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Time Worked To Earn the Value of Food Varies Widely Around the World

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A survey of 16 capital cities around the world reveals that U.S. workers put in less time to earn the value of a market basket of foods than do most workers elsewhere.

In 1993, residents of metropolitan Washington, DC, had to work an average of 2 hours and 35 minutes to buy the selection of food and beverages (table 1). Brasilia, Brazil, workers had to work the longest—12 hours and 37 minutes. Workers in six other cities (Buenos Aires, Madrid, Mexico City, Paris, Pretoria, and Seoul) had to work at least 5 hours. Ottawa, Canada, was the only city in the sample with a shorter time than metropolitan Washington—but only by 4 minutes.

Relatively low U.S. food prices—the effect of an efficient food production and delivery system—and relatively high wages—the result of a high technology economy—combine to give Americans the edge.

These data are from a study of “time worked in a world capital to earn a market basket of food products”—a ratio of a country’s average wages to the retail cost of a market basket of food in the capital (see box). The analysis reports how long an average person works to

earn enough to buy 15 specific foods—not how much consumers in different countries spend at grocery stores. The selection in the food basket is to maintain a uniform comparison, and is not meant to represent typical diets in the capitals surveyed. Because consum-



Of the capital cities surveyed around the world, people in Brasilia, Brazil, put in the most time working to earn the value of a market basket of foods—a little over 12-1/2 hours. In comparison, residents of metropolitan Washington, DC, had to work an average of a little over 2-1/2 hours to earn the selection of food and beverages.

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Table 1

Time Spent To Earn the Retail Value of Food Varies Widely

Item in the market basket	Bern	Bonn	Brasilia	Buenos Aires	Canberra	London	Madrid	Mexico City
<i>Hours and minutes per pound (or other unit as indicated)</i>								
Sirloin steak, boneless	1:00	0:27	1:04	0:50	0:22	0:37	0:52	0:53
Pork roast, boneless	0:21	0:14	1:16	1:23	0:10	0:25	0:36	0:55
Broilers, whole	0:08	0:05	0:29	0:24	0:07	0:08	0:13	0:17
Large eggs, dozen	0:18	0:05	0:30	0:37	0:08	0:13	0:15	0:19
Butter	0:19	0:09	0:47	0:50	0:08	0:11	0:28	0:27
Cheddar cheese, Emmenthaler	0:25	0:18	1:08	0:10	0:13	0:18	0:39	0:57
Whole milk, quart	0:05	0:03	0:31	0:17	0:04	0:05	0:07	0:10
Cooking oil, quart	0:14	0:05	0:39	0:49	0:11	0:10	0:25	0:17
Potatoes	0:03	0:02	0:32	0:16	0:05	0:04	0:04	0:23
Apples	0:09	0:07	1:21	1:10	0:12	0:11	0:13	0:23
Oranges	0:07	0:08	0:12	0:54	0:10	0:12	0:10	0:11
Flour	0:05	0:02	0:25	0:18	0:07	0:05	0:07	0:09
Rice	0:09	0:11	0:28	0:59	0:06	0:10	0:17	0:18
Sugar	0:04	0:05	0:24	0:14	0:05	0:06	0:09	0:11
Coffee	0:34	0:40	2:49	2:05	0:59	0:58	0:50	1:27
Total	4:03	2:42	12:37	11:14	3:07	3:52	5:26	7:19

Item in the market basket	Ottawa	Paris	Pretoria	Rome	Seoul	Stockholm	Tokyo	Metro Washington
<i>Hours and minutes per pound (or other unit as indicated)</i>								
Sirloin steak, boneless	0:19	0:51	0:43	0:42	2:11	0:46	1:14	0:21
Pork roast, boneless	0:15	0:30	0:26	0:24	0:25	0:48	0:21	0:24
Broilers, whole	0:05	0:23	0:17	0:14	0:13	0:18	0:09	0:04
Large eggs, dozen	0:05	0:14	0:18	0:14	0:21	0:15	0:05	0:05
Butter	0:12	0:18	0:31	0:21	0:45	0:14	0:14	0:09
Cheddar cheese, Emmenthaler	0:23	0:23	0:43	0:27	1:11	0:27	0:22	0:18
Whole milk, quart	0:06	0:08	0:14	0:08	0:16	0:05	0:05	0:04
Cooking oil, quart	0:10	0:19	0:27	0:08	0:21	0:31	0:09	0:07
Potatoes	0:03	0:07	0:11	0:05	0:16	0:03	0:08	0:04
Apples	0:08	0:10	0:22	0:10	0:31	0:09	0:10	0:08
Oranges	0:08	0:12	0:09	0:13	0:15	0:09	0:12	0:07
Flour	0:04	0:10	0:14	0:04	0:06	0:06	0:05	0:03
Rice	0:08	0:18	0:20	0:15	0:22	0:14	0:09	0:06
Sugar	0:02	0:11	0:13	0:08	0:09	0:06	0:06	0:05
Coffee	0:24	1:07	2:45	1:09	1:34	0:34	1:28	0:30
Total	2:31	5:20	7:53	4:42	8:56	4:46	4:57	2:35

About the Data

Comparisons among world capitals of how long people must work to purchase a similar market basket of food provide a sense of the affordability of food in different capitals. However, the extent to which a country taxes wages and supplements personal income also affects the affordability of food. International differences in these and other social policies make comparisons across countries difficult.

USDA's Foreign Agricultural Service collected grocery store food prices in 16 world capitals: Bern, Switzerland; Bonn, Germany; Brasilia, Brazil; Buenos Aires, Argentina; Canberra, Australia; London, England; Madrid, Spain; Mexico City, Mexico; Ottawa, Canada; Paris, France; Pretoria, South Africa; Rome, Italy; Seoul, South Korea; Stockholm, Sweden; Tokyo, Japan; and metropolitan Washington, DC.

The "market basket" consists of 15 food products. Most foods in the basket are minimally processed products (such as milk,

cooking oil, and cheddar cheese), and a few are unprocessed commodities (such as potatoes and apples). The cost of the individual foods and the total basket are based on 1-pound quantities of rice, flour, boneless sirloin steak, boneless pork roast, whole broilers, butter, cheddar cheese, potatoes, apples, oranges, coffee, and sugar; a quart of cooking oil and whole milk; and a dozen large eggs.

Wages in this study are based on data from the International Monetary Fund and the International Labor Organization. (Wages for Argentina and Brazil are based on data from a government publication and a private research company, respectively.) Wages are an average across industries in each country. These country averages are used as proxies for wages in the capital, because wage rates were not available for capitals. Individuals whose wages are significantly higher (or lower) than the country's average would need to work less (or more) time to buy the market basket of foods.

and Seoul had to work the longest to buy the market basket of food. Consumers in Brasilia and Buenos Aires had to work about 10 and 9 hours more, respectively, than people living in metropolitan Washington, DC, to buy the same basket of foods. Both Brazil and Argentina have experienced hyperinflation over the past several decades, with food prices rising faster than wages.

Consumers in Seoul, South Korea, had to work almost 3-1/2 times as long as consumers in metropolitan Washington, DC, to buy the market basket. Higher prices for the meat and dairy products included in the basket account for part of this difference. Also, South Korea's average wages are about half of America's wages.

Even though prices in Mexico City for the meat and dairy products are very similar to prices in the metropolitan Washington area, Mexicans had to work nearly 2-1/2 times longer than Americans to earn these foods. This is because average Mexican wages are a little more than a quarter of American wages.

High Wages Can Counter High Food Prices

Of the 16 cities in the study, the market basket of foods cost the most in Tokyo, Japan. The grocery bill for the items amounted to \$59.21 in Tokyo, almost 3-1/2 times more than in the metropolitan Washington area (table 2). The price of rice in Tokyo in 1993 was a little under 3 times that in metropolitan Washington, and prices for steaks and coffee beans in Tokyo were the highest of the cities surveyed.

However, high wages for Japanese workers result in consumers in Tokyo working just under 5 hours to buy the market basket of food (about twice as long as the metropolitan Washington, DC, consumers). Wages for the average

ers will purchase foods that are relatively cheaper in their countries, this study considerably overstates the differences in hours actually worked to buy food.

Wages and Food Prices Determine Ratios

The amount of time people in a city must work to purchase the food basket depends on the relationship between the wages they earn and the prices they face in the grocery store. When food prices are

high relative to wages, people will need to work longer than those in cities with smaller wage-to-food-price ratios. For example, consumers in Paris and Madrid had to work almost 5-1/2 hours to earn the market basket of food, while consumers in Bonn had to work just 2 hours and 42 minutes. People in London and Rome spent less time working to earn the value of the market basket than did those in Paris and Madrid.

Of the 16 cities in the study, consumers in Brasilia, Buenos Aires,

Table 2

Average Retail Food Prices Also Vary

Item in the market basket	Bern	Bonn	Brasilia	Buenos Aires	Canberra	London	Madrid	Mexico City
<i>U.S. dollars per pound*</i>								
Sirloin steak, boneless	15.01	5.39	1.21	2.27	3.03	4.91	5.63	2.40
Pork roast, boneless	5.23	2.73	1.43	3.75	1.40	3.23	3.94	2.64
Broilers, whole	1.99	1.05	.55	1.10	1.03	1.08	1.40	.84
Large eggs, dozen	4.49	1.08	.57	1.67	1.13	1.71	1.66	.93
Butter	4.83	1.84	.90	2.27	1.08	1.45	3.02	1.30
Cheddar cheese, Emmenthaler	6.15	3.68	1.28	.45	1.82	2.32	4.23	2.76
Whole milk, quart	.55	.30	.25	.32	.27	.27	.32	.20
Cooking oil, quart	3.66	1.03	.76	2.30	1.56	1.35	2.89	.87
Potatoes	.40	.19	.26	.30	.28	.22	.19	.47
Apples	1.12	.58	.66	1.36	.70	.63	.60	.48
Oranges	.82	.66	.10	1.06	.56	.70	.47	.22
Flour	1.11	.91	.23	1.14	.42	.54	.78	.38
Rice	.62	.21	.21	.34	.36	.27	.35	.18
Sugar	.48	.45	.20	.27	.27	.35	.43	.22
Coffee	4.09	3.42	1.37	2.43	3.48	3.26	2.34	1.80
Total	45.94	22.31	9.22	18.78	15.86	20.57	25.65	14.65

Item in the market basket	Ottawa	Paris	Pretoria	Rome	Seoul	Stockholm	Tokyo	Metro Washington
<i>U.S. dollars per pound*</i>								
Sirloin steak, boneless	3.19	6.37	2.22	5.30	9.90	8.44	21.14	3.39
Pork roast, boneless	2.49	3.79	1.33	3.06	1.87	8.75	6.00	3.84
Broilers, whole	.89	2.86	.87	1.76	1.00	3.29	2.57	.63
Large eggs, dozen	.83	1.71	.93	1.77	1.62	2.68	1.35	.82
Butter	2.11	2.19	1.60	2.65	3.38	2.59	4.00	1.45
Cheddar cheese, Emmenthaler	3.87	2.85	2.21	3.38	5.40	4.97	6.32	2.89
Whole milk, quart	.46	.44	.32	.44	.54	.39	.60	.25
Cooking oil, quart	1.83	2.42	1.47	1.01	1.63	5.86	2.60	1.24
Potatoes	.25	.35	.24	.25	.52	.24	1.00	.29
Apples	.63	.54	.48	.56	1.01	.70	1.25	.58
Oranges	.63	.63	.21	.70	.48	.70	1.46	.49
Flour	.35	.52	.30	.22	.18	.51	.58	.19
Rice	.63	.99	.44	.81	.70	1.06	1.12	.38
Sugar	.15	.57	.30	.42	.30	.47	.76	.36
Coffee	1.93	3.59	3.67	3.75	3.06	2.66	10.72	2.03
Total	18.71	27.46	15.20	24.50	29.74	38.39	59.21	17.64

Notes: Inflation-adjusted 1993 data, converted to current exchange rates. *Per pound or other unit as indicated.

worker in Japan are a little over 1-3/4 times the wages of an average U.S. worker.

Similarly, relatively high wages in Bern, Switzerland, allow consumers to work less time (4 hours and 3 minutes) to buy the market basket than people in many of the other cities surveyed, even though Bern is the second most expensive city for buying the market basket.

Real Cost of Market Basket Less in 1993

Consumers in metropolitan Washington worked 16 minutes less time in 1993 than in 1985 to earn the market basket of foods, mainly because the inflation-adjusted price of the total basket dropped almost 22 percent. Pork roast and whole milk were the only foods in the basket for which consumers in the metropolitan Washington area had to work longer to purchase. They worked less in 1993 for 10 of the remaining foods.

Of the countries included in the study, only the people in Pretoria,

South Africa, and Canberra, Australia, had to work longer in 1993 than in 1985 to buy the market basket. In Pretoria, for example, consumers worked 7 hours 6 minutes in 1985—47 minutes less than in 1993. Steep rises in retail prices for dairy products, eggs, broilers, flour, potatoes, and sugar in Pretoria were not off-

set by similar wage increases, thereby contributing to this trend.

The time consumers in Mexico City and Brasilia spent working for the market basket shrank more than for the other cities between 1985 and 1993 (table 3). In Mexico City, employees worked 5 hours and 27 minutes fewer in 1993 than in 1985 to purchase the market basket, and residents of Brasilia worked 9 hours and 5 minutes fewer. This trend was caused by inflation-adjusted wages rising in both countries. Declining inflation-adjusted prices for the foods in the market basket also contributed to this trend in Mexico City.

If the U.S. food production and delivery system remains efficient and the wage structure remains strong, U.S. workers will continue to work fewer hours to purchase the market basket of food than will most other workers in the world.

For workers in cities with high ratios of wages to food prices to be able to work less for the market basket, earnings must increase faster than food prices. ■

Table 3

Time Spent Earning the Market Basket Has Declined Significantly Between 1985 and 1993

Capital city	Change in time spent by workers to earn the retail value of market basket foods
	Percent
Bern	-15.7
Bonn	-6.5
Brasilia	-72.0
Buenos Aires	-58.2
Canberra	+31.7
London	-17.7
Madrid	-25.9
Mexico City	-74.5
Ottawa	-8.3
Paris	-3.2
Pretoria	+25.9
Rome	-1.5
Seoul	-63.7
Stockholm	-16.2
Tokyo	-21.5
Metro Washington	-10.1

Note: 1985-93 data, except Canberra values, which are based on 1993 wages and 1992 food prices.