and to derive item, category, and component weights. The item weights are not income sensitive. However, aggregated CES data are analyzed by income level to derive category and component weights. These weights are income sensitive. The CES data used in this study are shown in Appendix 3 and 4.

The Bureau of Labor Statistics has advised OPM that "prepublished" CES data may not be statistically significant. To OPM's knowledge, however, it is the only source of comprehensive consumer expenditure information by income level. Therefore, it is used in the model. 2.3.2 Expenditure Categories and Components

The CES groups expenses into small, logical families of items. For example, the report divided money spent by families on beef into four groups: ground beef, roast, steak and other beef. The steak and roast groupings were further separated into smaller clusters of items (e.g., sirloin and round steak, chuck and round roast).

Using the CES data, the items were sorted into the four main cost components specified in OPM regulations: Consumption Goods and Services, Transportation, Housing, and Miscellaneous Expenses. To develop

weighting patterns for the three income levels, JFA performed linear regression analyses on the CES data shown in Appendix 3.1 These analyses produced estimated expenditures at the three income levels identified in section 2.2.1 above. JFA converted these expenditures to percentages of total expenditures for the four components to produce the values shown in the table below. The values were the weights JFA used to combine the expenditures for each of the components into an overall value for each income level in each allowance area and the Washington, D.C., area.

TABLE 2–1.—COMPONENT EXPENSES EXPRESSED AS A PERCENTAGE OF TOTAL EXPENSES
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Income level 1994	Income level 1991 adjusted	Goods and services (percent)	Housing (percent)	Trans- portation (percent)	Misc. (percent)	Total (percent)
\$20,800	\$19,250	40.10	25.01	18.93	15.96	100.00
31,500	29,150	39.47	23.98	18.66	17.88	100.00
48,300	44,700	38.87	23.01	18.41	19.71	100.00

(Values may not total because of rounding.)

Goods and services items were further sorted into ten categories and linear regression techniques were used to estimate expenditures on these ten categories by income level. The weights for these categories are shown in section 3.1. The same technique was also used to compute category weights for the Transportation and Miscellaneous Components and to produce ratios of renters to homeowners at each income level.

2.4 Step 3: Selecting Items and Outlets

2.4.1 Item Selections—The Marketbasket

As noted above, CES items were grouped into "clusters" of expenses to determine which items to survey. These clusters were chosen so that no marketbasket item would have overwhelmingly large or insignificantly small item weight.

For each of these clusters, a set of items to price was identified. Collectively, these items are called a "marketbasket." Because it would have been impractical to survey all of the thousands of items consumers might buy, the marketbasket contains representative items, such as cheddar cheese, that represent itself and the many other related items that consumers purchase (e.g., Edam, Gouda, Jack, Swiss, et cetera). JFA's marketbasket had more than 200 items ranging from table salt to new cars to home purchases.

The items selected were representative of other similar items, commonly purchased, and readily available in all areas. For example, a 10.5-ounce can of Campbell's vegetable soup was selected for survey because it is representative of canned and packaged soups, is a commonlypurchased brand, and is found in all areas. Whenever practical, the item description included the exact brand, model, type, and size, so that exactly the same items could be priced in all areas if possible. Appendix 5 provides a list of the items surveyed and their descriptions.

Changes to the item list and descriptions are an important aspect of the COLA survey. These changes are necessary to improve the survey and keep the items and descriptions current. For this survey, JFA changed several of the items or descriptions. The changes and the reasons for each are listed in Appendix 6.

2.4.2 Geographic Coverage and Outlet Selection

Just as it was important to select commonly-purchased items and survey the same items in all areas, it was important to select outlets frequented by consumers and find equivalent outlets in all areas. This involved deciding which geographic areas to survey and which outlets to survey within these geographic areas.

## 2.4.2.1 Geographic Areas

For some areas, the choice of which area(s) to survey was obvious. On St. Thomas, for example, the whole island is surveyed because St. Thomas is a relatively small island and Federal employees live throughout the island.

For other areas, those with multiple communities from which to choose, specific communities had to be identified. To do this, OPM used the results of the 1992 Federal Employee Housing and Living Patterns Survey. Among other things, that survey obtained information on where Federal employees lived. OPM used this information to select the communities in which housing costs would be priced. JFA then identified outlets within a normal shopping radius of these housing communities.

## 2.4.2.2 Similarity of Outlets

Whenever possible, JFA selected popular outlets that were comparable to outlets in all areas. For example, JFA surveyed the price of grocery items at supermarkets in all areas because most people purchase their groceries at such stores and because supermarkets are

<sup>&</sup>lt;sup>1</sup>The midpoint of the moving average of CES data was 1991. Therefore, for the purposes of these regressions, OPM provided adjusted Federal salaries to reflect 1991 pay rates. OPM used the pay increases for 1992 (4.2%), 1993 (3.7%), and 1994 (0.0%) to deflate the 1994 salaries. This produced adjusted Federal salaries of \$19,250, \$29,150, and \$44,700 for use in the regression equations.