Measuring the Cost of Living; Indicators are Imperfect Tools

by Brian N. Rae and James R. Wilson

The cost of living in Alaska and in its various far-flung communities is a topic brought before Alaska Department of Labor economists almost daily.

Of all the acronyms that have been created by this nation's governmental bureaucracy, few are better known than the CPI, the Consumer Price Index. Nearly every American who earns and spends dollars has some idea as to what the CPI is and how it is used. Still, many misconceptions abound concerning this and other indicators which attempt to compare the costs of living among various places and times.

Cost of Living Comparison Process Not Straight Forward

Preparing a cost of living comparison among different cities seems straightforward enough. Isn't it a simple task to find the costs of a home in different cities, the

Table 1

Consumer Price Index – Urban Consumers
All Items and Selected Components
U.S. & Alaska

	All Items				All Items Less Shelter				Housing		Medical		Food & Beverage	
Year	U.S. annual average	Percent change	Anchorage annual average	Percent change	U.S. annual average	Percent change	Anchorage annual average	Percent change	U.S. annual average	Anchorage annual average	U.S. annual average	Anchorage annual average	U.S. annual average	Anchorage annual average
1960	29.6		34.4											
1965	31.5	6.4%	35.3	2.6%										
1970	38.8	23.2	41.1	16.4										
1975	53.8	38.7	57.1	38.9										
1980	82.4	53.2	85.5	49.7	82.9		84.7		81.1	85.9	74.9	78.8	86.7	89.7
1981	90.9	10.3	92.4	8.1	91.0	9.8%	92.0	8.6%	90.4	92.5	82.9	86.9	93.5	94.3
1982	96.5	6.2	97.4	5.4	96.2	5.7	96.3	4.7	96.9	98.2	92.5	94.8	97.3	97.2
1983	99.6	3.2	99.2	1.8	99.8	3.7	99.9	3.7	99.5	99.0	100.6	99.7	99.5	99.7
1984	103.9	4.3	103.3	4.1	103.9	4.1	103.8	3.9	103.6	102.7	106.8	105.5	103.2	103.2
1985	107.6	3.6	105.8	2.4	107.0	3.0	107.5	3.6	107.7	103.0	113.5	110.9	105.6	106.2
1986	109.6	1.9	107.8	1.9	108.0	0.9	111.2	3.4	110.9	102.6	122.0	127.8	109.1	110.8
1987	113.6	3.6	108.2	0.4	111.6	3.3	115.1	3.5	114.2	97.5	130.1	137.0	113.5	113.1
1988	118.3	4.1	108.6	0.4	115.9	3.9	117.8	2.3	118.5	95.4	138.6	145.8	118.2	113.8
1st half 1988	116.8		108.4		114.4		117.0		117.2	95.8	136.5	143.0	116.5	113.5
1st half 1989	122.7	5.1	110.9	2.3	120.4	5.2	121.4	3.8	121.7	95.8	146.3	153.1	123.6	116.4

Notes: The most current Consumer Price Index data available for Alaska is for the first half of 1989.
For comparability, data for the first half of 1988 is given to show the percentage change over the year.

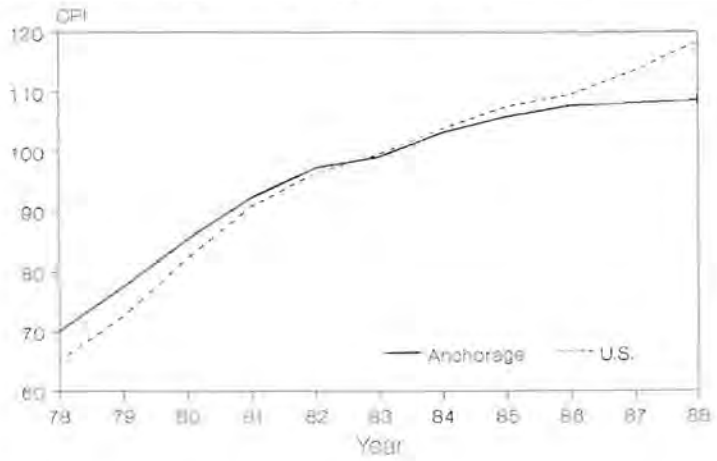
Data unavailable for components between 1960 and 1979.

costs of food, of medical care, and all the things an average person consumes? Unfortunately, there are many different things to consider when comparing costs of living. And each survey can look at costs in only one way.

This article explains how the imperfect science of measuring 'cost of living' is gauged using two types of surveys, spatial and temporal. Further, this article explains five different cost of living surveys: the Consumer Price Index, the American Chamber of Commerce Researchers Association's Intercity Cost of Living Index, the University of Alaska's Cost of Food at Home study, Runzheimer International's Living Costs Index, and the Alaska School District Profiles and Differential Study.

Figure 1

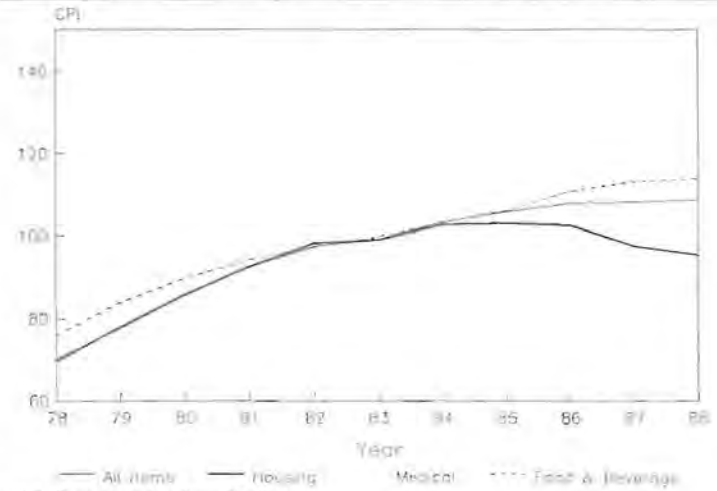
Consumer Price Index – Urban Consumers U.S. & Anchorage (1982-1984 = 100)



Source: Alaska Department of Labor, Research & Analysis Section.

Figure 2

Consumer Price Index – Anchorage All Items & Selected Items (1982-1984 = 100)



Source: U.S. Bureau of Labor Statistics.

Starter's Glossary: Market Basket, Reverse Pricing, Forward Pricing, Spatial Survey, Temporal Survey

One of the first considerations in creating a survey is determining the target population, the people for whom the cost of living index is being computed. If a narrowly defined population is chosen, the survey will apply only to a small percentage of the population. On the other hand, if a broader population is chosen, the results might not accurately reflect the cost of living for any individual.

The types of goods and services purchased, or 'market basket,' affects the usefulness of the index. If the selected market basket reflects the purchasing pattern of everyone in the target population, there is no concern. This is rarely the case, however. The further the market basket diverges from an individual's purchases, the less applicable the index for that individual.

There are two types of cost of living surveys — spatial and temporal. In a spatial survey, costs of living in different locations are compared at one point in time. In a temporal survey, changes in the costs of living over time are computed for one location.

When conducting a spatial survey there are two ways to prepare the market basket; both are imperfect. 'Forward pricing' is one option. Here, a single market basket is decided upon, and then the goods and services are priced in each community included in the survey. A problem arises if not all the same goods and services are available in each community, or if consumption patterns are different among communities. Still, forward pricing is the one used in all but one of the surveys later explained in this article.

The second pricing technique is known as 'reverse pricing.' One base community is selected, and then other communities are compared to this base. The unique aspect of this technique is that a different market basket

reflecting local consumption patterns is created for each community. The School District Differential Study survey is the only survey later explained in this article which uses the reverse pricing technique.

A market basket must also be determined for temporal surveys. In these surveys, price fluctuations must be recorded over time. Any inflexibility of the market basket creates problems for either temporal or spatial surveys. If relative prices (the ratio of the price of one item to another) are different among places in a spatial survey, or if they change over time in a temporal survey, so too will consumption. If the price of one item rises relative to another, then consumption of the more expensive item will fall. Any changes in consumption will not, however, be reflected in the market basket. For example: if the market basket assures that certain amounts of beef and chicken are purchased, then price fluctuations won't change the amounts purchased even if the price of one rises and the other declines. (A comparable problem occurred with the CPI during the early 1970s when gasoline prices skyrocketed and consumption fell; still, the market basket assumed that a certain quantity of gas continue to be purchased.)

No Study Shows True Cost of Living

These are a few of the factors which must be addressed when quantifying cost of living differences between communities or over time. No study is perfect. None really shows the true cost of living. To some degree they are all compromises. Still, the studies are a useful tool to those trying to understand how much more expensive living costs are in one area compared to another.

The CPI: the Nation's Most Widely Used Measure

The CPI is the most widely used cost of living measure in the U.S., and it is the only temporal cost of living measure explained in this article. The most important point to remember is that the CPI measures the change in costs in one area over time.

The CPI uses prices during a base time period and compares them with other time periods. (In this article the base time period is 1982 through 1984. The average of prices during the base period is given a value of 100.)

Comparing CPI figures over different time periods produces a rate of change; it does nothing, though, to quantify the cost of living.

For specific questions concerning various surveys, readers can contact the authors of this article at the Alaska Department of Labor's Research & Analysis Section, or they can contact any one of the following groups:

Alice Klein
American Chamber of Commerce Researchers Assn.
c/o Louisville Area Chamber of Commerce
One Riverfront Plaza
Louisville, KY 40202

(Annual subscription rate for the quarterly ACCRA report: $75.)

Dennis G. Taylor
Runzheimer & Co.
Living Cost Division
Runzheimer Park
Rochester, WI 53167

('Runzheimer Living Cost Standards' is available for purchase through the company.)

For information on the 'Cost of Food at Home for a Week' survey, contact:

Marguerite Stetson
c/o University of Alaska
Cooperative Extension Service
Fairbanks, AK 99701

For information on the Alaska School District Profiles & Differential Study, contact:

Legislative Budget & Audit Committee
Alaska State Legislature
P.O. Box V
Juneau, AK 99811

For information on the Consumer Price Index, contact:

U.S. Department of Labor
Bureau of Labor Statistics
71 Stevenson Street
P.O. Box 3766
San Francisco, CA 94119

Table 2

American Chamber of Commerce Researchers Association
Intercity Cost of Living Index
Ranking of 20 Highest Index Cities
1st Quarter 1989

City	Total index	Grocery	Housing	Utilities	Trans-portation	Health	Miscel-laneous
Nassau-Suffolk, NY	156.7	113.3	245.6	182.6	128.6	144.5	121.6
KODIAK, AK	152.7	152.6	172.8	183.3	115.4	186.1	135.2
KETCHIKAN, AK	144.8	139.0	145.0	139.5	137.6	208.7	138.1
Washington, D.C.	129.8	107.5	169.6	127.2	136.5	124.1	112.7
JUNEAU, AK	129.4	125.6	112.7	147.0	128.6	199.9	121.3
Orange County, CA	129.0	104.8	216.6	71.1	109.0	127.6	108.6
FAIRBANKS, AK	128.0	125.6	113.5	127.5	125.1	195.2	125.8
Montpelier-Barre, VT	127.6	111.0	190.1	127.2	105.2	103.7	106.5
Ventura County, CA	127.4	104.8	213.8	66.3	114.9	116.6	107.3
Philadelphia, PA	127.2	107.6	143.7	170.1	112.4	134.9	115.0
Manchester, NH	125.7	106.8	169.4	132.9	121.4	117.3	105.6
Naperville, IL	125.5	102.4	177.7	103.7	117.1	109.7	115.6
San Diego, CA	124.5	102.8	186.4	78.4	125.3	123.0	108.2
Los Angeles County, CA	124.4	104.8	196.2	70.4	108.4	129.1	108.3
San Jose, CA	123.0	103.4	196.3	73.5	105.6	135.1	103.3
Schaumburg, Il	120.3	113.6	162.9	103.4	113.3	111.8	104.1
Springfield, MA	119.9	105.1	167.6	113.2	106.5	108.8	104.2
ANCHORAGE, AK	118.4	128.4	117.1	93.2	109.7	159.2	117.0
Wilmington, DE	117.8	109.7	127.2	138.1	99.0	116.9	116.6
Temecula, CA	116.3	98.3	155.1	100.2	110.2	130.0	103.5
Ranking of Alaska Cities by Category							
Anchorage	18	3	35	175	29	5	5
Fairbanks	7	4	48	13	6	3	3
Juneau	5	4	50	4	3	2	4
Ketchikan	3	2	16	5	1	1	1
Kodiak	2	1	9	1	13	4	2

Source: Intercity Cost of Living Index (268 cities), 1st Quarter 1989, American Chamber of Commerce Researchers Association.

The CPI shows changes over time, so a single CPI number is meaningless. Looking at Figure 1, the plotted lines don't mean, as one might first think, that the average cost of living in Anchorage in 1988 was less than the U.S. average in 1988. It is the slope of the line that is important. The slope shows that the Anchorage CPI rose less than did the U.S. CPI between 1987 and 1988. Likewise, the Anchorage inflation rate was below the U.S. average rate between 1978 and 1983. This is shown in Figure 1 by the steeper slope of the U.S. average line as compared to the Anchorage line.

CPI Usefulness Limited in Alaska

As mentioned earlier, all indices are compromised for various reasons. The CPI is no exception. Anchorage is the only Alaska city included in the CPI because of the high costs involved in collecting and processing the information. This limits the CPI's usefulness for people outside Anchorage if consumption patterns or relative prices are different from those in Anchorage.

For example, much of the state has seen real estate prices fall from their 1985 levels, but Anchorage was the area of the state hardest hit. Table 1 and Figure 2 break out several components of the CPI. Noteworthy is how the housing component in Anchorage has fallen since its 1985 high. Since housing comprises such a large component in the index, this has

Table 3

American Chamber of Commerce Researchers Association
Intercity Cost of Living Index
1st Quarter 1989

	All items index	Grocery items	Housing	Utilities	Trans-portation	Health care	Miscel-laneous goods & services
West							
ANCHORAGE, AK	118.4	128.4	117.1	93.2	109.7	159.2	1.0
FAIRBANKS, AK	128.0	125.6	113.5	127.5	125.1	195.2	125.8
JUNEAU, AK	129.4	125.6	112.7	147.0	128.6	199.9	121.3
KETCHIKAN, AK	144.8	139.0	145.0	139.5	137.6	208.7	138.1
KODIAK, AK	152.7	152.6	172.8	183.3	115.4	186.1	135.2
Salt Lake City, UT	95.9	94.8	84.7	89.0	96.9	105.6	104.6
San Diego, CA	124.5	102.8	186.4	78.4	125.3	123.0	108.2
Seattle, WA	106.4	108.3	108.6	63.0	117.4	140.7	106.9
Southwest							
Albuquerque, NM	102.3	95.8	106.4	100.3	109.1	104.9	100.1
Dallas, TX	103.8	106.2	102.3	106.1	111.5	106.7	98.8
Phoenix, AZ	102.7	98.3	105.6	93.2	101.5	117.6	103.5
Midwest							
Minneapolis, MN	101.7	95.3	112.3	102.3	106.0	102.1	95.4
Omaha, NE	91.9	87.8	88.2	87.6	108.3	87.2	92.5
Saint Louis, MO	98.9	99.7	96.8	108.8	100.0	99.9	95.8
Southeast							
Augusta, GA	98.7	96.0	94.7	99.5	98.0	99.5	102.8
Birmingham, AL	98.8	94.9	95.1	110.2	96.5	92.8	101.8
Louisville, KY	96.4	102.0	90.9	98.6	99.3	87.1	97.2
Atlantic/New England							
Baltimore, MD	107.3	103.4	117.0	106.4	108.4	113.5	100.7
Philadelphia, PA	127.2	107.6	143.7	170.1	112.4	134.9	115.0
Washington, DC	129.8	107.5	169.6	127.2	136.5	124.1	112.7
Wilmington, DE	117.8	109.7	127.2	138.1	99.0	116.9	116.6

Source: Intercity Cost of Living Index (268 cities), 1st Quarter 1989, American Chamber of Commerce Researchers Association.

held down the overall CPI. For those living in Anchorage, the CPI will accurately reflect the change in their cost of living only if their mortgage or rent payments have followed the decline in the housing index. For those who purchased a home several years ago and are locked into a mortgage, their cost of living has risen more in line with the CPI index for all items less housing. (See Table 1.)

Chamber of Commerce's Index — a Shopping List of Goods and Services

The American Chamber of Commerce Researchers Association (ACCRA) produces a quarterly report which compares relative price levels of goods and services for roughly 265 cities in the U.S. For each city in the study, a standardized list of 59 items is priced during a set period of time. The items priced are intended to represent the spending patterns of a typical mid-management level household. After the pricing is finished, items are aggregated by category, and the index numbers are produced. The index's All Cities' Average is always 100 for each reporting period.

The ACCRA index is based on a shopping list of goods and services. Because of the limited sample of items priced, however, differences in the index amounting to less than three (such as

Table 4

American Chamber of Commerce Researchers Association
Intercity Cost of Living Index
1st Quarter 1989

	1 lb. ground beef	1/2 gal. whole milk	1 lb. coffee	House purchase price	Total energy cost	1 gal. gas	Hospital room	Office visit doctor
West								
ANCHORAGE, AK	$1.49	$1.81	$3.36	$117,000	$106.22	$0.97	$406.00	$40.00
FAIRBANKS, AK	1.47	1.83	3.22	102,480	147.24	1.12	305.00	53.00
JUNEAU, AK	1.51	1.74	2.89	112,250	166.08	1.30	380.00	42.80
KETCHIKAN, AK	1.62	1.76	3.48	152,667	167.08	1.30	428.00	59.00
KODIAK, AK	1.76	1.99	3.57	161,023	211.91	1.26	590.00	41.33
Salt Lake City, UT	1.18	1.05	2.64	83,814	94.32	0.86	268.60	32.60
San Diego, CA	1.46	1.05	2.49	183,000	87.52	0.88	374.80	37.23
Seattle, WA	1.47	1.16	3.02	102,370	64.80	0.86	308.40	40.30
Southwest								
Albuquerque, NM	1.20	1.26	2.73	106,658	108.04	0.88	255.94	26.90
Dallas, TX	1.49	1.45	2.23	96,497	117.76	0.87	254.75	32.14
Phoenix, AZ	1.51	1.03	2.58	100,639	101.97	0.81	271.50	34.88
Midwest								
Minneapolis, MN	1.06	1.12	2.86	106,700	111.40	0.90	292.00	26.91
Omaha, NE	1.02	1.10	2.31	86,560	92.21	0.88	199.20	28.40
Saint Louis, MO	1.52	1.41	2.70	96,100	122.19	0.80	230.11	32.00
Southeast								
Augusta, GA	1.56	1.22	2.34	119,705	129.88	0.81	219.60	37.00
Birmingham, AL	1.26	1.35	2.38	90,400	118.39	0.83	215.40	28.60
Louisville, KY	1.41	1.36	2.55	84,020	104.43	0.81	252.20	24.40
Atlantic/New England								
Baltimore, MD	1.41	1.07	2.83	103,200	112.41	0.92	252.20	30.20
Wilmington, DE	1.99	1.08	2.72	272,050	144.42	0.99	390.00	43.50
Philadelphia, PA	1.59	1.15	2.71	213,800	215.46	1.06	250.00	39.00
Washington, DC	1.84	1.06	2.76	119,580	191.85	0.85	397.50	38.40
ALL CITIES MEAN	1.31	1.21	2.65	94,236	110.04	0.90	216.42	26.30

Note: All cities mean is the mean price of all 268 cities in the 1st quarter 1989 survey.

Source: Intercity Cost of Living Index (268 cities), 1st Quarter 1989,
American Chamber of Commerce Researchers Association.

129 vs. 130) are statistically insignificant. Differences in the index amounting to a number greater than three show an actual cost of living difference. Percentage differences measured by the ACCRA index are only a reasonable indication and not a precise measure of the extent of any difference. Although taxes are known to be a part of the actual cost of living, no attempt is made to include state or local taxes in the data.

that the cities of Boston and New York had the highest ACCRA indexes. These two major cities aren't included in the current data.

The Alaska cities included in the ACCRA study have the top ratios for five of the ACCRA index's six major components. (See Table 2.) Kodiak had the highest indexes for groceries and utilities. And Ketchikan was tops for transportation, health care, and miscellaneous.

Index Shows Alaska Housing Costs Aren't High

Housing costs have always been thought of as exceptionally high in Alaska. However, the ACCRA housing index shows that four of the five studied Alaska cities (Kodiak being the exception) don't have high housing costs. In fact, it was in the housing cost index that the Alaska cities were found to have the lowest rankings. On a related note, the Anchorage utilities index was lower than about two-thirds of the cities in the ACCRA study.

Some comparative figures for Alaska cities and other U.S. cities are presented in Tables 3 and 4. Table 3 shows the cost of living indexes, while Table 4 contains actual prices for some of the goods and services in the ACCRA study.

The ACCRA index measures — at one point in time — the difference in cost of living between a specific city and the All Cities' Average.

Unlike the CPI, the ACCRA index doesn't measure change within a city over time; it measures the difference in costs between an individual city and the average of all cities. Since the sample of cities changes over time, results aren't directly comparable for different time periods. However, since the number of cities entering or leaving the survey each quarter is small, the index does provide an intuitive way to see if an individual city's cost of living is becoming increasingly higher or lower than the All Cities' Average.

Anchorage's ACCRA index in the 1st quarter of 1988 was 129.5. Its 1st quarter 1989 index was 118.4. Thus, the cost of living in Anchorage was, as

Table 5

Cost of Selected Items in Various Alaska Communities March 1989

	Cost of food, 1 week	Ratio of food cost to Anchorage average	Ratio of food cost to U.S. average
U.S. average 1/	$94.00	103%	n/a
Anchorage	91.08	n/a	97%
Bethel	144.58	159	154
Cordova	134.09	147	143
Delta	123.68	136	132
Dillingham	150.40	165	160
Fairbanks	94.84	104	101
Galena	156.19	171	166
Gambell	165.75	182	176
Haines	118.10	130	126
Homer	115.28	127	123
Juneau	94.49	104	101
Kenai	106.15	117	113
Klawock	133.84	147	142
Ketchikan	93.43	103	99
Kodiak	116.65	128	124
Mat-Su	95.17	104	101
McGrath	144.53	159	154
Nome	152.54	167	162
Petersburg	120.63	132	128
Sitka	105.44	116	112
Teller	158.41	174	169
Tok	122.02	134	130
Wrangell	106.75	117	114

Notes: Costs are for a family of four with elementary school children.

All sales taxes are included in food and utility costs.

1/ Items in U.S. survey are not directly comparable to those in Alaska survey.

Source: "Cost of Food at Home for a Week," March 1989, University of Alaska Cooperative Extension Service, U.S. Dept. of Agriculture and SEA Grant Cooperating.

Five Alaska Cities in Chamber's Data

Five Alaska cities are presently included in the quarterly ACCRA data — Anchorage, Fairbanks, Juneau, Ketchikan and Kodiak. According to the latest available numbers (1st Quarter 1989), four of these five Alaska cities are among the study's 10 highest cost areas. (See Table 2.) Anchorage, the Alaska city with the lowest ACCRA index, had a cost of living roughly 18% higher than the All Cities' Average. Only one area in the ACCRA study — Nassau-Suffolk, N.Y. — had an ACCRA index higher than all five Alaska cities. One year ago the ACCRA study showed

Table 6

Cost of Food at Home for a Week 1978-1989

	Anchorage	Fairbanks	Percentage of Anchorage average	Juneau	Percentage of Anchorage average	Bethel	Percentage of Anchorage average
Sept., 1978	$76.67	$84.15	109.8%	$73.72	96.2%	$114.05	148.8%
Dec., 1979	85.80	91.92	107.1	77.55	90.4	120.44	140.4
Sept., 1980	88.44	90.54	102.4	85.92	97.2	130.87	148.0
Sept., 1981	86.69	98.47	113.6	93.95	108.4	138.66	159.9
Sept., 1982	77.30	92.09	119.1	99.98	129.3	125.50	162.4
Sept., 1983	81.66	83.79	102.6	88.62	108.5	128.30	157.1
Sept., 1984	84.22	91.26	108.4	91.66	108.8	136.54	162.1
Sept., 1985	89.06	90.08	101.1	106.61	119.7	138.13	155.1
Sept., 1986	87.25	90.61	103.9	87.65	100.5	137.96	158.1
Sept., 1987	88.90	85.12	95.7	88.2	99.3	140.81	158.4
Sept., 1988	90.99	94.74	104.1	92.95	102.2	137.57	151.2
June 1989	95.95	96.74	100.8	97.58	101.7	142.89	148.9

Notes: Costs are for a family of four with elementary school children.

All sales taxes are included in food prices.

1/ Data unavailable

of 1st quarter 1989, 11% closer to the All Cities' Average than the prior year. We cannot infer from this that Anchorage costs have declined. Instead, the All Cities' Average may have increased, or both the Anchorage and the all cities' costs may have risen by different amounts. The ACCRA index only allows us to state that the difference is less. Over the last year the indexes for both Fairbanks and Juneau haven't changed significantly.

The ACCRA index methodology is a forward pricing scheme. It's designed to jibe with spending patterns found in major American urban centers. The data collected in more atypical areas is an attempt to match the items found in the larger 'average' areas. This process tends to ignore typical living costs actually found in the more atypical areas. The items priced in the ACCRA study are those which are most likely to be found in the greatest number of areas studied. For example, the transportation costs in the ACCRA study include items such as bus fare, price of a gallon of gasoline, and automobile wheel balancing.

For many areas in Alaska, such as Juneau, Ketchikan, and Kodiak, a typical living cost may include expensive transportation; in these communities air travel is needed just to leave home. Air fare, which may be a luxury or just one of many options for travel elsewhere in the U.S., is an essential service in most of Alaska. By this example it's seen that the ACCRA index at times understates the true cost differences between some of Alaska's cities and the All Cities' Average.

UA Measures the Cost of Food Bought for Alaska Homes

Comparing the cost of living between communities in Alaska is made difficult by several factors. Many goods and services available in larger cities aren't readily available in some rural areas. The buying habits of urban residents and people of rural communities are different. This means that there are different 'typical' consumer patterns in urban and rural areas, which, in

Cost of Food at Home for a Week 1978-1989

Nome	Percentage of Anchorage average	Kodiak	Percentage of Anchorage average	Kenai	Percentage of Anchorage average	Tok	Percentage of Anchorage average
$118.85	155.0%	1/	1/	$82.48	107.6%	1/	1/
124.62	145.2	1/	1/	100.41	117.0	1/	1/
131.14	148.3	$99.42	112.4%	120.84	136.6	$108.82	123.0%
150.27	173.3	1/	1/	1/	1/	114.80	132.4
149.04	192.8	1/	1/	1/	1/	1/	1/
130.14	159.4	104.94	128.5	86.98	106.5	1/	1/
142.07	168.7	115.97	137.7	87.97	104.5	121.66	144.5
152.41	171.1	108.17	121.5	91.47	102.7	116.19	130.5
142.04	162.8	105.49	120.9	92.78	106.3	124.18	142.3
147.96	166.4	104.39	117.4	96.95	109.1	117.51	132.2
147.69	162.3	116.68	128.2	95.53	105.0	119.69	131.5
155.01	161.6	124.47	129.7	103.12	107.5	134.35	140.0

Source: "Cost of Food at Home for a Week," Sept. 1978 to Mar. 1989, University of Alaska Cooperative Extension Service, U.S. Dept. of Agriculture and SEA Grant Cooperating

turn, complicates attempts at making cost of living comparisons. Also making Alaska cost of living comparisons more difficult are the effects of subsistence activities by some households.

The University of Alaska, in cooperation with the U.S. Department of Agriculture, publishes a quarterly report of food prices to measure how much it costs to feed various-sized families in different locations in Alaska. The report also contains comparative information on some utility and fuel costs. The 'Cost of Food at Home survey' is not a comprehensive measure of the cost of living for Alaska communities. However, it does provide some comparative yardstick for locations not covered by any other cost of living measure.

Table 5 shows the cost of food for a week for a family of four, plus other select costs, for 23 Alaska communities. In Anchorage, the state's largest metropolitan area, the study reports four percent lower costs than the national average. This is misleading because the market basket of food is different in the national study than in Alaska. The Alaska market basket substitutes the less perishable and more widely available canned foods for the more expensive fresh foods used in the lower 49 states.

Anchorage Food Costs Lowest; Highest Costs in Isolated Towns

The food cost study can be put to best use by comparing various communities' food costs within Alaska. The March 1989 figures showed Anchorage having the lowest costs of all the areas surveyed. Food costs in Alaska's other larger cities are fairly comparable to those of Anchorage.

Prior examinations of the food cost data have shown that the most expensive cities are the smaller and more isolated communities. This continues to be true. In places such as Bethel, Kotzebue, and McGrath, the costs are 50% to 70% higher than in Anchorage.

Table 6 is a time series of costs for the last 12 years. This table shows the difference in the cost of food between Anchorage and other Alaska communities. It also shows the changes in costs over time within each of the communities.

The ACCRA index numbers indicate a greater difference in food costs between Alaska and the U.S. than does the Cost of Food at Home for a Week study. This may be due partly to the limited number of items priced in the ACCRA survey. It's certainly due in part to aforementioned differences in the food cost market basket. There are also differences in the groups the two surveys are measuring. The ACCRA survey is designed to measure the budget of a mid-management executive, whereas the food cost study is designed to show the minimum cost of providing a sound diet for families of different sizes.

Table 7

Runzheimer Report – Living Cost Standards
June 1988 Results
(assuming recent home purchase)

	Total living costs	Pct. of standard city	Trans-portation	Pct. of standard city	Housing	Pct. of standard city	Goods & services	Pct. of standard city	Misc. (includes savings)	Pct. of standard city
New York, NY	$41,699	130%	$6,782	179%	$17,259	157%	$9,577	103%	$2,519	120%
ANCHORAGE, AK	37,404	117	4,507	119	15,771	143	10,696	115	1,926	91
Washington, D.C.	37,050	116	4,417	117	15,461	141	9,680	104	2,145	102
San Diego, CA	36,558	114	4,670	123	15,284	139	9,137	99	2,222	106
FAIRBANKS, AK	35,842	112	4,436	117	13,685	124	10,863	117	1,926	91
Boston, MA	35,262	110	4,716	125	13,074	119	9,321	101	2,005	95
JUNEAU, AK	35,240	110	4,288	113	12,883	117	11,022	119	2,076	99
STANDARD CITY, U.S.A.	32,000	—	3,782	—	10,992	—	9,272	—	2,105	—
Seattle, WA	31,746	99	4,334	115	10,460	95	9,464	102	2,390	114
Houston, TX	31,322	98	4,468	118	10,061	92	9,406	101	2,145	102
Mobile, AL	29,435	92	3,571	94	8,407	76	8,784	95	2,476	118

Source: Runzheimer International, Living Cost Division.

1988 Runzheimer Study Conducted for Alaska Department of Labor

Runzheimer International studied the cost of living in 272 areas of the country during June 1988 for the Alaska Department of Labor. Like most of the other surveys discussed in this article, Runzheimer's was conducted with a forward pricing scheme. A 'typical' family was created; they lived in an 'average' city on an income of $32,000 per year.

This $32,000 income, a figure which determined their standard of living, constitutes the main difference between this study and all others in this article. The Runzheimer study takes into account the amount of income necessary to maintain this standard of living in all other cities in the survey and doesn't directly address the differences in the costs of various items. (See Table 7.) The Runzheimer study also takes into account income and property taxes, elements not accounted for in other surveys.

Three scenarios were calculated to compare the levels of income needed to maintain this standard of living in different cities in the lower '49, and in Anchorage, Fairbanks and Juneau. The main difference in the three scenarios was the time of home purchase - - whether the owner had just purchased a home or instead had purchased it one or three years earlier. Like the CPI, the income levels needed to maintain the base lifestyle in Alaska were greatly influenced by this housing component. Those who had just purchased a home needed a significantly lower income than those with an older mortgage since home prices have fallen so much in recent years. The information in Table 7 assumed a recent home purchase, causing a reduction in the amount of income required to maintain the base standard of living in Alaska in comparison with most other areas of the country.

Alaska School District Study Uses Reverse Pricing Scheme

The Alaska Legislative Budget and Audit Committee, while analyzing the distribution of funds to school districts, commissioned a study to quantify the costs of providing educational services in all areas of Alaska. Results of the study were based on a 1985 survey of 2,500 households taken in 91 communities, and 2,100 retail outlets in 54 communities. Two separate cost differentials were determined: the differing costs sustained by personnel

Alaska School Districts Household Price Differentials 1985

	Housing	Food	Transportation	Clothing	Recreation & entertainment	Medical	Miscellaneous	Total personnel differential
Southern Southeast								
Annette Island	0.85	1.10	0.82	1.10	1.05	1.15	1.31	1.01
Craig	0.85	1.10	0.82	1.10	1.05	1.15	1.31	1.01
Klawock	0.85	1.10	0.82	1.10	1.05	1.15	1.31	1.01
Hydaburg	0.85	1.10	0.82	1.10	1.05	1.15	1.31	1.01
Southeast Island	0.85	1.10	0.82	1.10	1.05	1.15	1.31	1.01
Urban Southeast								
Ketchikan	0.95	1.09	0.83	1.23	1.26	1.15	1.09	1.02
Wrangell	0.65	1.04	1.04	1.15	1.06	1.09	0.98	1.00
Petersburg	0.76	1.15	0.94	1.12	1.05	1.09	1.12	1.00
Sitka	0.85	1.18	0.94	1.10	0.97	1.04	1.17	1.02
Juneau	1.01	1.07	0.93	1.14	1.03	1.03	1.13	1.03
Central & Northern Southeast								
Kake	0.84	1.26	0.82	1.10	1.08	1.01	1.25	1.05
Chatham	0.69	1.25	1.00	1.10	1.09	1.04	1.19	1.07
Hoonah	0.53	1.25	0.90	1.10	1.20	0.90	1.22	1.03
Pelican	1.03	1/	1/	1/	1/	1/	1/	1/
Other Southeast								
Haines	0.69	1.21	1.02	1.10	1.40	1.03	1.11	1.02
Skagway	0.83	1.19	0.99	1.07	1.40	1.03	0.98	1.03
Yakutat	0.96	1.58	1.06	0.95	1.33	0.90	1.29	1.21
Prince William Sound								
Cordova	0.90	1.29	1.12	1.41	1.37	1.12	1.29	1.18
Chugach	1/	1/	1/	1/	1/	1/	1/	1.13
Valdez	0.87	1.23	1.11	1.10	1.17	1.06	1.08	1.06
Copper River	1.05	1.27	1.10	0.96	1.18	1.00	1.22	1.13
Anchorage Urban Influence Area								
Anchorage (Base District)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Matanuska-Susitna	0.78	1.00	1.04	1.14	1.00	0.99	0.96	1.00
Kenai Peninsula	0.76	1.12	1.09	1.14	1.09	0.87	1.17	1.01
Kodiak	0.81	1.18	1.22	1.12	1.07	0.97	1.21	1.06
Alaska Peninsula & Aleutians								
Adak	1/	1/	1/	1/	1/	1/	1/	1.32
Pribilofs	1.23	1.37	1.49	1.04	1.06	0.97	1.39	1.32
Aleutian East	1/	1/	1/	1/	1/	1/	1/	1.32
Unalaska	1.23	1.37	1.49	1.04	1.06	0.97	1.36	1.30
Dillingham	1.12	1.42	1.40	1.11	1.18	1.07	1.61	1.30
Bristol Bay	1.02	1.68	1.40	1.11	1.18	1.07	1.67	1.35
Lake & Peninsula	1/	1/	1/	1/	1/	1/	1/	1.35
Southwest	1/	1/	1/	1/	1/	1/	1/	1.35
Yukon & Kuskokwim Delta								
Lower Kuskokwim	1.41	1.47	1.41	1.18	1.27	1.07	1.39	1.39
Yupiit	1/	1/	1/	1/	1/	1/	1/	1.39
Kashunamiut	1/	1/	1/	1/	1/	1/	1/	1.39
Lower Yukon	1.11	1.65	1.55	0.97	1.03	1.17	1.57	1.38
St. Mary's	1.11	1.65	1.55	0.97	1.03	1.17	1.57	1.38
Interior Region								
Kuspuk	1.05	1.61	1.44	1.10	1.16	1.01	1.47	1.37
Iditarod	1.05	1.50	1.44	1.16	1.08	1.01	1.23	1.32
Galena	1.05	1.49	1.42	1.22	1.08	1.01	1.41	1.32
Yukon-Koyukuk	1.05	1.58	1.62	1.22	1.08	1.01	1.36	1.39
Yukon Flats	1.05	1.62	1.36	1.23	1.43	0.94	1.54	1.39
Tanana	1.02	1.59	1.55	0.93	1.08	1.01	1.32	1.32
Interior Road System								
Alaska Gateway	1/	1/	1/	1/	1/	1/	1/	1.10
Delta/Greely	0.92	1.10	1.22	1.22	1.18	1.14	1.21	1.10
Nenana	0.89	1.33	1.28	0.97	1.18	1.08	1.12	1.14
Railbelt	1/	1/	1/	1/	1/	1/	1/	1.14
Fairbanks	0.92	1.02	1.16	1.22	1.08	0.94	1.06	1.03
Arctic								
North Slope	1.39	1.71	1.59	1.12	1.54	1.18	1.63	1.53
Northwest Arctic	1.34	1.59	1.45	0.99	1.19	1.08	1.44	1.41
Nome	1.36	1.60	1.28	1.00	1.06	1.17	1.54	1.41
Bering Straits	1.13	1.64	1.41	0.96	1.12	1.17	1.31	1.34

1/ Data not available

Source: Alaska School District Profiles and Differential Study, Legislative Budget & Audit Committee, Alaska State Legislature.

Summary of Cost of Living Indexes

Survey	Consumer Price Index (CPI).
Type	Temporal, forward pricing.
Population	All urban consumers (CPI-U) or urban wage earners and clerical workers (CPI-W).
Strength	Measures costs in one location over time; the only available inflation measure.
Weakness	Can only compare the change in the cost-of-living for different locations; only available for Anchorage.
Survey	ACCRA Cost of Living Index.
Type	Spatial, forward pricing.
Population	Mid–management level family.
Strength	Compares many locations to a national average.
Weakness	No tracking of changes over time; lacks consistency in price collection.
Survey	Cost of Food at Home Study.
Type	Spatial, forward pricing.
Population	Lower income individuals or families.
Strength	Compares minimum food costs for smaller Alaskan communities excluded from other studies.
Weakness	No good comparison to national data; only looks at food costs, not entire cost of living.
Survey	Runzheimer's Living Costs Index.
Type	Spatial, forward pricing.
Population	Family with $32,000 in income, living in average cost city.
Strength	Considers income needed to maintain a specific standard of living in different cities; includes taxes.
Weakness	Doesn't directly address differences in prices.
Survey	Alaska School District Profiles & Differential Study.
Type	Spatial, reverse pricing.
Population	'Average' consumer in each school district.
Strength	Considers consumption pattern in each area studied; good single site comparison to Anchorage.
Weakness	A one–time study using 1985 data.

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working for the districts, and the costs of maintaining the facilities. For the purposes of this article, only the living costs of school employees will be addressed.

This study is the only one to use the reverse pricing scheme. Consumption patterns were determined for each community, and a unique market basket was prepared. Each market basket was then priced in Anchorage, which served as the base for comparison. (Reverse pricing maintains the standard of living of the study area instead of imposing the base community's standard of living upon it.)

Table 8 shows the ratio of a commodity group's costs in various geographic areas as they relate to the same items' costs in Anchorage in 1985. Anchorage had the lowest costs in the state for most commodities. It's noteworthy that housing was one of the few commodities less expensive outside of Anchorage.

Because the reverse pricing scheme was used, each commodity group has a different 'weight' when the overall cost of living differential is computed. For example, the survey found that 34% of expenditures in Anchorage went for items in the housing group, whereas Wrangell residents, for example, spent only 23% of their income on housing. Since Wrangell housing costs were only 65% as much as comparable housing in Anchorage, and a smaller overall share of Wrangell residents' total expenditures went to housing, costs for housing comprised a much smaller portion of the Wrangell budget than the Anchorage budget.

Summary

Determining the cost of living in an area and how it differs among distinct geographic areas and over time is not as straightforward as one would wish. Although there are no perfect cost of living indices, several different studies do exist. If spatial indices (place-to-place comparisons) are needed, several different studies can assist in answering the cost of living question. For temporal studies (those looking at changes over time), the CPI is the only available index.

One of the first steps in using a cost of living study is in determining its strengths and weaknesses.