



# Cost of Living Index Manual

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- Section 1: Introduction
- Section 2: How to Price
- Section 3: How to Use the Index
- Section 4: Appendixes

- Appendix 1: How the Index Was Developed
- Appendix 2: Sample Index Calculation
- Appendix 3: Sample Pricing Letters
- Appendix 4: Grocery Store Pricing Form
- Appendix 5: Pricing Survey Form (Includes All Items)

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## SECTION 1: INTRODUCTION

Welcome to the *Cost of Living Index*!

Published by the Council for Community and Economic Research (C2ER) since 1968, this survey is the premier source of data on living cost differentials among U.S. urban areas. As an active participant, your organization will receive at no cost a PDF copy of the *Cost of Living Index* survey each quarter.

The *Cost of Living Index* is a service that C2ER, the professional association of community and economic development researchers, makes available to all urban areas. Because C2ER offers much more than just the *Cost of Living Index*, we urge all participants to join C2ER and share the benefits of membership.

For more information about C2ER, write to C2ER, P.O. Box 100127, Arlington, VA 22210 or visit us on the web at [www.c2er.org](http://www.c2er.org).

### Why Not Use Free Internet Data?

In recent years, several Internet sites have begun to offer free cost of living comparisons. For the most part, these are “black box” calculations you have no idea what data go into them, where they come from, what quality control procedures (if any) are involved, how reliable they are, what methodology was used, or what standard of living is represented. In some cases, it appears that C2ER data have been appropriated for indefensible calculations, such as creating an index for a particular city that doesn’t participate in the *Index* by constructing a weighted figure based on that city’s distance from three cities for which C2ER data *do* exist. C2ER has requested details from several such sites without receiving an acceptable response. Our requests are almost always ignored. If you don’t care how good the data are, then these sites are for you.

The *Cost of Living Index* is different. Our methodology, our data collection and quality control procedures, the formulas used in our calculations, and the average prices on which those calculations are based are all published.

Unlike other data providers, C2ER does not believe data users are well-served unless they understand the methodology used in the data analysis.

When your organization assumes responsibility for collecting data for the *Cost of Living Index*, you know you can trust the data for your area and, because data for all participating places are subjected to the same intense scrutiny in the data review phase of this project each quarter, you know you can trust the data for other places, as well.

### What's In This Manual?

This manual is far more than just a set of directions. It’s laid out in four sections, each with its own purpose:

- *Introduction*: This section discusses broad guidelines that govern the *Cost of Living Index*, outlines quality control procedures that ensure the published data are as accurate as possible, and lays out *your responsibilities* as a participant.
- *How to Price*: Be sure to **read this entire section carefully** before you begin data collection. It presents, in detail, the “nuts and bolts” of collecting price data the procedures and specifications every participant *must* follow rigorously. It’s lengthy partly because some items involve complex instructions, but mainly because we’ve tried to anticipate and answer as many questions as possible about unusual situations. We’ve also included helpful tips to make pricing easier.
- *How to Use the Index*: This section gives you the background you need to understand the *Cost of Living Index* and to use the data effectively and properly. You have to know what the *Index* does and doesn’t measure if you’re going to use it in your economic development program, in promoting your region, or in dealing with inquiries about cost of living differences.

- *Appendices*: You don't need to study and absorb the appendices as you do the first three sections, but you'll find much of interest and probably a few items you'll want to use right away. The appendices are a mixed lot:
  - A brief history of the *Index*, so you can see how this project has evolved over more than three decades.
  - A sample calculation that shows you how the raw data are converted into index numbers.
  - Sample letters for apartment pricing and house purchases.
  - A sample of the pricing survey form you will complete each quarter.

### A Specific Standard Of Living

The question the *Cost of Living Index* is designed to answer is: ***How do urban areas compare in the cost of maintaining a standard of living appropriate for moderately affluent professional and managerial households?***

The first thing to note about this question is that it's not at all the same as comparing *average* standards of living. The *Index* is designed to compare the costs of a *particular* standard of living in all areas—and it doesn't matter whether that standard of living is typical of the overall population of your area.

Over the first three decades of this project, the standard of living priced for the *Index* was termed a “mid-management” standard of living. That term was dropped in 1998 because it was too easily confused with “middle class,” which isn't the same thing at all. The kind of household on which the *Cost of Living Index* is based has the following characteristics:

- The household consists of both spouses and one child. (For pricing apartments, it is assumed that the couple is childless or the individual is single.)
- Both spouses hold college degrees; at least one has an established professional or managerial career with a record of growing responsibility and authority, and is salaried rather

than paid by the hour. (Most executives in this category supervise other salaried employees, although some may supervise only hourly employees. Examples of the latter include partners in small CPA or law firms, tenured university faculty, and some owners of small businesses.)

- Household income is in the top quintile (20%) for the area. Because salaries vary geographically as a function of living cost differences (which is a key reason this project exists), we can't specify a particular salary range that fits all locales. However, in most parts of the country in the 21<sup>st</sup> century, the specified household will generally have an annual income between \$70,000 and \$100,000. The appropriate income range will be higher in traditionally high-cost places like New York, Boston, San Francisco, Los Angeles, and San Diego metropolitan areas, and it will often be somewhat lower in small metropolitan or non-metropolitan places.

**Your selection of samples for *all* items in the *Index* should be guided by what's typical for professional and managerial households in the top income quintile.** Some examples:

- Select only grocery and apparel stores where individuals from professional and managerial households would normally shop. Even if discount stores are a majority of your overall market, they shouldn't be in your sample **at all** unless upper-income professionals and executives really shop there.
- Price housing only in areas where such households would live.
- Price hair care, dry cleaning, movies, and other personal services only at establishments such households patronize.

***When you select the sample of establishments for each item, make sure it accurately reflects the purchasing patterns of moderately affluent professional and managerial households.***

### What Geographic Area Should You Cover?

Earlier editions of this manual said nothing about the geographic area participants are expected to cover. For more than 20 years, the *In-*

*dex* was called an “intercity index” but this term more often than not was misleading, since seldom were the data restricted to city limits.

Today, participants in federally designated Metropolitan Statistical Areas (MSAs) most often gather data for the *Urbanized Area*, which the Census Bureau defines as that area in an MSA where the density of residential settlement is at least 1,000 persons per square mile. Suburban participants usually cover some portion of the Urbanized Area frequently a county.

You’ll notice that this manual speaks of *urban areas*. This term parallels the Census Bureau’s “Urbanized Area,” but takes into account the fact that some participating areas aren’t inside MSAs. In published reports, “Urban Area” replaces the earlier “City,” reflecting this notion.

***As a practical matter, you should price the urbanized portion of your metro area or place.***

- For organizations in central cities of metropolitan areas, this approach means covering the entire Urbanized Area within the MSA.
- For suburbs within MSAs, coverage of the service area defined, on the basis of where residents realistically purchase goods and services is appropriate, even if the result is coverage that overlaps areas covered by other participants. Samples for Scottsdale, for example, may well include establishments in Phoenix.
- For participants in non-metropolitan areas, coverage of the “urban area” based on population density, rather than adherence to the city limits, is what’s intended.

***Be sure the place name you use on the price report reflects the area covered.***

- If your report covers the entire Urbanized Area within your MSA, your place name should be your metropolitan area name (*e.g.*, Charlotte-Gastonia-Rock Hill NC-SC MSA).
- For central cities and suburban areas that cover no officially-defined area, city name suffices (*e.g.*, Scottsdale AZ, for which samples may extend beyond the city limits).

- Where pricing covers the urbanized portion of an entire county, either county name alone or city/county name should be used (*e.g.*, “Lincoln County OR”, “Watertown-Jefferson County NY”).
- Where multiple areas are covered and are known by a single geographic name, that name is appropriate (*e.g.*, “Hampton Roads/SE Virginia,” “Quad-Cities IL-IA”).

### Can Any Place Participate?

For 23 years, participation in the *Cost of Living Index* was open to all places, regardless of size. In the late 1980s, however, several rural places with very small populations began participating, and it became apparent that adherence to the specifications in many such places wasn’t possible. There’s no doubt that small rural places offer an alternative to an urban professional or managerial standard of living that many people find attractive, but such places are qualitatively different from urban areas, and they simply don’t support the kind of urban lifestyle embodied in the *Cost of Living Index*.

The Committee has concluded that participation in the *Index* should be restricted to areas that can reasonably be considered urban and patterned its restrictions after the federal government’s distinction between urban and rural areas.

The Cost of Living Index Committee adopted the following restrictions, effective June 1991 (including modifications adopted and effective June 1999):

- Participation in the *Cost of Living Index* is open to all places within federally designated Metropolitan Statistical Areas in the United States.
- Participation by places outside MSAs is restricted. A city in a non-metropolitan county may participate ***if*** the county population exceeds 50,000 ***and if*** the population of the city to be priced exceeds 35,000.

Acceptable documentation that the population criterion has been met includes decennial and special census tabulations.

Places that don't meet the population criterion but were participants at the time the criterion was adopted may continue to participate. However, if any such place fails to participate in two consecutive quarters, it is not eligible for further participation.

No non-metropolitan area may exceed a single county or county equivalent in geographic extent unless substantial evidence is submitted that two places function as an integrated economic unit that happens to be divided by a county boundary. Such cases are rare.

## How Do We Know The Data Are Accurate?

Regardless of how conscientiously participants follow this manual, errors are inevitable. In a fairly typical area, we may find two people recording prices for 30 items at three grocery stores apiece, two other people calling a total of 140 establishments to obtain prices for 27 non-grocery items, and 15 sources responding by mail or fax or e-mail with information on housing costs and mortgage rates. Multiply this single area by the number of participants in a typical quarter, and you'll find 80,000-90,000 opportunities for mistakes, a McDonald's cashier who quotes a price including sales tax, even though you expressly asked for the price without tax . . . or a grocery clerk who posts an erroneous price . . . or a homebuilder who simply decides to price the kind of home his firm normally builds, rather than follow the specifications you mailed to him.

**THIS IS IMPORTANT:** *You* are the first line of defense. While reviewing your data prior to submission, you can, and should, spot and investigate prices that for any reason look out of line. *If you either correct errors or provide explanations for unusual prices, you can avoid questions during the review process and that saves time for you and the reviewers.*

Over the years, the committee has developed a meticulous three-stage review process to ensure that published price data are accurate. This process is for your own protection: not only can it ferret out inadvertent errors in the report for your area; it also protects you from erroneously

high or low index figures as a result of someone else's error.

In the first stage, each data reviewer looks for four things in the reports from his states:

- Computational errors.
- Atypical prices for an item.
- Unexpected quarter-to-quarter shifts in average item prices.
- Averages that are unusually high or low within the region.

Questions that can't be answered from documentation you provide are referred back to you for verification or correction.

In the second stage, data reviewers review each report in detail and check any problematic price not already verified in the first stage.

After questions at this stage have been resolved, a preliminary computer run is prepared. This printout puts an asterisk beside any price more than two standard deviations from the nationwide average.

In the third and final stage, the project manager uses the preliminary printout to identify prices that seem out of line within the state or region.

As a result of such thoroughness, it's unusual for any participant's report to pass from submission to publication without questions. Nearly all participants can expect questions at the first stage; about 75% will be questioned at the second; and at least 25% generally receive further questions at the third. Only after all questions have been resolved is the final report prepared for publication.

## Sales and Promotion Plan

The cost of producing the *Cost of Living Index* is supported entirely by subscriptions. It has no other source of funding. For this reason, *you* are expected to provide subscription information to potential subscribers.

The annual subscription is \$165. Single issues may be purchased for \$82.50 per copy. Electronic subscriptions (Excel format) are

available for \$250 (for electronic only) and \$295 (for a combined print and electronic subscription). A single electronic issue is available for \$95. All checks should be made payable to C2ER.

Orders may be placed by fax to the C2ER Subscription Office at 480-393-5098, using the order form inside the back cover of the *Cost of Living Index*, or by completing the subscription form at [www.c2er.org](http://www.c2er.org).

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### • Paper Reproduction:

- Making any reproductions or otherwise printing the entire *Index* report or any part thereof **for sale** is expressly prohibited without prior written permission by C2ER.
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- Requests to reproduce *Cost of Living Index* data in publications not covered by the foregoing policy statements should be addressed to the director, and will be considered on a case-by-case basis.

### • Internet:

- Participants in and subscribers to the *Cost of Living Index* may make available on their home pages all **index data** for their urban area and places for which data are presented in C2ER's quarterly "boilerplate" press release and for no more than five additional places. ***Any such presentation of data must include a hypertext link to C2ER ([www.coli.org](http://www.coli.org)).***
- No **price data** from the *Cost of Living Index* may be placed on the Internet without written permission from C2ER.

- Internet versions of print periodicals are permitted to use *Index* data in editorial form, and are permitted to reproduce tables *in part* to illustrate text, provided C2ER is given appropriate credit.
- Requests to reproduce *Cost of Living Index* data on the Internet in applications not covered by the three foregoing policy statements should be addressed to the director, and will be considered on a case-by-case basis.

## SECTION 2: HOW TO PRICE

### Your Responsibilities As A Participant

When you decide to participate in the *Cost of Living Index*, you accept several obligations:

- **Select samples that accurately represent the behavior of professional and executive households in your area.** This means not only selecting appropriate establishments, but also selecting *large enough samples* to provide confidence that the average for each sample is fairly close to the average you'd have found by sampling *all* establishments in your area that meet the criteria.

- **Know the pricing dates.** While your data reviewer will send you a reminder notice and the price report form well before each pricing period, occasionally an e-mail goes astray. Be prepared to price without receiving a notice.

Pricing dates are always the second Thursday, Friday, and Saturday of January, April, and July unless those dates include or abut a federal holiday. When a holiday conflicts, the first Thursday, Friday, and Saturday of the month are used.

- **Review the price data carefully before submitting them to your data reviewer.** Your review involves three elements:

- Check all calculations for accuracy.
- Examine the price distribution for each item to flag and recheck any prices that look out of line. For example, if you see milk prices of \$1.40, \$1.41, \$2.35, \$1.38, and \$1.42, it's a safe bet there's a problem with the \$2.35, it's probably a full gallon instead of a half-gallon. Where atypical prices *are* correct, include a note of explanation for your data reviewer.
- Maintain your own log of average prices by quarter. Recheck prices that show unusual quarter-to-quarter changes (for example, a 10% drop in home purchase price), and include an explanation if you find they're correct.

- Submit your report by the deadlines published on the website. *Late reports may be excluded.* If you can't obtain one or two prices by the deadline, submit your report and note when the missing prices will follow. If the deadline itself presents a problem, contact us about a waiver.

- **Respond promptly to questions from your data reviewer and the project manager.** Questions on price data are not arbitrary, reviewers would much prefer *not* to have to ask questions about the data, since every question means extra work for them as well as for you. When data reviewers pose questions, they usually suggest the nature of a suspected problem. Give them the courtesy of replying as quickly as possible.

Since delays in responding increase the time between data collection and publication and are unfair to other participants, *failure to respond to questions on price data is grounds for deleting a report from the database.* If you're having problems getting the additional information that's been requested, let the person who raised the question know.

*Always reply to the person who raised the question.* If the project manager questions an item, don't reply to your data reviewer.

- **Keep all documentation until you receive the published report for that pricing period.** At any point during the data review, you may be asked to substantiate or reexamine the price for a particular item, and you'll need to have the original data available.
- **Respond to calls and letters requesting *Cost of Living Index* data.** After studying Section 3 of this manual, you should be able to handle all but the most technical of data requests, and you shouldn't need to refer callers to C2ER.

## GENERAL PRICING PROCEDURES

Before turning to the detailed specifications and procedures for pricing individual items, let's look at some fundamentals that apply to the entire pricing process. We'll begin with two basic rules:

- **Re-price all items each quarter during the three-day pricing period.** Never assume that a price is unchanged from the prior quarter, and always obtain prices for the specified dates. Prices can shift rapidly, so even a day later can make a difference.
- **Price all items strictly according to the specifications in this manual.** The validity of the *Index* depends on using the same standard of living everywhere, and any departure from the specifications is a shift in standard of living.

### Setting Up Responsibility for Pricing

To make sure that prices in your area are collected properly and submitted on time, you need to have someone designated to coordinate the process. That person (quite possibly you) should have sufficient seniority and experience to deal on at least equal footing with those who provide information to you. For example, calling a general contractor to question whether a 15% drop in her estimate of the house purchase price is realistic.

Whoever coordinates your area's pricing should:

- Supervise other staff and/or volunteers who collect or supply price data, ensuring that they adhere completely to the procedures and specifications in this manual.
- Inspect the prices for each item, rechecking any that appear to be inconsistent with the others or with prices reported in the previous quarter. This review should be conducted as soon as prices have been collected: it's much easier to recheck a January 5 price for corn flakes on January 7 than it is two weeks later.
- Review all computations for accuracy.

- Review samples each quarter to ensure that they continue to reflect professional and executive spending patterns. (If a theater shifts from showing first-run films to showing older films at discounted rates, for example, it should be removed from the sample.)
- Submit your data by the presented deadline to your data reviewer.
- Maintain a file with all raw data for each pricing period, so questions raised in the data review can be answered quickly and correctly. (Keep all raw data *at least* until you receive the published report for the quarter.)

### How to Obtain Price Data

There are three major ways to obtain prices: letter/fax/e-mail, phone, and personal visit. No one method can be used efficiently for all items and some methods are better than others for particular items or groups of items.

- **Telephone** is the least efficient way to price items in the Grocery Items Index, and is the most susceptible to erroneous reporting. Its use is not recommended for these items. Telephone, however, is usually the most efficient way to obtain prices for many items in the Transportation, Health Care, and Miscellaneous Goods & Services Indexes.

For those items you decide to price by telephone, set up a master form listing contacts and telephone numbers. If you set this form up as a word processing document or a spreadsheet, you can make revisions easily and produce a clean updated copy each quarter. The person who calls for prices can follow the list and fill in the price reported by each respondent. Make sure the items appear in the same sequence as on the price report. This makes it easier for your data reviewer to review your data.

- **Mail, fax, or e-mail** often work well for the two housing items. Send a letter about 10 days before the pricing period to sources that have agreed to cooperate in your survey. The house purchase letter should be accompanied by a list of house specifications for your area; the



apartment letter can include apartment specifications in the text. Whenever you price by mail, a postage-paid reply envelope is an appreciated courtesy.

When you price utilities, be sure to deal with a utility company rate engineer or supervisor who has the expertise to follow the specifications. Smaller cities may find a utility company's regional offices more helpful than its local office.

Fax and mail sometimes work well for the doctor and dentist items, and you have the assurance that the specifications have been stated properly because you sent them in writing.

- **Personal visit** is indisputably the best way to collect prices for the Grocery Items Index and the three apparel items, and is strongly recommended. We've conducted comparison tests in which the same stores are priced by mail and by personal visit for the same dates, and the results indicate significant gains in accuracy with personal visit.

### How Many Establishments Do You Need to Price?

Participants in metropolitan areas **must price at least five** establishments for every item that isn't a monopoly. Larger metropolitan areas should use larger samples: 10 would be a reasonable sample size if the population of the area surveyed were over 1,000,000.

The Council for Community and Economic Research (C2ER) requires nonmetropolitan places to price at least three establishments for each item, unless of course a community has fewer than three establishments that provide the item or service and meet the criterion of suitability for a professional or managerial household. This minimum applies **only** to small rural areas.

**Any report with samples smaller than three in nonmetropolitan areas or five in metropolitan areas may be rejected.**

Note that samples smaller than five *are* acceptable when fewer than five establishments

qualify. If only two or three establishments *normally patronized by professional and managerial households* exist in an area, then a survey of just those two or three is a 100% sample of qualified establishments, and you should **not** try to expand the sample by adding nonqualified establishments. (If you have a sample smaller than five for this reason, be sure to note it on your worksheet.)

Our insistence on adequate sample size reflects the importance of ensuring that the average price for a sample of establishments is a reasonable approximation of what we'd find by surveying *all* appropriate establishments. Consider a sample of three clothing stores with respective dress shirt prices of \$24.99, \$22.99, and \$15.99:

- In a town of 50,000 people, the store with the special may well represent a third of the market, and the sample average of \$21.293 would be close to the result we'd get from surveying all appropriate stores.
- In a metropolitan area of 500,000 people, where perhaps 60 to 90 clothing stores would meet our mid-management guideline, the odds that the average of \$21.293 accurately represents the market are considerably poorer. A larger sample is needed if we're to make that determination. If the special is *really* representative, a valid sample of nine stores is likely to contain three such specials—but if the special is an isolated case, it won't unduly distort the average.

It bears emphasizing that five establishments is a **minimum** in metropolitan areas. By no means will a sample of five establishments always suffice to produce accurate data. The more establishments that offer a given commodity or service, the larger your sample should be for that item: if you sample 10 of 50 dry cleaning stores, the odds are considerably better that you'll closely approximate the true mean than if you sample just five. Remember, the larger your samples, the more accurate your averages are likely to be.

**How can you tell whether your sample is large enough?** One good guideline is to examine your

price for each item over time. To illustrate how this works, consider these hypothetical prices for a barbershop haircut in two different urban areas over several quarters:

MSA A: \$9.20, \$9.22, \$9.35, \$9.45, \$9.60, \$9.68

MSA B: \$9.25, \$7.90, \$8.58, \$9.50, \$8.54, \$9.75

The price data for the two areas clearly behave quite differently. In MSA A, we see a gradual rise over time that's consistent with what we'd expect as a result of inflation. In MSA B, on the other hand, the price fluctuates erratically from one quarter to the next. The kind of price behavior shown for MSA B is possible but unlikely.

If we assume that "true" haircut prices in MSA B didn't really behave the way the sample data suggest, there are at least three possible explanations for the ups and downs:

- *The sample may not be large enough.* When a sample is too small, the effect of an atypical price from a single establishment is magnified. If five shops are sampled, and one of these has just increased or lowered its price, the impact of this change on the average price will be relatively large and the resulting average may not accurately represent local prices. The larger the number of establishments in a sample, the smaller the impact of any unusual price.
- *The sample may have been changed from one quarter to the next.* While it's not essential that the same establishments be sampled each quarter, gathering data from the same establishments each time is a good idea for two reasons. First, your prices will behave consistently over time. Second, you get better cooperation from your sources because they know what you're doing and what kind of information you need.

If your sample is large, a change in the establishments sampled usually won't distort the average significantly. In a small sample, a change in establishments can produce wild fluctuations from one quarter to the next.

Note that using the same sources each time produces only *consistency*, it doesn't mean

that the results accurately reflect area wide prices. For *accuracy*, you need to make sure your sample for each item is large enough to reasonably reflect prices in your area.

- *The specifications may not have been followed consistently* from one quarter to the next. When one finds price movements that look like MSA B's haircut prices, much of the time it's a good bet that somebody didn't follow the instructions. It's up to the person supervising this project for your organization to spot and rectify departures from the specifications.

**Helpful hint:** Two items tend to vary widely within an area, doctor and dentist visits. For these two items, you routinely should use larger samples than you use for other items.

For most items, prices will rise gradually as a result of inflation. Only regulated prices are likely to remain constant for any length of time. Downturns occur occasionally, but you should *check any unexplained downturn in non-grocery prices* to make sure it represents an actual price movement rather than problems in your sample, your data collection procedures, or your calculations.

A good way to keep tabs on price trends is to record data for several quarters on a single sheet. A glance at the line for any item can tell you if your pricing procedures might profit from sample changes. If your samples are large enough and your sources are reasonably consistent from one quarter to the next, most of your price lines will resemble the data shown above for MSA A.

## Bargains

Because the *Cost of Living Index* is a "snapshot" of how prices compare at a single point in time, "specials" *should* be reported. They're a valid part of the cost of living at that particular time.

***When you find "two-fors" or similar specials, report the price you would pay for just one of the item.***

- If peas are two for \$.99, report \$.50 as the price for peas in that store.
- If the first pizza is \$8.99 and all additional pizzas are \$5.00, report \$8.99.

Note that you should prorate *when the specified size isn't available*. If a store has no 5-lb. sacks of potatoes but does carry the 10-lb. sacks at \$5.99, report  $\$5.99 \times 5/10$ , or \$2.99, as the price for the 5-lb. sack.

## Reporting Prices

One of the most recent and innovative changes to the cost of living data collection process is the implementation of a new web-based *Cost of Living Index Price Collector* software.

To use **the web-based Cost of Living Price Collector software** follow these simple instructions:

- (1) Go to **[www.coli.org/participants.asp](http://www.coli.org/participants.asp)**
- (2) Download a hard copy or electronic versions of the full pricing survey. Please take note of the Helpful Hints.
- (3) Click: **Login Page**
- (4) Enter your **User ID** and **Password** to access the site. If you've misplaced your user id and password, please click on the "Forgot Your Password" link.
- (5) Click: **Edit My Profile** to update your profile. The "primary" contact should always be the person who is collecting the data. The "alternate" contact may either be your boss or a colleague who is helping you with the data collection process. We contact this alternate person only if we cannot reach you with questions or feedback.
- (6) Click: **Register for a Quarter** to indicate whether you plan to participate in the pricing survey. Click on "Add Me", to activate your record for the current quarter. If you do not plan to participate, please let us know by

clicking on "No."

- (7) Click: **Edit Store Names**: Add the names of the grocery stores you visited or plan to visit.
- (8) Click: **Input Prices** to enter your pricing data for each category. At the end of each question, make sure you click the gray button bars to save your work. When answering questions, you don't have to finish answering your questions in one sitting. You can come back later and finish. Please remember to click: **Log Out** when you leave a session, and note that your link with the main database expires if you don't do anything for 20 minutes. In this case, you must log on to the web site again.
- (9) Click: **Submit Prices to C2ER for Review**. This automatically tells your data reviewer that she or he should begin reviewing your answers. This also "locks" your answers (meaning you can no longer change them without permission).
- (10) Click 5. **Run Final Report** (Save & Print). Save your report as a "html" on your computer's hard drive. This will provide you with a static version. You can later open it in Microsoft Excel.

## How Often Should You Price?

The Cost of Living Index data is gathered 3 times a year - January, April, and July. The index is published four times annually in May, July, and October – the fourth issue provides an annual average of data from the urban areas providing a complete set of data during the year. The annual average report is published in late December. By participating in all three data collection periods, your area will be included in the annual average publication. This publication is provided to the US Census Bureau for publication in the Statistical Abstract of the United States.

## Reporting Procedures

About two weeks before the pricing period, the project manager will send you a memo noting the pricing dates, warning you of any changes in marketing practices that could pose problems (such as a new size of coffee that looks similar to the size specified), and advising you of any changes to item specifications.

All prices are subject to review by C2ER. If your data reviewer questions a sharp drop in the telephone price, for example, don't expect him to deal directly with your source to resolve the issue. It's *your* responsibility to price your own area and to submit a complete and accurate price report.

Note that you must complete the price report in full:

- If your report omits any prices (other than alcoholic beverages for “dry” cities, apartment rent in nonmetropolitan areas, and non-electric energy where new houses are typically all-electric), your report will be excluded from the *Index* for that quarter.
- Prices omitted cannot be estimated from prior quarterly reports.
- If you have unavoidable problems that will delay submitting your report past the postmark deadline, contact your data reviewer.

- If it's absolutely impossible for you to participate in one quarter, notify your data reviewer. Always try, though, to arrange for the pricing to be done for your area.

## GROCERY ITEMS INDEX

### (Component Index Weight = .1324)

The Grocery Items Index contains more items than any other component index, and accounts for 13.24% of the Composite Index. Weights for individual items are based on Bureau of Labor Statistics data showing that the mid-management household spends its grocery dollar as follows:

Meats	16.25%
Dairy Products	11.80%
Produce	13.16%
Bakery Products	8.28%
Misc. Grocery Products	50.51%

Advice from merchandising consultants has guided the choice of items, unit sizes, and brands. To ensure uniformity, national brands are stipulated whenever possible, and “lowest price” is specified when no one brand or group of comparable brands is available in all cities.

Nationwide changes in “standard” unit sizes occur from time to time, and the size that's most common sometimes differs from one region to another. When food producers switch from one package size to another, the Cost of Living Index Committee will make appropriate changes in the specifications.

## Pricing Grocery Items

(1) Grocery items must be priced during the Thursday, Friday, and Saturday of the pricing period.

(2) The best way to price grocery items is by personal visit. C2ER has conducted tests in which the same stores are priced by mail and by personal visit, and has found that pricing in person yields far more accurate results, primarily because responding stores sometimes fail to note items “on special” during the pricing period.

(3) To the extent possible, do your pricing in chain supermarkets.

- Your sample may include discount stores that have full grocery departments, but include discount stores in your sample **only if, and not more than the extent to which,** reasonably affluent professional and managerial households shop there.
- Don't price grocery items at stores that don't allow access to everyone (*e.g.*, membership clubs, military base exchanges).
- Don't include in your sample any store that does not normally carry a full range of grocery items. For example, you can't price stores that lack fresh produce departments or dairy departments.
- You may price grocery items in more than one store in a chain, provided you still use a representative sampling of chains. Larger cities normally will price multiple stores in a chain.

When you price multiple stores in a chain, make sure your sample reflects the different chains' shares of your market. For example, if one chain has roughly 25% of your market and you price eight stores, two of them should be from the one chain. You *cannot*, however, price one store in a chain and then "double-count" its prices, because prices within a chain sometimes vary from one store to another.

- Don't price grocery items at convenience stores (small neighborhood stores that carry a limited variety of items and derive their profits mainly from selling at high mark-ups outside normal grocery store hours) or at grocery stores that cater to a wealthy clientele and are known to charge substantially above-market prices.
- (4) You must price all grocery items in each store surveyed. If an item is temporarily out of stock, determine the price that would be charged if it were available.

(5) You can't use coupon discounts to determine the price of any item unless customers can pick up the coupons in the store for use on the same visit. *Do use* the special reduced price for items on sale during the pricing period if no coupon is needed.

(6) Since early 1997, we've seen a proliferation of grocery store "membership" cards that are free to customers and allow customers to receive special prices on some items. In effect, these cards are denying to nonmembers what used to be normal specials. Their purpose is to allow the store to track purchasing patterns for individual households. You should report cardholder prices at such stores if membership is free and if the discounted prices are available on the same visit when one applies for a card.

(7) Where the specifications allow a choice of brands, the brands are interchangeable. In each store, you should price the brand with the lowest price. It's not intended that you price the same brand at all stores. In pricing coffee, for instance, you might use Folgers at one store and Maxwell House at the next.

You may price generic products when no brand name is required.

(8) When packaging standards change, you may be unable to find the specified sizes for some grocery items. When this happens, price the *next larger size* (or, if there is no larger size, simply the nearest size) that otherwise meets the specifications, and then calculate the prorated price for the size specified.

- To prorate a price, multiply the price of the available item by the specified size, and then divide the result by the size actually priced. For example, if a store has no 10-lb. sacks of potatoes, and if the next larger size is a 15-lb. sack at \$2.29, report  $\$2.29 \times 10/15$ , or \$1.5267, for that store.

(9) There are a few "tricks to the trade" in pricing some of the grocery items. A few pointers:

- *Pork sausage*: Not all areas stock the 16-oz. size. Be alert to the possibility that you may

be pricing a different size and will need to prorate the price. If 16 oz. packages are not available, price 12 oz if at all possible and indicate the size

- *Parmesan cheese*: Canisters of house brands often look like Kraft's canisters, so make sure you're pricing the proper brand. In addition, be sure you're pricing *Parmesan* cheese. Kraft also markets less expensive "look-alikes" such as "Italian blend."
- *Lettuce*: Where lettuce is sold by the head, use the scale in the produce department to make sure a typical head weighs about 1.25 pounds, and prorate if it is substantially more or less than this weight. Where lettuce is sold by the pound, multiply the price per pound by 1.25 to get the price for your report.
- *Lettuce, bananas, and potatoes*: Some stores offer deep discounts on produce verging on spoilage. Before you record a price, ask yourself: ***Would I serve this to a guest tomorrow night?***
- *Coffee*: Packaging may be either can or brick, whichever is less expensive. Be alert for containers that differ slightly from the specified 11.5-oz. size (12- and 13-oz. cans are common), and report the size for any deviation.

## HOUSING INDEX

### (Component Weight = .2804)

While attention to accuracy is expected from all participants for all pricing, it bears emphasizing for the two items in the Housing Index.

- The monthly principal and interest payment for a new house is by far the most important single item in this survey: it represents *19.90%* of the Composite Index.
- Monthly apartment rent accounts for *8.14%* of the total Composite Index.

Because these two items are so heavily weighted, even a slight inaccuracy in housing data can produce a large error in the *Index*.

We stress accuracy on the housing items because there are far more possibilities for pricing errors than in pricing, say, grocery items:

- The specifications are far more complex than just size and brand.
- *You* are responsible for making judgments about what's typical for professional and managerial housing in your area and about prevailing local construction practices.

To price housing accurately, you have to do some homework. To help you make sure that the kind of housing priced in your area is directly comparable with what's priced elsewhere, the housing specifications are highly detailed.

## Apartment Rent

Apartment complexes sampled should be suitable for a childless professional and managerial couple with household income in the top 20% for your area. In particular, these complexes must meet the following specifications:

- *Location*: Suitable for a professional or managerial couple in terms of commuting, shopping, entertainment needs, and neighborhood quality.
- *Age*: Apartment complexes should be no more than 10 years old unless your area has no complexes this new—in which case you should sample *only* the newest complexes.
- *Size*: 950-sq.ft. If units in your sample differ from this size, prorate to a 950-sq.ft.-equivalent rent, using rent per sq. ft. per month. Do not include units smaller than 850-sq.ft. or larger than 1,050 sq. ft.
- *Description*: Unfurnished; two bedrooms; 1½ or two baths; stove and refrigerator furnished.
- *Utilities*: Rent excludes all utilities except water and sewer. If apartment rents in your area normally include electricity and/or other energy, ask your sources of rental data or your local utility firms to estimate how much you should subtract from total rent to get a

monthly rent that includes water and sewer only.

- *Extra charges* for *optional* amenities such as carports should not be included in the reported rent. Where such amenities are not optional, however, they must be included in the rent you report.
- *Lease term*: Report monthly rent for a 12-month lease. If 12-month leases aren't available, report monthly rent for the longest available lease period less than 12 months. In some areas, apartment rents are affected by seasonal factors that we want to eliminate because the *Index* assumes permanent residency in an area.

#### **Some participants may omit apartment rent.**

Some nonmetropolitan areas don't have *any* apartments that are truly suitable for professional and managerial households. You may choose not to price this item if your area meets **both** of two conditions:

- It's not within a federally-designated Metropolitan Statistical Area.
- It doesn't have apartment complexes that meet the specifications

When apartment rent isn't reported, monthly principal-and-interest payment for the house purchase accounts for 100% of the Housing Index and 28.04% of the Composite Index. (Note that ***all participants in metropolitan areas must price apartment rent.***)

If you're fortunate, you'll be able to get average rent for the specified apartment from a single source. Many metropolitan areas have real estate research firms and/or associations of apartment owners that conduct periodic surveys and can readily provide the information you need. Your next best bet is to survey apartment location services. If you can secure the cooperation of such sources, you'll find it easy to conduct the pricing by mail.

If you have to select your own sample of apartment complexes, you'll need to make your own judgment about whether a given complex

meets the specifications. Consult with others on your staff when you're in doubt. As a rule, apartment complexes where members of your organization's managerial staff live will qualify.

***Be skeptical about deviations.*** Normally, rents for units that meet the specifications cluster fairly tightly. If you find a rent that's unusually high or low for your area, check it out and determine whether it really belongs in the sample. If you conclude that an exceptionally high or low rent *is* correct, include an explanation.

Similarly, you should be suspicious of any large *shift* in the average from one quarter to the next. If the average changes by more than 5%, determine why and include a note with your report.

### **House Purchase Price**

The house purchase item carries 70.9% of the weight in the Housing Index (100% in nonmetropolitan areas that lack appropriate apartment housing) and (with the mortgage rate) 19.90% of the weight for the Composite Index, making it by far the most heavily weighted item priced.

You must adhere strictly to **all** specifications for the house purchase. It doesn't matter whether the specified house is typical of your area or not: for the *Index* to be valid, we must price the same house (with the exception of limited regional variations discussed below) everywhere.

- It's sometimes suggested that we should price, in each area, the kind of housing that's typical for professional and managerial there, but that would mean we'd be pricing different standards of living in different areas, and the result would be an Index that didn't measure anything.
- Note that the *Index* uses *ratios*, in this case the ratio of local to nationwide housing costs. This ratio probably wouldn't change much if we used a 3,000 sq.ft. house on a ¼-acre lot instead of a 2,400 sq.ft. house on an 8,000

sq.ft. lot. So long as the same specifications are used everywhere, the *Index* measures differences in the cost of a specific, well-defined standard of living.

- For the same reason, it doesn't matter whether a professional or managerial household could qualify for a mortgage on a house meeting the specifications for this item. In determining the ratio of local to nationwide cost, it's irrelevant whether or not the specified house is "affordable."

**Regional variations:** While we insist on using the same specifications everywhere to define the kind of house to be priced, our specifications have to allow for some regional variations. You don't need central air conditioning in Alaska or central heating in Hawaii, for example, to maintain the comfort level appropriate for the specified lifestyle.

Therefore, *the Index uses the concept of comparable, rather than identical, housing throughout the nation, allowing for variations governed by geographic location and local homebuilding practices.* Basements are common in some areas, but rare in others. Central air conditioning is essential in some climates, but unnecessary in others. Exterior wall materials, style (for instance, ranch vs. two-story), and similar elements vary with local market preferences. Insulation standards reflect differences in temperature ranges, demand for energy-conserving features, and local ordinances. Such regional variations in the kind of house appropriate for professional and managerial households have a direct bearing on housing price differences among areas which is precisely what the Housing Index is designed to measure.

Because local and regional variations in construction practices and housing features are important, **it's your responsibility to make sure that specifications for which local judgment is required are updated periodically to reflect changes in local practice.** A review of these "local option"

specifications with local builders once every year or so should suffice.

*Note: Specifications that do not expressly permit local judgment **must** be followed **regardless** of local practice.*

**Specifications:** Here are the specifications to use in determining *the full purchase price of the house:*

(1) *Location:* Good subdivision or other area convenient for schools and shopping, within an area offering full municipal services; water, sewer, police and fire protection; area typical for professional and managerial households in top income quintile.

- Subdivisions/neighborhoods sampled should be suitable for the social needs of the professional and managerial households in the top 20% of households on income.
- In large metropolitan areas where commuting time is an important factor in choosing a home, price houses within 60 minutes commuting time at rush hour from the central business district.

(2) *Lot size:* 8,000 sq. ft. (The lot requirement is waived altogether for the Borough of Manhattan in New York City, and may be waived with the concurrence of the *Cost of Living Index* project manager for other areas that entirely lack single-family detached homes.)

(3) *Living area:* 2,400 sq. ft. (Excluding garage).

- If new homes in your area typically have basements, any fully finished basement space is included in the 2,400 sq. ft. living area. Partly finished or unfinished basement space is not considered living area. (*Fully finished* basement space is comparable to other rooms in the house in terms of finish, for example carpeted if the house is carpeted and is part of the area centrally heated and/or air-conditioned.)

(4) *General house description:* Single-family detached house; newly built and not previously



occupied. *The house conforms with Marshall & Swift's rating of "Very Good Quality" as set forth in its Residential Cost Handbook.* The house is built in a high-quality tract or development and is often individually designed and custom-built or of comparable quality. Special attention has been given to exterior and interior details. Irregular shapes and angles will be common, as will large eaves and overhangs. Basic features:

- 4 bedrooms
- 2 full baths
- Living room
- Dining room
- Kitchen with built-in cabinetry and cooking island
- Finished family room
- One fireplace (if standard in your area)
- Utility room
- Attached two-car garage.

(In Manhattan and any other areas that lack single-family housing, condominiums otherwise meeting these specifications are substituted.)

(5) **Age: Newly built; not previously occupied.** You can determine the purchase price for the specified house in two ways:

- *Price real houses.* Be sure your sources report selling price, rather than asking price. The best way to get the proper construction quality is to contact your local homebuilders association and ask for names of builders who are building homes of the specified quality. Except in the largest metropolitan areas, such homes are almost always custom homes rather than spec homes. When you have your list, call the builders and ask if they have any model homes open; and if they do, actually visit a few of these models to make sure they meet the specifications. Walk through the models to make sure. Once you've qualified the builders, you can contact them each quarter and determine the current price or

price per sq. ft. for the models that meet C2ER specifications.

It's unlikely that you'll find homes of exactly 2,400 sq.ft. on lots of exactly 8,000 sq.ft. If the size of either the house or the lot differs appreciably (50 sq.ft. of living area could easily alter the price by \$2,750) from the specifications:

- Determine how much a comparable unimproved lot in the same neighborhood or subdivision would sell for.
- Subtract that price from the total price of the property. This gives you the value of the dwelling alone.
- Prorate the lot price to an 8,000-sq.ft.-equivalent price.
- Prorate the dwelling price to a 2,400-sq.ft. equivalent price.
- Add the two prorated prices to obtain the price to report.
- If you can't find new houses that meet the specifications, **determine what such a house would cost if it were to be built** in your area. Builders and developers generally can determine this figure easily when you give them the detailed specifications. Be sure to include the lot price, don't report construction cost only.

The insistence on new housing isn't capricious. Homeownership costs include periodic maintenance (painting, roof repairs, and so on), which generally are nil when the house is new, but rise with the age of the house. This is why buyers pay a premium for a house that hasn't been previously occupied. Since the *Index* contains no item representing home maintenance costs, the cost of homeownership is understated when resale housing is priced.

(6) *Type of construction:* Conventionally built on site; not prefabricated or modular construction.

(7) *Style:* Stipulate whatever style or mix of styles is most common for new homes in your

area (for example, one-story “ranch,” two-story, or split-level).

(8) *Basement*: Specify how much of the living area, if any, is fully finished basement space served by the central heating/cooling system. Also specify that amount of basement space other than fully finished space.

- If new homes in your area typically do not have basements, specify “no basement.”
- Surveys have shown marked regional variations on this point, a high percentage of new homes with basements in northern and northeastern states, and less than half with basements in western states.
- Fully finished basement space seldom exceeds 500 sq.ft.

(9) *Heating and air conditioning*: Determine the most prevalent type of central heating and water heating being installed in new houses in your area, gas, oil, or electric. Use this in your housing specifications and in your energy specifications.

- Most new houses have central air conditioning. Wide regional climatic variations, and even variations within some large metropolitan areas, affect whether central air conditioning is the norm for an area. If central air conditioning is installed in most new houses in your area, include it in your housing specifications.

(10) *Detailed house specifications*: The following specifications must be used in addition to specifications 1-9 above:

- (a) *Exterior walls*: material most commonly used in your area (brick veneer, stucco, wood siding, etc.).
- (b) *Roof structure*: gable.
- (c) *Roof cover*: asphalt shingle.
- (d) *Foundation*: poured concrete, 8 inches.
- (e) *Gutters and downspouts*: material standard for your area.

(f) *Floors*: hardwood floors in living room, dining room, and family room; standard grade carpeting in bedrooms; ceramic tile floor and wainscot in bathrooms; ceramic tile in kitchen and utility room.

(g) *Walls*: taped and painted dry wall, insulated for high energy-efficiency.

(h) *Ceilings*: dry wall, insulated for high energy-efficiency.

(i) *Trim*: stock.

(j) *Closets*: hall, bedrooms, kitchen, linen.

(k) *Windows*: ample natural lighting.

(l) *Electric wiring*: as required by local code.

(m) *Electric fixtures*: good, average; good luminous fixtures in kitchen and bath areas.

(n) *Appliances*: built-in range, oven, cooking surface, dishwasher, and garbage disposal.

(o) *Landscaping*: lawn and some near-house shrubbery practical for your area.

(p) *Plumbing*: 14 high-quality white or colored plumbing fixtures with one plumbing rough-in.

**Note that it’s up to you to determine what to specify as typical of your area for detailed specifications a, e, k, and o.** Use your best judgment, based on discussions with local builders and other knowledgeable sources, to decide what to stipulate about location and “standard local practice” for those items that vary from one region to another. Remember that what you specify for items subject to local variations must reflect professional and managerial preferences in your area.

**Determining full purchase price for the house:** Once you’ve settled on current specifications for the items that take local practices into account, prepare these specifications for distribution to your sample of house price sources.

Homebuilders, mortgage bankers, appraisers, savings and loan officers, and Realtors (in areas where the Multiple Listing Service lists new homes) make good sources. The Internet is also fast becoming a potential resource as the National Association of Homebuilders ([www.nahb.org](http://www.nahb.org)) begins to help its members gain advertise new homes on line. Ask each source to provide the current full purchase price a buyer would have to pay in your area to buy a house and lot meeting these specifications. Where no such houses exist, determine how much a buyer would have to pay for such a house if it were to be built.

- If you're in a metropolitan area, survey at least five people who know your local new house market well. (An exception occurs when a single source, such as a real estate research firm, maintains comprehensive data and can provide a reliable price based on a large number of transactions. If you're lucky enough to have such a source, you don't need to survey any further. But do include an explanation on your price report form so your report won't be deleted because of insufficient sample size.)
- If you're not in a metropolitan area, a sample of three or more is required, unless you have fewer than three sources available, in which case you need to include an explanation on your price report.

Once you have all your price data, calculate the average full house purchase price. Round to the nearest dollar, not to the nearest hundred dollars or thousand dollars, because rounding at higher levels than the nearest dollar can distort your city's Housing Index.

Don't wait until the last minute to ask your sources for current housing prices. If you enlist the help of several respondents in advance, and then send them a letter a week or so before the pricing dates, they'll have time to compile the information and mail it back to you.

**Before you submit your report, review the data critically.**

- Like apartment rents, house purchase prices generally fall within a fairly narrow range. If one price is substantially above or below the others, recheck it and find out why.
- If one source shows a price much higher or lower than in the previous quarter, recheck to determine what accounts for the shift.

The more closely you edit your own data, the fewer questions will be raised in the review process after you submit your report.

## Mortgage Rate

Complete the "Mortgage Quotations" section of the price report immediately following the pricing period. *On the Monday after the pricing dates*, call your local lenders to determine rates in effect as of close of business on the previous Friday.

Because the array of mortgage alternatives is complex, you must obtain several bits of information from each lender before we can calculate monthly principal-and-interest payments using the effective mortgage interest rate. These are shown in the "Mortgage Quotations" section of the price report. ***Your data reviewer will calculate both the effective mortgage rate and the resulting monthly principal-and-interest payment.***

Several mortgage options that evolved in the early 1980s would distort housing cost differentials, and therefore can't be priced. The two kinds of mortgages you **can** use are:

- **Conventional fixed-rate mortgage:** traditional level-payment mortgage with fixed (unchanging) interest rate and fixed monthly principal-and-interest payments over the entire life of the loan. ***This is the preferred option. Use it whenever it's available.***

Price a *30-year* conventional fixed-rate mortgage. For each lender, report the stated rate, the number of discount points charged to the buyer (one point equals one percent of the

amount financed), and the loan origination (or application) fee. When the division of points between purchaser and seller is negotiable, report what your sources inform you is the most typical number of points paid by the buyer.

**Do not obtain mortgage quotations from a newspaper or Internet sites.** These sources often contain artificially low rates designed to lure customers, but may not actually be available on the day you call.

- **Adjustable rate mortgage:** flexible mortgage plan in which the interest rate can be adjusted periodically during the term of the loan. *Report this option only if conventional fixed-rate mortgages are unavailable from any lender in your market.*

In addition to stated rate, points, and origination fee, you must report the cap and ceiling for each adjustable rate mortgage.

- The cap is the maximum amount by which the interest rate on an adjustable rate mortgage may be raised at any one time. The cap and the frequency with which the interest rate can be changed must be reported for all ARMs. (There is no cap on a conventional fixed-rate mortgage.)
- The ceiling is the maximum interest rate that can be charged on the mortgage. The ceiling must be reported for all ARMs. (There is no ceiling on a conventional fixed-rate mortgage.)
- **Do not price an adjustable rate mortgage (ARM) from any lender who offers a 30-year conventional fixed-rate mortgage.**
  - If you must use an adjustable rate mortgage, obtain the rate for a five-year ARM (no change in interest rate for the first five years of the loan).
  - If neither a conventional fixed-rate mortgage nor a five-year ARM is offered, then obtain the rate for a three-year ARM.

- Only if conventional fixed-rate, five-year ARM, and three-year ARM are not available may you use a one-year ARM.
- **Report only one type of loan from each lender.** When you can obtain a conventional fixed-rate quotation, don't ask for ARM quotations. When you must use an ARM, use only the first you can obtain among the three types listed above.
- All mortgages must be first mortgages, and must meet the following restrictions:
  - (a) FHA/VA mortgages and bond-backed mortgages are prohibited.
  - (b) Negative amortization (a rising loan balance because payments are insufficient to cover interest) is prohibited.
  - (c) Balloon payments (large payments due at maturity) are prohibited.
  - (d) Shared appreciation mortgages (equity participation by lender) are prohibited.
  - (e) Assumed mortgages are prohibited.
  - (f) Graduated payment mortgages, which offset lower initial payments with higher payments later in the life of the loan, are prohibited.
  - (g) Savings accounts pledged to the lender and used to reduce monthly payments are prohibited.
  - (h) Land contracts, where the lender retains title to the property until the loan is fully paid, are prohibited.
  - (i) Wraparound mortgages, in which the seller keeps the original low-rate mortgage and the buyer makes payments to the seller, who forwards a portion to the lender holding the original mortgage, are prohibited.

You may obtain mortgage rates from savings and loan associations, banks, and mortgage lenders. Don't obtain quotations from builders or real estate agents.

Check with residential mortgage loan officers on the Monday following the pricing period to

obtain the rates in effect as of close of business on the Friday during the pricing period. ***Tell each that the down payment is 25% and the term of the loan is 30 years.*** Ask each for the best generally available interest rate for a conventional fixed-rate mortgage.

*Do not enter the average interest rate or the monthly house payment on the price report form.* Your data reviewer will calculate these two items.

Be sure to resurvey all sources on purchase price and mortgage data each quarter. This is essential to reflect rapidly changing housing prices and interest rates. Keep track of prices quoted by each source so you can check immediately if one firm reports a price that differs significantly from what it reported in the previous quarter. ***Do not accept a statement that there has been no change from the previous quarter.***

**Taxes and insurance:** Note that real estate taxes and insurance are not included in the monthly payment. The Cost of Living Index Advisory Board has studied the entire issue of tax burdens in an effort to find some way to determine actual differences reliably, but has found no method that would suffice. Three independent studies over the years have likewise concluded that there is no feasible way to incorporate tax burdens into the *Index*. Insurance costs pose similar problems.

The Advisory Board believes any attempt to include taxes and insurance in the house payment would yield unreliable data that wouldn't accurately reflect differences in housing costs and would reduce the *Index*'s usefulness as a reliable measure of differentials among urban areas in the costs of consumer goods and services.

## UTILITIES INDEX

**(Component Index Weight = .1031)**

The Utilities Index is based on three items: electricity, other home energy, and telephone service.

## Electricity and Other Home Energy

Once you've found out how much the house specified costs, the next question is how much a family buying that new home will spend for energy when it moves in.

Two basic steps are involved in arriving at monthly energy costs. First, we determine how much energy of each type is used. Then we price that amount of energy at current rates.

## Determining Consumption

C2ER has developed a computer model that incorporates local weather data from the National Oceanographic & Atmospheric Administration and assumes high levels of energy efficiency typical of new home consumption to generate energy consumption figures for specified house. Using this model is mandatory for all *Cost of Living Index* participants.

You have to answer three questions about what's typical of new homes in your area:

- Does it use natural gas for central heating?
- Does it use natural gas for water heating?
- Does it use natural gas for cooking?

Your answers to these questions determine the mix of appliances used in the model. If you answer "no" to all three, the new home in your area is all electric (unless you're in one of the few areas using heating oil). Once you've answered these questions, we won't change the mix of natural gas and electric appliances unless you tell us that what's typical for new homes in your area has changed.

## Determining Energy Costs

In addition to providing the consumption data, C2ER generates the cost data. To do this, we need two inputs from you the first time you participate:

- The **base rate schedule** for each utility. State public utility commissions usually establish

base rates. These rates are in effect for a period ranging from six months to several years.

If the published basic rate schedule contains different rates for “summer” and “winter,” we need to know which months are included in each season. Check to see if the base rate schedule itself contains this information, if it doesn’t, find out and add that information to the rate schedule.

- The **current adjustment factors**. To compensate for changes in the utilities’ costs of acquiring fuel, public utility commissions typically allow utilities to pass on to consumers any changes (either up or down) in their costs of acquiring fuel. For electricity, the most common adjustments are the fuel cost adjustment factor and the power cost recovery factor; for natural gas, it’s the purchased gas adjustment factor. There may be others, and they should be included in your report. (Do **not** include taxes or franchise fees.)
  - If more than one electric or natural gas utility serves homes in the area your report covers, and if one has more than 70% of the market, we need only data for that one provider. If no single company serves more than 70% of the market, we need data for the two that have the largest market shares, and we need to know approximately what those shares are.

*After the first time you participate using the C2ER model, subsequent quarters are easier still. You can download the utility rates worksheet that shows the base rate schedule and adjustment factors used in the previous quarter from our website. You need to send this to your energy utility contacts with a request that they either update the rate schedules and adjustment factors or confirm that those are unchanged from your previous report. **Submit your revised or verified utility data with your price report each quarter.***

While participants in *the Cost of Living Index* no longer are directly involved in obtaining

consumption data, there are a few points about the home energy items of which you need to be aware:

- **Why don’t we use a utility-calculated “average residential bill”?** Consumption for the average residence may differ substantially from consumption in a *new 2,400-sq.ft.* house, especially where many residences are apartments. Generally, single-family homes use more energy than apartments because they are larger and contain more people.
- **Why not price the same amount of consumption everywhere?** Utility representatives and *Index* participants sometimes suggest that it would be easier if a fixed amount of electricity (say, 1,000 kwh) and a fixed amount of natural gas (say, 3 mcf), and then priced these amounts everywhere. After all, they note, we price a fixed amount sausage. Why not do the same with electricity?

In the case of grocery items or most other kinds of goods and services covered by the *Index*, the standard of living is established by the weight assigned. The quantity of pork products that represents a professional or managerial standard of living isn’t affected by location.

But when we come to home energy consumption, we’re dealing with the question of how much energy is required to maintain comfort levels appropriate for households in the kind of home priced for the housing component. Here the *Index* must be sensitive to geographic differentials. Clearly, there are vast differences between, say, Birmingham, which averages 2,863 heating degree-days and 1,881 cooling degree-days per year, and San Diego, which averages 1,284 heating degree-days and 842 cooling degree-days per year. Maintaining the same level of comfort will use far more energy in Birmingham. A comparison of **unit costs** for energy wouldn’t capture the difference in **total costs**. It’s essential that the *Index* measure total cost of energy consumption, rather than unit cost, to

provide an accurate picture of living cost differentials among areas.

## Other Energy

Some houses that meet the house purchase specifications use forms of energy other than electricity and natural gas, fuel oil for example.

Restrict these additional energy sources to forms of energy *normally* used in new homes in your area. For example, don't report fuel oil if new homes in your area use only electricity and natural gas.

Most energy use other than electricity and natural gas is seasonal. Determine the typical annual consumption of fuel oil or any other source of energy used in the C2ER-specified house, and then divide that amount by **12** rather than by the number of months such supplemental fuels are used. Calculate the current cost for the resulting average monthly consumption, and enter the average monthly consumption and cost figures in the space provided in on the price report.

## Telephone

The fees and taxes you report for monthly wireless cell service are for the state and local rates. Assume that the phones are owned by the user. Do not include phone costs, fees, or taxes.

To collect the rates, see the COLI Helpful Hints for the specific collection instructions and related links.

## TRANSPORTATION INDEX

### (Component Index Weight = .1116)

The Transportation Index includes two items: tire balancing, and gasoline.

**Tire Balancing:** Price the average cost of balancing **all four wheels** of an American-made automobile.

- You may contact tire stores, automobile mechanics, and service stations.

- As a rule, you don't want to include new car dealerships in your sample because their prices tend to be higher. Presumably, professionals and executives have enough sense to have a routine procedure done where it's not inordinately expensive.

Price computer balancing where it's available. If computer balancing isn't available, price spin balance. Don't price establishments that have neither computer nor spin balance.

If whether the tire is on or off the car affects the price, obtain the price for balancing with the tire on the car.

**Gasoline:** Price the cost of one gallon of regular unleaded gasoline (not premium unleaded). Include all taxes, whether or not they're part of the stated pump price.

- Use *self-service* pumps where available.
- When a discount is offered for cash payment or debit card payment, report the discounted price.
- Record each price to tenths of a cent (*e.g.*, \$1.289), and round the average to the nearest tenth of a cent. If you omit the third decimal place, a "9" will be assumed.

## HEALTH CARE INDEX

### (Component Index Weight = .0436)

The Health Care Index includes five items: Optometrist visit, doctor visit, dentist visit, prescription and non-prescription medications.

**Please price all exams for patients without insurance** as this is the only way to truly compare costs.

**Optometrist Visit:** Full vision eye exam for established adult patient. Please price only optometrist. Please be sure NOT to price ophthalmologists as their rates are significantly higher. Eye exam should include eye examination, eyeglass prescription, glaucoma test and dilation exam. Dilation is not always part of the exam so you may need to verify that it has been included in the reported price.

**Doctor Visit:** Report the average fee charged for American Medical Association procedure **99213** for a patient **without** insurance. **The figure to report is the total fee for the procedure—not just the amount billed to the insurer or the amount of the co-payment.**

This procedure is a general practitioner's routine examination, typically about 15 minutes for an established patient with a problem of *low to moderate severity* (for example, a periodic examination of a patient under treatment for high blood pressure). The duration and the degree of severity distinguish this procedure from AMA procedures 99212 and 99214.

Note that the patient is an **established** patient. Many physicians have a higher charge for a patient's initial visit to cover paperwork and time involved in setting up new records and recording a medical history. Be sure to report the price for subsequent visits, not for initial visit.

Price this item by telephoning or faxing a sample of doctors or by contacting the local medical society.

**Dentist Visit:** Report the average fee charged for American Dental Association procedures 01110 (adult teeth cleaning). Please report the full price you would be paying if you **do not have dental insurance.**

- Be sure the price is for an established patient rather than for an initial visit.
- Price this item by telephoning or faxing a sample of dentists or by contacting the local dental society.

**WARNING!** Fees for doctors and dentists tend to vary within an urban area far more than do prices for most other items. This means you need larger samples to make sure that your sample average comes close to the average you'd get by surveying all doctors or dentists in your area who meet the specifications. ***If you're sampling five establishments for most items, you should sample 8-10 doctors and 8-10 dentists.***

**Advil:** This item may be priced at a grocery store or any other outlet. The tablets are round and have an orange/red coating. Be sure to get the 200mg 100 tablets and please avoid pricing gel-caps or caplets. Also be careful, it is only for pain relief not cold, sinus, etc.

**Lantus Solostar Insulin 1 Carton, 5 pens:** This is a widely sold prescription drug for type I and type II diabetes. Please price at local pharmacies in grocery stores or other retail outlets and ask a pharmacist for the **price of this item without insurance coverage.** Please don't price for any other size carton.

## MISCELLANEOUS GOODS & SERVICES INDEX

**(Component Index Weight = .3289)**

The Miscellaneous Goods & Services Index covers a wide range of categories of consumer spending on goods and services, including food away from home, personal care, apparel, household operations, reading, entertainment, and alcoholic beverages.

Price each item in the Miscellaneous Goods & Services Index at a minimum of five establishments (three outside metropolitan areas) unless your area has fewer that offer an item. If an item isn't available at all in your area, report the price for that item in the nearest community where it is available or, if it's more reflective of what professional and executive households in your area would do, price by catalogue, making sure to include shipping and handling charges.

When you select your samples of establishments, make sure they reflect professional and managerial shopping patterns in your area. You can include discount stores (Wal-Mart, K-mart, etc.) *only to the extent that such households would be expected to use them.*

If you include three discount stores in a sample of five stores for tennis balls, for example, you're giving the discounters a 60% share of the professional and managerial market for that item. That's okay if it's a realistic picture of



such households' shopping patterns in your area. In most areas, however, we'd expect such households to shop discount stores only occasionally. Where that's the case, discount stores shouldn't be more than 20% of the sample.

**Hamburger Sandwich:** Report the average price of a McDonald's *Quarter-Pounder with cheese* if possible. Don't assume that the price is identical for all McDonald's restaurants in your area.

If your area doesn't have even one McDonald's restaurant, report the average price at "fast food" restaurants for a hamburger sandwich with a 1/4-pound (before cooking) all-beef patty, cheese, pickle, onion, mustard, and ketchup.

Be sure each price you get **excludes sales tax**. More than many other chains, McDonald's often quotes prices that include sales tax unless you clearly specify otherwise.

**Pizza:** Report the average price of an 11"-12" thin crust regular cheese pizza (no extra cheese) at Pizza Hut and/or Pizza Inn.

- Don't price home delivery, price for consumption in the restaurant.
- Don't assume that the price is identical at all restaurants within a chain in your area.
- Price Pizza Hut and Pizza Inn if possible. If your area has at least one, but less than five (three outside metropolitan areas), price all restaurants in these two chains. Don't expand your sample by adding restaurants that aren't in these chains.
- On your price report form, indicate which chain is quoting each price. Just jot "PH" or "PI" by each price.
- If your area has no restaurants in either of these chains, then price the specified pizza at restaurants *suitable for family dining in the restaurant*.

**Fried Chicken:** Report the average price of a fried chicken drumstick and thigh at Kentucky Fried Chicken and/or Church's Fried Chicken.

Report the price with or without "extras" (mashed potatoes, biscuits, etc.), whichever is lower.

- Be sure your reported price is the total for the two specified pieces, and not the cost per piece.
- Use *only* Kentucky Fried Chicken and Church's Fried Chicken if possible. If these two chains together have fewer than five restaurants in your area (three outside metropolitan areas), price however many there are. Don't expand your sample by adding other restaurants.
- If your area has no restaurants in either chain, then price the drumstick and thigh at *restaurants suitable for family dining*.

**Man's Barbershop Haircut:** Report the average price of a "barbershop" or "standard" haircut at regular barbershops. Don't include styling, razor cuts, and so forth.

Price only at regular barbershops. Don't price styling salons and barber colleges.

**Woman's Shampoo, Trim, and Blow-Dry:** Report the average price for shoulder-length or medium hair, based on beauty shops that professionals and executives in your area patronize. Specify no style change.

- Price *only* in beauty salons. Don't price beauty schools or individuals working in their homes.
- Price *only* salons that accept appointments.
- Price *only* salons that allow the client to select her beautician.

These limitations on the salons you may include in your sample are designed to eliminate "assembly-line" operations. In a metropolitan area, you need to **confirm any reported price below \$15** to make sure it's from an establishment that mid-management executives patronize, meets the three tests above, and includes all three components—shampoo, trim, and blow-dry.

**Toothpaste:** Report the average price for a 6 oz.-6.4 oz. tube of Crest brand or Colgate brand toothpaste. (While this item isn't part of the grocery items index, you can include it on your grocery store pricing list.)

**Shampoo:** Report the average price for a 12.5 or 15 oz. container of *Alberto VO5 Shampoo*. If 15 oz is not available, please price 12.5 oz. (This is another item you can price easily in grocery stores.)

**Dry Cleaning:** Report the average cash-and-carry price for dry cleaning a **man's** two-piece suit. Price several establishments to reduce the undue effect of any "specials."

**Man's Dress Shirt:** Report the average price for a man's pinpoint cotton/polyester blend dress shirt (white, *long* sleeves, plain collar). If you need to specify size, use any size from 15/32 to 16/34.

- You may price shirts on special, but don't price irregulars or seconds.
- Be careful to select stores where professional and managerial households normally shop. Don't over represent discount stores in your sample.

**Boys' Jeans:** Please price blue denim jeans, regular, relaxed or loose fit in sizes 8 to 20.

You should be pricing name brands such as Levi's, Lee, or Wrangler. You can find this item at large department stores such as **Macy's or JC Penney**. Please price button fly or zip and report the lowest price. Please make sure that you do not price irregulars or damaged merchandise.

**Woman's Slacks:** Please price name brands, twill women's khakis (regular sizes, misses 4-14). Examples of "name brands" include Dockers, Lee and other similar. Appropriate items can be found at department and specialty stores such as **Macy's, JC Penny's, or other large department stores**. Pants must be at least 95% cotton, but may contain up to 5% Lycra or other material. Please do not price irregulars, damaged merchandise or shorts.

**Major Appliance Repair:** Report the average base price, including any minimum labor charge but excluding parts, for a home service call for clothes washing machine repair. (This is the amount you would pay for someone to tell you the washing machine would work just fine if you'd plug it in.) You may use Sears, J.C. Penney, Montgomery Ward, General Electric, and so on, as well as independent repair establishments.

**Newspaper Subscription:** Report the cost for a home-delivery daily-and-Sunday subscription to the newspaper professional and managerial households in your area normally choose for state, regional, and national news.

- If your area is a suburb of a large city, use the average price for major daily-and-Sunday newspapers in that central city (*e.g., New York Times, San Francisco Chronicle, Washington Post, Houston Chronicle, Chicago Tribune, Seattle Post-Intelligencer*).
- **If your area is a smaller metropolitan area or is outside a metropolitan area, the odds are that your local newspaper doesn't meet the specifications.** Few newspapers published in rural areas feature the depth and variety of reporting that professionals and executives demand. In most such areas, the newspaper you should price is published in the nearest major metropolitan area.

As a case in point, Galveston—50 miles from Houston, and in a separate PMSA—has its own daily-and-Sunday paper. To meet the requirement for state, regional, and national coverage, however, Galveston would have to report the *Houston Chronicle*.

- If your local paper meets the coverage criterion but doesn't publish seven days per week, you must include the cost of home delivery of another paper for the seventh day.
  - If there is no other paper for which home delivery is available, then use the newsstand price for the seventh day for

the most reasonable substitute (*USA Today* is the fallback option).

- If your paper publishes seven days per week except for federal holidays (or some similar variation), calculate the annual cost of substituting on the missing days and add it to your rate.

The price report offers two choices of subscription periods—cost for 52 weeks, and cost per year. **Report only one of these options—and note that they’re not quite the same thing.** (Monthly cost, based on 4,348 weeks per month, appears in the published report.)

If a paper is running a “special,” you should report it only if the discount is available to current subscribers. Discounts available only to new subscribers aren’t allowed.

**Movie:** Report the average adult admission for showings of *first-run films* (recent releases) *between 6 p.m. and 10 p.m. on Saturday* at indoor movie theaters. Don’t use discount admission prices unless they’re available for all evening showings.

- Be sure your sample of theaters is appropriate for professional and managerial households.
- Be sure the theater is showing first-run movies. (A look at the theater ads in a newspaper from the nearest major metropolitan area is a good guide to what movies are currently “first-run.” And any film that’s advertised on national television as now showing in theaters is a first-run film.) In smaller communities, you may need to price admission prices at the nearest theater that qualifies, even if it’s outside your immediate area.

**Tennis Balls:** Report the average price for one can of three Wilson or Penn brand extra-duty tennis balls. This item can be found in department stores, sporting goods stores, drugstores, and discount stores. Don’t over represent any one type of store in your sample.

**Veterinary Services:** Please price exam only, without vaccines, blood work, grooming, etc. The exam is for a yearly check-up of a healthy 4-year-old dog. Animal hospitals are a good source for prices and animal shelters are a good source for phone numbers of local vets, etc. Most receptionists will be able to give you this information over the phone easily.

**Alcoholic Beverages:** Where competitive pricing of alcoholic beverages exists, price several establishments and average the results. Where prices are set by the state and are the same by law at all outlets, you need price only one establishment.

Alcoholic beverage prices include all federal, state, and local liquor taxes. Don’t include separately stated sales taxes in the price.

If your area is “dry,” price the three alcoholic beverage items in the nearest place you can buy alcoholic beverages.

**Beer:** Report the average price for a six-pack of Heineken’s beer in 12-ounce containers. Exclude deposit, if any. Do not price 12-packs or cases and then report a prorated price.

**Wine:** Report the average price for a *1.5-liter* bottle of white table wine. It may be pinot grigio, Chablis blanc, or other white table wine of your choice. The basic rule of thumb for this items is, ‘Would you serve it in your home?’ Price only blends—don’t price vintage years, which are more expensive.

**Drop-In Yoga Class:** Report the price for a one hour yoga drop-in class. The rate may be listed as a “single class pass”. If a membership is required at the studio, please do not price there, or find the rate that is accessible to non-members. This will likely exclude classes available at fitness clubs that offer monthly members and a variety of group classes (non-yoga). No discounts for first time visitors or students should be reported.

## SECTION 3: HOW TO USE THE INDEX

Once you've invested the time, effort, and resources to collect price data, you want to be able to use the results properly. In this section, we'll look at the concepts and theory that underlie the *Cost of Living Index*, and we'll see how it compares with some other measures.

### What's An Index Number?

An index number is simply a **percentage of** some "base" number that serves as a standard for comparisons.

In the *Cost of Living Index*, the base with which each urban area is compared is the average for all participating urban areas in that particular quarter. Thus, if two Metropolitan Statistical Areas (MSAs) have indexes of 115.0 and 90.0, their respective mid-management living costs are 115% **of** and 90% **of** the average for all areas participating in that quarter, which means that the former's costs are 15% **above** the average for all participating areas, while the latter's are 10% **below** the average.

### Calculating Differences between Areas

The most common application of the *Cost of Living Index* is not to compare an area with the average for all participating places, but rather to compare, say, MSA #1 and MSA #2. People don't move from an area to the nationwide average; they move from one place to another, and they want to know the differences between those two places.

You can't compare living costs for two areas by subtracting the index for one from the index for the other. In the example above, MSA #1 isn't 25% more expensive than MSA #2. To determine how much more or less expensive MSA #1 is than MSA #2, subtract MSA #2's index from MSA #1's, divide the result by MSA #2's index, and multiply the answer by 100%:

$$\begin{aligned} & [(115.0-90.0)/90.0]*100\% \\ & = (25.0/90.0)*100\% = 28\% \end{aligned}$$

When we compare MSA #1 with MSA #2, we find that MSA #1 is approximately 28% more

expensive ("approximately" because the *Index* is based on sampling).

Note that if we reverse the order and compare MSA #2 with MSA #1, we do *not* find that MSA #2 is 28% less expensive. Why? Because the denominator in the fraction changes. Comparing MSA #2 to MSA #1:

$$\begin{aligned} & [(90.0-115.0)/115.0]*100\% \\ & = (-25.0)/115.0*100\% \\ & = -0.22*100\% \\ & = 22\% \end{aligned}$$

In our example, then, MSA #1 is about 28% more expensive than MSA #2, and MSA #2 is about 22% less expensive than MSA #1.

When you make such calculations, always remember that fairly small differences don't indicate any measurable difference, and may not even correctly show which area is more expensive. If two MSAs have respective indexes of 102.0 and 104.5, the MSA with the higher index in actuality could have a slightly lower cost of living than the one with the lower index.

Why aren't small differences significant? There are many potential sources of error, both sampling error and non-sampling error. Further, because the *Index* is based on non-probability samples, we can't specify a precise confidence interval. As a rule of thumb, however, it seems like a reasonable guide not to treat differences of 4% or less in the Composite Index as significant. For the component indexes, 5% is probably a safer level.

### Theory

The *Cost of Living Index* is designed to provide the best possible measure of relative differences among urban areas in the cost of consumer goods and services appropriate for professional and managerial households in the top income quintile.

The *Cost of Living Index* rests on the premise that prices collected at a specified time, in strict conformance with standard specifications, provide a sound basis for constructing a

reasonably accurate gauge of relative differences in the cost of consumer goods and services.

Data published for the first three quarters is based on prices submitted by all participating areas. Beginning in February 2008, C2ER began publishing an annual average survey compiled from data submitted in those previous quarters. For urban areas where we have data less than three pricing periods, we developed estimated prices in order to have a complete set of observations. Thus, to calculate the annual average index, we use the actual and estimated prices as our observations to calculate an annual average price for each item. We do not weight any of the prices based on when we observe them. Thus, first pricing period prices receive the same weight in the calculation as third pricing period prices. Then, from the annual average price for each item, we calculate the index using the same BLS Consumer Expenditure Survey weights that we would for any other pricing period.

Consumer expenditures cover an almost limitless range of goods and services, and no index of consumer buying can encompass all of them. Since we can't price *everything*, what do we do?

The standard approach, used in the *Cost of Living Index*, is to divide consumer expenditures into categories, and then select items that *represent* those categories. The items used in the *Cost of Living Index* thus are *surrogates* for *entire categories* of consumer spending. For this approach to work, price differences among urban areas for the items in the *Index* must accurately reflect differences for the categories they represent.

The *Cost of Living Index* consists of six major categories: grocery items, housing, utilities, transportation, health care, and miscellaneous goods and services. These major categories in turn are composed of subcategories, each of which is represented by one or more items in the *Cost of Living Index*. Separate component indexes are published for each of the six major categories.

Note that we're not concerned with the extent to which consumers *actually purchase* the individual items in the *Cost of Living Index*. The 57 items have been chosen solely to show inter-area price differences in the categories they represent. What's important, in calculating the *Cost of Living Index*, is the *ratio* of an urban area's average price to the average price of the same item nationwide. When we use a pound of whole frying chicken to represent poultry products, we're assuming that if an area's price for this item is 10% above the nationwide average, its prices for poultry products as a whole also are about 10% above the nationwide average.

How much the ratio for each item contributes to the *Cost of Living Index* is determined by the distribution of consumer expenditures among the categories covered by the *Cost of Living Index*. The share of consumer spending devoted to the category each item represents determines that category's importance, or weight, in the *Cost of Living Index*.

The Cost of Living Index Committee has adopted the weights shown in this manual largely on the basis of data from the U.S. Bureau of Labor Statistics' 2007 *Consumer Expenditure Survey*, using the data on the proportional distribution of expenditures by households in which the reference person has a professional or managerial occupation and by households in the upper quintile of income.

It's important to understand that *the weights are what define the standard of living*. In housing, for example, homeownership accounts for 79.22% of the housing index, while rental occupancy accounts for 20.77%. If we were to use the same price data to construct an index for clerical workers, we'd assign considerably less weight to homeownership costs and correspondingly more weight to renting, since clerical workers are more likely than professionals and executives to rent their housing.

### **Why Are the Weights Identical Everywhere?**

In published *Cost of Living Index* reports, the numbers above the index data at the top of each column show the weight each component index

carries in the Composite Index: 13.36% for grocery items, 28.64% for housing, 10.46% for utilities, 10.46% for transportation, 4.44% for health care, and 32.44% for miscellaneous goods and services. These figures reflect the typical distribution, for the entire nation, of spending for the specified kind of household.

It's not uncommon for someone to object that it's unreasonable to weight housing at 28.64% for, say, a booming metropolitan area where housing prices are extremely high and a depressed metropolitan area that suffers from a housing glut and has exceptionally low prices. Clearly, housing is going to demand a larger share of the consumer dollar in the rapidly expanding economy.

Remember that the Composite Index for an area is the sum of six products, each of the six component indexes multiplied by the weight for that index. Each of those six products is the ratio of *local cost for that category* to *nationwide total living costs*. Let's demonstrate this, using housing as our example:

- First, consider the weight used for housing. Where does it come from? The weight housing carries in the Composite Index is the ratio of nationwide housing costs to nationwide total living costs:

$$\text{Housing Index Weight} = 0.2864 = (\text{U.S. Housing Costs} / \text{U.S. Total Living Costs})$$

And the housing index for an area is the ratio of its housing costs to nationwide housing costs:

$$\text{Local Housing Index} = (\text{Local Housing Costs} / \text{U.S. Housing Costs})$$

When we multiply 0.2864 by the local housing index to obtain housing's contribution to the local composite index, U.S. housing costs in the two ratios cancel:

$$0.2864 * (\text{Local Housing Index}) = (\text{Local Housing Costs} / \text{U.S. Total Living Costs})$$

Clearly, if we *didn't* use the same weights for housing everywhere, we wouldn't wind up with the ratio of local housing costs to total living costs nationwide.

We go through this process for each of the six component indexes and then sum the results. What we get is the ratio of *total* local costs to *total* nationwide costs. We multiply that figure by 100 to obtain the Composite Index.

### What Can the Index Tell Us About Dollar Amounts?

The *Cost of Living Index* can be mined for more data than many users realize. By using the six products (local component index times index weight), we can find out how we'd expect expenditures to be distributed in different areas; and by *assuming* a given dollar amount for total spending in one place, we can determine what amount of money would be required and how it would be spent anywhere.

Let's work through an example. For simplicity, *assume* that annual spending by professional and managerial households on consumer goods and services averages \$80,000 per year nationwide. Let's look at data for two MSAs and determine not only how much the same standard of living would cost in those areas, but also how spending would be distributed by category. In the table on the following page, the first lines for U.S., Area A, and Area B show how the data would appear in the published report.

Now we'll go through a series of steps:

- Multiply each component index by its weight (the second line in each listing).
- Calculate each of these six products (the third line) as a percentage of the sum of products (that is, of the Composite Index) for each area. This figure is shown on the fourth line of each listing.
- Multiply the local Composite Index by \$80,000 to determine total spending (the first cell in the last line of each entry).
- Multiply each category's share of total local spending by total local spending to determine spending by category.

If our professional/managerial standard of living costs an average of \$80,000 per year nationwide (after taxes), then such a household moving from Area B to Area A could expect to spend about \$18,080 per year more for consumer goods and services. Its housing costs would rise by about \$19,790 per year, its health care costs would grow by about \$656, and its spending for miscellaneous goods and services

would increase by roughly \$1,596. Lower costs for grocery items, utilities, and transportation wouldn't offset the increases in other categories.

#### Cost of Living Index: First Quarter 2007

	Composite	Grocery Items	Housing	Utilities	Transportation	Health Care	Misc. Goods & Services
<b>U.S.</b>							
Indexes	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Weights	1.00	0.13	0.28	0.10	0.10	0.04	0.35
Products	100.0	13.0	28.0	10.0	10.0	4.0	35.0
% of Product	100.0	13.0%	28.0%	10.0%	10.0%	4.0%	35.0%
Sum Spending	\$80,000.00	\$10,400.00	\$22,400.00	\$8,000.00	\$8,000.00	\$3,200.00	\$28,000.00
<b>Area A</b>							
Indexes	120.2	95.8	165.5	72.7	100.8	126.5	110.1
Weights	1.00	0.13	0.28	0.10	0.10	0.04	0.35
Products	120.2	12.5	48	7.3	9.1	5.1	38.5
% of Product	100.0%	10.4%	39.9%	6.0%	7.5%	4.2%	32.1%
Sum Spending	\$96,160.00	\$10,000.64	\$38,367.84	\$5,769.60	\$7,212.00	\$4,038.72	\$30,867.36
<b>Area B</b>							
Indexes	97.6	102.3	80.2	103.0	107.3	106.0	104.4
Weights	1.00	0.13	0.28	0.10	0.10	0.04	0.35
Products	97.6	13.3	23.3	10.3	9.7	4.2	36.5
% of Product	100.0%	13.6%	23.8%	10.6%	9.9%	4.3%	37.4%
Sum Spending	\$78,080.00	\$10,618.88	\$18,583.04	\$8,276.48	\$7,729.92	\$3,357.44	\$29,201.92

#### Coverage of Living Costs

The *Cost of Living Index* isn't designed to cover all living costs. Two important restrictions apply:

- The *Cost of Living Index* is location-specific, focusing on expenditures made by people living in each participating area. Among the kinds of expenditures it expressly excludes are:
  - Life insurance, for which rates generally are not a function of location;
  - Hotel rates and taxi fares, which usually are expenses for visitors rather than residents; and
  - Charitable donations, which are not affected by place of residence.

- The *Cost of Living Index* is restricted to consumer goods and services. It does not take into account income taxes, ad valorem taxes, or sales taxes.

C2ER fully realizes that state and local income, ad valorem, and sales taxes are an integral part of the cost of living, and that the tax burden varies significantly not only among states, but also among places within each state. Given the multiplicity of local taxes, rate structures, taxing jurisdictions, and assessment procedures, however, no reliable method exists by which to compare total tax burdens.

When the *Cost of Living Index* was established, it was decided to exclude all taxes except those that are an integral part of item prices—specifically, excise taxes on telephone service, gasoline, and alcoholic beverages. In 1982, this position was altered slightly by adding separately-stated taxes to gasoline to maintain comparability between states that add taxes to the stated pump price and those that include them in the pump price.

The Cost of Living Index Committee periodically has considered whether other taxes should be covered by the *Cost of Living Index*, and consistently has affirmed its original decision to exclude them. It feels the specifications needed to standardize tax-burden calculations would be so complex that significant reporting errors would occur, diminishing the accuracy and reliability of the *Cost of Living Index*. The Committee believes a high-quality index restricted to the costs of consumer goods and services is far preferable to an index of dubious quality that includes taxes.

## Interpreting the Index

The *Cost of Living Index* provides reasonable estimates of living cost differentials—exclusive of income, ad valorem, and sales taxes—among a large number of urban areas. To avoid misrepresentation, however, you should understand the kinds of information the *Cost of Living Index* provides. In the next few pages, we'll look at what the *Cost of Living Index* tells

us, what it doesn't tell us, and some sources of confusion over inferences that can be drawn from the data.

### What the Index Tells Us

By measuring price levels of specific commodities and services that represent broad categories of consumer expenditures, and by weighting the relative prices of these items to reflect spending patterns typical of professional and managerial households in the top income quintile, the *Cost of Living Index* shows relative price levels in participating areas at a given point in time.

The published *Cost of Living Index* reports show each area's relative cost of living for six major components of consumer expenditures (grocery items, housing, utilities, transportation, health care, and miscellaneous goods and services). Each index number is read as a percentage of the average for all reporting areas in that quarter. Similarly, each area's overall cost of living is shown in the Composite Index as a percentage of the overall average for all reporting areas. (An index number is mathematically the same as a **percentage of** some "base" number.) Because the *Cost of Living Index* uses non-probability sampling techniques, however, the index numbers are approximations, rather than exact representations, of relative living costs.

Any sampling procedure involves statistical error, which simply means that there is a certain probability that relative living costs really are higher or lower than the *Cost of Living Index* indicates.

If sampling error were the only source of error in the *Cost of Living Index*, we could specify a confidence interval within which index measures could be presumed accurate. But in a project of this type, the potential for non-sampling error is great—and no way exists to calculate the likely magnitude of such error.

The Cost of Living Index Committee has attempted, through the rigorous specifications in this manual and through vigilance in reviewing



the quarterly data, to minimize the three major sources of non-sampling error:

- Relative prices for a given component of consumer expenditures can be biased if the items representing that component don't display price differentials typical of the differential for that component as a whole. Therefore the Committee has selected the items in the *Cost of Living Index* on the basis that they adequately reflect differentials for the range of expenditures they represent.
- Establishments selected for pricing in a given area may not accurately represent prices for that area. The Committee has dealt with this potential source of error in two ways: by introducing the concept of a professional/managerial household in the top income quintile as a guideline for selecting establishments and neighborhoods; and by stipulating a minimum sample size. The Committee also encourages participants to ensure price representativeness by expanding their samples beyond the requisite minimum.
- Pricing errors can occur through inattention to specifications (such as pricing a smaller box of corn flakes than is stipulated), through misunderstanding of the specifications (such as including the garage in the 2,400-sq.ft. living area specified for the house purchase item), and through establishment error (such as a grocery store that mismarks an item price). For this reason, the Cost of Living Index Committee members who review the data routinely question atypical prices that may represent some form of pricing error, and more often than not ask a participant to recheck selected prices that could be erroneous.

It's the Committee's opinion that error from these three sources is minimal, and that the *Cost of Living Index* in fact presents a reasonable approximation of geographic differentials in the cost of consumer goods and services for the specified standard of living.

### What the Index Doesn't Tell Us

Because of sampling error and non-sampling error, index numbers shown in the published reports don't represent actual percentage differences among areas. The *Cost of Living Index* simply isn't that precise. Therefore, it's not valid to calculate the ratio of two area indexes and conclude that the price differential between those two areas is **exactly** the arithmetic result. Because the index numbers are approximations, the differences are also approximations. Small differences between areas may not represent significant—or even actual—differences in living costs. Larger differences do permit an inference of substantial real differences.

- For example, if MSA #1's Composite Index is 105.6 and MSA #2's is 107.6, you can't conclude that there's a significant difference—or even that living costs are higher in MSA #2 than in MSA #1. The difference is so small that if living costs could be determined more accurately, MSA #2 might turn out to be a bit less expensive. You **can** conclude from these data that any real differences are slight.
- To continue the example, suppose that MSA #3 has a Composite Index of 100.0 and MSA #4's Composite Index is 120.0. Clearly there's a significant and large cost-of-living differential—but that differential isn't exactly 20%, and should not be so represented.

The use of index data as completely accurate determinations of living cost differentials is one common misinterpretation of the *Cost of Living Index*. A second is construction of time series data.

**The *Cost of Living Index* does not measure changes over time** in the relative cost of living for any area. Each quarterly report is unique, and you can't compare data from different quarters. Here's why:

- The number and the mix of participants in the report changes from one quarter to the next. If the list of participants were always the same, and if those areas accurately reflected the entire nation, then one could construct a time series showing, for example, that MSA #1 was 5.6% above the U.S. average in the

first quarter of the year, 4.9% above it in the second quarter, and so on.

Such is not the case. The nationwide average each quarter is based only on areas that participate. Some participants don't report each quarter; others enter the *Cost of Living Index* for the first time. In short, the areas on which the nationwide average is based change over time. Thus using *Cost of Living Index* data as a time series is improper.

- The price input may change for either or both of two reasons:
  - *Change in specifications*: The Committee periodically reviews and may change item specifications to reflect changing market conditions and expenditure patterns. This is why you can't even assume that a time series of prices for a particular item is valid.
  - *Better reporting*: As the Committee works with participants, it constantly seeks to ensure and improve conformance with the specifications and pricing instructions. As participants gain experience, the reliability of their reports tends to improve.

#### ***Cost of Living Index vs. Consumer Price Index***

The *Cost of Living Index* and the Consumer Price Index produced by the U.S. Bureau of Labor Statistics are conceptually distinct. No comparisons between the two can be made.

- The *Cost of Living Index* provides estimates of living cost differentials among areas at a single point in time, but presents to information about changes in price levels over time.
- The CPI measures inflation over time within each geographic area, but says nothing about how living costs in different areas compare.

The *Cost of Living Index* is unique in providing comparisons of living costs among a large number of localities on a continuing and current basis and in focusing solely on components of consumer expenditures that reflect location differentials.

## SECTION 4: APPENDICES

### Appendix 1: How the Index Was Developed

The Council for Community and Economic Research (C2ER) first considered the possibility of constructing an instrument to measure living cost differences among urban areas throughout the nation at its 1966 annual conference. Then, as now, the need for such an analytical tool was clear. A small committee of knowledgeable and imaginative C2ER members was assigned the task of developing a feasible project and then guiding it through the debugging stages. Their success has been rewarded by widespread acceptance of the *Cost of Living Index*.

Pilot testing that established the feasibility of the project began in the second quarter of 1967, when chambers of commerce across the country were invited to participate by collecting price data at a specified time for a variety of items meeting well-defined criteria. In the last three quarters of 1967, data were assembled, published alphabetically by state and place, and distributed to participants and to C2ER members.

By evaluating the results of the early price surveys and making modifications as necessary to ensure accuracy in reporting, the project committee developed an intercity cost of living index that made its debut in the first quarter of 1968. The *Cost of Living Index* has been published quarterly since that time.

In 1968, the first year of publication, the average quarterly report presented data for 147 urban areas. Participation rose gradually during the 1970s, topping 200 for the first time in 1978. By 1986, average quarterly participation had risen above 250; since 1990, it has consistently exceeded 300. As of 1999, areas covered in the Cost of Living Index represented more than 70% of the urban U.S. population, including more than 80% of the population in the 50 largest metropolitan areas.

Since its inception, the *Cost of Living Index* has been governed by the Cost of Living Index Committee, which is responsible for ensuring the accuracy and reliability of the *Index*. This changed in 2003 when the Cost of Living Advisory Board was created. From time to time, this committee has introduced changes in procedures and item specifications to reflect changing market conditions and to enhance the usefulness of the data.

For the most part, these modifications have been minor. Substantive revisions have been made on only two occasions - January 1979 and January 1982.

- In the 1979 revisions, the committee updated weights in response to new data on consumer expenditure patterns, broadened the *Index's* coverage of expenditure components, and adopted refinements in the procedures for calculating the *Index*.
- In the 1982 revisions, it expanded coverage to incorporate previously untapped components of consumer expenditures, increased the number of items priced for some previously-covered components to provide a better base for measuring those categories, and revamped the weighting structure to reflect the broader *Index* coverage.
- The weighting is updated annually, ever December. The committee continues to monitor new data and changing market conditions to ensure that the *Index* reliably shows differences among urban areas in the cost of consumer goods and services.

C2ER is particularly indebted to two gentlemen who formulated the *Cost of Living Index* and guided its preparation in its early years: Richard G. Harb of the Louisville Chamber of Commerce and DeVer Sholes of the Chicago Association of Commerce and Industry.

## APPENDIX 2: SAMPLE INDEX CALCULATION

This appendix presents a sample calculation of the component indexes and the composite index for a hypothetical city. Prices shown do not necessarily bear any relation to actual prices at any particular time. The item weights and component index weights are those that are actually used in calculating *Cost of Living Index* data for the year of 2007 publications.

For each component index, the price reported for an item in a given area is expressed as a percentage of the average for all reporting areas, and that percentage is multiplied by the item weight to produce that item's contribution to its component index. The contributions of all items in a component index are summed to produce the component index number. Component index numbers in turn are multiplied by their weights to generate their contributions to the Composite Index, which is the sum of the component index contributions.

Item	Price in MSA A	All-Places Average	MSA A as % of Average	Weight	Contribution to Component Index
<b>Grocery Items Index</b>					
T-bone steak	5.92	5.87	100.8518	0.031121	3.1386%
Ground beef	1.88	1.73	108.6705	0.031121	3.3819%
Sausage	3.03	2.84	106.6901	0.037510	4.0019%
Frying chicken	0.98	0.81	120.9877	0.036480	4.4136%
Tuna	0.79	0.83	95.1807	0.035243	3.3545%
Milk	1.65	1.47	112.2449	0.034522	3.8749%
Eggs	0.99	1.03	96.1165	0.008141	0.7825%
Margarine	0.78	0.78	100.0000	0.004288	0.4288%
Parmesan cheese	4.02	3.59	111.9777	0.065746	7.3621%
Potatoes	2.59	2.07	125.1208	0.030524	3.8192%
Bananas	0.58	0.45	128.8889	0.056884	7.3317%
Lettuce	0.97	0.89	108.9888	0.026154	2.8505%
Bread	0.65	0.70	92.8571	0.085120	7.9040%
Orange juice	2.49	2.50	99.6000	0.016255	1.6190%
Coffee	3.59	3.38	106.2130	0.036501	3.8769%
Sugar	1.42	1.38	102.8986	0.035140	3.6159%
Corn flakes	2.59	2.31	112.1212	0.038438	4.3097%
Sweet peas	0.59	0.65	90.7692	0.012675	1.1505%
Peaches	1.58	1.46	108.2192	0.013836	1.4973%
Kleenex	1.08	1.11	97.2973	0.051628	5.0233%
Washing powder	3.51	3.89	90.2314	0.051628	4.6585%
Crisco	2.32	2.72	85.2941	0.017765	1.5153%
Frozen Food	2.69	2.63	102.2814	0.099643	10.1916%
Frozen corn	0.86	0.74	116.2162	0.012675	1.4730%
Potato Chips	0.28	0.33	84.8485	0.078015	6.6195%
Coke	1.29	1.28	100.7813	0.052947	5.3361%
<i>Grocery items index</i>					<i>103.5307%</i>
<i>Grocery items index rounded for publication</i>					<i>103.5%</i>

**Housing Index**

Apartment rent	538.67	522.93	103.0100	0.164359	16.9306%
House monthly P&I payment	763.52	605.11	126.1787	0.835641	101.9272%
<i>Housing Index</i>					<i>118.8578%</i>
<i>Housing Index rounded for publication</i>					<i>118.9%</i>

**Utilities Index**

Electricity	100.86	97.52			
Natural gas	23.44	32.85			
Total home energy	124.30	130.37	95.3440	0.633597	60.4097%
Telephone	21.79	22.38	97.3637	0.366403	35.6744%
<i>Utilities Index</i>					<i>96.0840%</i>
<i>Utilities Index rounded for publication</i>					<i>96.1%</i>

**Transportation Index**

Tire balancing	6.50	6.29	103.3386	0.255161	26.3680%
Gasoline	1.197	1.248	95.9135	0.744839	71.4401%
<i>Transportation Index</i>					<i>97.8081%</i>
<i>Transportation Index rounded for publication</i>					<i>97.8%</i>

**Health Care Index**

Optometrist visit	59.00	75.00	78.6667	0.060244	4.7392%
Doctor visit	44.52	39.61	112.3959	0.198209	22.2779%
Dentist visit	60.88	49.31	123.4638	0.319194	39.4089%
Advil	4.23	4.17	101.4388	0.087955	8.9220%
Lipitor	100.05	127.18	101.4388	0.334398	33.9209%
<i>Health Care Index</i>					<i>109.2690%</i>
<i>Health Care Index rounded for publication</i>					<i>109.3%</i>

**Miscellaneous Goods & Services Index**

Hamburger sandwich	2.19	2.08	105.2885	0.115611	12.1725%
Pizza	7.79	7.91	98.4829	0.115611	11.3857%
Fried chicken	2.26	2.06	109.7087	0.115611	12.6835%
Haircut	8.31	7.55	110.0662	0.018334	2.0180%
Beauty salon	25.55	24.36	104.8851	0.018334	1.9230%
Toothpaste	2.42	2.30	105.2174	0.010777	1.1339%
Shampoo	1.19	1.17	101.7094	0.026284	2.6733%
Dry cleaning	8.55	7.65	111.7647	0.042299	4.7275%
Shirt	32.41	29.87	108.5035	0.044918	4.8738%
Boy's Jeans	3.91	4.45	87.8652	0.010711	0.9411%
Slacks	31.27	30.66	101.9896	0.080844	8.2452%
Appliance repair	38.54	41.27	93.3850	0.082682	7.7213%
Newspaper	13.00	11.96	108.6957	0.015912	1.7296%
Movie	6.50	5.52	117.7536	0.051212	6.0304%
Bowling	2.08	1.86	111.8280	0.051212	5.7269%

Tennis balls	2.24	2.97	75.4209	0.078968	5.9558%
Vet Services	12.69	11.83	107.2697	0.053010	5.6864%
Beer	4.02	3.95	101.7722	0.033835	3.4435%
Wine	6.41	5.22	122.7969	0.033835	4.1548%
<i>Miscellaneous Goods &amp; Services Index</i>				103.2262%	
<i>Miscellaneous Goods &amp; Services Index rounded for publication</i>				103.2%	

<b>Component Index</b>		<b>Weight</b>	<b>Contribution to Composite Index</b>
Grocery Items	103.5	0.1249	12.9272%
Housing Index	118.9	0.2918	34.6950%
Utilities Index	96.1	0.0998	9.5908%
Transportation Index	97.8	0.1110	10.8558%
Health Care Index	109.3	0.0406	4.4376%
Misc. Goods & Services Index	103.2	0.3319	34.2521%
<i>Composite Index</i>			106.7585%
<i>Composite Index rounded for publication</i>			106.8%

Note: The computer program reallocates weights within the Housing Index by assigning 100% of the weight to the monthly principal and interest

payment when a nonmetropolitan place is unable to find apartments meeting the specifications.

## APPENDIX 3: SAMPLE PRICING LETTERS

### Sample Apartment Rent Letter

Dear Name:

With the help of local business firms, the Urban Area Chamber of Commerce/Economic Development Organizations again is joining chambers and other economic development agencies in more than 300 other areas to provide data for the *Cost of Living Index*. And again, we ask your assistance in determining Urban Area apartment rental costs.

The unit to be priced should be suitable for a two-person professional or managerial household, and should meet the following additional specifications:

- Location suitable with regard to commuting, shopping, entertainment, and neighborhood quality.
- Built within past 10 years.
- Unit unfurnished; 950 sq.ft.; two bedrooms, 1½ or 2 baths; stove and refrigerator included.
- Water and sewer included in rent; all other utilities excluded from rent and paid directly by tenant.

To ensure that the information you provide arrives in time to be used in our report, please fill in the blank at the bottom of this page and return it to us by Monday, January 8. Please fax me at 321-222-5534 or e-mail me at name@chamber.org to report the price.

Your reply, of course, will be kept strictly confidential. We will report only the average of all replies to this survey.

Thank you for your help in maintaining a reliable report for Urban Area. Your continuing cooperation is both needed and appreciated.

Cordially,

Your Name  
Title

AVERAGE MONTHLY APARTMENT RENT: \$ \_\_\_\_\_

Electricity excluded:     Yes         No  
Natural gas excluded:    Yes         No

## Sample House Purchase Price Letter

Dear Name:

With the help of local business firms, the Urban Area Chamber of Commerce/Economic Development Organization again is joining organizations in more than 300 other cities to provide information for the *Cost of Living Index*. And again, we ask your cooperation in determining the current price a buyer would have to pay for a new house and lot meeting the specifications on the enclosed sheet.

This survey is important because it offers the only data with which to compare living costs in Urban Area with those elsewhere. By participating in this survey, you are performing a significant service for our community.

In the space at the bottom of this page, please write the current full purchase price a buyer would have to pay in Urban Area for a new house meeting the specifications enclosed. For your convenience, we are providing a postage-paid envelope in which to return this form. Please fax me at 321-222-5534, or e-mail me at [name@chamber.org](mailto:name@chamber.org) to report the price.

Because the average of all prices for Urban Area must be reported in mid-January, please send your response to us no later than Monday, January 8. Responding by that date will ensure that your price can be used in our calculations. Your individual report, of course, will be kept strictly confidential; we will report only the average of all responses.

Thank you for your help in maintaining a reliable report for Urban Area. Your continuing cooperation is both needed and appreciated.

Cordially,

Your Name  
Title

FULL PURCHASE PRICE FOR HOUSE: \$ \_\_\_\_\_ Square Footage: \_\_\_\_\_

encl: House specifications  
Business reply envelope



## Sample House Purchase Specifications Enclosure

NOTE: In the sample below, *ITALICIZED* specifications are those for which **you** must specify what is prevalent for new housing in your area. The italicized specifications can and will vary from one region to another. You must use those specifications which are not italicized as they appear here.

- **Location:** Good subdivision or other area, convenient for shopping and schools, within an area offering full municipal services-water, sewers, police and fire protection. Neighborhood suitable for professional or managerial household with one child.
- **Lot size:** 8,000 sq.ft.
- **Living area:** 2,400 sq.ft. (not including garage).
- **General description:** Newly-built one-story house; 4 bedrooms, 2 full baths, living room, dining room, kitchen with built-in cabinetry and cooking island, finished family room, one fireplace, utility room, *fully finished basement*, attached 2-car garage. Conventionally built on site; not prefabricated or modular.
- **Exterior walls:** *Brick.*
- **Roof structure:** Gable.
- **Roof cover:** Asphalt shingle.
- **Foundation:** Poured concrete, 8 inches.
- **Gutters and downspouts:** Aluminum.
- **Floors:** Hardwood floors in living room, dining room, and family room; standard grade carpeting in bedrooms; ceramic tile floor and wainscot in bathrooms, kitchen, and utility room.
- **Walls and ceilings:** Dry wall, insulated for high energy-efficiency.
- **Trim:** Stock.
- **Closets:** Hall, bedrooms, kitchen, linen.
- **Windows:** Double-hung, metal frame.
- **Electric wiring:** As required by local code.
- **Electric fixtures:** Good, average.
- **Appliances:** Built-in cooking surface in island, range, oven, dishwasher, and garbage disposal.
- **Air-conditioning and heating:** *Electric central air conditioning; natural gas central heating.*
- **Landscaping:** Lawn and some near-house shrubbery practical for this area.