

AN EMPIRICAL STUDY OF THE
COST OF LIVING FOR LUMBERTON, NORTH CAROLINA

A Thesis
Presented to
the Chancellor's Scholars Council
of Pembroke State University

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by
Alfredo DiPinto
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"October 15, 1986, John Smith, CEO of the Bendix Corporation announces that their Brake and Drum plants will close down in South Bend, Indiana and move all operations to Winston Salem, North Carolina." "July 11, 1987, Thomas Luger, CEO of Burlington Industries releases information stating that the building of three finishing plants in North Carolina will begin on September 3rd in order to replace the three in New York which will close following this completion." "Lewis Faldmoor, President of the Houston Corporation has announced that plans for the acquisition of 4000 acres of South Carolinian land is near completion. Faldmoor commented that the land will be used for a series of new factories that will be built in the next seven years to compensate for those that will be closed during that time frame." Although these are only hypothetical situations, corporations from all over the United States, primarily from the North, are slowly relocating a majority of their plants and facilities to the South. Examples of these corporations include: Pacific Mills, J.P. Stevens, Abbott Laboratories, Johnson & Johnson, Goodyear, and Firestone.

Why are these industry leaders moving from the once dominant industrial North to the area that some felt was the dwindling South? When one considers such factors as the richness and abundance of resources that are found in the South along with the availability of all types of topographical features and amenities, then there is no question why more and more companies are looking to the South for their development path. Yet this is not the sole reason for industrious growth in the South. Another important factor is that the South, in comparison to the North, has a lower and a more favorable

cost of living. By definition, a Cost of Living is the "average price paid for food, rent, clothing, transportation, and other necessities by a person or family within a given period and the amount of time and labor needed to obtain them."¹ Is an area's relative Cost of Living, an important consideration to corporate executives and analysts confronted with a relocation decision? Are they willing to move and relocate millions and even billions of dollars worth of plants and facilities just because some index concluded that T-bone steak was less expensive per pound in City A than in City B? If one views a cost of living in such a narrow and naive sense, then one could conclude that the index was useless. However, a cost of living index compares not only the price of T-bone steak per pound in a given city, but also looks at such important factors as; the price for housing and apartments, the costs of general utilities in the area, the costs of transportation and health care services, and of course the costs of specific grocery and miscellaneous items.² Along with a comparison of these physical products, a cost of living index can also help government agencies determine welfare guidelines for a particular family in a certain city. For instance, when the Welfare Department establishes an amount of money that should be given to different families in different cities, the agency can take the cost of living index of each city and come up with an amount that would be proportionately equal for each family. Thus if City A had a higher cost of living than City B, then it would be reasonable to allocate more money to the family living in City A than in City B. A cost of living index can also help evaluate the national minimum wage amount. If the Department of Labor were to consider how unfair a national uniform minimum wage is by analyzing

costs of living, then it might change the law so that there would no longer be a national minimum wage but individual minimum wages adjusted according to the city's cost of living (in this idea the Department would need to establish a wage floor and a wage ceiling). So for example, Lumberton's minimum wage would remain at \$3.35 while that of larger cities would increase according to its costs of living.

From this explanation of the index one will notice that it has great relevance and importance to an expanding corporation (in terms of cost efficiency). A corporation can analyze all of the previously mentioned factors and conclude for instance that if housing and utility costs are less expensive in City A than in City B, then that corporation can get away with paying their employees a little less (the reasoning is that the employee does not have to allocate as much of his income toward housing and utilities and will not notice a reduction in salary). Obviously one factor that may hinder a corporation in utilizing this cost efficiency is the existence of unions, but the discussion throughout the paper will concentrate on the South where unions are virtually non-existent.

My main objective in writing this research paper will be to develop a cost of living for the city of Lumberton, North Carolina and compare Lumberton's cost of living to the other cities included in the American Chamber of Commerce Researchers Association (ACCRA) index. This information can be a vital resource for Lumberton's Chamber of Commerce in gauging whether or not Lumberton has the favorable elements that advancing companies and industries seek when relocating plants and facilities. This comparison, if it proves advantageous, can then be

applied not only to Lumberton but to surrounding cities such as Laurinburg, Elizabethtown, Maxton, and Pembroke to determine their marketability. This is yet another reason for the importance of developing a cost of living index for Lumberton.

In order to satisfy the above objective, the following outline of topics will be used:

Section I of this paper will explain the existing sources of consumer cost of living calculations. Emphasis will be placed on the Consumer Price Index and the ACCRA Index.

Section II will concentrate on the methodology used in deriving the calculations for Lumberton's cost of living index. Specifically mentioned is the process for gathering my prices along with the individual item weights and specifications.

The last section, Section III will provide all results and concluding remarks based on this empirical research. Lumberton's cost of living will be compared to Chapel Hill, North Carolina and to other cities included in ACCRA's Index. Based on the Cost of Living for Lumberton, I will advise the Chamber of Commerce on the importance of Lumberton's inclusion in the ACCRA Index.

Before one can analyze and make conclusions about a specific cost of living index, it is important that he or she understand the difference between "differences in price" and "differences in cost of living."³ "Differences in price" indicates how the prices of a fixed market basket of goods and services vary among locations.⁴ "Differences in price" for example would include changes in the price of food, utilities, or clothing for a specific city. "Differences in the cost of living", however, denotes such variables as; "differences in the manner and style of living between locations, including not only diff-

erences in the prices paid for specific items, but differences in the kinds of quantities of goods and services consumed; the availability of cultural and recreational opportunities and the quality and efficiency of transportation services.⁵ For example, it would be very possible for someone relocating from New York to Pembroke to state that the cost of living in Pembroke is higher than in New York. In examining this statement, it is critical to know whether the person is referring to differences in the prices of similar goods between the two cities, or to differences in abstract, nonprice factors that make this person's cost of attaining the same standard of living higher in Pembroke than in New York. To illustrate this example, the same individual relocating from New York to Pembroke will be used. Let us assume that this individual is an avid opera enthusiast, and desires to enjoy a good opera while living in Pembroke. In order to satisfy his want he would have to travel to another city and most likely a city as far away as Atlanta, Washington, or even back to New York. Because of this, the cost of viewing an opera not only entails the cost of the ticket but the transportation cost and a hotel room if he decided to spend the night. Obviously, if he were still living in New York those costs would not be incurred. In this situation, the cost of attaining his satisfaction (his cost of living) would be higher in Pembroke than in New York.

This satisfaction or cost of living is measure by the aid of an index. But what exactly is an index and how is it constructed? An index is commonly viewed as a concept used only by specialists, yet it has great intuitive appeal.⁶ Simply put, indexes are often associated with tools used by specialists in determining or gauging a certain bit of information. However, indexes are formulated such that non-specialists can interpret and use them solely by using their own natural intuitive sense. In more general terms, an index

is a tool that is used to measure the change over time in some value such as income or price.⁷

One familiar index is the Consumer Price Index (CPI). The Consumer Price Index is an index compiled by the Bureau of Labor Statistics of the prices paid by consumers for certain specified goods and services (called a market basket) in a number of cities during a given month. The prices are then compared with the average prices paid during a specified base period.⁸ The base or reference period now used in the CPI is 1967. The reference year is assigned the index number of 100 and the value of the index in all subsequent time periods is thus determined in comparison with 1967 equalling 100.⁹ For example, the consumer price index for all items in 1988 is 342.70.¹⁰ This means that on the average an item that cost \$100 in 1967 would cost \$342.70 in present day dollar value. Expressed in another way, the cost of a specific item today would cost about 3.4 times more than it did in 1967.

The first publication of the CPI dates back to 1921.¹¹ Through many adjustments and changes, the CPI has turned into a tool or source that can be used by specialists and everyday consumers alike. Today, the CPI is considered the nation's most important measure of inflation. It is often used by the Government as well as the private sector to form and evaluate the effectiveness of economic policy.¹² Because inflation affects so many areas of life (the CPI is designed to measure deflation and inflation), the CPI becomes an important factor in public policy decisions ranging from price controls to management of the Federal Budget deficit. The CPI also provides important information for the private sector by helping in investment decision strategies.

The index is also used to adjust the income of more than 60 million persons; these include almost 38 million social security beneficiaries, about 3.3 million

retired military and Federal Civil Service employees and survivors and about 20 million food stamp recipients.¹³ Changes in the CPI also affect the 23 million children who eat lunch at school. Under the National School Lunch Act and the Child Nutrition Act, national average payments for those lunches are adjusted annually by the Secretary of Agriculture on the basis of the change in CPI series, "Food Away from Home".¹⁴ By examining these examples one quickly notices that the Consumer Price Index alone has a great deal of relevance and importance to our society.

Another source of cost of living information is the ACCRA Index. The intent and design of the ACCRA Cost of Living Index is to provide the best possible measure of relative cost of living differentials among cities of all sizes.¹⁵ The originators of the ACCRA Index believe that prices collected at a specified time, and in "strict conformance with standard specifications" can provide researchers with solid information to gauge relative intercity differences in the cost of consumer goods and services.¹⁶ Because consumer goods and services encompass a vast and countless range of items, ACCRA has established its index to price six major categories: Grocery items, Housing, Utilities, Transportation, Health Care, and Miscellaneous goods and Services.¹⁷ Each category is assigned a specific weight, totalling 100, to show its importance in relation to a consumer's spending pattern. In each of these major categories are subcategories. For example, in the Grocery Items Index (carrying a weight of .17 out of 100), items are broken down into meats, dairy products, produce, bakery products, tobacco products, and finally miscellaneous grocery product. The total number of items that are priced in the index is 59. However, no attempt has been made by the originators of the ACCRA Index to determine the extent to which consumers actually purchase the individual items in the index. The 59 items have been selected merely to show intercity price diff-

erences in the categories they represent.¹⁸

The price differential for each item is expressed as the ratio of city prices to average price nationwide.¹⁹ How much each ratio contributes to the Index is determined by the distribution of consumer expenditures among the categories covered by the index. The share of consumer expenditures devoted to the category represented by each item determines that category's importance, or weight, in the index.²⁰ For example, when the final calculations have been made for the Health Care Index for a given city, the resulting total index number is multiplied by the weight assigned to Health Care which is .13. This total is then added to the remaining five category index totals to arrive at the All-Items Index number.²¹

By measuring price levels of specific commodities and services, and by weighing the relative prices of these items to reflect the spending patterns typical of a mid-management household, the index shows relative price levels in participating cities at a given point in time.²² However, the index numbers shown in the ACCRA publications and those arrived at by my research, do not represent actual percentage differences among cities. Therefore, it is not accurate to subtract one city's Index number from another's and conclude that the price differential between those two cities is exactly correct. To show this point in greater detail we can look at the All-Items Index from Baltimore, Maryland (105.5) and that of Lansing, Michigan (107.4). At first sight, one would say that there is a substantial difference between the cost of living in Baltimore than that of living in Lansing. However, because the index numbers are approximations, the differences also are approximations. Small differences, such as the one in this example, usually represent a similar type cost of living between cities. Larger differences allow an observer to notice a greater and more significant difference.

In the results section of my research, Section III, I will further explain the process of differentiating between costs of living indexes for two cities, specifically Lumberton and Chapel Hill and other indexes for selected cities in the United States.

The first step in this investigation of the Cost of Living Index for the city of Lumberton was obviously to sit down and analyze the items that were going to make-up my results. As mentioned in the previous section, the ACCRA Committee established six major components of consumer expenditures; grocery items, housing, utilities, transportation, health care, and miscellaneous goods and services. From these major components, they established the list of items to be priced, and the specifications to go by when pricing (specifications included item name brands, and package size). Exhibit 1.1 in the appendix gives the entire list of items along with the specifications.

The next step was choosing the stores from which the prices were gathered. According to the ACCRA manual, each store used in pricing items should be representative of and cater to a middle income family. Thus convenient stores and upper income oriented stores were avoided so that this stipulation was satisfied. Stores which were used as sources included: Winn Dixie, Food Lion, Harris Teeter, Belks, Eckerds, J.C. Penny, and Family Dollar.

Once the stores were chosen, the next step was to go out and collect the price data. All prices were gathered on three consecutive days, namely Thursday, Friday, and Saturday. Each price for each specific item was then added together and divided by the number of prices for that item to arrive at the average price. For example, the prices for a ten pound bag of potatoes are \$1.69 (Food Lion), \$1.79 (Winn Dixie), and \$1.99 (Harris Teeter). Added together they total \$5.47. \$5.47 divided by 3 equals \$1.82, which is the

average price for a ten pound bag of potatoes for the three grocery stores. This procedure was used for each item and can be further illustrated in the appendix section under Exhibit 1.2.

For each component index (grocery item, utilities, transportation, health care, housing, and miscellaneous goods and services) the average price reported for an item is expressed as a percentage of the average for all reporting cities.²³ The percentage is then multiplied by the item weight to produce that item's contribution to its component index (refer to Exhibit 1.3). The contributions of all items in a component index are summed to produce the component index number.²⁴ Component index numbers in turn are multiplied by their weights to generate their contributions to the All-Items Index, which is the sum of the component index contributions (Exhibit 1.4).²⁵

Since each price, expressed as a percentage of the nationwide average price, is weighted in its component index, and since the component index in turn is weighted for the All-Items Index, ACCRA has expressed the direct contribution of each item to the All-Items Index as the product of item weight and its component index weight (Exhibit 1.5 breaks down these individual weights).²⁶

As was previously mentioned, the ACCRA Cost of Living Index provides reasonable estimates of living cost differentials, exclusive of income taxes, ad valorem taxes, and sales taxes, among a large number of cities.²⁷ "Ad Valorem tax refers to a tax levied according to the value of the property, merchandise, etc... being taxed."²⁸ This research has thus provided the data necessary to compare Lumberton's cost of living to any other city that has been listed in ACCRA's quarterly publication. However, a point that must be reiterated is that when calculations are being compared, any differences

of three or fewer index points are statistically insignificant and this small difference is usually attributed to sampling error.

How then does Lumberton's index compare to Chapel Hill's index (Chapel Hill was chosen at random but has the highest cost of living reported in ACCRA's publication among North Carolina cities). When one analyzes the two cities by population, he or she will notice that Chapel Hill has the advantage by having a population of 32,000 persons compared to Lumberton's 18,500.²⁹ If one were to compare the two by cost of living, you would notice that Chapel Hill is higher in that respect also. Looking at the All-Items Index (which actually is the cost of living), Chapel Hill has an Index of 109.0 compared to Lumberton's 95.5.³⁰ In order to calculate the difference between the two it is not correct to subtract the two numbers and assume that Chapel Hill is 13.5% more expensive to live in than Lumberton. To get a more accurate figure, the following calculation must take place:

$$\begin{aligned} & [(109.0 - 95.5) / 95.5] * 100.0\% \\ & = (13.6 / 95.5) * 100.0\% \\ & = (.143) * 100.0\% \\ & = 14.3\% \end{aligned}$$

Source: ACCRA Index Manual. 1984, p.1.7

Although the difference between 13.5% and 14.3% is only .8% the latter figure is closer and more accurate calculation (it is actually an approximation because the index is based on a sampling technique).

How significant then is the 14.3% difference between the two cities? In order to understand the real difference, it is necessary to look at and compare each item that composes the index separately for each city. In other words one would need to look at each index (grocery, utilities, transportation, housing,

etc..) and see how the two differ.

Let us begin with the Grocery Items Index. I have calculated it for Lumberton and found the index number totalling 94.4. According to the 1987 fourth quarter results, Chapel Hill's total was 95.3.³¹ Obviously this is not a very significant difference and one that can be explained by sampling error. However, a look at a few of the specific items in this index will point out some differences. The following items are those that I found to have the most significant and interesting variances:

<u>ITEMS</u>	<u>CHAPEL HILL</u>	<u>LUMBERTON</u>	<u>DIFFERENCE</u>
Bacon	\$2.69	\$1.56	\$1.13
Bread	.55	.96	.41
Peaches	1.10	.81	.29
Orange Juice	1.11	.71	.40

Next, analyzing the Housing Index we see that Lumberton registers at 94.2 compared to Chapel Hill's 134.9.³² Without a doubt there is a substantial difference between the two figures. In fact using the previous calculation procedure, one will notice that there is a 43.2% difference between the two cities. This is a very important variance and one that would rest heavy on the minds of corporate planners. To break this index down into the parts that make-up the whole we see that:

- 1) An average home price in Chapel Hill (according to established ACCRA specifications) is \$132,000. That same home in Lumberton would cost a consumer \$95,000. This difference of \$37,000 is often more than what a middle income family makes per year in Lumberton.
- 2) The average apartment rent for the city of Chapel Hill was \$439.00. The average for the city of Lumberton is \$292.50. Again this difference would be very critical in decision maker's minds. If this difference is multiplied by 12 months, it accumulates

to nearly \$2000 a year (\$1758).

The difference in this index has the greatest variance among all indexes. What then contributes to this large difference in housing costs? The predominate reason would be that most of the families in the Chapel Hill area belong to a higher social status than those families living in Lumberton. One needs to consider the fact that Chapel Hill has a very high concentration of Ph.D's due to the research triangle. This in itself makes incomes higher. Obviously there are some families in the Lumberton area that would be considered "rich" in Chapel Hill but all in all Chapel Hill would have an edge.

The next analysis concentrates on Lumberton's utilities index, which totals 89.4. In comparison, Chapel Hill has an utilities index of 93.9.³³ This is another case where the variance is too small to be of any real significance.

However, in analyzing the transportation index for the two cities we see another large difference. Lumberton registers at 90.4 and Chapel Hill registers at 110.1,³⁴ a difference of approximately 21.8%. Again, if we look at specifics within the index, we might satisfy any curiosity concerning the difference.

<u>ITEM</u>	<u>CHAPEL HILL</u>	<u>LUMBERTON</u>	<u>DIFFERENCE</u>
Tirebalance	\$6.83	\$4.75	\$2.08
Gasoline	99.2¢	90.4¢	.09¢

The difference in the tirebalance item, though \$2.08, is not very significant unless you have a car that is in need of a constant balancing job. However, consider the fact that gasoline is almost .10¢ a gallon more in Chapel Hill. This fact is obviously very important considering that gasoline (fuel) is the

main resource in transportation. If one were to take the .10¢ difference and multiply it by 15 (the average gasoline tank on an automobile) or 100 (the average gasoline tank on a transfer truck) then he or she would understand that in the long run, .10¢ a gallon is a big variance.

The miscellaneous goods and services index for Lumberton is 97.9 compared to 103.9 for Chapel Hill's fourth quarter report.³⁵ The major difference among the individual items were:

<u>ITEM</u>	<u>CHAPEL HILL</u>	<u>LUMBERTON</u>	<u>DIFFERENCE</u>
Haircut	\$9.00	\$5.00	\$4.00
Shampoo/Dry	19.33	12.33	7.00
Wine	4.76	3.72	1.04

It was interesting to notice that these three items were the only items that had a significant variance from the list of 20 in this index. All other items included in this index were considered irrelevant or did not have a big enough price difference to be mentioned.

The last analysis concentrates on the index for health care and related services. At first one would think that the pattern of Chapel Hill having the higher index number when comparing the indexes would continue. However in this case there was a slight difference in the opposite direction. Lumberton totaled 110.1 while Chapel Hill was listed at 104.7.³⁶ The ironic thing about the difference is that Lumberton was only more expensive when it came to a regular doctor's visit, and was less expensive in the other three items. One reason for this difference may be the fact that there is a greater concentration of doctors and hospitals in the Chapel Hill area than there is in Lumberton and that doctors must keep cost and prices low so as to acquire a percentage of the "market" in the city. When looking at this index as an item by item comparison, we see the following:

<u>ITEM</u>	<u>CHAPEL HILL</u>	<u>LUMBERTON</u>	<u>DIFFERENCE</u>
Hospital room	\$222.06	\$198.00	\$24.06
Doctor visit	27.33	33.33	6.00
Dentist	34.00	33.67	.33
Aspirin	3.32	3.14	.18

Another approach in analyzing Lumberton's cost of living was to compare Lumberton's All-Items Index (total cost of living) with that of all the cities published in ACCRA's publication for the state of North Carolina. The following indexes are reported:

<u>CITY</u>	<u>INDEX</u>	<u>LUMBERTON</u>	<u>DIFFERENCE</u>
Chapel Hill	109.0	95.5	+14.3%
Charlotte	100.5	95.5	+5.3%
Durham	99.3	95.5	+4.1%
Fayetteville	101.9	95.5	+5.9%
Gastonia	94.2	95.5	-1.3%
Greensboro	97.2	95.5	+1.9%
Hickory	96.9	95.5	+1.6%
High Point	98.7	95.5	+3.5%
Raleigh	101.2	95.5	+6.1%
Wilmington	98.6	95.5	+3.4%
Winston-Salem	99.8	95.5	+4.6%

This analysis clearly shows that although the percentage differences are only approximations, Lumberton has the second lowest cost of living index from the cities listed in the publication for the state of North Carolina (NOTE: we have no data about the cities not included in this issue to compare Lumberton with). Another interesting fact was that North Carolina in general had a low and favorable cost of living compared to other states.

I also compared Lumberton's index with the indexes of a few selected cities around the United States. My reasoning is that Lumberton will not

only compete with "inter-state cities" but most often with "inter-country cities" for the privilege of having the new plants and facilities built their town (although companies do rely on a city's cost of living when deciding on relocation they also take other factors into account such as the level and amount of skilled workers, and area's amount of natural resources and even and area's climate).

<u>CITY</u>	<u>INDEX</u>	<u>LUMBERTON</u>	<u>DIFFERENCE</u>
Birmingham, AL	97.3	95.5	+2.0%
Miami, FL	110.6	95.5	+16.0%
South Bend, IN	93.7	95.5	-1.8%
*Boston, MA	152.3	95.5	+59.6%
Manchester, NH	121.4	95.5	+27.3%
New York, NY	150.9	95.5	+58.2%
Columbia, SC	98.1	95.5	+2.8%
**Cookeville, TN	86.2	95.5	-9.6%

* = highest cost of living in publication

** = lowest cost of living in publication

Source: ACCRA Index, 4th quarter

1987, Section I

As the numbers above show, Lumberton has a lower cost of living index compared to these selected cities (except for South Bend and Cookeville). Boston, New York, and Manchester were chosen primarily to show the drastic differences in their cost of livings compared to that of Lumberton's. I am not suggesting that Lumberton should be considered as the best choice in a relocation decision among these cities, but I am suggesting that because of its favorable cost of living, Lumberton is a good candidate.

The original objective of this paper was to develop a cost of living index

for the city of Lumberton and to compare its results to statewide and nationwide indexes for different cities. If the results were found to be favorable I anticipated offering some degree of advice to the area's Chamber of Commerce.

In review of my findings I believe and conclude that because of its cost of living, the city of Lumberton should be included in the next publication of the ACCRA Cost of Living Index. In so doing, Lumberton will further enhance its marketability and that of surrounding cities in southeastern North Carolina.

One important result coming from my research is that the results will not only be used by the Chamber of Commerce, but also be used by the new Economic Development Center at Pembroke State in any capacity that they choose in order to further study this area's marketability.

(EXHIBIT 1.1)

CACORA

INTERCITY COST OF LIVING INDEX

QUARTERLY WORK SHEET

Revised
June 1984

CITY

QUARTER

YEAR

NAME(S) OF STORE(S) SURVEYED AND THEIR PRICES
AVERAGE

Category, Item and Specifications	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27		
Meats																													
1. T-BONE STEAK	lb., USDA Choice	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....
2. ROUND BEEF or BUMBUKUDA	lb., lowest price	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....
3. BACON	10, package, lowest price	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....
4. PATTING CHICKEN	lb., grade A	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....
5. CHICK LITTO	6 1/2 oz. can, Supreme or Chicken of the Sea, packed in oil	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....
Dairy Products																													
6. WHOLE MILK	1/2 gallon carton, homogenized	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....
7. EGGS, Large	dozen, Grade A	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....
8. MARGARINE	lb., lowest price	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....
9. PANGRISH CHEESE, grated 8 oz. canister, Kraft brand	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
Produce																													
10. POTATOES	10 lb. sack, white or red, lowest price	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....
11. BANANAS	lb.	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....
12. HEAD LETTUCE	head (approx. 1 1/2 lb.)	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....
Bakery Products																													
13. BREAD, white	lowest price	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....
14. CIGARETTES	carton, Winston, king size	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....
Misc. Grocery Products																													
15. COFFEE, vacuum packed	1 1/2 lb. Maxwell House, Mills rodgers or Folgers	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....
16. SUGAR	5 lb., lowest price, cane or beet	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....
17. CORN FLAKES	18 oz. box, Kellogg's or Post Toasties	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....
18. SWEET PEAS	403 can (15-17 oz.) lowest price	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....
19. TOMATOES	403 can (15-17 oz.) lowest price	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....
20. PEANUTS, raw	2 1/2 lb. can (approx. 29 oz.) lowest price	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....
21. FACIAL TISSUE	Kleenex brand, 275 count box	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....
22. WASHING POWDER	49 oz. Tide, Bold or Oxyel	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....
23. SHORTENING	Crisco, all vegetable, 1 lb. can	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....
24. FROZEN ORANGE JUICE	6 oz. can, lowest price	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....
25. FROZEN CORN, whole kernel	10 oz. package, lowest price	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....
26. CANNED FOOD	4 oz. jar, strained vegetables, lowest price	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....
27. SOFT DRINK	7 liter bottle, Coca Cola, excluding deposit, if any	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....	\$	.....

(over)

APPENDIX

Category, Item and Specifications PRICES FROM SURVEYED SOURCES AVERAGE

Housing

28. APARTMENT -- Monthly rent of specified type of unit

29. HOUSE PURCHASE -- Sales Price of specified house
 Prevailing interest rate
 Monthly payment (Use table on page 2.15 of Manual)

Utilities

30. ELECTRIC POWER -- A. consumption per month for most recent 12 months in kWh
 Cost at current rates, incl. fuel adjustment factors and base meter charges
 or if calculated on seasonal rates: Summer \$
 Winter \$
 Total \$

31. OTHER ENERGY CONSUMPTION -- Average monthly consumption and cost for most recent 12 months:
 Monthly Consumption & Unit COST
 Natural or Manufactured Gas \$
 Fuel Oil _____ gallons _____
 Wood (as major heating source) _____ cords _____
 Other: _____
 Total cost in \$1 _____

32. TELEPHONE -- Private residential line; customer owns the instruments. Monthly rate, plus: estimated local usage charges, if any, incurred by a family of four; Federal excise tax; any base charges and any access charges to long distance service

Transportation

33. BUS FARE -- Typical commuting fare, 10 miles, one way

34. AUTO REPAIR -- Balance of one front wheel

35. GASOLINE -- One gallon, unleaded regular, best brand, cash purchase, including all taxes, at self-service pump, if available

Health

36. HOSPITAL ROOM -- Semi-private, daily charge

37. DOCTOR OFFICE VISIT -- General practitioner

38. DENTIST OFFICE VISIT -- Teeth cleaning and inspection; or X-ray or fluoride treatment

39. ASPIRIN -- Bayer brand, 100-tablet bottle

Misc. Goods & Services

Fast Food Restaurants:

40. HAMBURGER SANDWICH -- 1/2 lb. beef patty with pickle, onion, mustard and ketchup. Use McDonald's if available

41. PIZZA -- 12" - 13" thin crust reg. cheese pizza. Use Pizza Hut, Pizza Inn or a Shakey's where available

42. FRIED CHICKEN -- Thigh and drumstick, with or without breading, whichever is lowest cost. Use Church's or Kentucky Fried Chicken where available

43. MAN'S BARBERSHOP HAIRCUT -- No styling

44. WOMAN'S SHAMPOO, TINK & BLOW DRY

45. TOOTH PASTE -- Crest or Colgate, 4-7 oz. tube

46. SHAMPOO -- Johnson's Baby Shampoo, 11 oz. container

47. DRY CLEANING -- Man's two-piece suit

48. MAN'S DRESS SHIRT -- Arrow, Eley or Van Heusen, white, long sleeves, plain collar, cotton/polyester blend, size range 15/32-18/34

49. BOY'S UNDERWEAR -- Package of three briefs, cotton, size range 10-14, lowest price

50. ADULT DENIM JEANS -- Levi's brand, straight leg, size range 28/30-34/36

51. MAJOR APPLIANCE REPAIR -- Home service call, clothes washing machine, with labor charge, excl. parts

52. NEWSPAPER SUBSCRIPTION -- Home delivery of daily one journal, large-city newspaper. Report either cost per week () or per month ()

53. MUSIC -- First run, 1-hour, evening price

54. SWIMMING -- Price per line, evening price

55. TENNIS BALLS -- Wilson or Penn brand, can of 3 extra-duty yellow balls

56. BOARD GAME -- Parker Brothers' "Monopoly," No. 9 (Use size of most standard edition)

57. LIQUOR -- Seagram's 7-Clam, 750 ml, bottle

58. BEER -- Schlitz or Budweiser, 6-pack, 12 oz. containers, excluding any deposit

59. WINE -- Paul Masson Chateau, 1.5 liter bottle

Transfer the average local price from both sides of this work sheet to the uniform pre-coded ACCRA PRICE REPORT FORM.

MAIL A COPY OF THIS WORK SHEET, TOGETHER WITH THE COMPLETED FORM, TO YOUR REGIONAL COORDINATOR.

EXHIBIT 1.2

ACCRA
 INTERCITY COST OF LIVING INDEX
 QUARTERLY WORK SHEET
 QUARTER 1st
 YEAR 1988
 CITY Lubbock

Revised June 1984

Category, Item and Specifications	NAMES OF STORES SURVEYED AND THEIR PRICES					AVERAGE
Meats						
1. T-BONE STEAK 1 lb., USDA Choice	\$4.49	\$4.59	\$4.99			\$4.69
2. GROUND BEEF or HAMBURGER 1 lb., lowest price	1.69	1.49	.99			1.39
3. BACON 1b. package, lowest price	1.79	1.59	1.79			1.56
4. FRYING CHICKEN 1b., grade A	.69	.69	.69			.69
5. CHUNK LIGHT TUNA 6 1/2 oz. can, Starkist or Chicken of the Sea, packed in oil	.69	.69	.69			.69
Dairy Products						
6. SINGLE MILK 1/2 gallon carton, homogenized	1.39	1.39	1.39			1.39
7. EGGS, Large dozen, Grade A	.65	.69	.69			.68
8. MARGARINE 1b., lowest price	.41	.35	.33			.36
9. PARMESAN CHEESE, grated 8 oz. canister, Kraft brand	2.59	2.49	2.59			2.56
Produce						
10. POTATOES 10 lb. sack, white or red, lowest price	1.69	1.79	1.99			1.82
11. BANANAS 1b.	.49	.49	.45			.48
12. HEAD LETTUCE head (approx. 1 1/2 lb.)	.50	.99	.99			.83
Bakery Products						
13. BREAD, white lowest price	Size	24 oz.	24 oz.	24 oz.	oz.	oz.
	Price of Loaf	.95	.95	.99		.96
Tobacco						
14. CIGARETTES carton, Winston, king size	8.84	8.99	8.39			8.74
Misc. Grocery Products						
15. COFFEE, Vacuum packed 1b. Maxwell House, Hills Brothers or Folgers	2.19	2.59	2.59			2.46
16. SUGAR 5 lb., lowest price, cane or beet	1.55	1.59	1.55			1.56
17. CORN FLAKES 18 oz. box, Kellogg's or Post Toasties	1.52	1.52	1.39			1.48
18. SWEET PEAS #303 can (15-17 oz.) lowest price	.33	.33	.38			.35
19. TOMATOES #303 can (15-17 oz.) lowest price	.44	.43	.42			.43
20. PEACHES, halves #2, can (approx. 29 oz.) lowest price	.81	.79	.83			.81
21. FACIAL TISSUE Kleenex brand, 175 count box	.89	.79	.79			.82
22. WASHING POWDER 49 oz. Tide, Bold or Cheer	1.59	2.19	1.99			1.92
23. SHORTENING Crisco, all vegetable, 1 lb. can	2.35	2.35	2.35			2.35
24. FROZEN ORANGE JUICE 6 oz. can, lowest price	.81	.53	.79			.71
25. FROZEN CORN, whole kernel 16 oz. package, lowest price	.42	.59	.47			.49
26. BABY FOOD 4 1/2 oz. jar, strained vegetables, lowest price	.21	.21	.21			.21
27. SOFT DRINK 2 liter bottle, Coca Cola, excluding deposit, if any	1.19	1.19	1.49			1.29

(over)

EXHIBIT 1.2

	PRICES FROM SURVEYED SOURCES			AVERAGE
Housing				
28. APARTMENT -- Monthly Rent of specified type of unit	285.00	320.00		292.50
29. HOME PURCHASE -- Sales Price of specified house	86000	91000	108000	95000
Prevailing interest rate				
Monthly payments (Use table on page 2.15 of Manual).....				
				715.00
Utilities				
30. ELECTRIC POWER -- Av. consumption per month for most recent 12 months in kWh				101.30
Cost at current rates, incl. fuel adjustment factors and base meter charges				
or if calculated on seasonal rates: Summer \$ _____ Winter \$ _____				
Total \$ _____				
31. OTHER ENERGY CONSUMPTION -- Average monthly consumption and cost for most recent 12 months:				
	Monthly Consumption	A unit	\$	COST
Natural or Manufactured Gas				
Fuel Oil		gallons		
Wood (as major heating source)		cords		
Other:				
Total cost in \$1				
32. TELEPHONE -- Private residential line; customer owns the instruments. Monthly rate, plus: estimated local usage charges, if any, incurred by a family of four; federal excise tax; any base charges and any access charges to long distance service.....				15.45
Transportation				
33. BUS FARE -- Typical commuting fare, 10 miles, one way				
34. AUTO REPAIR -- Balance of one front wheel	5.00	4.50		4.75
35. GASOLINE -- One gallon, unleaded regular, well-known brand, cash purchase, including all taxes, at self-service pump, if available.....	87.9c	91.9c	89.9c	91.9c
				90.4c
Health				
36. HOSPITAL ROOM -- Semi-private, daily charge	198.00			198.00
37. DOCTOR OFFICE VISIT -- General practitioner	45.00	30.00	25.00	33.33
38. DENTIST OFFICE VISIT -- Teeth cleaning and inspection, no X-ray or fluoride treatment	40.00	25.00	36.00	33.67
39. ASPIRIN -- Bayer brand, 100-tablet bottle	3.19	3.04	3.19	3.14
Misc. Goods & Services				
Fast Food Restaurants:				
40. HAMBURGER SANDWICH -- 1/2 lb. beef patty with pickle, onion, mustard and ketchup. Use McDonald's if available	1.50	1.50		1.50
41. PIZZA -- 12" - 13" thin crust reg. cheese pizza. Use Pizza Hut, Pizza Inn or a Shakey's where available	6.70			6.70
42. FRIED CHICKEN -- Thigh and drumstick, with or without sauce, whichever is lowest cost. Use Church's or Kentucky Fried Chicken where available	1.84			1.84
43. MEN'S SHIRT -- No styling	5.00	5.00		5.00
44. WOMEN'S SHIRT -- Trim & Blouse	10.00	15.00	12.00	12.33
45. TOOTH PASTE -- Crest or Colgate, 4-7 oz. tube	1.45	1.74	1.49	1.56
46. SHAMPOO -- Johnson's baby Shampoo, 11 oz. container	2.82	2.94	2.82	2.86
47. DRY CLEANING -- Men's two-piece suit	6.35	3.75	6.75	4.28
48. MEN'S DRESS SHIRT -- Arrow, Lord or Ram Neeson, white, long sleeves, plain collar, cotton, polyester blend, size range 33-36	23.00	15.00		19.00
49. BOY'S LAUNDRY -- Package of three shirts, cotton, size range 10-14, lowest price	3.99	4.29	5.59	3.99
50. ADULT DENIM JEANS -- Levi's brand, straight leg, size range 28-34	25.99	19.99		22.99
51. MAJOR APPLIANCE REPAIR -- Home service call, clothes-washing machine, w/o. labor charge, excl. parts	26.00	27.50		26.75
52. NEWSPAPER SUBSCRIPTION -- Home delivery of daily and Sunday, largest circulation newspaper. Report either cost per week () or per month ()	4.00	4.00		4.00
53. MOVIE -- First run, indoor, evening price	1.20			1.20
54. BOWLING -- Price per line, evening price	2.29	2.89		2.59
55. TENNIS BALLS -- Wilson or Penn brand, can of 3 extra-duty yellow balls	12.99	11.29	9.75	11.34
56. BREAD CASE -- Parker Brothers' "Homemade," No. 1 (see list of buns) standard edition	7.45			7.45
57. LIQUOR -- Seagram's J-Crown, 750 ml. bottle	2.89	2.69	2.85	2.81
58. BEER -- Schlitz or Budweiser, 6-pack, 12 oz. containers, including any deposit	3.69	3.79	3.69	3.72

Transfer the average local price from both sides of this work sheet to the uniform pre-coded ACCRA PRICE REPORT FORM.

MAIL A COPY OF THIS WORK SHEET, TOGETHER WITH THE COMPLETED FORM, TO YOUR REGIONAL COORDINATOR.

EXHIBIT 1.3

ITEM	Price avg in Lumberton	all-city average	GROCERY ITEMS INDEX:		weight	Grocery Items Contri- bution
			Lumberton % of all-city avg.			
MEATS:						
T-bone	4.69	4.27	109.8360	X	.0784	= 8.6111
ground beef	1.39	1.30	106.9230	X	.0784	= 8.3827
bacon	1.56	2.67	58.4269	X	.0707	= 4.1307
frying ck.	.69	.78	98.5714	X	.0536	= 5.2834
tuna	.69	.78	88.4615	X	.0379	= 3.3526
DAIRY:						
milk	1.39	1.20	115.8333	X	.0650	= 7.5291
eggs	.68	.75	90.6666	X	.0168	= 1.5231
margarine	.36	.54	66.6666	X	.0251	= 1.6733
parmesan	2.56	2.66	96.2406	X	.0250	= 2.4060
PRODUCE:						
potatoes	1.82	1.61	113.0434	X	.0177	= 2.0008
bananas	.48	.36	133.3333	X	.0321	= 4.2799
head lettuce	.83	.77	107.7922	X	.0177	= 1.9079
BAKERY:						
bread	.96	.61	157.3770	X	.0762	= 11.9921
TOBACCO:						
cigarettes	8.74	10.36	84.3629	X	.0855	= 7.2130
MISC.:						
coffee	2.46	2.62	93.8931	X	.0334	= 3.1360
sugar	1.56	1.53	101.9607	X	.0250	= 2.5490
corn flakes	1.48	1.50	98.6666	X	.0226	= 2.2298
sweet peas	.35	.52	67.3076	X	.0087	= .5855
tomatoes	.43	.67	64.1791	X	.0087	= .5583
peaches	.81	1.14	71.1052	X	.0256	= 1.8202
kleenex	.82	1.03	79.6116	X	.0372	= 2.9615
washing pd.	1.92	2.26	84.9557	X	.0345	= 2.9309
crisco	2.35	2.32	101.2931	X	.0204	= 2.0663
o.j.	.71	1.23	57.7235	X	.0308	= 1.7778
corn	.49	.56	87.5	X	.0087	= .7612
baby food	.21	.26	80.7692	X	.0334	= 2.6976
coke	1.29	1.29	1.0000	X	.0309	= .0309
TOTAL:						

ROUNDED

94.3906

94.4

(EXHIBIT 1.3 cont.)

HOUSING INDEX:

ITEM	Price avg in Lumberton	all-city average	Lumberton % of all-city avg.	weight	housing contribution
apartment	292.50	389.00	75.1928	X .25 =	18.7982
house P&I	715.00	711.00	100.5625	X .75 =	75.4218
TOTAL:					94.22
ROUNDED					<u>94.2</u>

UTILITIES INDEX:

electricity	101.30	112.89	89.7333	X .90 =	80.7599
other home	-----	-----	-----	- --- -	-----
total--	101.30	112.89	89.7333	X .90 =	80.7599
telephone	15.45	17.82	86.7003	X .10 =	8.6700
TOTAL:					89.4299
ROUNDED					<u>89.4</u>

TRANSPORTATION INDEX:

bus fare	1.00	1.00	100.0000	X 1.00 =	1.0000
tire balance	4.75	5.49	86.5209	X .50 =	2.3260
gasoline	90.4	95.3	94.8583	X .50 =	47.4292
TOTAL:					50.6897
ROUNDED					<u>50.7</u>

(EXHIBIT 1.3 cont.)

MISCELLANEOUS GOODS AND SERVICES INDEX:

ITEM	price avg in Lumberton	all-city average	Lumberton % of all-city avg.	weight	misc goods & service contribution
hamburger	1.50	1.53	98.0392	X .061 =	5.9803
pizza	6.70	7.31	91.6552	X .061 =	5.5909
fried ck.	1.84	1.83	100.5464	X .061 =	6.1333
haircut	5.00	6.38	78.3699	X .027 =	2.1159
shampoo/dry	12.33	15.44	79.8575	X .027 =	2.1561
toothpaste	1.56	1.70	91.7647	X .014 =	1.2847
shampoo	2.86	2.77	103.2490	X .014 =	1.4454
dry cleaning	4.28	5.12	83.5937	X .039 =	3.2601
dress shirt	19.00	19.53	97.2862	X .105 =	10.2150
underwear	4.47	4.19	106.6825	X .105 =	11.2016
blue jeans	22.99	20.20	113.8118	X .105 =	11.9502
appliance rp.	26.75	25.43	105.1907	X .083 =	8.7308
newspaper	6.75	8.91	75.7575	X .029 =	2.1969
movie	4.00	4.30	93.0232	X .06 =	5.5813
bowling	1.20	1.56	76.9230	X .05 =	3.8461
tennis balls	2.59	2.44	106.1475	X .06 =	6.3688
monopoly	11.34	9.54	118.8679	X .036 =	4.2792
liquor	7.55	7.68	98.3072	X .021 =	2.0644
beer	2.81	3.10	90.6451	X .021 =	1.9035
wine	3.72	4.96	75.0000	X .021 =	1.575
TOTAL:					97.8795
ROUNDED					<u>97.9</u>

(EXHIBIT 1.3 cont.)

HEALTH CARE INDEX:

<u>ITEM</u>	<u>price avg in Lumberton</u>	<u>all-city average</u>	<u>Lumberton % of all-city avg.</u>	<u>weight</u>	<u>health care contribution</u>
hospital room	198.00	213.12	92.9054	X .178 =	16.5371
doctor visit	33.33	25.41	131.1688	X .356 =	46.6960
dentist	33.67	33.16	101.5379	X .356 =	36.1474
aspirin	3.14	3.22	97.5155	X .11 =	10.7267
TOTAL:					<u>110.1072</u>
ROUNDED					<u><u>110.1</u></u>

EXHIBIT 1.4

ALL-CITY ITEMS INDEX:

COMPONENT INDEX

LUMBERTON INDEX #

WEIGHT

CONTRIBUTION
TO ALL-ITEMS INDEX

GROCERY ITEMS	94.4	.17	16.048
HOUSING	94.2	.22	20.7284
UTILITIES	89.4	.11	9.834
TRANSPORTATION	90.7	.13	11.791
HEALTH CARE	110.1	.07	7.707
MISCELLANEOUS	97.9	.30	29.37

TOTAL: 95.4784

ROUNDED: (COST OF LIVING)

95.5

(EXHIBIT 1.5)

ITEM CONTRIBUTIONS TO THE ALL-ITEMS INDEX

T-BONE STEAK	.0133	HOME ENERGY CONSUMPTION	.0990
GROUND BEEF	.0133	TELEPHONE	.0110
BACON	.0120	COMMUTER BUS FARE	.0130
CHICKEN	.0091	TIRE BALANCING	.0585
TUNA	.0064	GASOLINE	.0585
MILK	.0111	HOSPITAL ROOM	.0125
EGGS	.0029	DOCTOR VISIT	.0249
MARGARINE	.0043	DENTIST VISIT	.0249
PARMESAN CHEESE	.0042	ASPIRIN	.0077
POTATOES	.0030	HAMBURGER SANDWICH	.0183
BANANAS	.0055	PIZZA	.0183
LETTUCE	.0030	FRIED CHICKEN	.0183
BREAD	.0130	HAIRCUT	.0081
CIGARETTES	.0145	SHAMPOO, trim and blow-dry	.0081
COFFEE	.0057	TOOTHPASTE	.0042
SUGAR	.0042	BABY SHAMPOO	.0042
CORNFLAKES	.0038	DRY CLEANING	.0117
PEAS	.0015	SHIRT	.0315
TOMATOES	.0015	BRIEFS	.0315
PEACHES	.0044	JEANS	.0315
KLEENEX	.0063	WASHING MACHINE REPAIR	.0249
WASHING POWDER	.0059	NEWSPAPER SUBSCRIPTION	.0087
CRISCO	.0035	MOVIE	.0180
ORANGE JUICE	.0052	BOWLING	.0150
CORN (whole kernel, frozen)	.0015	TENNIS BALLS	.0180
BABY FOOD	.0057	MONOPOLY SET	.0108
COKE	.0053	LIQUOR	.0063
APARTMENT RENT	.0550	BEER	.0063
HOUSE P&I PAYMENT	.1650	WINE	.0063

ENDNOTES

¹World Book Dictionary: Thorndike/Barnhart. 1978.

²American Chamber of Commerce Researchers Association Cost of Living Manual. 1984, p. 1.1.

³Barry O'Brien, An Analysis of Measures of Geographical Cost of Living Differences in the United States (Greensboro: 1986), p.8.

⁴Ibid, p.8.

⁵Ibid, p.8.

⁶"Consumer Price Index," Encyclopedia of Women, (U.S. Dept. of Labor Bureau of Labor Statistics). p.1

⁷Ibid, p.2.

⁸World Book Dictionary: Thorndike/Barnhart. 1978.

⁹"Consumer Price Index," Encyclopedia of Women, (U.S. Dept. of Labor Bureau of Labor Statistics). p.2

¹⁰"Nation's Consumer Price Index," New York Times, 24 September 1987, p. D6.

¹¹"Consumer Price Index," Encyclopedia of Women, (U.S. Dept. of Labor Bureau of Labor Statistics). p.2.

¹²Barry O'Brien, An Analysis of Measures of Geographical Cost of Living Differences in the United States (Greensboro: 1986), p.8-11

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U.S. Department of Labor Statistics, (Washington: 1986),

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Androtti Associates, 1980), p. 574.

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