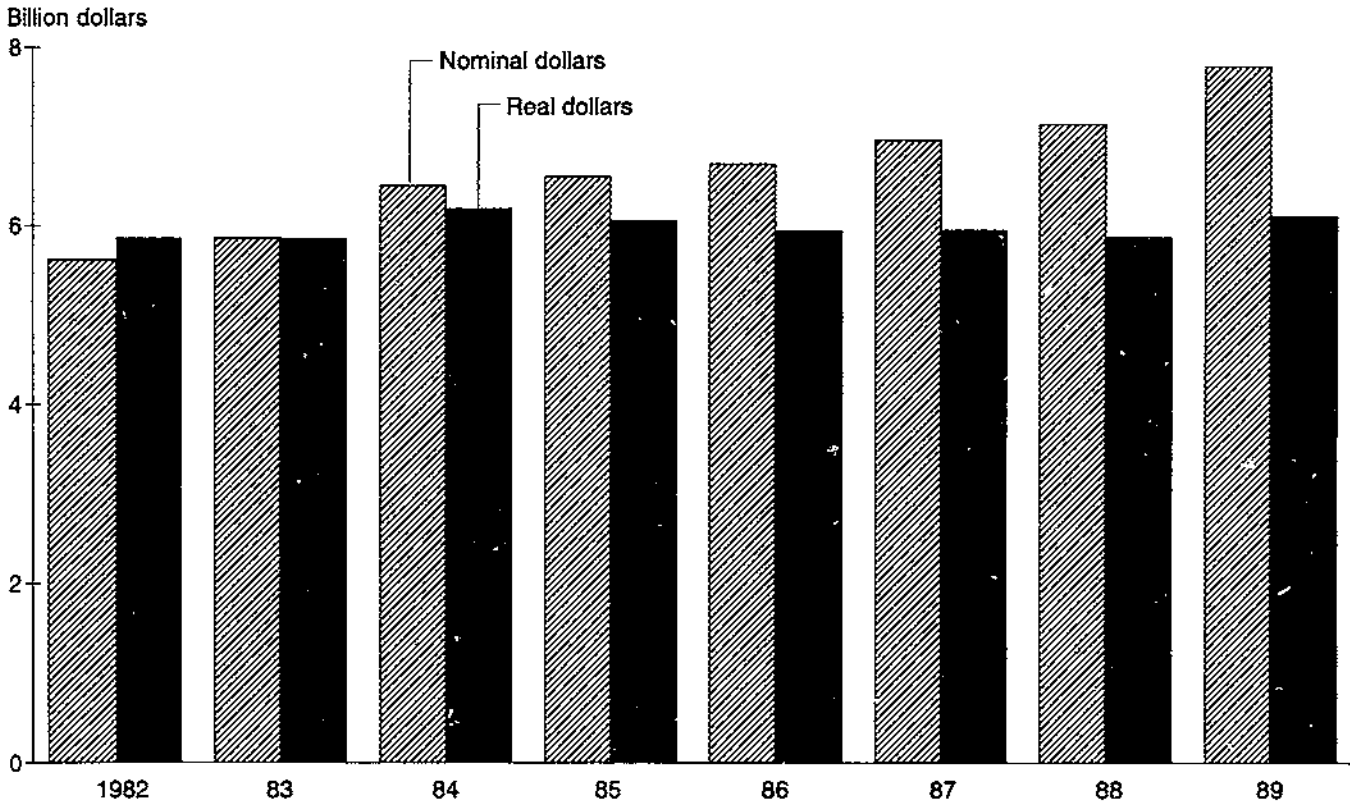


Figure 31

U.S. household tips, in nominal and real (1982-84=100) dollars, on food commercially prepared away from home, 1982-89, and share of tips by type of food, 1989

Tips increased 4.8 percent per year in nominal dollars and 0.6 percent per year in real dollars



1989 (\$7.8 billion nominal; \$6.1 billion real)

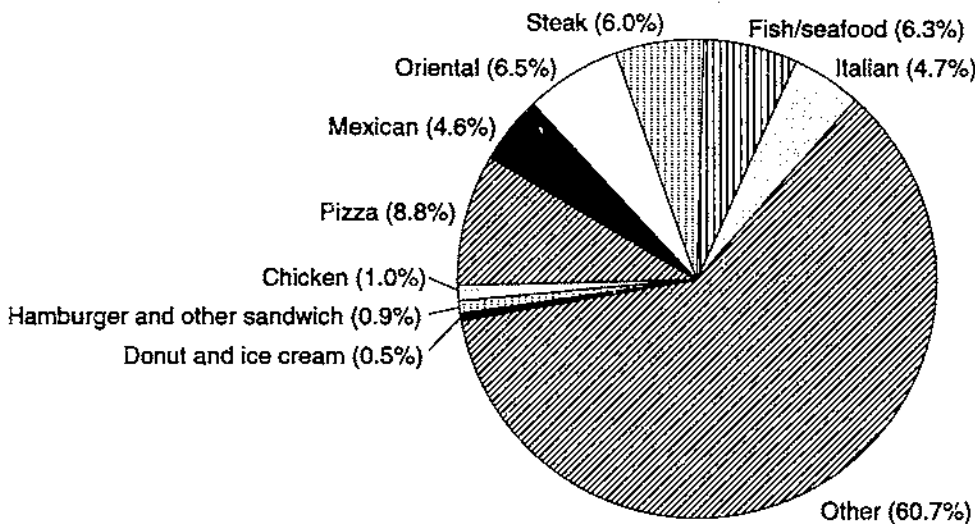
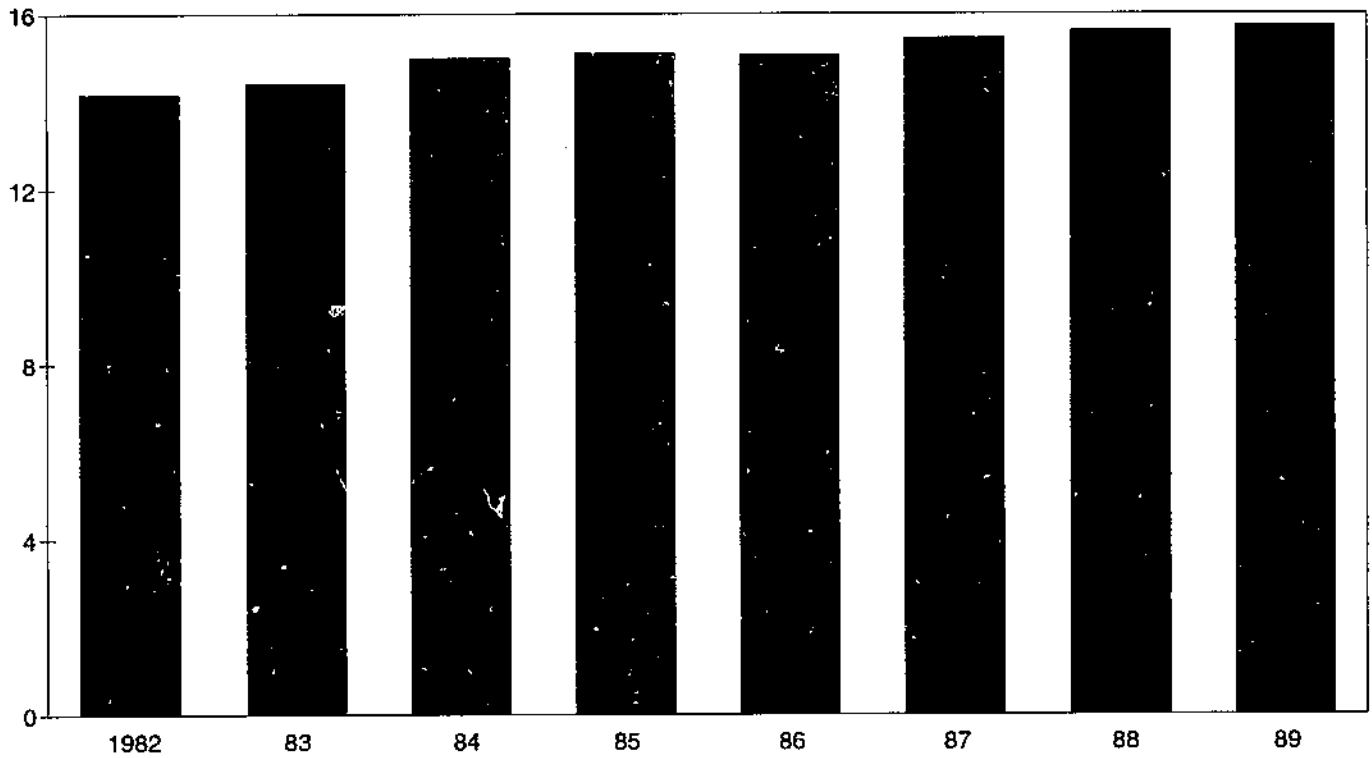


Figure 32

Number of U.S. household eating occasions for food commercially prepared away from home, 1982-89, and share of eating occasions by type of food, 1989

On average, eating occasions increased 1.5 percent per year

Billions



1989 (15.7 billion eating occasions)

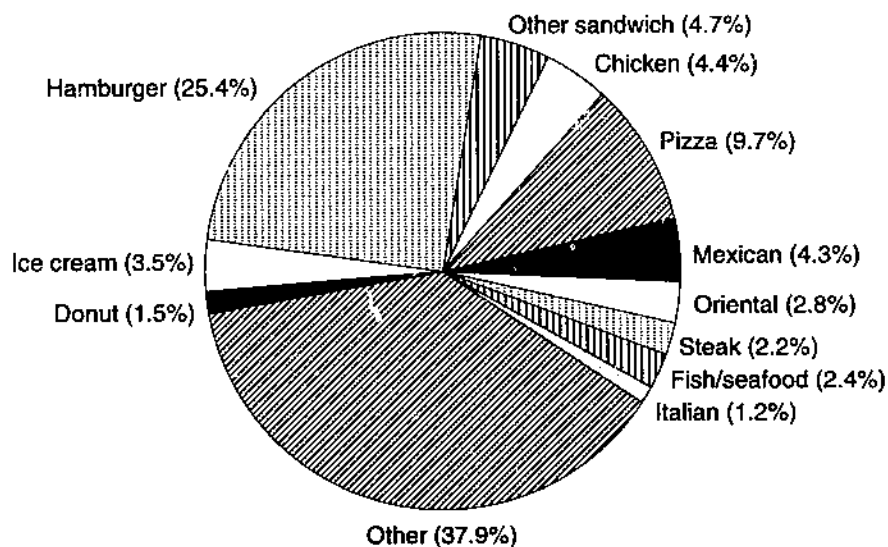
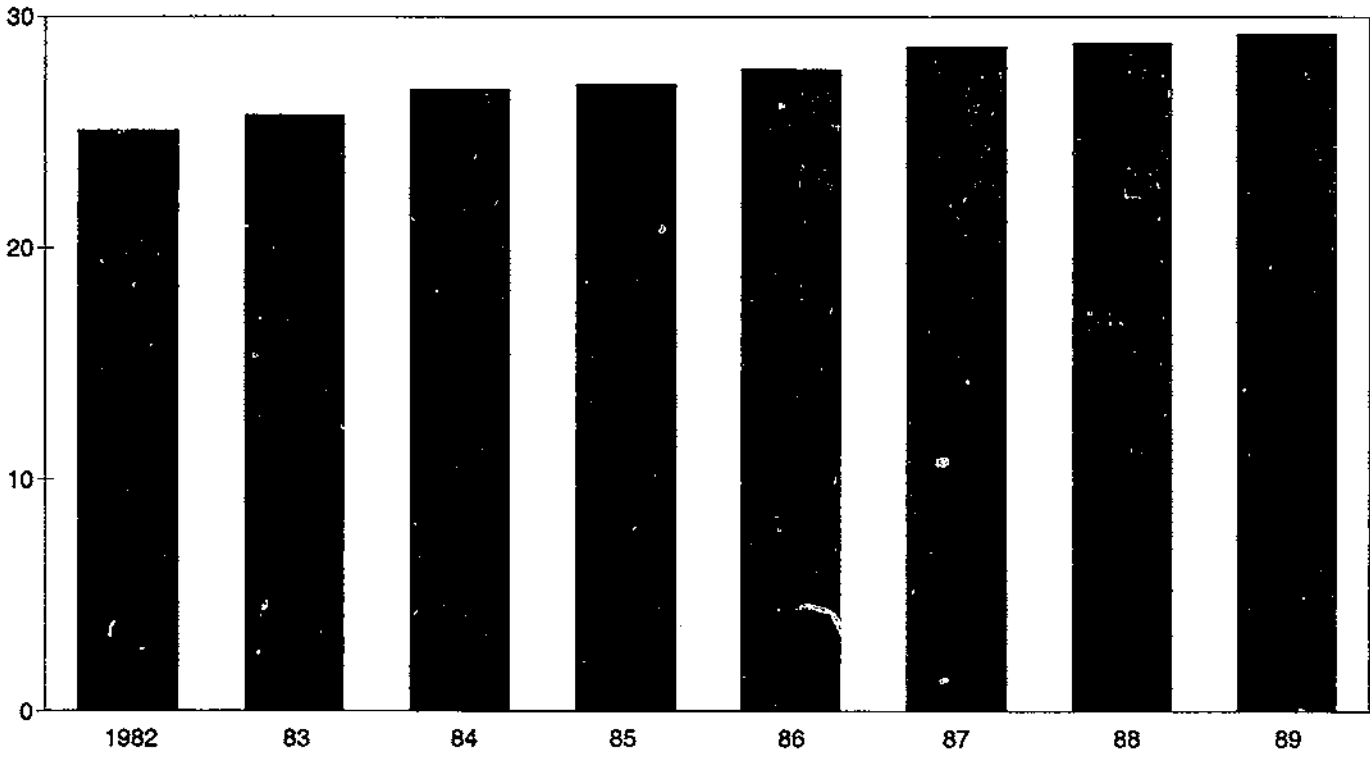


Figure 33

Number of U.S. household meals and snacks commercially prepared away from home, 1982-89, and share of meals and snacks by type of food, 1989

On average, the number of meals and snacks increased 2.2 percent per year

Billions



1989 (29.2 billion meals and snacks)

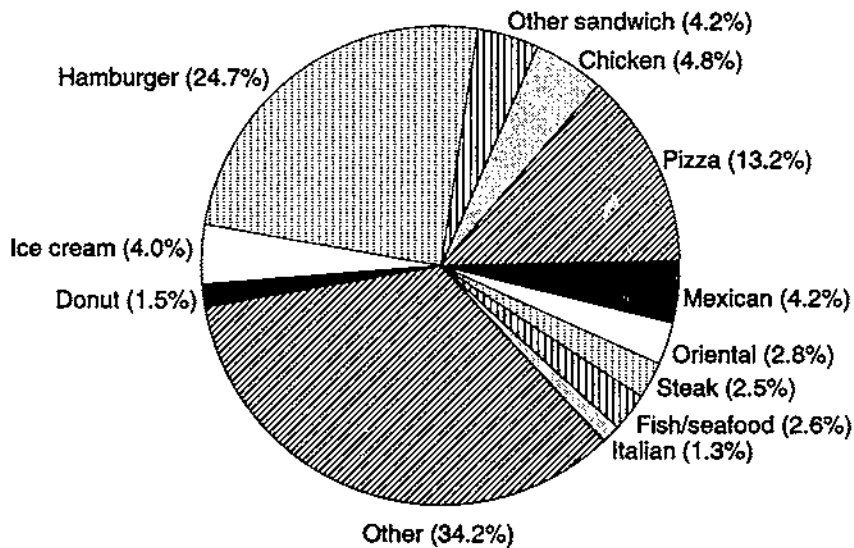
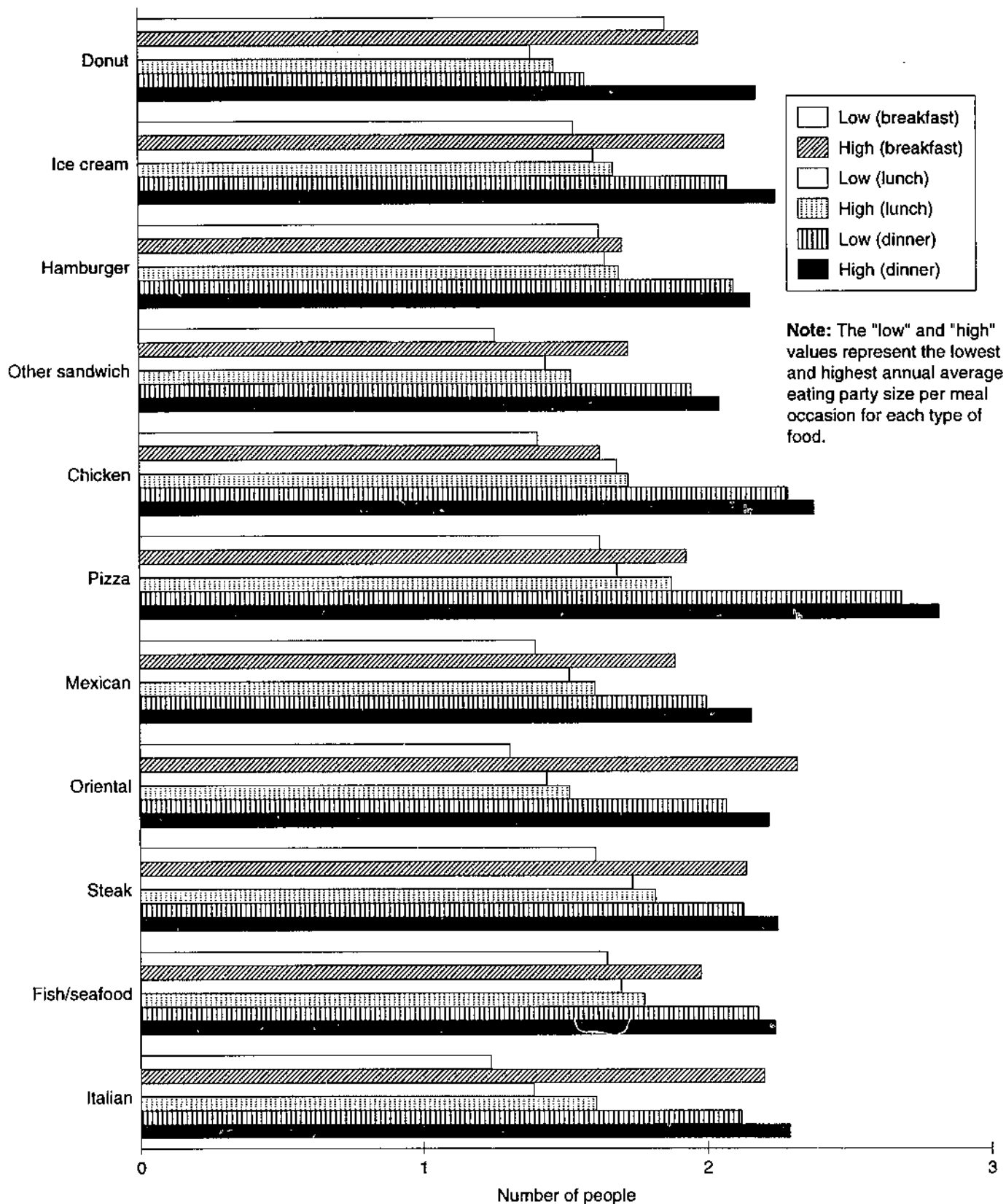


Figure 34

Range of eating party size per meal occasion by type of food commercially prepared away from home, United States, 1982-89

Average party size for meals was largest in pizza places



Note: The "low" and "high" values represent the lowest and highest annual average eating party size per meal occasion for each type of food.

Figure 35

Range of eating party size per snack occasion by type of food commercially prepared away from home, United States, 1982-89

Average party size for snacks was largest in ice cream shops

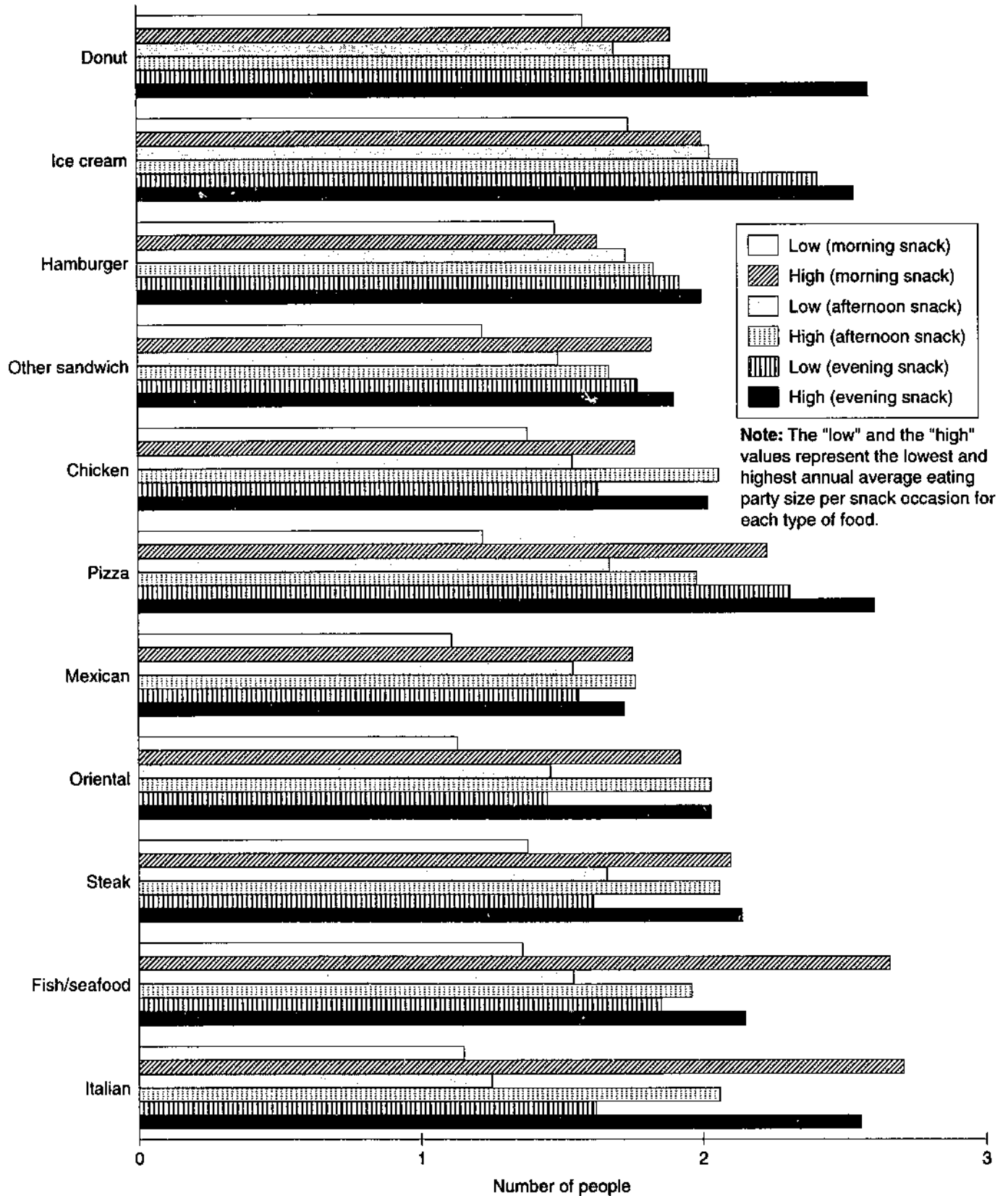
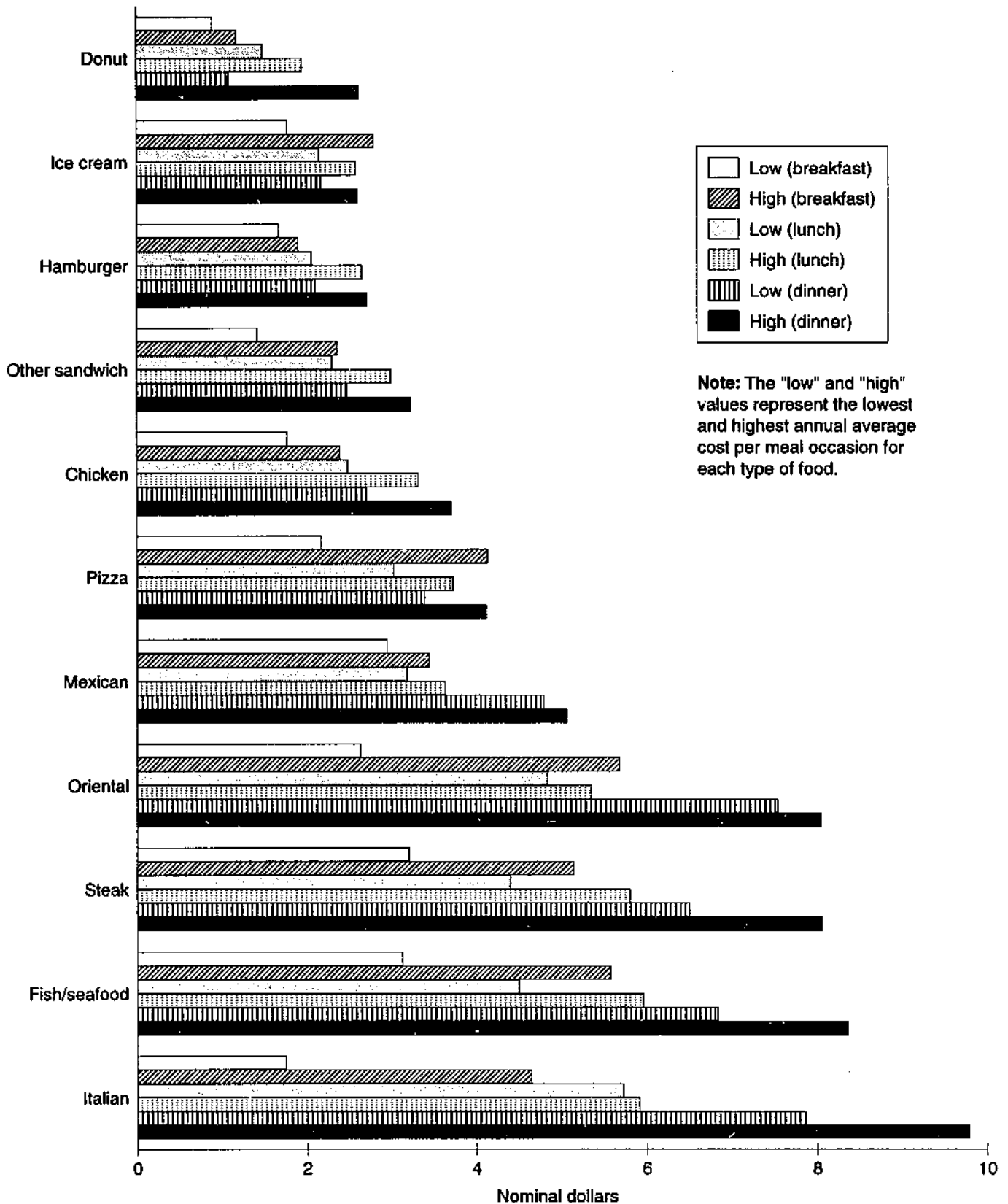


Figure 36

Range of cost with tip per meal by type of food commercially prepared away from home, United States, 1982-89

Average cost per meal was lowest in donut shops and highest in Italian restaurants

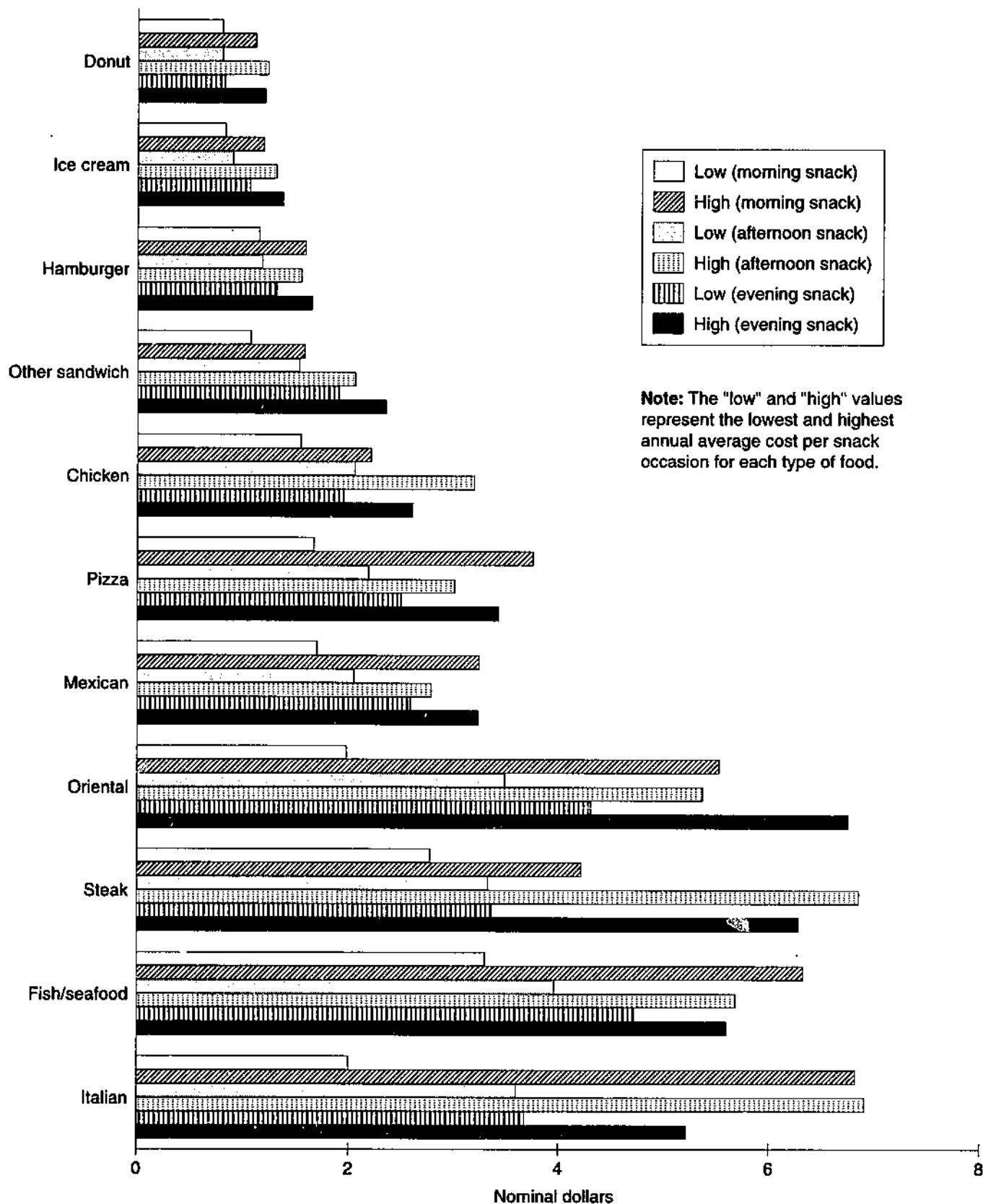


Note: The "low" and "high" values represent the lowest and highest annual average cost per meal occasion for each type of food.

Figure 37

Range of cost with tip per snack by type of food commercially prepared away from home, United States, 1982-89

Average cost was lowest in donut shops and highest in fish/seafood restaurants



Note: The "low" and "high" values represent the lowest and highest annual average cost per snack occasion for each type of food.

Figure 38

Percentage change in cost with tip, in nominal dollars, per meal or snack by type of food commercially prepared away from home, United States, 1982-89

Average increases in costs were lowest in Mexican restaurants and highest in Italian restaurants

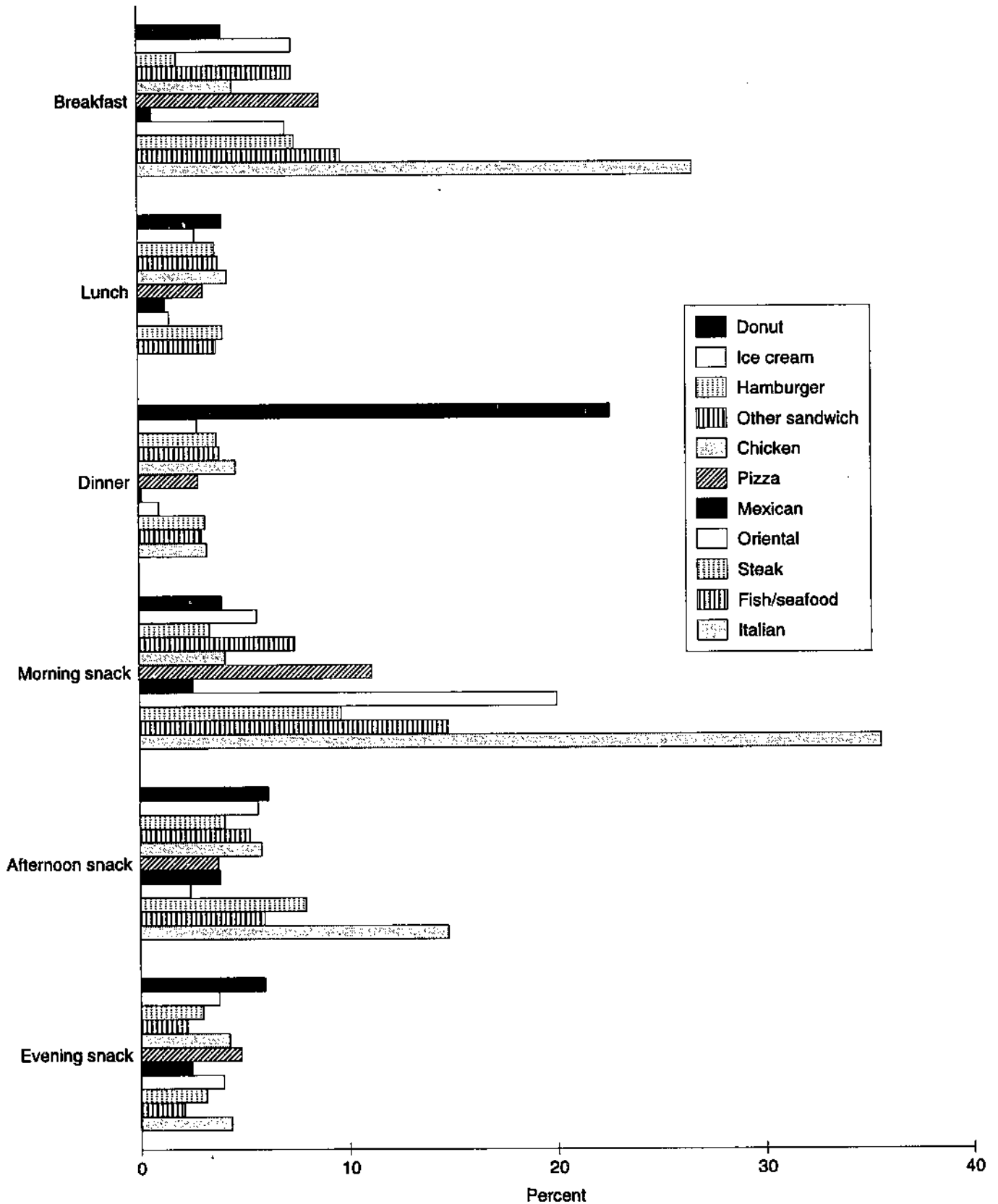


Figure 39

Percentage tip, in nominal dollars, per meal or snack by type of food commercially prepared away from home, United States, 1982-89

Average tips were lowest in hamburger places and highest in Italian restaurants

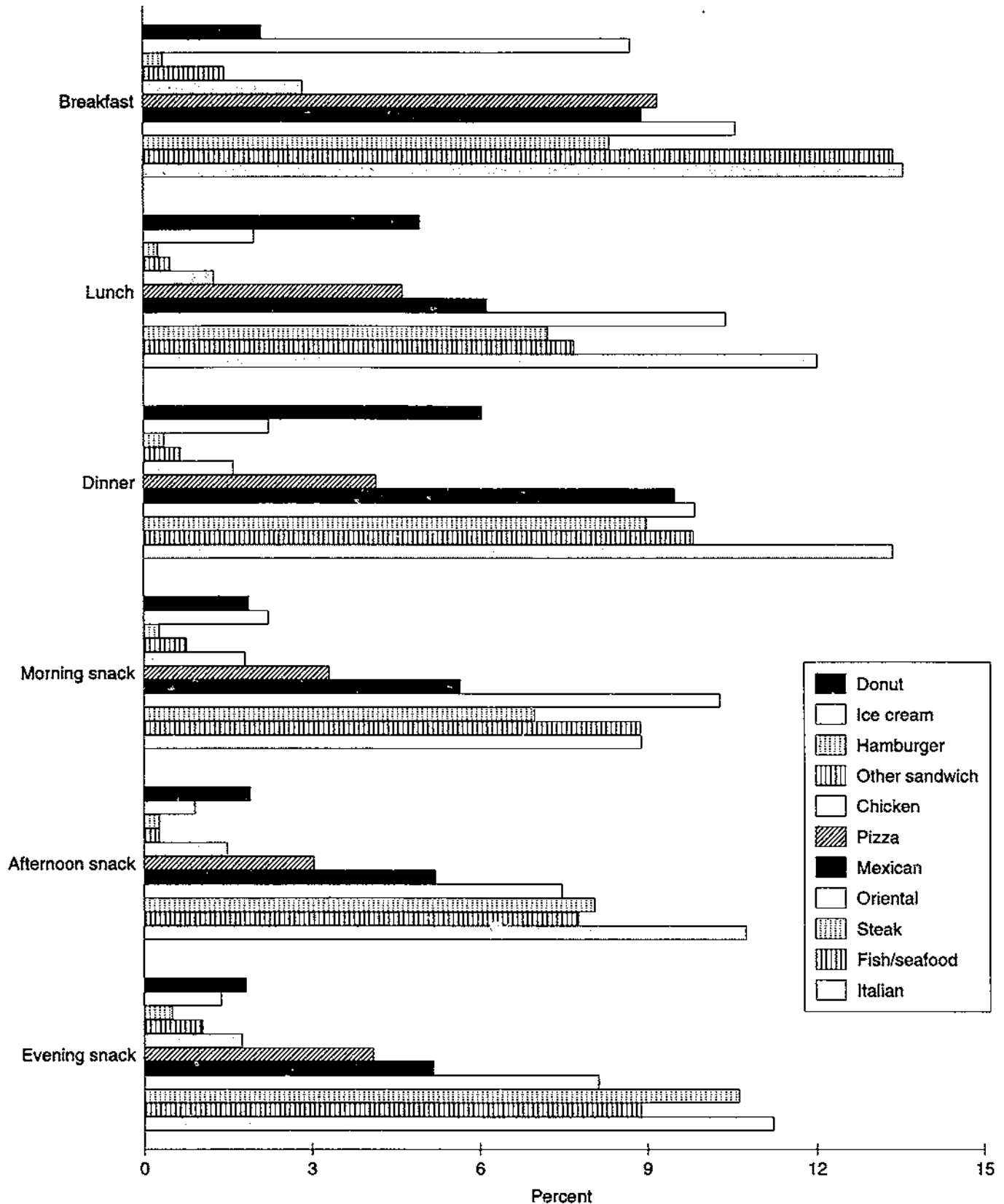
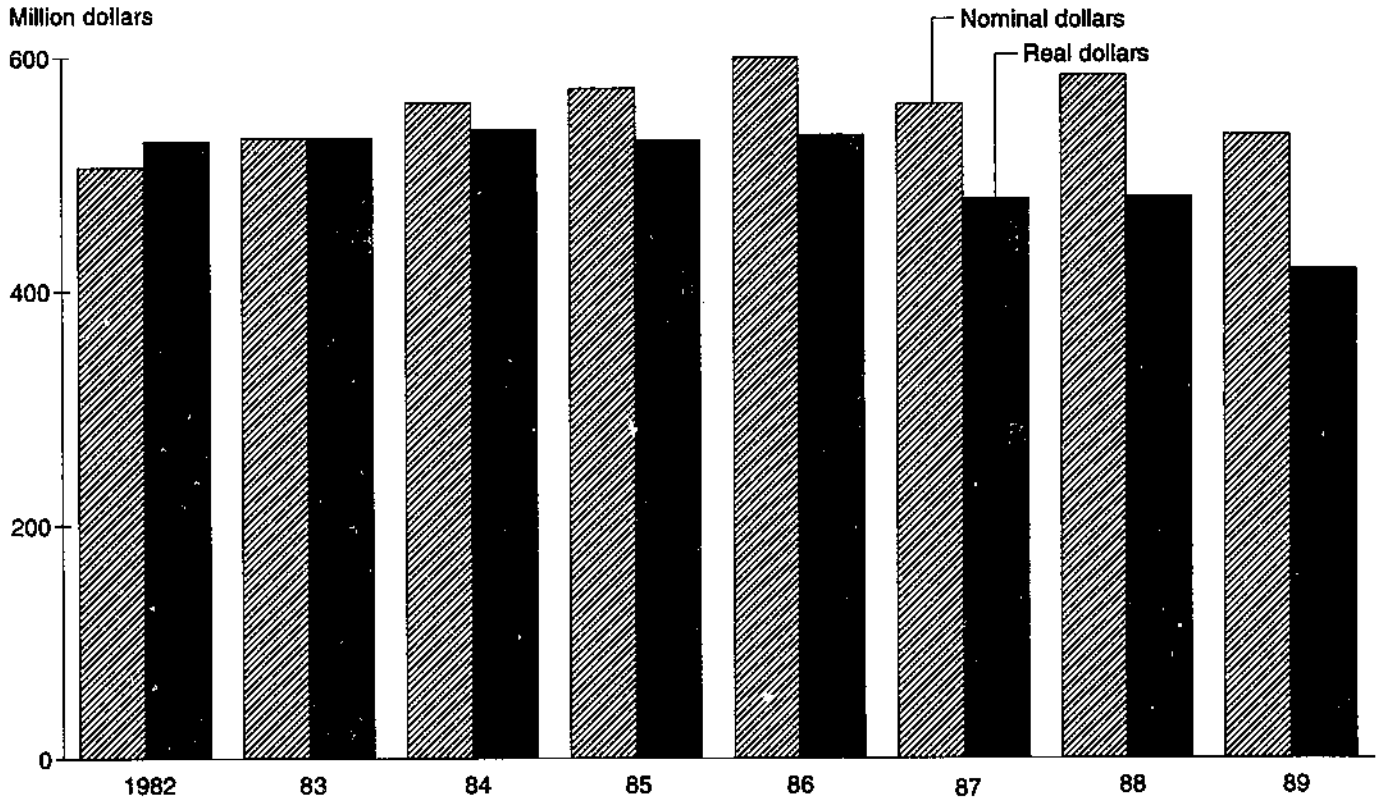


Figure 40

U.S. expenditures with tips, in nominal and real (1982-84=100) dollars, in donut shops, 1982-89, and share of expenditures by type of meal or snack, 1989

Expenditures increased 0.9 percent per year in nominal dollars but decreased 3.1 percent per year in real dollars



1989 (\$533.0 million nominal; \$418.4 million real)

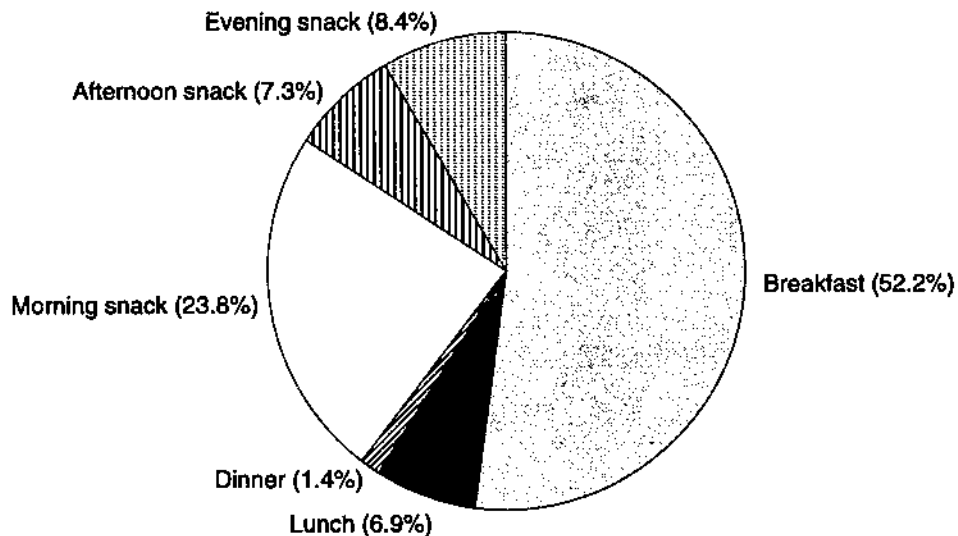
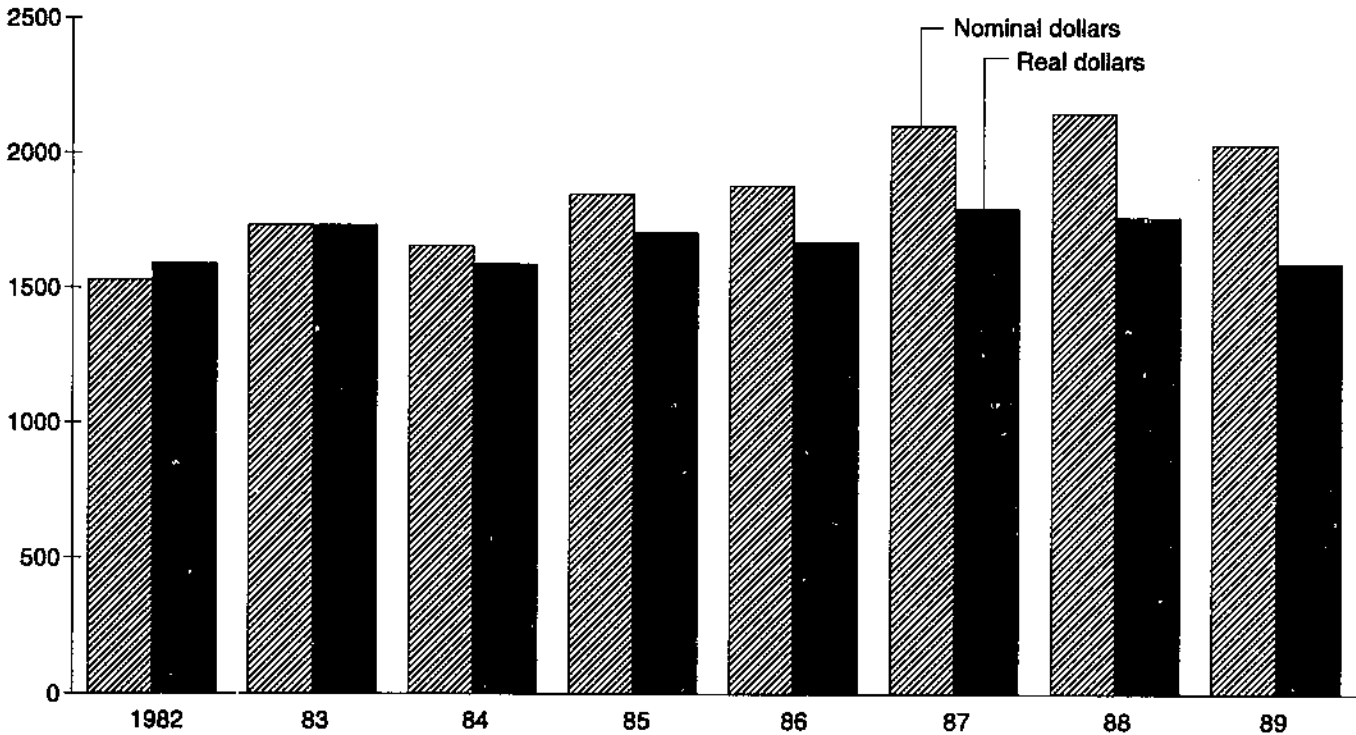


Figure 41

U.S. expenditures with tips, in nominal and real (1982-84=100) dollars, in ice cream shops, 1982-89, and share of expenditures by type of meal or snack, 1989

While expenditures increased 4.4 percent per year in nominal dollars and 0.3 percent per year in real dollars during 1982-89, expenditures fell since 1988

Million dollars



1989 (\$2,030.1 million nominal; \$1,591.7 million real)

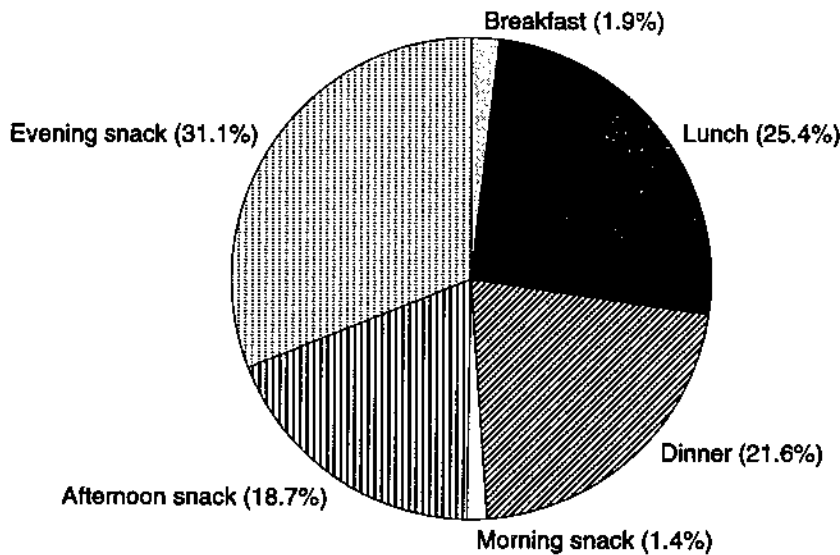
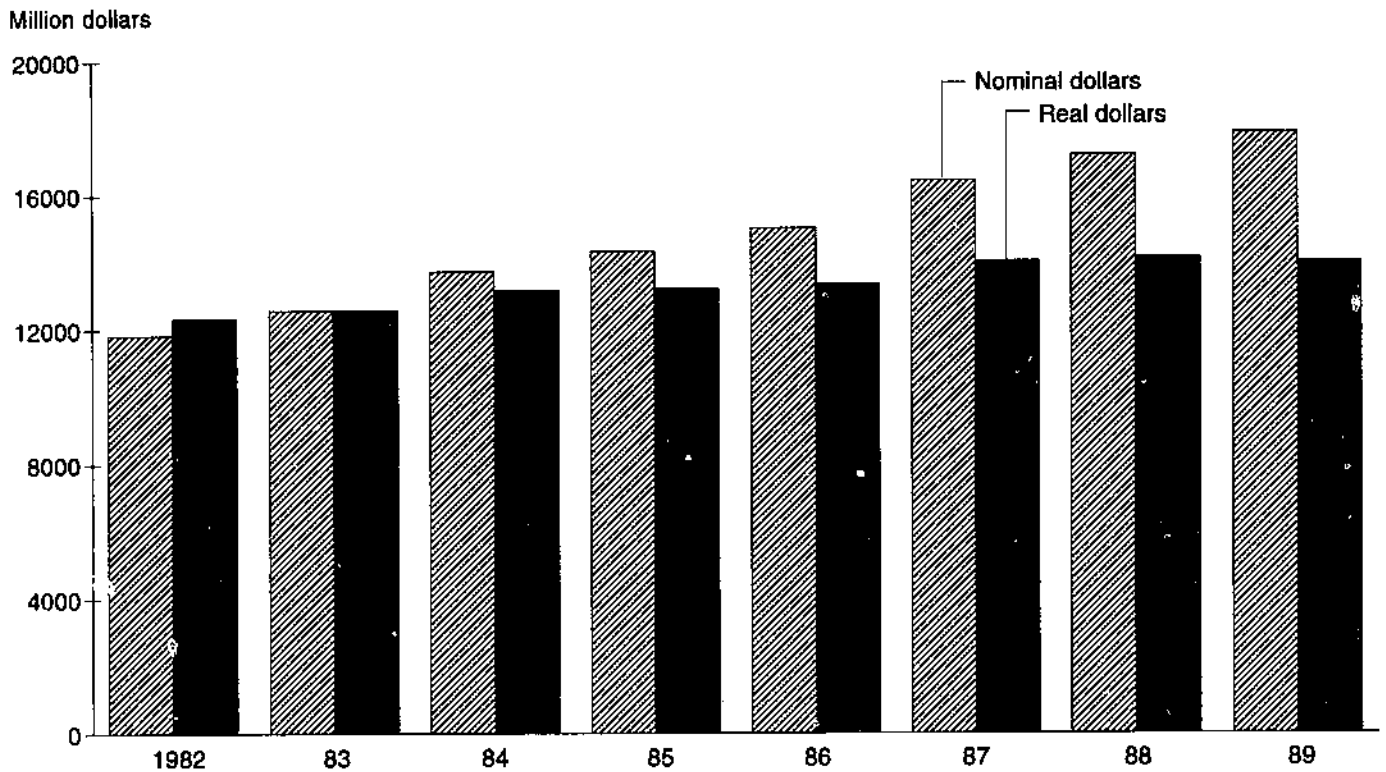


Figure 42

U.S. expenditures with tips, in nominal and real (1982-84=100) dollars, in hamburger shops, 1982-89, and share of expenditures by type of meal or snack, 1989

Expenditures increased 6.1 percent per year in nominal dollars and 1.9 percent per year in real dollars



1989 (\$17,866.6 million nominal; \$14,021.1 million real)

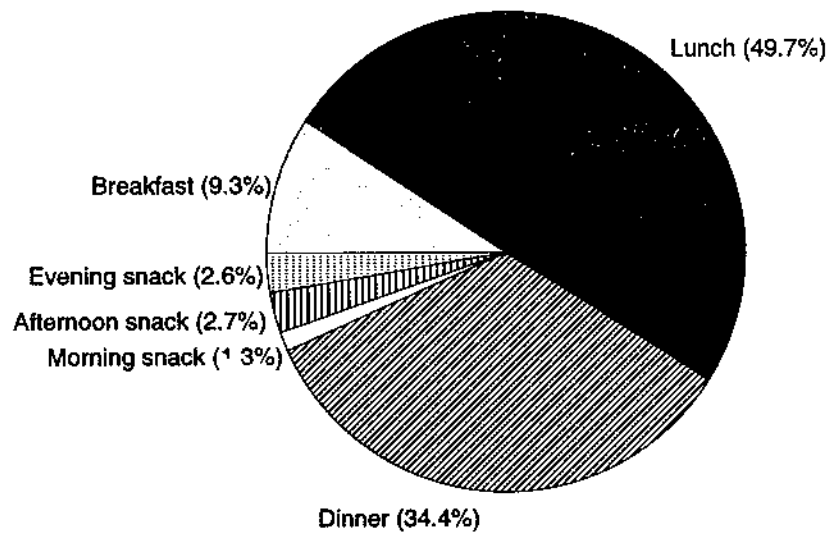
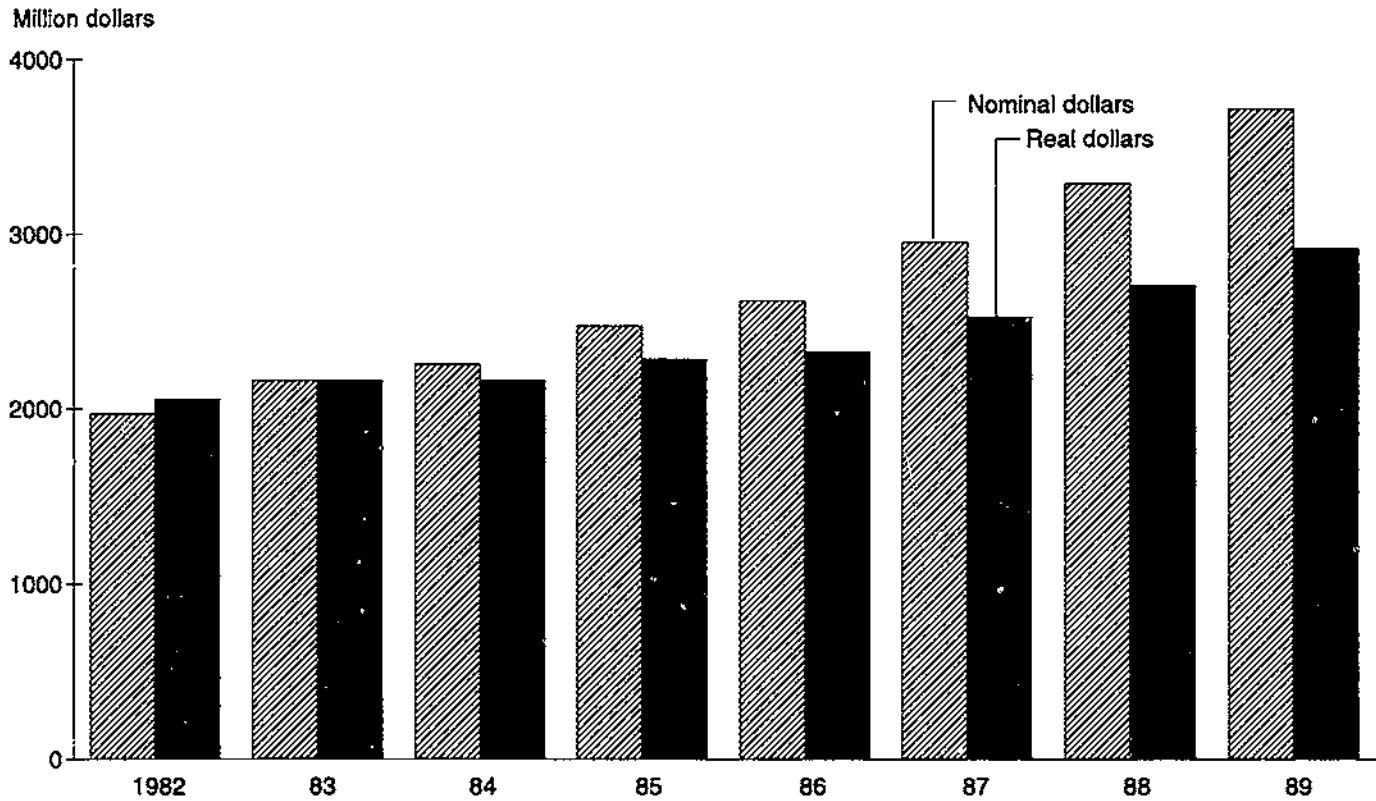


Figure 43

U.S. expenditures with tips, in nominal and real (1982-84=100) dollars, in other sandwich places, 1982-89, and share of expenditures by type of meal or snack, 1989

Expenditures increased 9.5 percent per year in nominal dollars and 5.2 percent per year in real dollars



1989 (\$3,715.7 million nominal; \$2,915.5 million real)

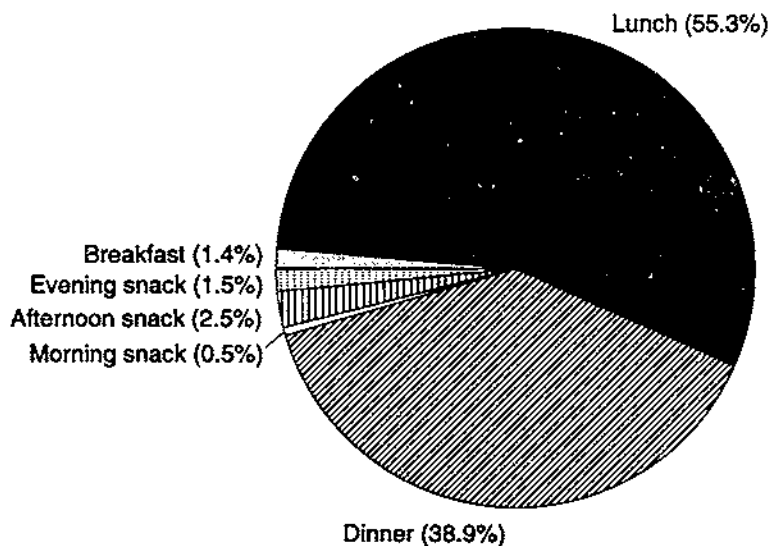
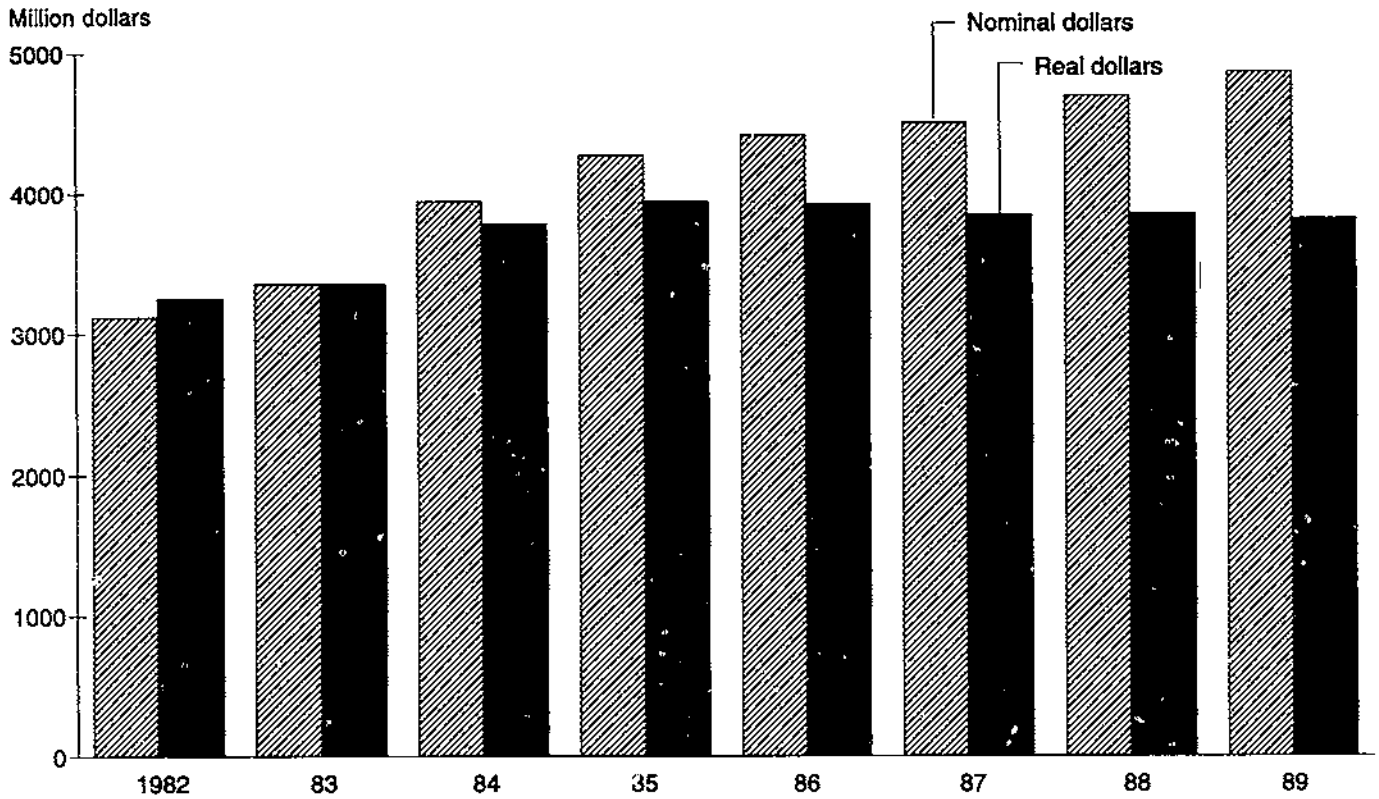


Figure 44

U.S. expenditures with tips, in nominal and real (1982-84=100) dollars, in chicken places, 1982-89, and share of expenditures by type of meal or snack, 1989

Expenditures increased 6.7 percent per year in nominal dollars and 2.4 percent per year in real dollars



1989 (\$4,863.9 million nominal; \$3,817.0 million real)

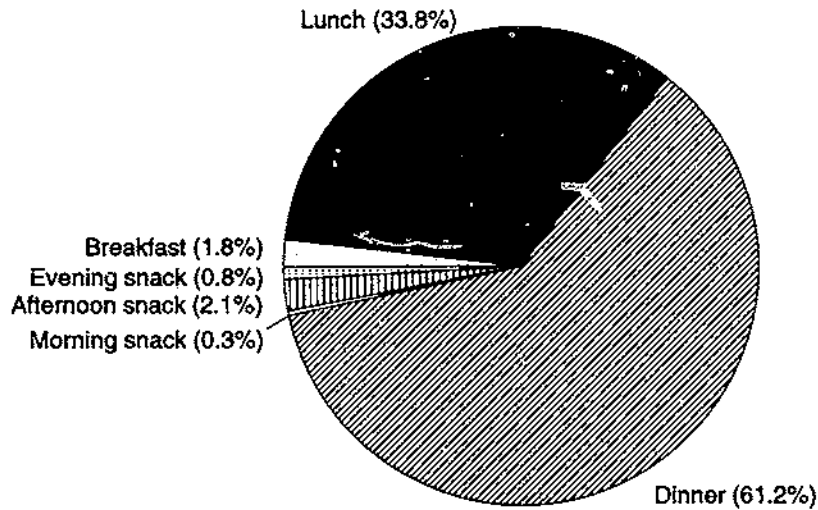
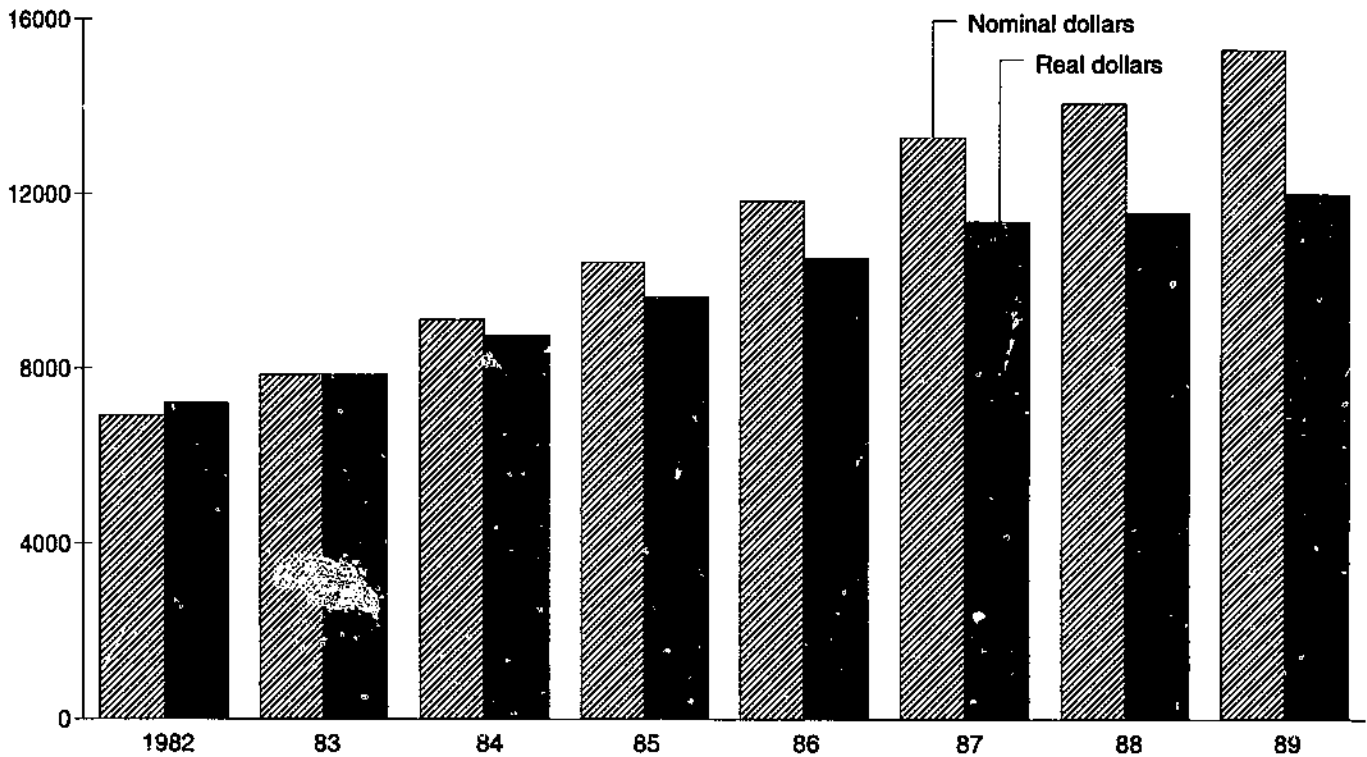


Figure 45

U.S. expenditures with tips, in nominal and real (1982-84=100) dollars, in pizza places, 1982-89, and share of expenditures by type of meal or snack, 1989

Expenditures increased 12.0 percent per year in nominal dollars and 7.6 percent per year in real dollars

Million dollars



1989 (\$15,281.2 million nominal; \$11,990.8 million real)

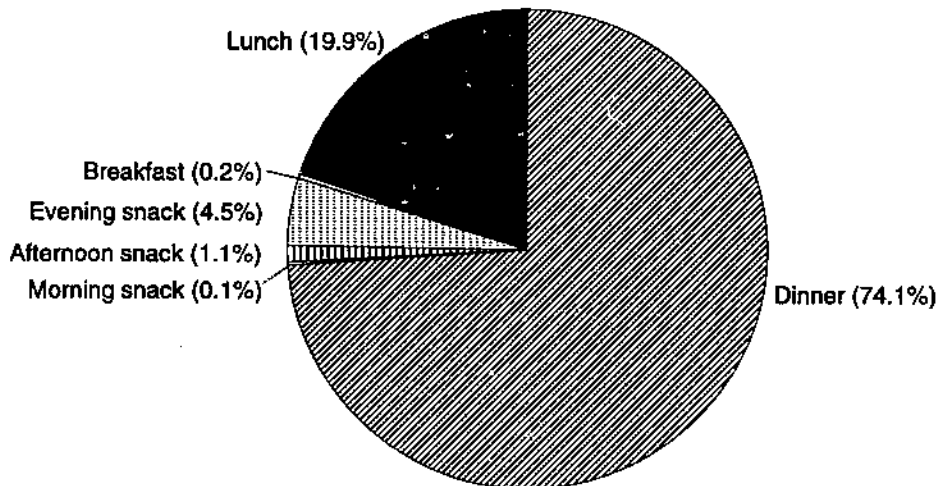
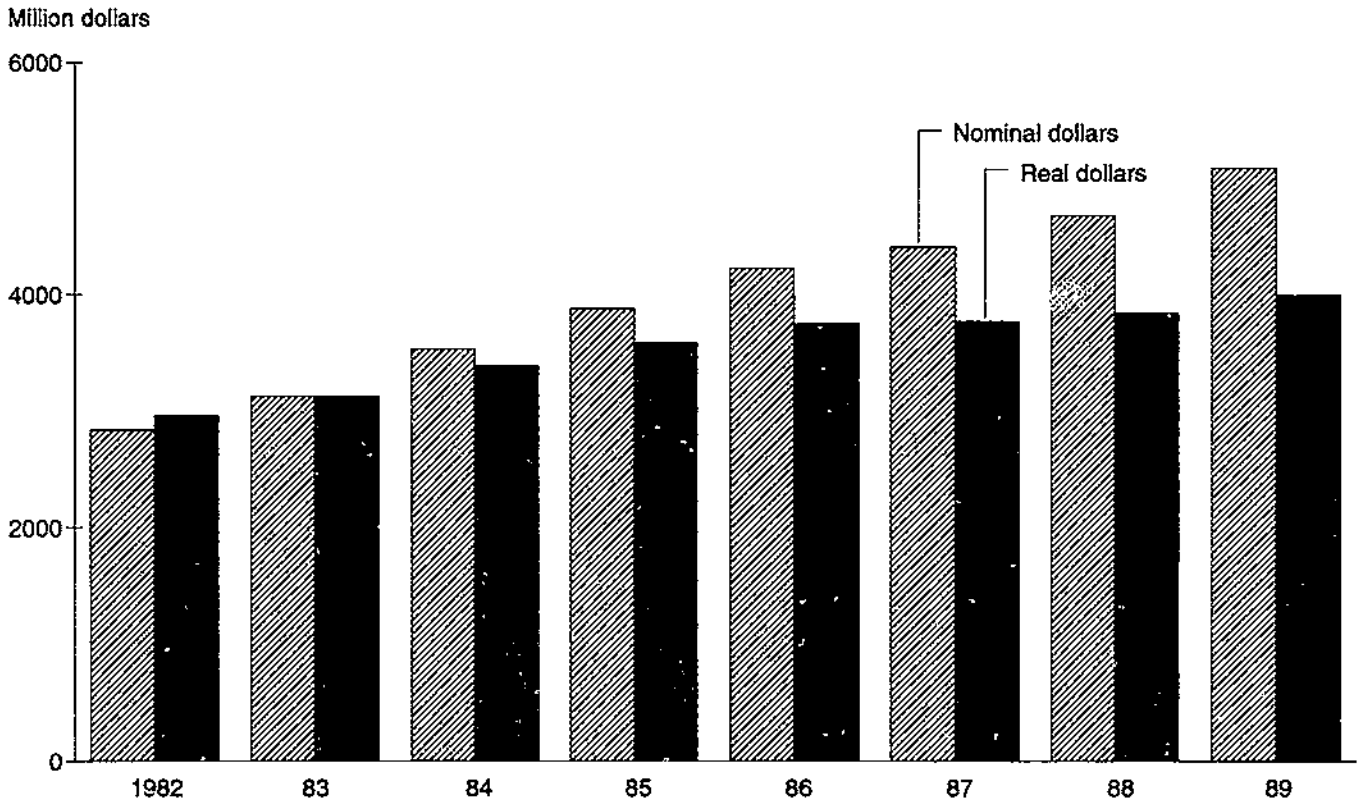


Figure 46

U.S. expenditures with tips, in nominal and real (1982-84=100) dollars, in Mexican restaurants, 1982-89, and share of expenditures by type of meal or snack, 1989

Expenditures increased 8.7 percent per year in nominal dollars and 4.4 percent per year in real dollars



1989 (\$5,084.8 million nominal; \$3,991.0 million real)

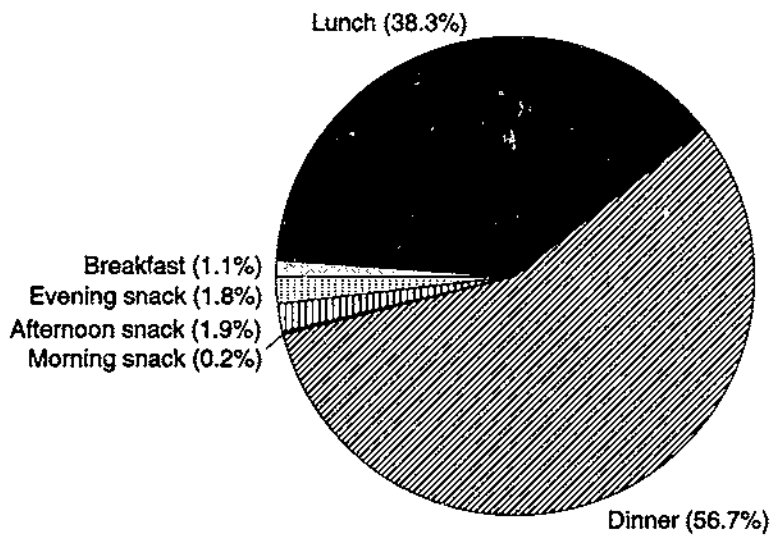
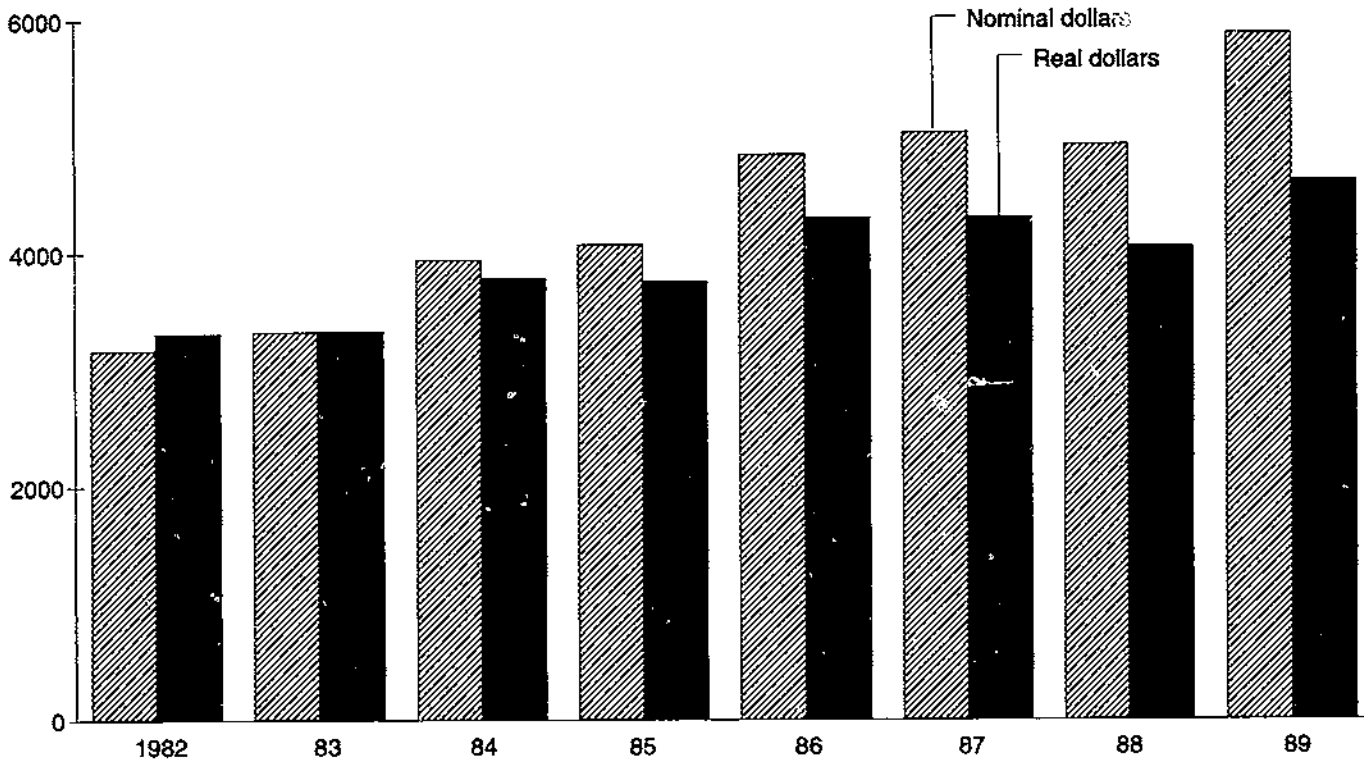


Figure 47

U.S. expenditures with tips, in nominal and real (1982-84=100) dollars, in oriental restaurants, 1982-89, and share of expenditures by type of meal or snack, 1989

Expenditures increased 9.6 percent per year in nominal dollars and 5.2 percent per year in real dollars

Million dollars



1989 (\$5,877.7 million nominal; \$4,613.2 million real)

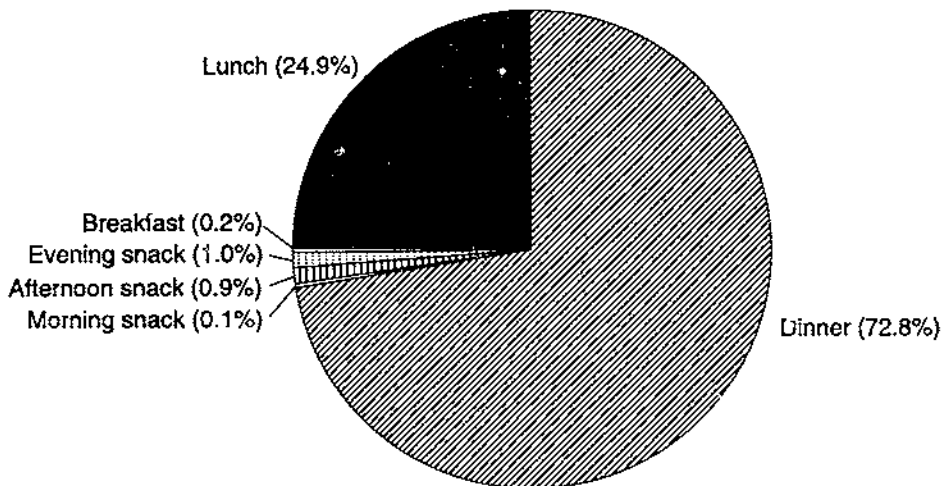
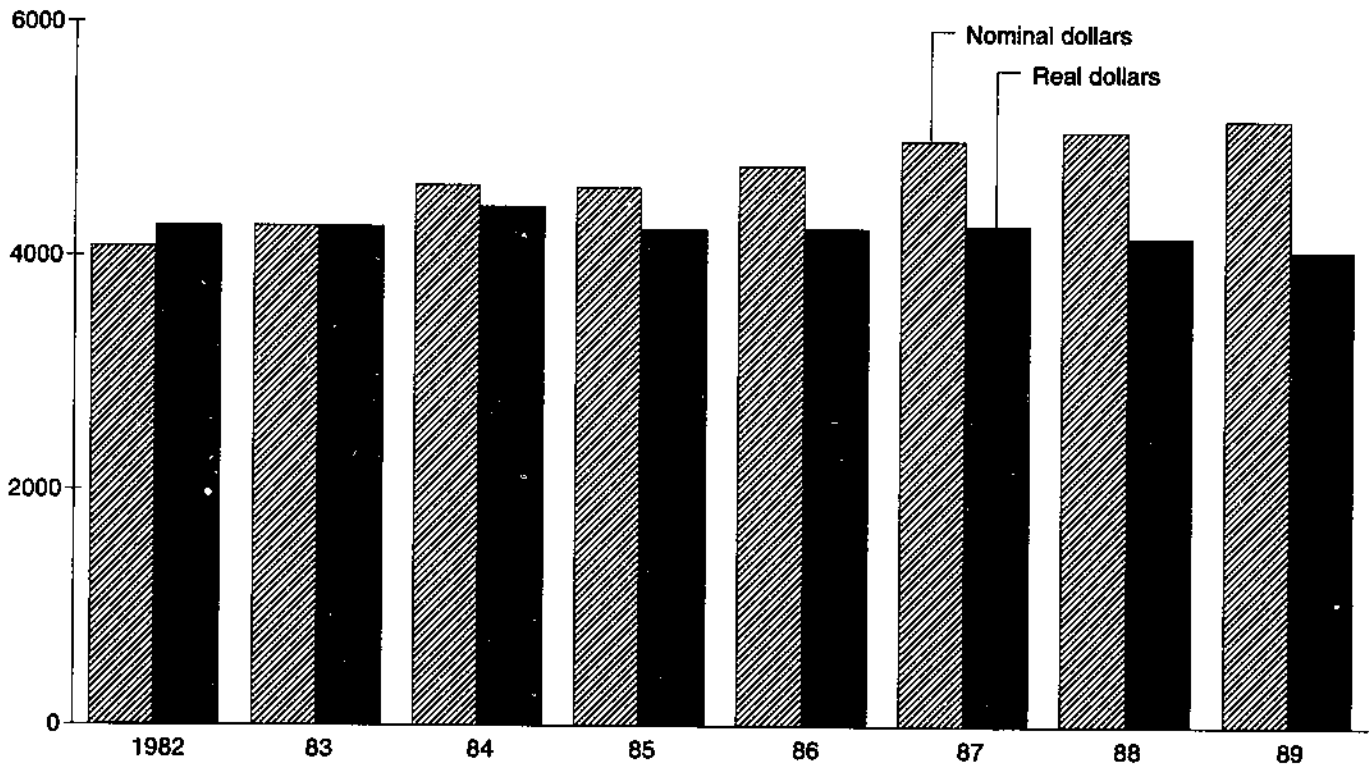


Figure 48

U.S. expenditures with tips, in nominal and real (1982-84=100) dollars, in steak restaurants, 1982-89, and share of expenditures by type of meal or snack, 1989

Expenditures increased 3.5 percent per year in nominal dollars but decreased 0.6 percent per year in real dollars

Million dollars



1989 (\$5,171.8 million nominal; \$4,059.8 million real)

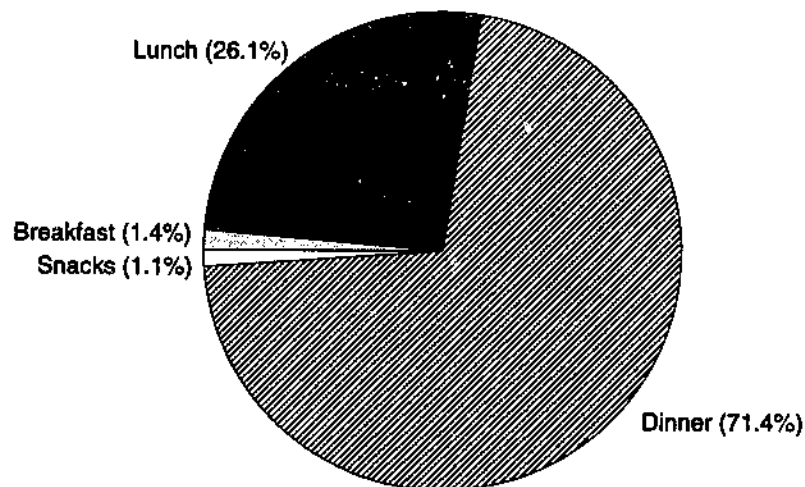
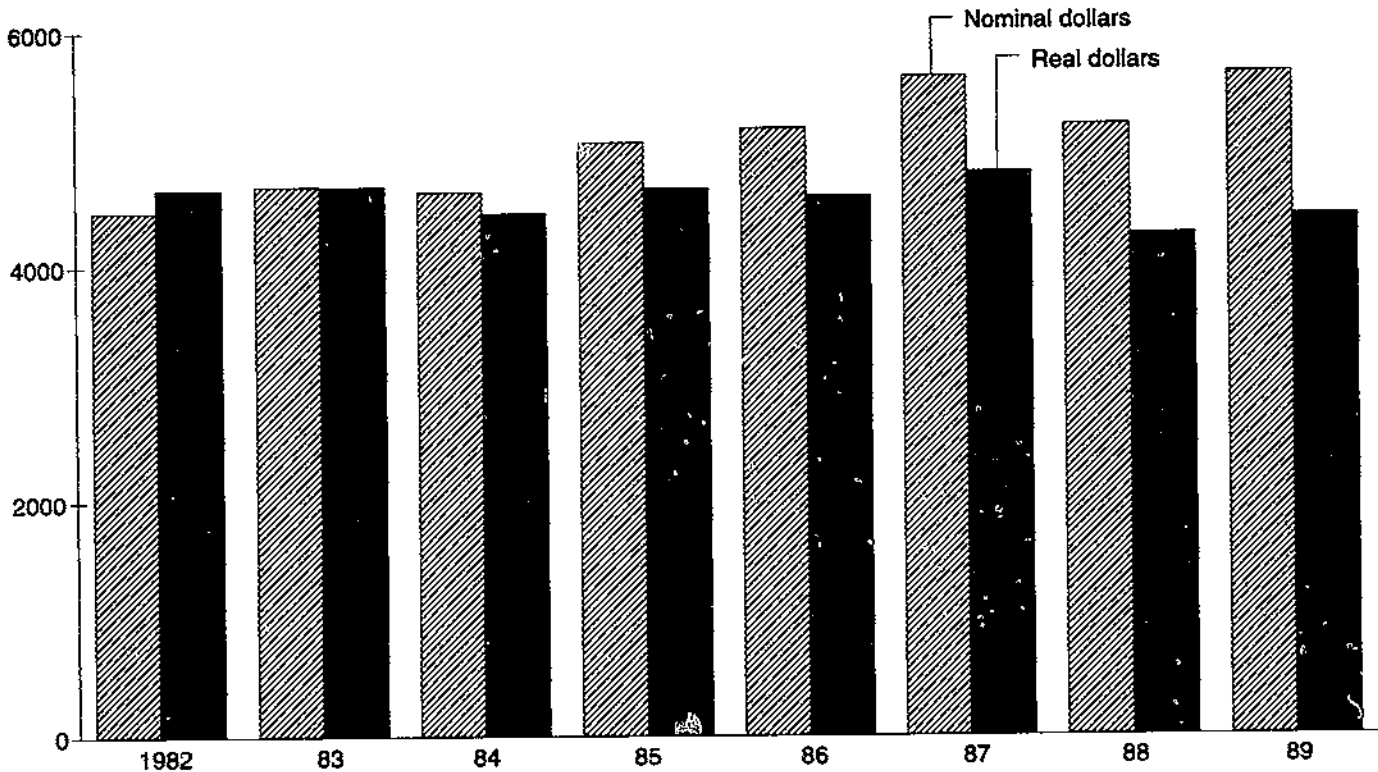


Figure 49

U.S. expenditures with tips, in nominal and real (1982-84=100) dollars, in fish/seafood restaurants, 1982-89, and share of expenditures by type of meal or snack, 1989

Expenditures increased 3.5 percent per year in nominal dollars but decreased 0.6 percent per year in real dollars

Million dollars



1989 (\$5,634.6 million nominal; \$4,420.0 million real)

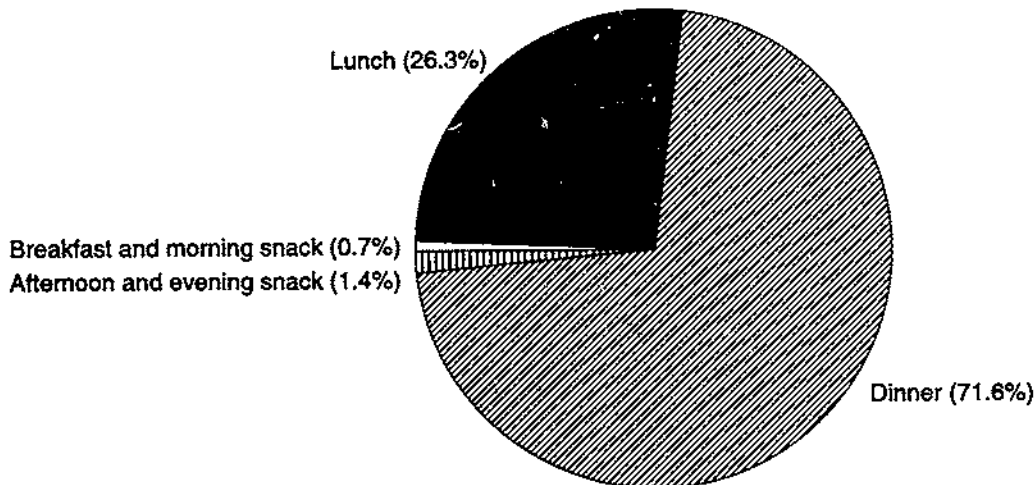
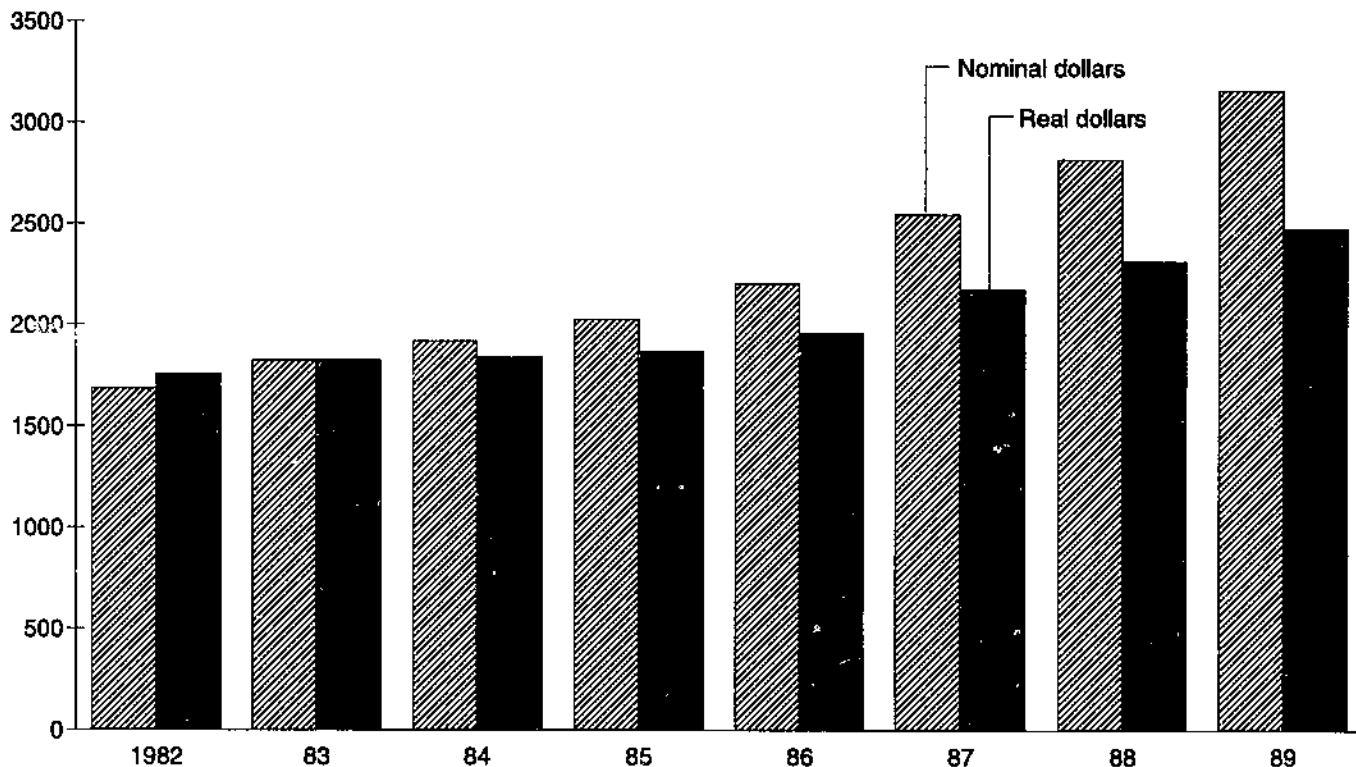


Figure 50

U.S. expenditures with tips, in nominal and real (1982-84=100) dollars, in Italian restaurants, 1982-89, and share of expenditures by type of meal or snack, 1989

Expenditures increased 9.5 percent per year in nominal dollars and 5.1 percent per year in real dollars

Million dollars



1989 (\$3,155.6 million nominal; \$2,475.5 million real)

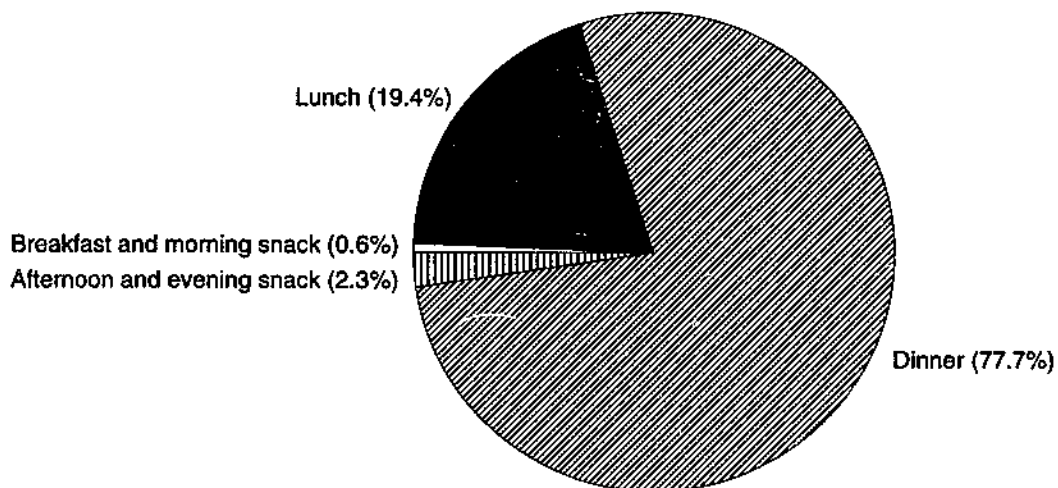
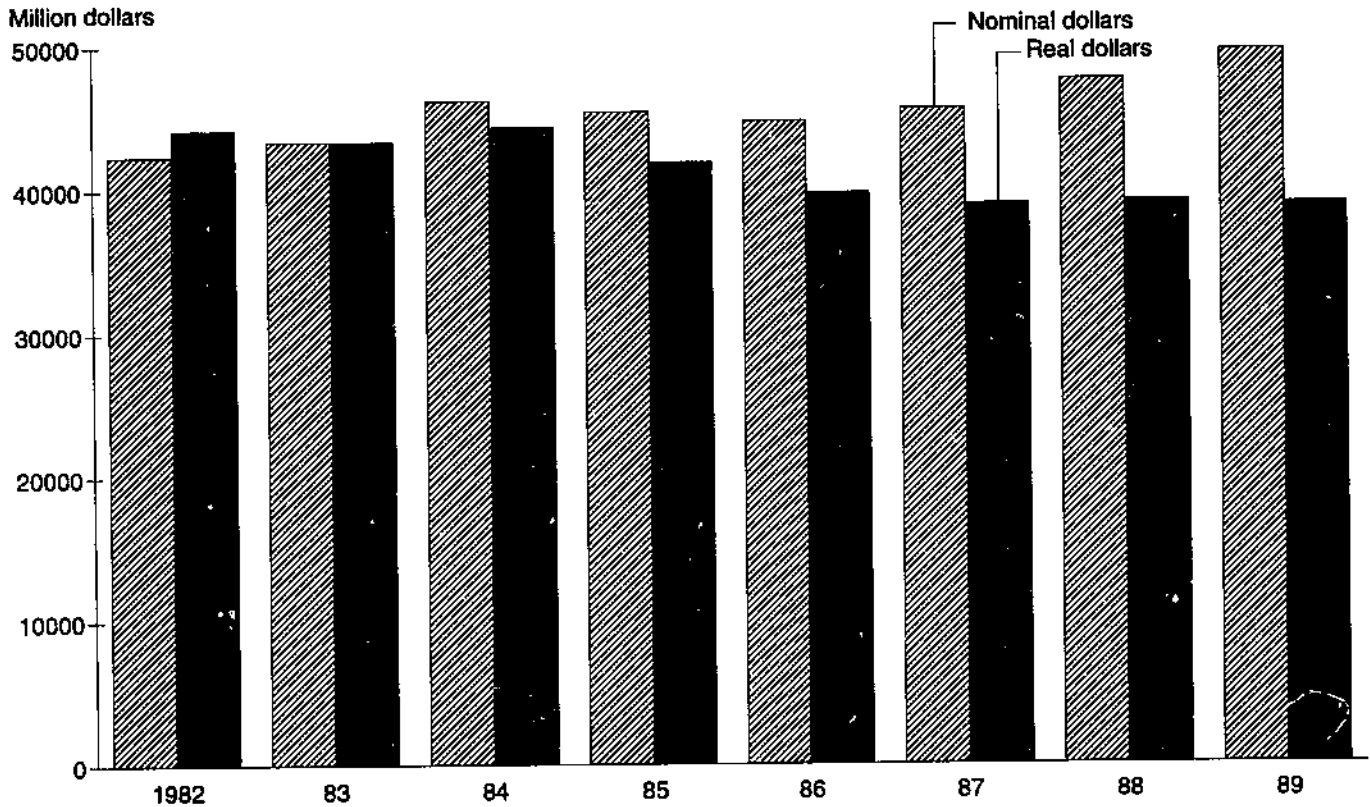


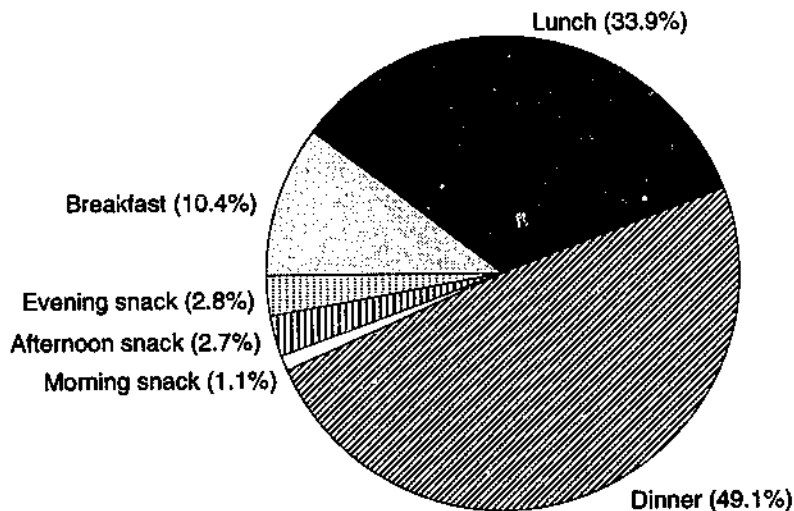
Figure 51

U.S. expenditures with tips, in nominal and real (1982-84=100) dollars, in other restaurants, 1982-89, and share of expenditures by type of meal or snack, 1989

Expenditures increased 2.3 percent per year in nominal dollars but decreased 1.8 percent per year in real dollars



1989 (\$49,494.4 million nominal; \$38,836.7 million real)



Appendix A: Calculating the Costs Per Meal or Snack

The data for this study came from a survey by the NPD Group, Inc., of commercial meal and snack purchases by U.S. households for each quarter during 1982-89. This is an ongoing quarterly survey of the consumption of commercially prepared meals and snacks by a panel of 13,000 households that are representative of the 93 million U.S. households.

For each quarter, let

$$TA_{ijk} = \text{total amount paid for meal or snack } i \text{ by household } j \text{ on occasion } k ; \quad (\text{A1})$$

$$S_{ijk} = \text{eating party size or total number of people, including the guests of household } j \text{ eating meal or snack } i \text{ on occasion } k . \quad (\text{A2})$$

Two separate calculations are done, one when the total amount above includes tips and the other when no tips are included.

A specific meal or snack is either breakfast, morning snack, lunch, afternoon snack, dinner, or evening snack. In each case, the food is "prepared" away from home by a commercial eating establishment, but where this food is consumed does not matter for the purposes of the calculations in this study.

A household may purchase any meal or snack on more than one occasion; that is,

$$k = 1, \dots, N_{ij}, \quad (\text{A3})$$

where N_{ij} is the total number of occasions. On any occasion, more than one member of the same household, including guests, may be eating. Also, for the same meal or snack and household, each occasion need not be at the same eating establishment, where

$$OWF_{ijk} = \text{occasion weight factor associated with each } k, \text{ depending on the eating establishment.} \quad (\text{A4})$$

This factor compensates for the fact that sometimes survey respondents forget to record purchases, especially those in small amounts (for example, donuts). Thus, based on NPD's past experience with this survey, occasion weights are adjusted upwards for establishments where purchases tended to be unrecorded more often, so that, on balance, these establishments in the survey will not underrepresent their counterparts among all U.S. commercial eating establishments.

By applying the occasion weight factor to the total amount paid and to the total number of people eating on each occasion,

$$TA_{ij} = \sum_{k=1}^{N_{ij}} OWF_{ijk} TA_{ijk} \quad (\text{A5})$$

and

$$S_{ij} = \sum_{k=1}^{N_{ij}} OWF_{ijk} S_{ijk} . \quad (\text{A6})$$

TA_{ij} is the overall total costs to household j of meal or snack i for all the N_{ij} separate eating occasions. The corresponding overall total number of people eating is given by S_{ij} , which includes the members and the guests of household j on all the occasions.

Suppose that $j = 1, \dots, M$ --that is, a total of M households that ate meal or snack i . For each household,

$$PF_{ij} = \text{projection factor for each household } j. \quad (A7)$$

While the households in the NPD survey panel are chosen to be representative of all households, some households in the panel either do not respond or eventually drop out. Although those that drop out are replaced by similar households in succeeding surveys, some types of households in the population may end up relatively under-represented in the group of responding households in any one survey. Based on NPD's past experience with this survey, the household projection factors are adjusted to compensate for the nonresponding households so that, on balance, the survey results reflect the behavior of all households.

By applying the household projection factors as weights to the occasion-weighted household total costs (TA_{ij}) and total number of people eating (S_{ij}), the costs per meal or snack i for all the M households may be computed as

$$A_i = \frac{\sum_{j=1}^M PF_{ij} TA_{ij}}{\sum_{j=1}^M PF_{ij} S_{ij}} = \frac{TA_i}{S_i} \quad (A8)$$

The numerator, TA_i , is the overall total cost of meal or snack i and the denominator, S_i , is the overall total number of people eating projected for all households.

Calculation of Costs Per Meal or Snack

The following example of two households, where each one ate dinner on four separate occasions, is taken from the data for this study. The two households are #000133 and #000303. Their corresponding "projection factors" (PF_{ij}) are 7.6919 and 3.5734. Each dinner occasion has an associated "occasion weight factor" (OWF_{ijk}), depending on the eating establishment. For each dinner occasion, the total amount paid is TA_{ijk} and the corresponding total number of people in the dinner party is S_{ijk} .

Any one individual in any of the dinner occasions could be the same person from the same household who ate dinner in a different occasion. Also, since the total number of people in any one occasion includes guests, the people in a dinner party of a particular household may include members of other households. For example, the four people in the fourth dinner party of #000133 could include the same person in any of the first three dinners and could also include a person from household #000303 who was a guest of #000133 at the time.

HH (1)	PF_{ij} (2)	OWF_{ijk} (3)	TA_{ijk} (4)	S_{ijk} (5)	(3)x(4)	(3)x(5)
000133	7.6919	2.026	4.69	2	9.502	4.052
"	"	1.829	3.11	1	5.688	1.829
"	"	1.829	3.41	1	6.237	1.829
"	"	2.673	12.00	4	32.076	10.692
Total		8.357			53.503	18.402
000303	3.5734	2.449	8.00	2	19.592	4.898
"	"	1.480	13.05	4	19.314	5.920
"	"	1.000	14.00	2	14.000	2.000
"	"	2.449	3.00	1	7.347	2.449
Total		7.378			60.253	15.267

For household #000133, the total cost for the four separate dinners weighted by each occasion is 53.503 and the corresponding total number of people eating dinner is 18.402. Similarly, for household #000303, the total cost is 60.253 and the total number of people is 15.267. By taking the weighted sum of the individual household total costs and total of people who ate dinner, using the household "projection factors" as weights, the results are

$$(7.6919)(53.503) + (3.5734)(60.253) = 626.85 \quad (\text{A9})$$

$$(7.6919)(18.402) + (3.5734)(15.267) = 196.10. \quad (\text{A10})$$

The application of the household projection factors means that \$626.85 is the overall total dinner costs and 196.10 is the overall total number of people eating dinner that are projected for all the households in the population represented by #000133 and #000303 in the survey. Thus, by dividing 626.85 by 196.10, the result is

$$626.85/196.10 = 3.20, \quad (\text{A11})$$

which is the cost per dinner in the above illustration. This is an example of the values of A_i given by the formula above for the costs per meal or snack.

The same method illustrated above is applied to calculate the costs per breakfast, morning snack, lunch, afternoon snack, dinner, and evening snack. These costs are calculated separately in nominal dollars and in real dollars (1982-84=100).

Appendix B: Determining the Total Number of Eating Occasions for Meals or Snacks

Let

$$O_{ijk} = 1, \text{ representing a single eating occasion among } k = 1, \dots, N_{ij} \text{ for meal or snack } i \text{ by household } j. \quad (\text{B1})$$

That is, irrespective of the number of people that ate at the same time, the specific occasion k counts as 1--that is, a "single visit." Also, let

$$O_{ij} = \text{total number of occasions for meal or snack } i \text{ of household } j. \quad (\text{B2})$$

Recalling the occasion weight factor OWF_{ijk} from appendix A, O_{ij} is calculated as

$$O_{ij} = \sum_{k=1}^{N_{ij}} OWF_{ijk} O_{ijk} = \sum_{k=1}^{N_{ij}} OWF_{ijk}. \quad (\text{B3})$$

O_{ij} is for a 2-week period of the NPD commercial meal and snack purchasing survey. Since there are 13 weeks in a quarter, or 6.5 2-week periods in a quarter, then O_{ij} has to be multiplied by 6.5 to obtain quarterly values. Moreover, by applying the household projection factor PF_{ij} to O_{ij} , the result

$$O_i = \left(\sum_{j=1}^M PF_{ij} O_{ij} \right) 6.5 \quad (\text{B4})$$

gives the projected quarterly total number of occasions for meal or snack i for all households.

Calculation of the Total Number of Eating Occasions

Returning to the example from appendix A, the projected quarterly total number of dinner occasions for the households in this example is

$$[(7.6919)(8.357) + (3.5734)(7.378)](6.5) = (90.65)(6.5) = 589.20. \quad (B5)$$

These values are in thousands because 8.357 and 7.378, the units of each value of OWF_{ijk} , are expressed in thousands.

The same method is applied to calculate the total number of other meals and snacks.

Appendix C: Determining the Eating Party Size Per Meal or Snack Occasion

The denominator S_i in the expression for A_i in appendix A may be interpreted as the projected "total number of eaters" for meal or snack i for all households. As shown in appendix B, the value of O_i represents the projected "total number of eating occasions" for the same meal or snack. Thus, the ratio of S_i to O_i yields the eating party size per occasion (PS_i) for meal or snack i . That is,

$$PS_i = \frac{\sum_{j=1}^M PF_{ij} S_{ij}}{\sum_{j=1}^M PF_{ij} O_{ij}} = \frac{S_i}{O_i}. \quad (C1)$$

Calculation of Eating Party Size Per Occasion

As noted above, the value of S_i represents the total number of eaters. From the dinner example in appendix A, the value of S_i is

$$[(7.6919)(18.402) + (3.5734)(15.267)] = 196.10. \quad (C2)$$

The total number of eating occasions for the same dinner example is

$$[(7.6919)(8.357) + (3.5734)(7.378)] = 90.65. \quad (C3)$$

Therefore, the ratio

$$196.10/90.65 = 2.16 \quad (C4)$$

is the eating party size per dinner for all the households.

By the same method, eating party size is calculated for each type of meal or snack.

Appendix D: Determining the Total Number of Meals or Snacks

Because an eater gets a meal or snack, then the total number of eaters measured by S_i equals the total number of meals or snacks. Because this is for a 2-week period of the survey, the quarterly total number of meals or snacks denoted below by MS_i equals S_i multiplied by 6.5. That is,

$$MS_i = (S_i)(6.5) = \left(\sum_{j=1}^M PF_{ij} S_j \right) (6.5) . \quad (D1)$$

Calculation of the Total Number of Meals or Snacks

Recalling the dinner example in appendix A,

$$[(7.6919)(18.402) + (3.5734)(15.267)](6.5) = (196.10)(6.5) = 1,274.65 \quad (D2)$$

is the projected total number of dinners per quarter for all households. The values of MS_i are in thousands because a unit of S_j is the same as the unit measure of the household projection factor, which is 1,000.

By the same method, the total number is determined for all types of meals and snacks.

Appendix E: Calculating the Total Expenditures for Meals or Snacks

Recall that the values of A_i in appendix A represent the costs per meal or snack. Recall also that the values of MS_i in appendix D represent the total number of meals or snacks. Therefore, the total expenditures for meals or snacks may be obtained by multiplying together A_i and MS_i . That is,

$$TE_i = A_i MS_i \quad (E1)$$

where TE_i denotes total expenditures in a quarter. This can also be obtained by multiplying TA_i in appendix A by 6.5, since TA_i is for 2 weeks and there are 6.5 2-week periods in a quarter. That is,

$$TE_i = TA_i (6.5) = A_i MS_i . \quad (E2)$$

Calculation of Total Expenditures

From appendix A, the total dinner expenditures (TA_i) for all the households was

$$[(7.6919)(53.503) + (3.5734)(60.253)] = 626.85 \quad (E3)$$

for a 2-week period. Therefore, for the quarter, the projected total dinner expenditures equal

$$(626.85)(6.5) = 4,074.53. \quad (E4)$$

Also from appendix A, the costs per dinner (A_i) was $626.85/196.10 = 3.20$. From appendix D, the total number of dinners was 1,274.65. Therefore, by substituting these values into the formula for TE_i ,

$$(626.85)(6.5) = (626.85/196.10)(1,274.65) = 4,074.53. \quad (E5)$$

These values are in thousands of dollars because the values of MS_i are expressed in thousands and the unit of A_i is \$1.

The same method is applied to calculate the total expenditures for breakfast, lunch, dinner, and for morning, afternoon, and evening snacks. These are calculated in nominal dollars and in real dollars.

Appendix F: Application of the Calculation Methods in Appendices A to E to Different Data Stratifications

In appendices A to E, the data used for all the calculations consisted of

$$TA_{ijk} = \text{total amount paid for meal or snack } i \text{ by household } j; \text{ on occasion } k; \quad (F1)$$

$$S_{ijk} = \text{eating party size or the total number of people, including the guests of household } j, \text{ eating meal or snack } i \text{ on occasion } k = 1, \dots, N_{ij}; \quad (F2)$$

$$OWF_{ijk} = \text{occasion weight factor associated with each } k, \text{ depending on the eating establishment; and} \quad (F3)$$

$$PF_{ij} = \text{projection factor for each household } j. \quad (F4)$$

In all the preceding calculations, there was no differentiation among the M ($j = 1, 2, \dots, M$) households by demographic characteristics. Moreover, there was no differentiation of the N_{ij} ($k = 1, 2, \dots, N_{ij}$) meal or snack occasions according to the characteristics of the commercial eating establishments. However, the data from the NPD commercial meal and snack purchasing survey include information on the socioeconomic characteristics of a specific household j --namely, regional location, income, household size, life cycle category, education, occupation, and race, among others. Moreover, the data allow classification of each meal or snack purchase by the type of eating establishment, type of food, where the food was eaten, or according to some features of the commercial food facilities (for example, availability of liquor service).

Therefore, for any meal or snack, all the preceding calculations can be applied to specific groupings of households on the basis of common household characteristics (for example, the same income level, same occupation, or same region). Thus, for example, the cost per meal or snack illustrated in appendix A or the total expenditures in appendix E can be calculated for each grouping of similar households.

Moreover, each specific meal or snack occasion k can be classified by the characteristics of the commercial food facility--namely, type of eating place (for example, fast food/drive-in, family-type, atmosphere/specialty, etc.). In this study, the quarterly calculations in the preceding appendices are applied to each eating occasion by type of eating place, as noted in the tables.

Appendix G: Annual Calculations From Quarterly Values

Some calculations in this study are quarterly while others are annual. However, irrespective of the time dimension of the results, the formulas are conceptually the same.

For example, the cost per meal or snack in any quarter or year equals total expenditures divided by the corresponding total number of meals or snacks. This is equivalent to multiplying the cost per meal or snack by the total number of meals or snacks to obtain total expenditures. The latter procedure is used in this study because the cost per meal or snack is calculated first (appendix A).

Similarly, the eating party size per meal or snack occasion in any quarter or any year equals the total number of eaters of a given type of meal or snack divided by the corresponding total number of eating occasions for that meal or snack (appendix C). In this calculation, the total number of eaters equals the total number of meals or snacks because each eater gets a meal or snack (appendix D).

In this study, annual value calculations proceed from the quarterly calculations as follows. Recall from the preceding appendices that the quarterly totals are projected from the 2-week values recorded in the survey by multiplying them

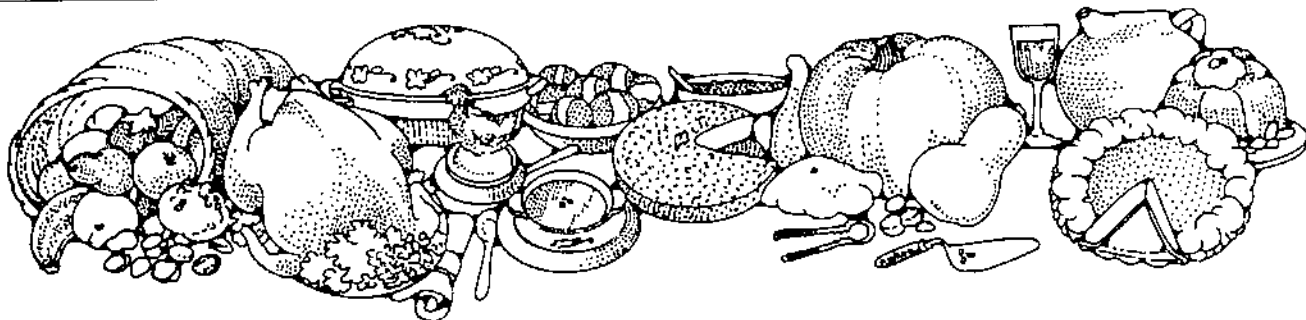
by 6.5 since there are 13 weeks in a quarter, or 6.5 2-week periods. Thus, having already obtained the projected quarterly totals, the annual totals can simply be obtained by adding up the quarterly totals comprising the four quarters in each year. Therefore, the cost per meal or snack in any year equals the sum of the quarterly total expenditures for a given meal or snack divided by the corresponding sum of the quarterly total number of meals or snacks. Similarly, the eating party size per meal or snack occasion in any year equals the sum of the quarterly total number of eaters of a given meal or snack divided by the corresponding sum of the quarterly total number of eating occasions.

Appendix H: Total Households/Families Buying Food Away From Home

Year	Quarter	Total households	Buying households	Market penetration
		-----Thousands-----		Percent
(1)	(2)	(3)	(4)	[(4)/(3)]x100
1982	1	82,335	64,180	77.9
	2	82,651	65,757	79.6
	3	82,934	66,355	80.0
	4	83,241	65,386	78.6
1983	1	83,537	64,365	77.0
	2	83,835	66,213	79.0
	3	84,247	67,633	80.3
	4	84,738	67,129	79.2
1984	1	85,262	66,325	77.8
	2	85,820	68,193	79.5
	3	86,089	68,139	79.1
	4	86,119	67,113	77.9
1985	1	86,188	65,986	76.6
	2	86,262	67,862	78.7
	3	86,462	68,106	78.8
	4	86,589	66,829	77.2
1986	1	86,844	66,661	76.8
	2	87,025	68,993	79.3
	3	87,442	69,107	79.0
	4	87,965	67,742	77.0
1987	1	88,528	67,963	76.8
	2	89,039	69,762	78.3
	3	89,466	69,936	78.2
	4	89,880	69,199	77.0
1988	1	90,300	69,423	76.9
	2	90,631	70,647	78.0
	3	91,040	70,465	77.4
	4	91,509	69,675	76.1
1989	1	91,874	70,568	76.8
	2	92,229	71,228	77.2
	3	92,598	71,875	77.6
	4	92,972	70,463	75.8

Source: NPD CREST Quarterly Household Counts and Penetration Measures.

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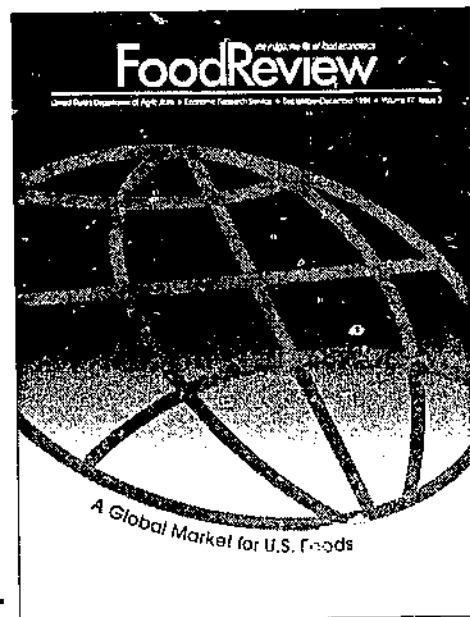
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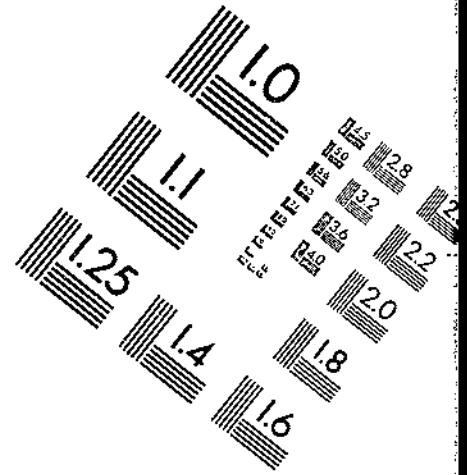
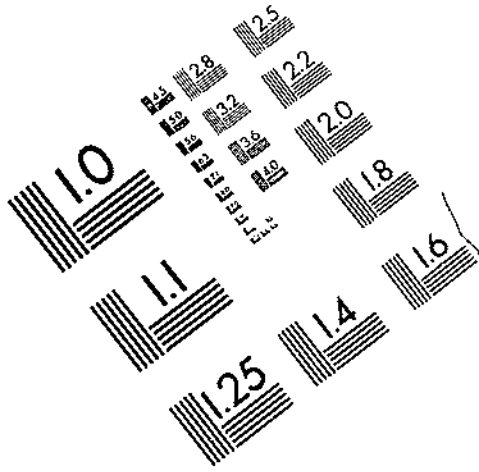


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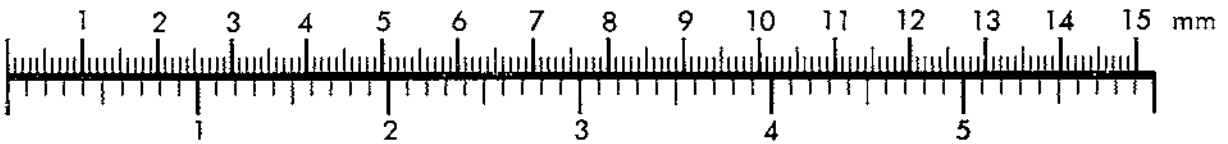
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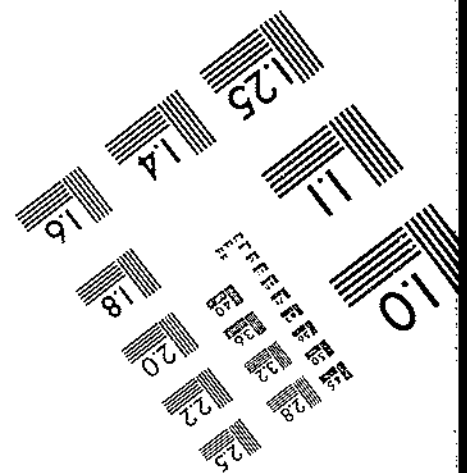
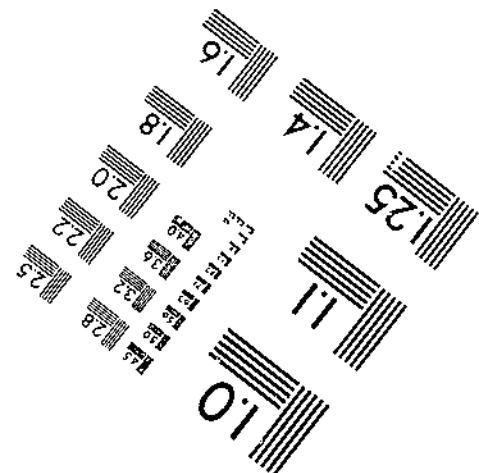
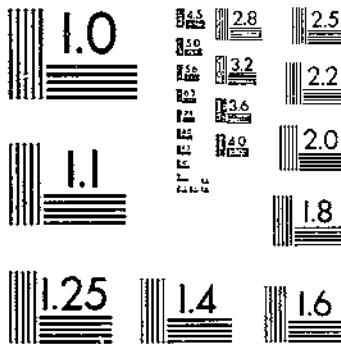
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