Market Basket Definitions and General Information

What is a Market Basket (MB)?

The market basket is described as a fixed-weight index because it answers the question of how much more or less it would cost, at a later time, to purchase the same mix of goods and services that was purchased in a base period. As such, it measures "pure" price changes only. A market basket is constructed in three steps. First, a base period is selected and total base period expenditures are estimated for mutually exclusive and exhaustive spending categories based upon type of expenditure. Then the proportion for total costs that each spending category represents is determined. These proportions are called cost or expenditure weights. The second step is to match each expenditure category to an appropriate price/wage variable, called a price proxy. In the third and final step, the price level for each spending category price proxy is multiplied by the expenditure weight for that category. The sum of these products (that is, weights multiplied by proxied index levels) for all cost categories yields the composite index level in the market basket in a given year.

What are market baskets used for?

The CMS market baskets are used to update payments and cost limits in the various CMS payment systems. The CMS market baskets reflect input price inflation facing providers in the provision of medical services.

Who is responsible for producing the market baskets?

The Office of the Actuary (OACT), within the Centers for Medicare and Medicaid Services (CMS), is responsible for producing the CMS market baskets. CMS determines the weights and proxies and a respected economic forecasting firm under contract to CMS (Global Insight, Inc.), forecasts the price levels for the individual proxies. The market basket levels and percent changes are released quarterly, with each new forecast containing an additional quarter’s historical data.

Is there a Medicare market basket?

No, CMS does not produce a "Medicare" market basket. Individual market baskets are produced for many of the payment systems (inpatient hospital PPS, skilled nursing facility PPS, home health agency PPS, long-term care hospital PPS, inpatient rehabilitation hospital PPS, and physicians fee schedule) to accurately measure the price changes facing each of these providers.

How is a 4-quarter moving average percent change calculated?

The easiest way to illustrate how a 4-quarter moving average percent change is calculated is to use an example.

	98Q4	99Q1	99Q2	99Q3	99Q4	00Q1	00Q2	00Q3
Sample MB Levels--	1.010	1.015	1.022	1.031	1.039	1.048	1.056	1.062

For this example we are calculating the 4-quarter moving average percent change for the period ending 2000Q3 which represents the FY2000 increase.

Step One - Calculate the 4-quarter average of the levels

- Average for 4-qrtrs ending in 2000Q3: (1.062 + 1.056 + 1.048 + 1.039) / 4 = 1.051
- Average for 4-qrtrs ending in 1999Q3: (1.031 + 1.022 + 1.015 + 1.010) / 4 = 1.020

Step Two - Calculate the percent change between 2000Q3 and 1999Q3 4-quarter average index levels

The percent change between 2000Q3 and 1999Q3: ((1.051 / 1.020)) * 100) - 100) = 3.1%. This would be the 4-quarter moving average percent change for the sample market basket for the period ending 2000Q3. A similar calculation can be made for every quarter.

How are the forecasts developed and how often are they updated?

The market basket forecasts are developed on a quarterly basis by Global Insight Inc. under contract to CMS. Therefore, updates to the market baskets are available on a quarterly basis (lagged one quarter) with historical data also being updated at this time. Global Insight Inc. is a respected economic forecasting firm with the detailed macroeconomic and industry knowledge and expertise needed to forecast the price series used in the market baskets. The forecasts are available for a 10-year period.

What is the difference between the current market basket and the market basket used to update payments?

The payment updates for many of the prospective payment systems are determined using a forecasted market basket containing the latest available data at the time the final regulation is published. Once this update has been determined, it is generally not revised for more currently available data. However, because market basket data are updated quarterly, the current market basket may be different depending on the differences in forecasted data and data currently available.

What is market basket forecast error?

Because many of the current Medicare payment systems update payments on a prospective basis, the market basket increases used in those updates are a forecast of what those increases will be. The actual market basket increase for a given period can be higher or lower than the forecasted increase available at the time a payment update is determined. This phenomenon is commonly known as forecast error. For example, in June 2003 we were required to forecast the market basket increase for fiscal year 2004. The actual change in the market basket for FY2004 may be higher or lower than what we forecasted in June 2003 depending on market conditions. Our experience with hospital PPS updates suggests that these forecast errors are relatively small and are generally random around zero. Currently, only the hospital capital PPS and SNF PPS updates contain a MB forecast error correction.

How are quantity and intensity effects held constant in the market baskets?

A market basket measures the pure price change of inputs used by a provider in supplying healthcare services by using price data from the Bureau of Labor Statistics. There are two major components of the market basket: cost weights and price proxies. Cost weights measure the mix (intensity), quantity and prices of inputs used by a provider while the price proxies measure only the price change of the category being measured. Only the price proxies are updated quarterly; the cost weights are held constant, thereby holding quantity and intensity effects constant. In addition, we use price data from BLS for the majority of our price proxies (most notably PPI, CPI, ECI data) and these indexes too are typically Laspyeres indexes and only measure the "pure" price change of the specific commodities they price. Hence, they do not bring quantity and intensity effects into the market basket this way. Therefore, a market basket only measures what it would cost in a later period to purchase the **same product** and the **same mix** of products purchased in the base period.

How are malpractice premiums measured for physicians?

Each year, CMS solicits professional liability premium data for physicians from a small sample of commercial carriers for use in the MEI. This information is not collected through a survey form, but instead is requested from a few national commercial carriers via letter. Generally between 5 and 8 carriers provide information on a voluntary basis. Our current methodology for reflecting malpractice price changes in the MEI collects premium data for a fixed level of coverage ($1 million per occurrence/$3 million per annual) for every specialty (risk class) in each state. Data is aggregated to a national level based on counts of physicians by specialty in each state (AMA data). The change in these levels from year to year represents the percent change in the category for a given year.

How often are the market baskets rebased?

Rebasing a market basket is mainly dependent upon data availability. Typically, a market basket is rebased every five years to coincide with the update of many secondary data sources, such as the Business Expenditure Survey from the Bureau of the Census and the input-output table data from Bureau of Economic Analysis. We continually monitor the cost weights in the market baskets to ensure they are reflecting the mix of inputs used in providing services. We will update the weights more frequently than every five years if we believe they do not meet this standard.

What sources of data are used for the market basket weights and price proxies?

The primary source of data used in constructing market basket weights is the Medicare Cost Reports. These data are supplied directly to CMS from providers and are the most current and complete data available for use in developing the weights. In all CMS market baskets (excluding the MEI), the Medicare Cost Reports are used to construct the weights of the major cost categories. Other data sources, such as the Bureau of the Census' Business Expenditure Survey and the Bureau of Economic Analysis' Benchmark Input-Output tables, are used as secondary sources to derive weights for detailed categories.

The primary data source for price proxies is Bureau of Labor Statistics data and includes Producer Price Indexes, Consumer Price Indexes, and Employment Cost Indexes. Producer Price Indexes (PPIs) measure changes in the prices producers receive for their output. PPIs are the preferable price proxies for goods and services that facilities purchase as inputs since these facilities generally make purchases in the wholesale market. Consumer Price Indexes (CPIs) measure changes in the prices of final goods and services purchased by the typical consumer. We use CPIs only if an appropriate PPI is not available, or if the expenditure more closely resembles a retail rather than wholesale purchase. Finally, Employment Cost Indexes (ECIs) measure the rate of change in employee wage rates and employer costs for employee benefits per hour worked. They are fixed weight indexes that only measure changes in wages and benefits per hour and are not affected by changes in occupational mix, making them an appropriate measure for our purposes. In addition, these data are well-established publicly available series that are published on a regular schedule, are available on a timely basis and reflect an appropriate level of detail necessary for use in our market baskets. These data also measure price changes only and do not reflect quantity or other non-price factor changes.

Why does the PPS hospital market basket use 1997 data for cost weights?

FY 1997 was selected as the base year for the current hospital market basket because it is the most recent year for which relatively complete data are available from all data sources. Medicare Cost Report data are supplied directly by hospitals. The independent secondary sources such as the Business Expenditure Survey from the Bureau of the Census and Benchmark input-output table data from the Bureau of Economic Analysis, also have 1997 as the latest data available and are used to fill in where cost report data were not available or appear to be incomplete. In addition, as the market basket was developed, the major cost category weights determined using the FY 1997 cost reports were re-created using FY 1998 and FY 1999 cost reports. These weights were found to be similar to those from the FY 1997 cost reports. Thus, 1997 data are the most recent and complete data available.

Are there separate market baskets for inpatient and outpatient hospital PPS?

No, there are not currently separate market baskets for inpatient and outpatient hospital PPS. While the Office of the Actuary has researched the feasibility of creating separate market baskets, we have not done so at this time because we have not been able to separate the cost categories developed from the Medicare Cost Reports separately into inpatient and outpatient services. There is also no secondary data source available to develop detailed weights for inpatient and outpatient services.

Why are there not separate market baskets for the various types of hospitals excluded from the inpatient hospital prospective payment system?

In 2002, OACT researched the feasibility of developing separate market baskets for the various types of PPS excluded hospitals, including inpatient rehabilitation facilities and long-term care facilities. This research included analyzing data sources for cost category weights, specifically the Medicare Cost Reports, and investigating other data sources on cost, expenditure, and price information specific to the individual market baskets. Our analysis indicated that the distribution of costs among major cost report categories for the individual market baskets is not substantially different from the 1997-based excluded hospital with capital market basket. We believe the 1997-based excluded hospital with capital market basket (which is currently used to update payments for rehabilitation and long-term care PPS) is an appropriate measure for reflecting the price changes of the different types of facilities.