

The Distributional Effects of Food Price Inflation in the U.S.



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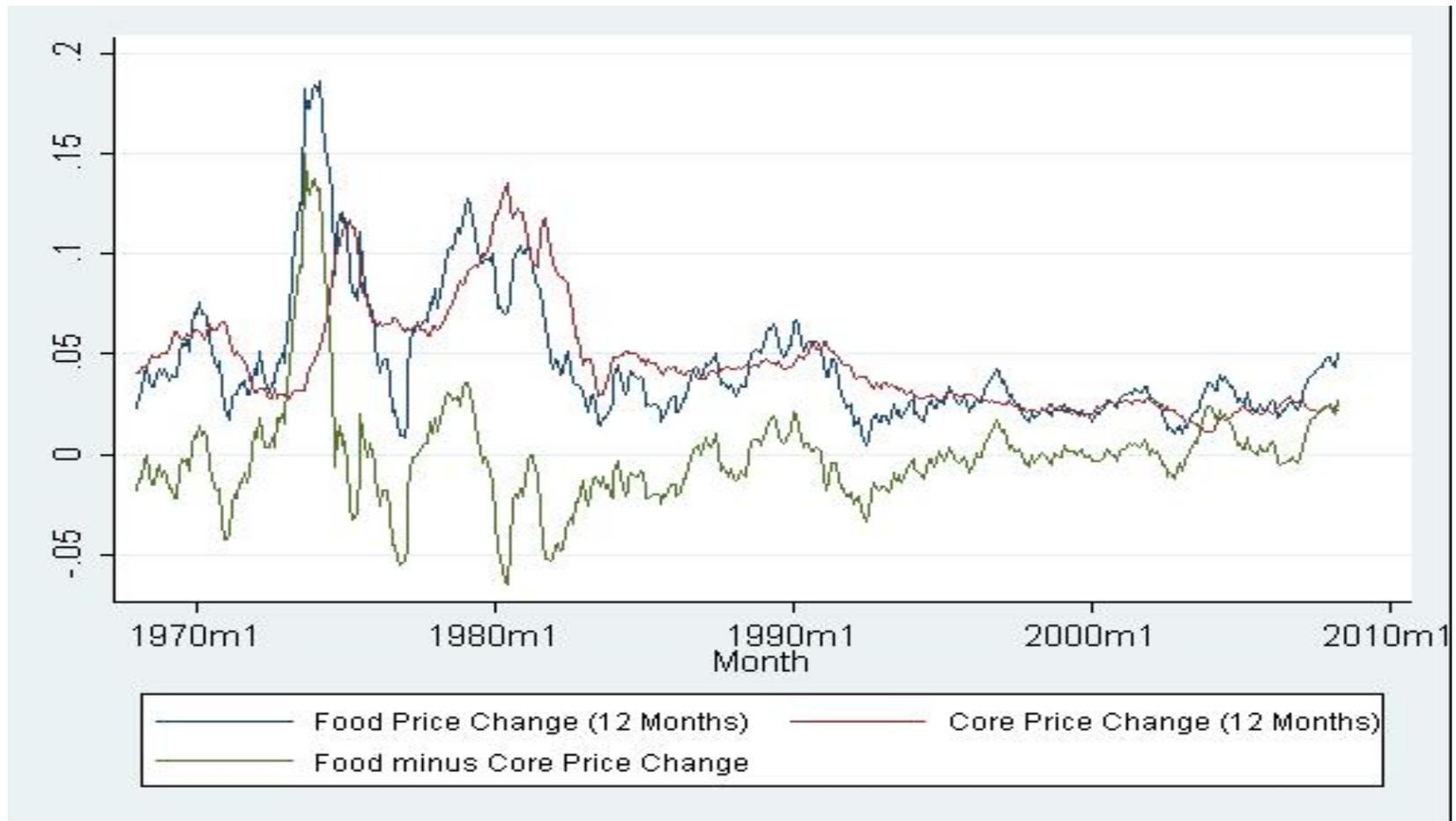
Goal of Project

- Investigate how different types of households are effected by increasing food prices.
 - Income quartile, Food Stamp recipients, elderly
 - Also look at work and poverty status, educational attainment, single mothers
- Part of larger project looking at household inflation experiences and how they differ across demographic groups
 - Chicago Fed IBEX®
 - Main finding of that project is that over long run inflation has been similar for numerous groups
 - Except Elderly
 - Over short run difference that depend on expenditure and price patterns

Household Inflation Depends on What the Household Purchases

- Household inflation is weighted average of inflation of goods purchased by the household where the weights depend on the budget share of items
- Role of any item depends on
 - How much the household purchases
 - How much that item has increased in price
- Importance of food depends on
 - Percent of budget dedicated to food
 - How much the food purchased by the household has gone up in price
 - What kinds of foods the household purchases

Food Price Inflation over Time



Inflation Has Differed Across Food Items and Categories

- BLS calculates price changes for about 120 food items and combinations of items
- Food consumed at home (up 7.5%) vs. Food consumed away from home (up 4.5%) August 2007-August 2008
 - Why? Farm Share of Retail Price, Price sensitivity of consumers, menu costs.

Price Increases by Food Expenditure Category, August 2007-August 2008

	Price Change August 2007-August 2008
Food	6.1%
Food At Home	7.5%
1 Cereals And Cereal Products	11.9%
2 Bakery Products	11.5%
3 Beef And Veal	7.0%
4 Pork	3.4%
5 Other Meats	2.9%
6 Poultry	4.2%
7 Fish And Seafood	7.7%
8 Eggs	6.9%
9 Dairy And Related Products	6.4%
10 Fresh Fruits	10.5%
11 Fresh Vegetables	14.2%
12 Processed Fruits And Vegetables	10.5%
13 Nonalcoholic Beverages And Beverage Materials	3.4%
14 Sugar And Sweets	5.4%
15 Fats And Oils	16.5%
16 Other Foods	5.9%
17 Food Away From Home	4.5%

Some extreme price changes

- ❑ Oranges (-2.9%)
- ❑ Bacon and Related Products (-2.4%)
- ❑ Margarine (+27.0%)
- ❑ Rice (+40.0%)

Note

Core inflation (ex. Food and Energy): 2.5%

Non-Food Inflation (ex. Food): 5.2%

Aggregate Household Expenditure by Food Category, 2006

		Spending by Food Category As a Percent of Total Expenditure	Spending by Food Category As a Percent of Food Expenditure
Food		13.5%	100.0%
	Food At Home	7.4%	54.5%
	1 Cereals And Cereal Products	0.3%	2.3%
	2 Bakery Products	0.7%	4.9%
	3 Beef And Veal	0.5%	3.8%
	4 Pork	0.3%	2.5%
	5 Other Meats	0.2%	1.7%
	6 Poultry	0.3%	2.3%
	7 Fish And Seafood	0.3%	2.0%
	8 Eggs	0.1%	0.6%
	9 Dairy And Related Products	0.8%	5.9%
	10 Fresh Fruits	0.4%	3.1%
	11 Fresh Vegetables	0.4%	3.0%
	12 Processed Fruits And Vegetables	0.4%	3.2%
	13 Nonalcoholic Beverages And Beverag	0.7%	5.3%
	14 Sugar And Sweets	0.3%	2.0%
	15 Fats And Oils	0.2%	1.3%
	16 Other Foods	1.4%	10.6%
	17 Food Away From Home	6.2%	45.5%

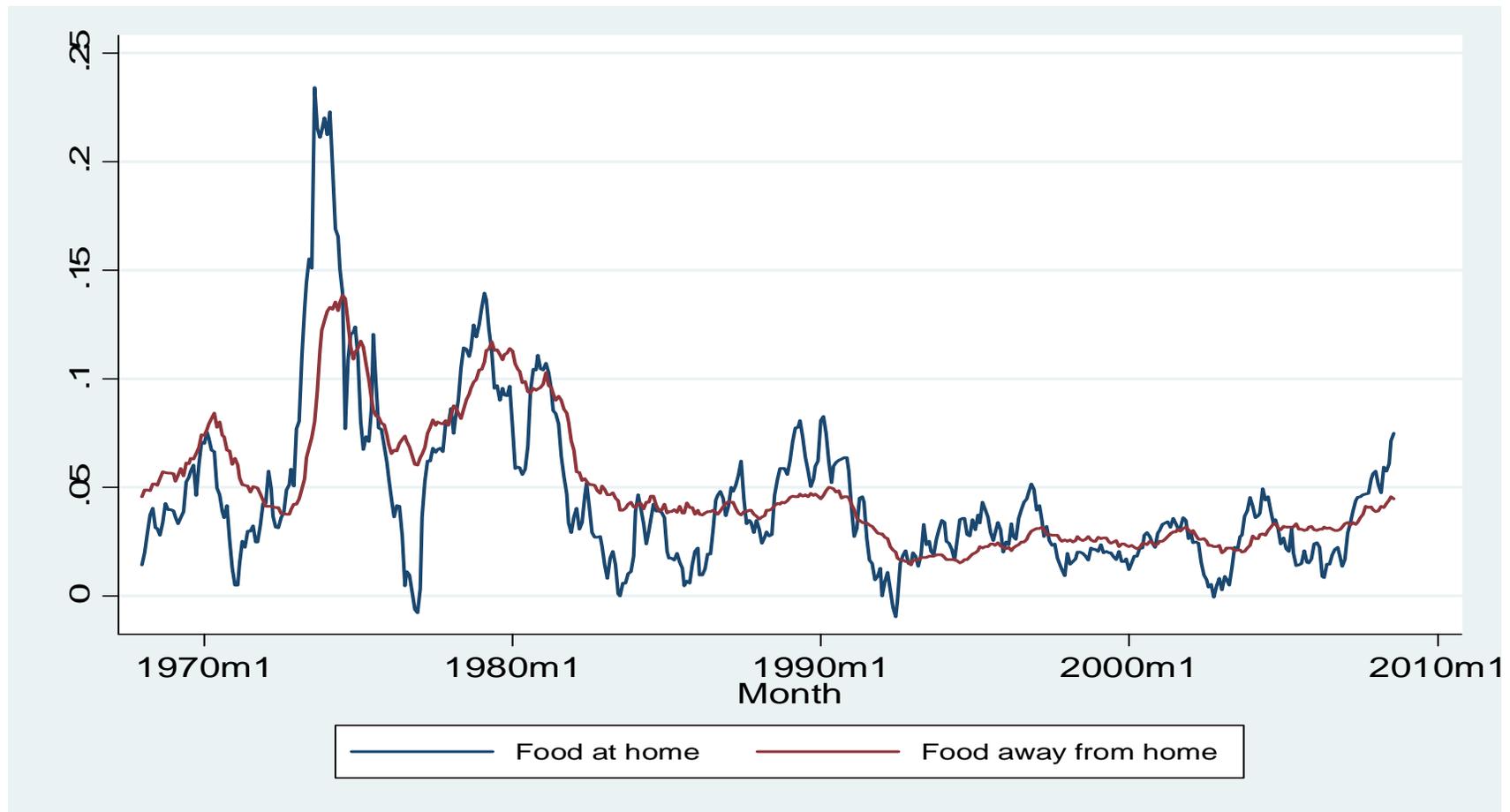
Differing Food Expenditure Patterns, by Household Type

	As a % of Total Expenditure			As a % of Food Expenditures	
	Food	Food at Home	Food Away from Home	Food at Home	Food Away from Home
All	13.5%	7.4%	6.2%	54.5%	45.5%
Bottom Income Quartile	14.9%	9.9%	5.0%	66.4%	33.6%
Second Income Quatrile	14.7%	8.4%	6.3%	57.2%	42.8%
Third Income Quartile	14.1%	7.6%	6.5%	53.8%	46.2%
Top Income Quartile	12.1%	5.6%	6.4%	46.8%	53.2%
Elderly	11.7%	7.1%	4.6%	60.5%	39.5%
Food Stamp Recipients	17.8%	13.3%	4.5%	74.8%	25.2%

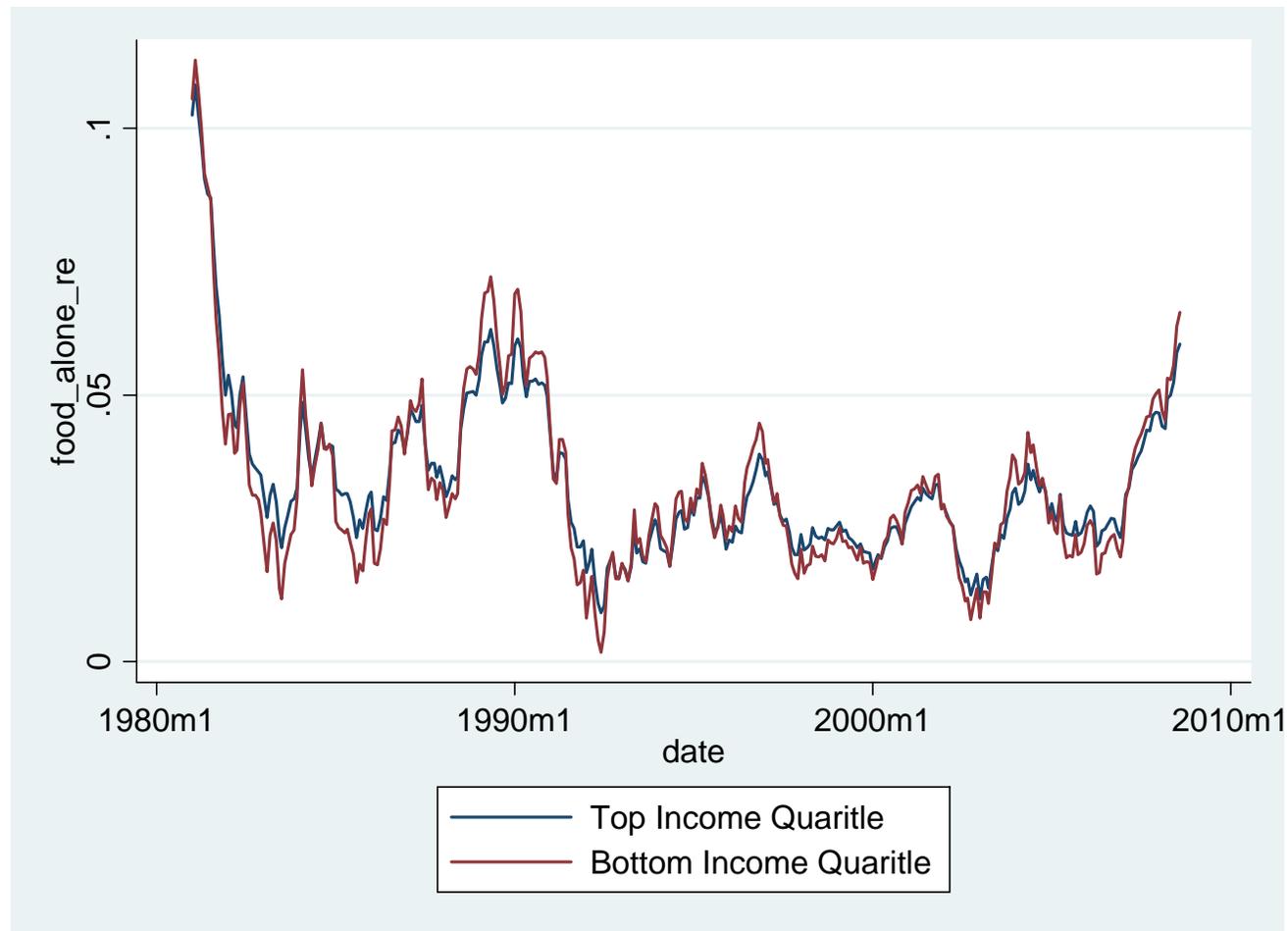
Food Inflation by Household Type

	Food Inflation	Food's Contribution to Total Inflation	Group's Total Inflation
All	6.2%	0.8%	5.5%
Bottom Income Quartile	6.5%	1.0%	5.9%
Second Income Quartile	6.2%	0.9%	5.7%
Third Income Quartile	6.1%	0.9%	5.6%
Top Income Quartile	6.0%	0.7%	5.1%
Elderly	6.5%	0.8%	5.2%
Food Stamps	6.7%	1.2%	6.3%

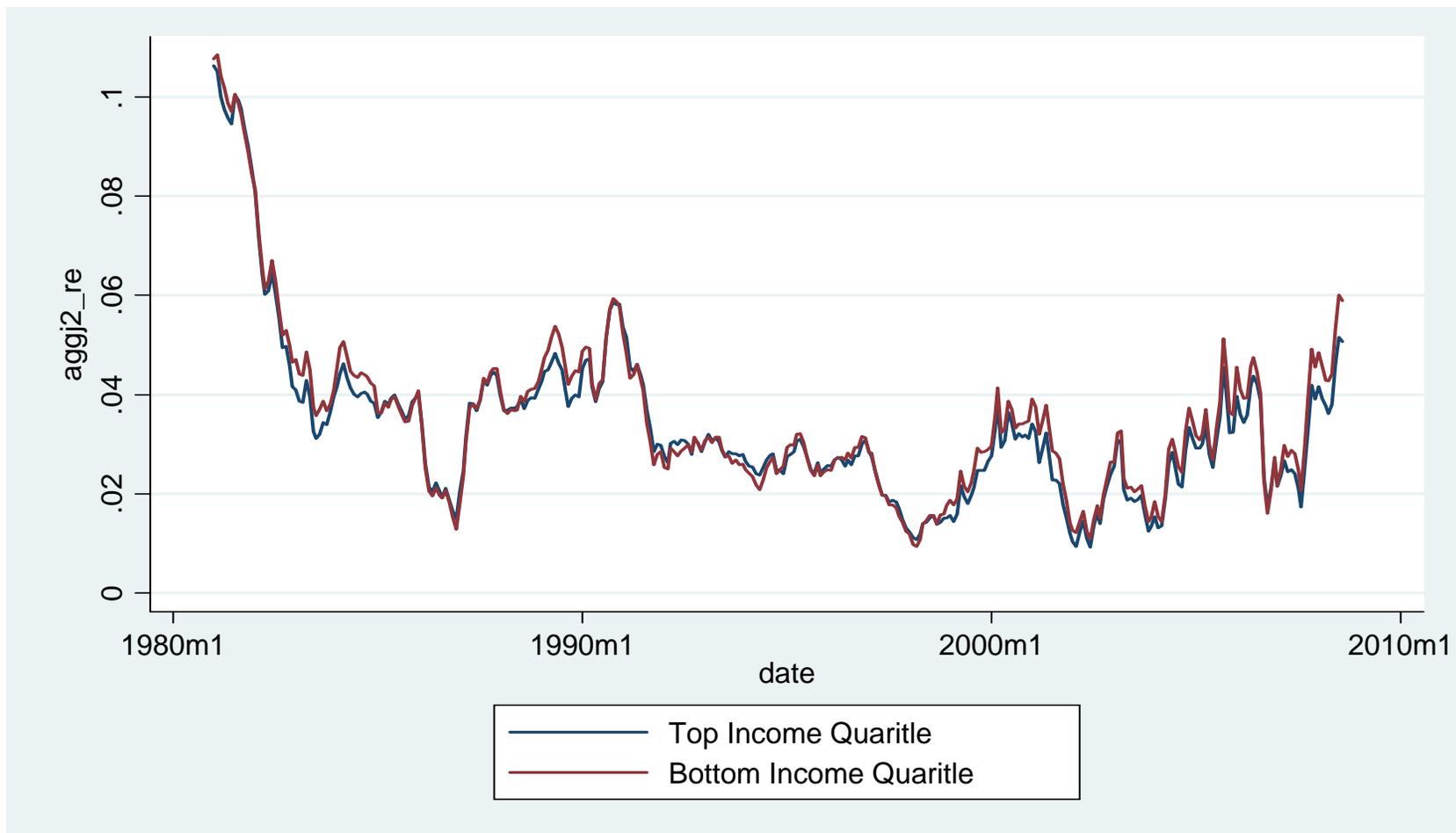
Inflation of Food Away from Home Vs. Food at Home



Food Inflation for High and Low Income Households



Total Inflation for Low and High Income Households



Changing Consumption Patterns

- Unlikely that Americans are eating less
 - Price elasticity ≈ -0.08
- People are eating at home more
 - Survey data
 - Full Service restaurants are struggling and promoting value options
 - Grocery stores doing fine – Kroeger 3.4% increase in profits in Q2.
- People are trading towards less expensive meals out
 - McDonalds (sales store sales in U.S. up 4.5%) and Burger King
 - Promoting value options
- People are trading towards generics and private label brands and discount grocery chains
 - Kroeger said sales of store brands accounted for a record 26% of revenues
 - Name brand food retailers such as General Mills, Kraft, Nabisco and Kelloggs on balance doing well. “It’s a good time to be in food”

Low income people have less leeway to do all of this

- ❑ Already predominately eat at home
- ❑ Dining out is at fast food establishments
- ❑ Frequent low cost supermarket chains
- ❑ Buy generic

General Pattern for US also Holds Abroad

- ❑ Households in poorer countries spend more on food.
- ❑ Food inflation is higher because greater farm share in food prices.

International Comparisons

Table 2.1. Food Price Contribution to consumer price inflation (selected countries)

	Total CPI % change (%)	Food price inflation (%)	Expenditure share of food (%)	Food contribution to total change in CPI (%)
Developing				
Guatemala	8.04	11.6	38.9	4.5
Sri Lanka	19.37	25.6	62	15.9
Botswana	7.7	18.3	21.8	4
India	4.6	5.8	33.4	1.9
Indonesia	6.8	11.4	26.7	3
Pakistan	10.6	18.2	41.5	7.6
South Africa	8.6	13.6	21	2.9
Jordan	5.4	9.1	39.7	3.6
Peru	4	6.4	29.6	1.9
Senegal	5.8	10.9	40.3	4.4
Egypt	9.5	13.5	41.5	5.6
Haiti	9.9	11.8	50.3	5.9
Kenya	15.4	24.6	50.5	12.4
Bangladesh	10.3	14.2	64.5	9.2
China	8.7	23.3	27.8	6.5
Developed				
USA	4	5.1	9.8	0.5
France	2.8	5	16.3	0.8
Germany	2.8	7.4	10.4	0.8
UK	2.5	5.6	11.8	0.7
Japan	1	1.4	19	0.3
Greece	4.4	6.6	17.8	1.2
Spain	4.4	7.1	21.9	1.6
Switzerland	2.4	2.2	11	0.2
Poland	4.3	7.1	30.4	2.2
Sweden	3.1	5.9	13.4	0.8

Percentage change February 2007 to February 2008.

Includes beverages and Tobacco for Sri Lanka, India, and Pakistan

Contribution is equal to (food price inflation x expenditure share) / 100.

Source: OECD Secretariat. For OECD member countries, April 2008. FAO Secretariat for non-OECD countries.

Looking Forward

- ERS forecast of food inflation for 2009
- Prices for food at home and away from home are forecast to grow at same rate
 - Top line food inflation 4.0-5.0%
 - Food away from home 4.0-5.0%
 - Food at home 4.0-5.0%
- No difference in food inflation by group
- Lower income will continue to concentrate more consumption on food