

The AIER Cost-of-Living Guide

Average annual inflation for 2010 hovers around 1.6 percent.

by AIER staff

Price inflation remained subdued in 2010. The annual average of the Consumer Price Index (CPI), before seasonal adjustment, increased by 1.6 percent (through November). This is slightly higher than 2009, when the CPI fell by 0.4 percent. In the two years since the financial crisis erupted, the rate of price inflation has been the lowest since the 1950s.

While some economists are worried about deflation, the Federal Reserve is doing everything it can to avoid that—using monetary policies that many fear could be setting the stage for higher inflation. Historically, inflation has posed the

greater threat to the economy, and the Fed has had limited success in preventing it. Since 1913, the year that Congress created the Federal Reserve, the purchasing power of the dollar has fallen dramatically—according to the CPI statistics, by over 95 percent.

In our view, this long-term erosion in purchasing power is likely to continue as long as the United States retains a fiat currency. All the currencies of the world today are fiat currencies—that is, currencies that promise to pay nothing except more of the same currency and are legal tender (usable to extinguish debts and obligations) because their

issuing governments say so. This system stands in sharp contrast to a gold standard, in which currencies are defined as or redeemable in specific weights of gold. Fiat currencies derive their value solely from a government fiat, or decree, that they are legal tender.

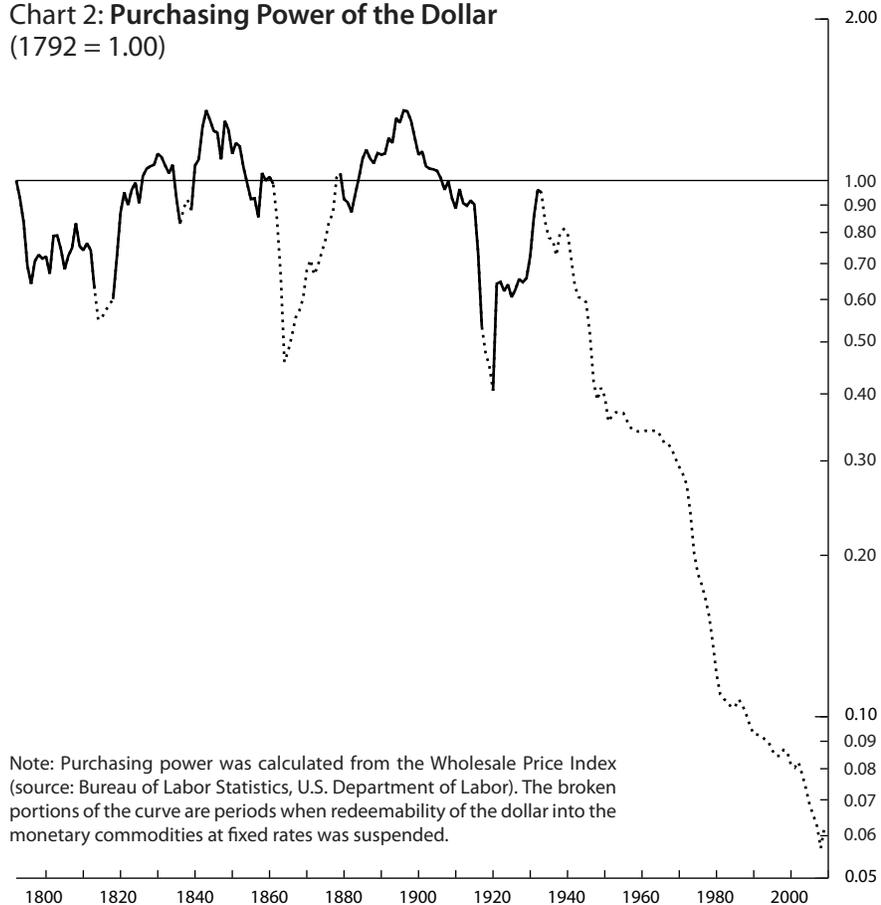
The problem with fiat currency systems is that they lack the self-correcting mechanisms of a gold standard; if prices increase too much, there is no market mechanism to bring them back down. The historical evidence over many centuries and around the world suggests that governments tend to follow fiscal and monetary policies that foster

Chart 1: **The Inflation Rate, 1800-2010**
(1967 = 100)



Note: Prior to 1913, the index largely was based on prices for goods rather than for goods and services, and on wholesale rather than retail prices.

Chart 2: Purchasing Power of the Dollar
(1792 = 1.00)



Note: Purchasing power was calculated from the Wholesale Price Index (source: Bureau of Labor Statistics, U.S. Department of Labor). The broken portions of the curve are periods when redeemability of the dollar into the monetary commodities at fixed rates was suspended.

higher prices. In the absence of a gold standard, there is little to restrain them from printing fiat money to excess. All the fiat currencies of the world have lost value over the years, and none is immune from the rot of officially sponsored inflating.

Taking a Long View. A review of the historical record provides a stark reminder of how ineffective the U.S. government has been at stabilizing the purchasing power of the dollar. As shown in Chart 1, for more than a century the price level in the United States fluctuated periodically in response to a series of wars and panics. Wartime monetary excesses were followed by postwar decreases in prices. During each of those episodes when the dollar's purchasing power plunged, the currency's redeemability into monetary commodities (gold or silver) at fixed rates was impaired. After convertibility was restored, prices began to

return to their prior levels. From the perspective of modern experience, it may seem astonishing that *the price index in 1930 was exactly the same as it had been in 1801, 130 years earlier.*

A sea change in the movement of the general price level followed the abandonment of the domestic gold standard in 1933 and the subsequent suspension of gold redeemability in 1971. As Chart 2 shows, the purchasing power of the dollar has eroded almost continuously since the early 1930s. There has been no reversal of the price trend such as occurred previously when the dollar returned to convertibility.

Measuring Price Changes. There is, of course, no such thing as a general price level. Price indexes attempt to summarize the prices paid by millions of different individuals for the myriad goods and services produced in the economy. The CPI, the most widely used barometer of price

inflation, was developed during World War I, when the unprecedented economic mobilization that was undertaken to meet the urgent demand for arms, munitions, and equipment led to rapid increases in prices, particularly in shipbuilding cities. This created the need for a cost-of-living index to use in wage negotiations.

In later decades, as price inflation became chronic, the CPI was increasingly used to make cost-of-living adjustments to a wide range of contracts and payments, including wages, Social Security benefits, other government programs, and the tax code.

The CPI measures the change in the price of a basket of goods and services. The first step in calculating the index is to find out what should be in the basket—that is, what people buy. The Census Bureau does this by surveying consumers.

The Bureau of Labor Statistics (BLS) publishes several versions of the CPI each month, computed in several ways, and covering the spending habits of various population groups. One of the most commonly used of these indexes is the *CPI for All Urban Consumers (CPI-U)*, which represents 87 percent of the U.S. population. Another is the *CPI for Urban Wage Earners and Clerical Workers (CPI-W)*, which is based on expenditures by 32 percent of the population. In practice, the two indexes show very similar price trends.

Hundreds of items are included in the CPI, covering spending on food, transportation, household operation, education, and recreation. When the prices of all these items are combined to construct a general price index, the price of each item is weighted according to the proportion of income that consumers spend on it. For example, people spend more on housing than they do on clothing, so housing costs are given more weight in the CPI.

In actual experience people do not spend the same proportion of income

on the same items every year. Tastes change. Moreover, in a dynamic economy such as that of the United States, new or improved products continually become available, while others become obsolete. To account for this, the CPI basket of goods and services is changed every few years to reflect new information on what people are buying. Even so, it is difficult to adjust the index often enough to keep pace with innovations and changing tastes.

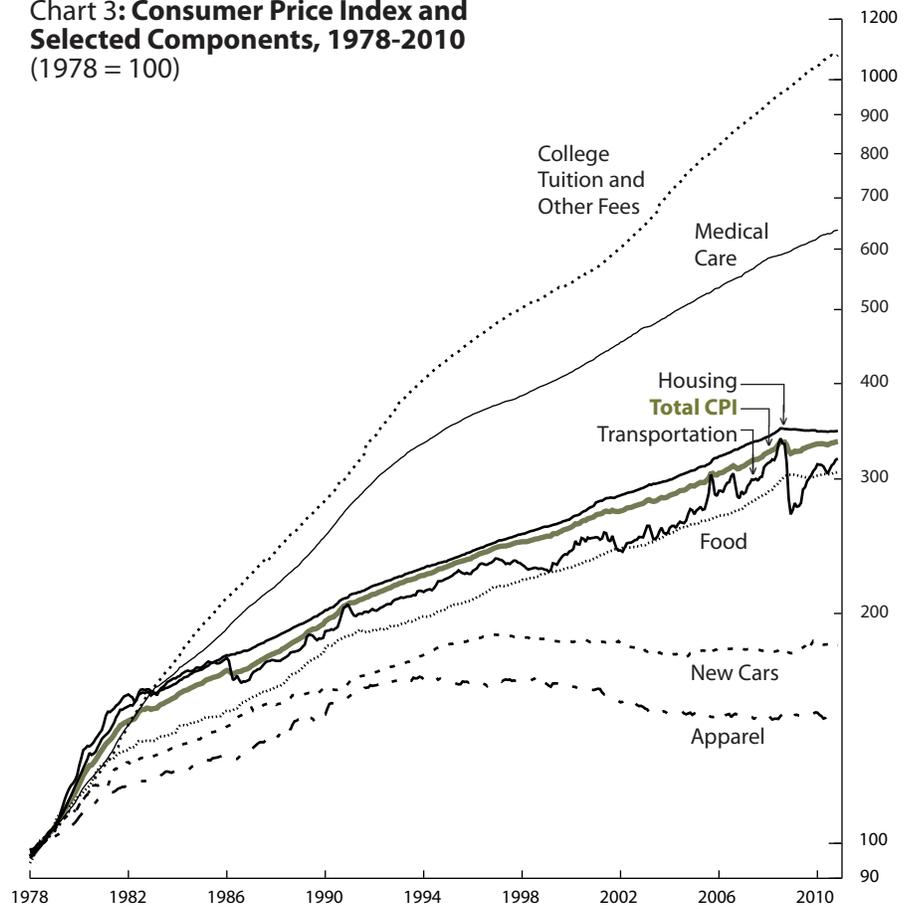
Furthermore, the prices of new items often drop sharply after they are introduced (for example, iPhones), but, because new items are not added to the CPI for some time, the index misses these decreases. This omission tends to make the CPI overstate price inflation.

In addition, shoppers often juggle their purchases to take full advantage of bargains and sales and thereby reduce their total spending. The index does not always capture this so-called substitution effect. It probably also fails to fully account for special pricing practices, such as rebates, senior or student discounts, frequent-flyer miles, and credit-card reward programs. Moreover, CPI price data are not collected on weekends or holidays, even though this is when stores have sales and many consumers shop.

All these shortcomings tend to cause the CPI to overstate the impact of price increases on the cost of living.

Perhaps most important, however, the CPI may not be adequately adjusted for quality improvements. In theory, the index measures the prices of items whose quality remains constant over time. In other words, if a price increase for a good is accompanied by a comparable quality improvement, this increase should not affect the CPI. In practice, putting a price tag on quality changes can be tricky. If a new medicine costs \$10 more but it causes fewer side effects, how much of the price increase is attributable to this improvement? If the answer

Chart 3: Consumer Price Index and Selected Components, 1978-2010 (1978 = 100)



is “all of it,” the constant quality price has not increased at all. Yet, putting a dollar value on quality changes is difficult and may involve subjective judgments.

Many economists believe that, on balance, the quality of goods and services has increased more over the years, especially over the very long term, than indicated by these quality adjustments. To the extent this is so, the CPI has overstated price inflation. However, the degree to which this has happened is still an open question.

Despite its shortcomings, the CPI is the best available statistical measure of changes in the cost of living, if that is described as the dollar outlays required to reach a given level of consumer satisfaction.

Government and the CPI. Some individuals contend that the government intentionally *understates* the CPI. However, hundreds of govern-

ment economists, statisticians, and other number crunchers collect and process the price data that go into the index. A conspiracy to cook the data would be difficult to organize and impossible to conceal.

However, policymakers are keenly aware that using the CPI to make automatic cost-of-living adjustments (COLAs) for federal spending programs and the tax code is very expensive, and it has far-reaching impacts on people’s lives. They would welcome any refinement in the calculation of the CPI. If the CPI overstates price inflation, then people who receive government benefits or pay taxes are being overcompensated when these adjustments are made, and government expenditures are higher than they need to be. If the CPI understates inflation, then households lose buying power.

The importance of this for the budget is suggested by the

December 2010 report of the national commission appointed by President Obama to study ways to reduce the federal deficit. The commission recommended that the government stop using the standard CPI as the basis for cost-of-living adjustments and switch to another index, the chained CPI. Doing so, it said, would save the federal government fully \$43 billion over the period 2012-2020.

The chained CPI, which is also published by the BLS, is designed to take into account the substitutions that consumers make in response to price changes. For example, when the price of beef increases relative to the price of chicken, consumers tend to buy less beef and more chicken. A price index that ignores this substitution effect will overestimate the impact of higher prices on the cost of living. The standard CPI (CPI-U) is adjusted every few years to correct for this problem, but the chained CPI (C-CPI-U) is adjusted every month. Because the chained CPI measures actual spending more accurately, researchers think it is a better approximation of a genuine cost-of-living index than the standard CPI.

Policymakers care about this technical issue mainly because of its implications for the budget. The chained CPI has increased at a

slightly slower pace (0.25 percentage point per year) than the standard CPI since 2000, when the data begin, and is expected to continue to do so. Chart 3 compares the annual rates of increase in each index. In 2010, the chained CPI increased by 1.52 percent, while the standard CPI increased 1.59 percent (through November). The difference is small but, as suggested by the debt commission, it translates into potentially huge savings.

We have no idea whether Congress and the administration will ever agree on legislation to change the way cost-of-living adjustments are made. However, the temptation to do so will grow as long as the government continues to run large deficits.

Recent Price Changes. Chronic price inflation even at “moderate” rates leads to significant losses of buying power over time, a fact often obscured by media reports that focus on comparatively small monthly or annual price changes. For example, during the past decade, the rate of price inflation averaged 2.4 percent per year—but this means that over the entire ten years, the dollar lost roughly one-fifth of its purchasing power.

A breakdown of the CPI into broad categories of goods and ser-

vices, as shown in Chart 4, reveals where price pressures were greatest during the past three decades. The price indexes for higher education and medical care have increased considerably faster than the overall price level, while prices for items such as clothing and, more dramatically, televisions have increased more slowly or have even fallen.

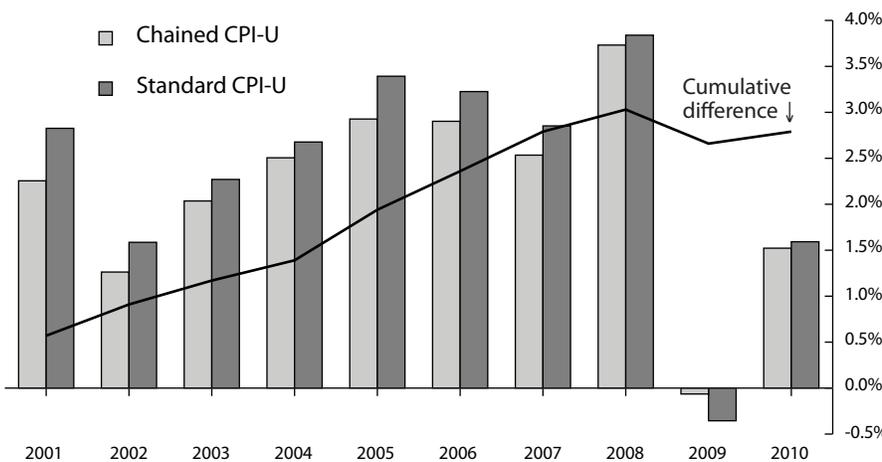
The table on page 5 shows a detailed breakdown of consumer prices, revealing the cumulative price changes in goods and services from the beginning of 1990 through the end of 2010. An eclectic mix of services and commodities leads the list, including tobacco, energy products, medical care and educational services, financial services, oranges, cable TV, and funeral expenses. At the other extreme, the prices of (constant quality) televisions, personal computers, and other information-processing equipment have plummeted by 90 percent, primarily because of improvements in quality and features.

In effect, each household has its own CPI, its own cost of living, depending on differences in its spending patterns from the standard basket of goods. For example, over the last year, households who purchased relatively more of the items near the top of the table suffered a larger increase in their cost of living than that implied by the increase in the aggregate CPI. Those who spent more on the items shown near the bottom experienced a relatively smaller increase.

Prices are influenced by countless forces of supply and demand including technology, demographics, changing tastes, product innovation, international competition, and even the weather. Government policies are another important source of price pressures. It is notable that prices have increased the most for items that are heavily influenced by such policies: Tobacco is heavily taxed, and large subsidies for education and health care have increased demand for them and thereby

Chart 4: Chained CPI-U vs. Standard CPI-U

The bars show annual inflation rates given by each index. The line shows the cumulative effect of these differences. For the decade, prices as given by the standard CPI-U were 2.8 percent higher than by the chained CPI-U. The differences in COLAs would be substantial over time.



helped push prices upward.

The relationship between government policy and the costs of obtaining goods and services is not as simple as these examples might suggest. Myriad programs distort prices, and it is all but impossible to identify the relative impact of different, sometimes conflicting, policies.

In addition, government policies affect not only the prices of items but their availability. Policies that artificially limit price increases also tend to limit supply. When this happens, low prices do not necessarily reflect a lower cost of living, or a higher standard of living. Witness the long lines in the old Soviet Union for “cheap” goods, and the long waiting lists for medical services in countries with “low-cost” national health insurance.

In turn, rising prices do not always imply a corresponding increase in the cost of living. In this regard, the sharply higher prices that typically arise when countries abandon central planning can overstate the impact on their standard of living. The higher prices are offset, at least to some extent, by the freeing of time formerly spent waiting in line and a greater selection of goods and services. Similarly, in the United States, when the government removed price controls on petroleum in the 1970s, the long lines to buy gas disappeared.

Be that as it may, the larger point to be gained from the table is simple: No matter what the politicians and monetary authorities say, the buying power of the dollar continues to decrease. Chronic price inflation even at “moderate” rates leads to substantial losses of buying power over time. In 1978, Federal legislation first explicitly directed the Federal Reserve to conduct monetary policy with a goal that included stable prices. Yet, according to the CPI, the purchasing power of the dollar has decreased by 70 percent since then. How much more purchasing power will our money lose in the years ahead?

Percent Changes in Selected Price Indexes, 1990-2010

<i>Item</i>	<i>% Change</i>	<i>Item</i>	<i>% Change</i>
Cigarettes & other tobacco products	377.5	& sauces	69.8
College tuition & fees	286.4	Beer, ale & other malt beverages at home.....	68.8
Hospital services, nursing homes, adult day care	269.1	Frankfurters	66.6
Elementary & high school tuition & fees	259.3	Electricity.....	66.0
Household fuel oil	236.2	Newspapers, magazines, books	65.9
Educational books & supplies	211.1	Sugar & sweets	65.6
Oranges & tangerines	205.6	Coffee.....	64.6
Gasoline (all types).....	185.8	Cheese & related products.....	64.0
Motor oil, coolant, & fluids	184.4	Soups	63.3
Housing at school, excluding board ..	179.7	Poultry	61.2
Water & sewer maintenance.....	169.0	Ice cream & related products	59.3
Dental services	168.3	Bananas.....	58.9
Cable/satellite television & radio service	154.5	Ham	58.6
Funeral expenses.....	151.0	Fresh whole milk.....	58.2
Legal services.....	149.0	Pets & pet products	56.7
Bacon & related products.....	144.4	Eyeglasses & eye care.....	55.2
Garbage & trash collection	140.4	Distilled spirits at home	52.9
Prescription drugs.....	139.6	Frozen vegetables	51.5
Bread other than white	132.7	Wine at home.....	51.5
Bank services, tax return preparation, other financial services.....	128.8	Housekeeping supplies.....	48.9
Apples.....	127.7	Eggs.....	48.7
Motor vehicle insurance	124.0	Pork chops	41.9
Fees for lessons or instructions	123.3	Breakfast cereal	40.1
White bread	122.0	Carbonated drinks	40.1
Admission to movies, concerts, & sporting events	121.5	Stationery supplies & gift wrap	34.2
Tomatoes.....	117.9	Vehicle parts & equipment other than tires.....	33.7
Physicians' services	117.2	Jewelry	31.3
Lettuce.....	115.1	Shampoo, cosmetics, perfume, & other personal care products.....	28.6
Alcoholic beverages away from home	110.5	Tires	26.8
Airline fare.....	109.7	Sports vehicles including bicycles	25.8
Public transportation within city.....	109.6	Frozen & freeze dried prepared foods	25.2
Potatoes.....	107.6	Used cars & trucks	18.8
Fresh cakes & cupcakes	96.9	New trucks	18.8
Butter	96.9	Women's footwear	17.0
Motor vehicle maintenance & repair ...	96.9	Boys' & girls' footwear.....	13.4
Out of town lodging, incl. hotels & motels.....	94.9	New cars	13.3
Fresh sweet rolls, coffee cakes, & doughnuts	92.2	Public transportation between cities excl. airlines	10.8
Beef & veal.....	88.4	Men's footwear	6.5
Crackers, bread, & cracker products	88.3	Watches.....	6.4
Utility natural gas service	86.2	Furniture & bedding	3.5
Margarine.....	85.7	Laundry appliances	0.4
Rent of primary residence.....	84.7	Infants' & toddlers' apparel.....	-0.2
Postage	83.7	Women's dresses.....	-4.5
Rice, pasta, cornmeal	83.4	Men's suits, sport coats, & outerwear.....	-4.7
Frozen & refrigerated bakery products, pies, tarts	83.4	Women's outerwear.....	-5.6
Haircuts & personal-care services.....	77.0	Men's pants & shorts	-8.8
Cookies.....	77.0	Sports equipment	-12.5
Food away from home	75.3	Girls' apparel.....	-14.8
Fish & seafood.....	74.2	Boys' apparel	-16.1
All-Items CPI.....	73.5	Clocks, lamps, & decorator items.....	-45.4
Snack foods	72.6	Photographic equipment & supplies.....	-47.4
Spices, seasonings, condiments,		Toys.....	-50.2
		Audio Equipment	-50.4
		Personal computers & other information processing equipment.....	-90.0
		Televisions.....	-90.2

Purchasing Power Conversion Factors

Year	To Convert: _____		Year	To Convert: _____		Year	To Convert: _____	
	Past Dollars to 2010 Dollars Use	2010 Dollars to Past Dollars Use		Past Dollars to 2010 Dollars Use	2010 Dollars to Past Dollars Use		Past Dollars to 2010 Dollars Use	2010 Dollars to Past Dollars Use
	Multiplier A	Multiplier B		Multiplier A	Multiplier B		Multiplier A	Multiplier B
1920	10.8977	0.0918	1950	9.0437	0.1106	1980	2.6451	0.3781
1921	12.1762	0.0821	1951	8.3828	0.1193	1981	2.3977	0.4171
1922	12.9734	0.0771	1952	8.2247	0.1216	1982	2.2586	0.4428
1923	12.7458	0.0785	1953	8.1630	0.1225	1983	2.1883	0.4570
1924	12.7458	0.0785	1954	8.1024	0.1234	1984	2.0977	0.4767
1925	12.4545	0.0803	1955	8.1326	0.1230	1985	2.0256	0.4937
1926	12.3137	0.0812	1956	8.0130	0.1248	1986	1.9886	0.5029
1927	12.5261	0.0798	1957	7.7563	0.1289	1987	1.9186	0.5212
1928	12.7458	0.0785	1958	7.5416	0.1326	1988	1.8424	0.5428
1929	12.7458	0.0785	1959	7.4898	0.1335	1989	1.7577	0.5689
1930	13.0511	0.0766	1960	7.3633	0.1358	1990	1.6676	0.5997
1931	14.3390	0.0697	1961	7.2894	0.1372	1991	1.6002	0.6249
1932	15.9090	0.0629	1962	7.2170	0.1386	1992	1.5535	0.6437
1933	16.7656	0.0596	1963	7.1227	0.1404	1993	1.5083	0.6630
1934	16.2652	0.0615	1964	7.0308	0.1422	1994	1.4707	0.6800
1935	15.9090	0.0629	1965	6.9192	0.1445	1995	1.4301	0.6992
1936	15.6801	0.0638	1966	6.7270	0.1487	1996	1.3891	0.7199
1937	15.1357	0.0661	1967	6.5255	0.1532	1997	1.3580	0.7364
1938	15.4577	0.0647	1968	6.2630	0.1597	1998	1.3371	0.7479
1939	15.6801	0.0638	1969	5.9388	0.1684	1999	1.3082	0.7644
1940	15.5681	0.0642	1970	5.6174	0.1780	2000	1.2657	0.7901
1941	14.8268	0.0674	1971	5.3816	0.1858	2001	1.2307	0.8126
1942	13.3714	0.0748	1972	5.2142	0.1918	2002	1.2115	0.8254
1943	12.5985	0.0794	1973	4.9089	0.2037	2003	1.1845	0.8442
1944	12.3837	0.0808	1974	4.4210	0.2262	2004	1.1538	0.8667
1945	12.1085	0.0826	1975	4.0512	0.2468	2005	1.1160	0.8961
1946	11.1771	0.0895	1976	3.8305	0.2611	2006	1.0811	0.9250
1947	9.7737	0.1023	1977	3.5966	0.2780	2007	1.0512	0.9513
1948	9.0437	0.1106	1978	3.3428	0.2991	2008	1.0123	0.9878
1949	9.1577	0.1092	1979	3.0021	0.3331	2009	1.0159	0.9843
						2010	1.0000	1.0000

How to Convert Past and Present Values

The table above provides a simple way to convert values from the past into their equivalent value today (or vice versa). To convert a value from a particular year to its 2010 equivalent, simply multiply the original price by the conversion factor **Multiplier A** shown in the table for the appropriate year.

For instance, say you want to know if the value of your house has “kept pace with inflation.” Multiply

the original price of the house by the **Multiplier A** factor shown for the year you purchased it.

Example: A house was purchased in 1965 for \$25,000. Adjusting for price inflation, this price in terms of 2010 dollars is $\$25,000 \times 6.9192 = \$172,980$. This is approximately how much the house would have to sell for today just to keep up with price inflation.

To convert 2010 dollars into past dollars, simply multiply today’s dollar amount by the conversion factor **Multiplier B** shown in the table for the appropriate year.

Example: If the price of a movie ticket is about \$10 today, what was the constant-dollar equivalent in, say, 1974? Today’s \$10 purchase price in terms of 1974 dollars is $\$10 \times 0.2262 = \2.26 .



Use the **AIER Cost-of-Living Calculator** at our website: www.aier.org