**Consumer Price Index (CPI) Table**

Average Annual CPI and Percent Change in CPI by Year

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Year** | **Annual Average****CPI** | **Annual Percent Change** |  | **Year** | **Annual Average****CPI** | **Annual Percent Change** |  | **Year** | **Annual Average****CPI** | **Annual Percent Change** |
| **(rate of inflation)** |  | **(rate of inflation)** |  | **(rate of inflation)** |
| 1913 | 9.9 |   |  | 1946 | 19.5 | 8.50% |  | 1979 | 72.6 | 11.30% |
| 1914 | 10 | 1.30% |  | 1947 | 22.3 | 14.40% |  | 1980 | 82.4 | 13.50% |
| 1915 | 10.1 | 0.90% |  | 1948 | 24 | 7.70% |  | 1981 | 90.9 | 10.30% |
| 1916 | 10.9 | 7.70% |  | 1949 | 23.8 | -1.00% |  | 1982 | 96.5 | 6.10% |
| 1917 | 12.8 | 17.80% |  | 1950 | 24.1 | 1.10% |  | 1983 | 99.6 | 3.20% |
| 1918 | 15 | 17.30% |  | 1951 | 26 | 7.90% |  | 1984 | 103.9 | 4.30% |
| 1919 | 17.3 | 15.20% |  | 1952 | 26.6 | 2.30% |  | 1985 | 107.6 | 3.50% |
| 1920 | 20 | 15.60% |  | 1953 | 26.8 | 0.80% |  | 1986 | 109.6 | 1.90% |
| 1921 | 17.9 | -10.90% |  | 1954 | 26.9 | 0.30% |  | 1987 | 113.6 | 3.70% |
| 1922 | 16.8 | -6.20% |  | 1955 | 26.8 | -0.30% |  | 1988 | 118.3 | 4.10% |
| 1923 | 17.1 | 1.80% |  | 1956 | 27.2 | 1.50% |  | 1989 | 124 | 4.80% |
| 1924 | 17.1 | 0.40% |  | 1957 | 28.1 | 3.30% |  | 1990 | 130.7 | 5.40% |
| 1925 | 17.5 | 2.40% |  | 1958 | 28.9 | 2.70% |  | 1991 | 136.2 | 4.20% |
| 1926 | 17.7 | 0.90% |  | 1959 | 29.2 | 1.08% |  | 1992 | 140.3 | 3.00% |
| 1927 | 17.4 | -1.90% |  | 1960 | 29.6 | 1.50% |  | 1993 | 144.5 | 3.00% |
| 1928 | 17.2 | -1.20% |  | 1961 | 29.9 | 1.10% |  | 1994 | 148.2 | 2.60% |
| 1929 | 17.2 | 0.00% |  | 1962 | 30.3 | 1.20% |  | 1995 | 152.4 | 2.80% |
| 1930 | 16.7 | -2.70% |  | 1963 | 30.6 | 1.20% |  | 1996 | 156.9 | 2.90% |
| 1931 | 15.2 | -8.90% |  | 1964 | 31 | 1.30% |  | 1997 | 160.5 | 2.30% |
| 1932 | 13.6 | -10.30% |  | 1965 | 31.5 | 1.60% |  | 1998 | 163 | 1.60% |
| 1933 | 12.9 | -5.20% |  | 1966 | 32.5 | 3.00% |  | 1999 | 166.6 | 2.20% |
| 1934 | 13.4 | 3.50% |  | 1967 | 33.4 | 2.80% |  | 2000 | 172.2 | 3.40% |
| 1935 | 13.7 | 2.60% |  | 1968 | 34.8 | 4.30% |  | 2001 | 177.1 | 2.80% |
| 1936 | 13.9 | 1.00% |  | 1969 | 36.7 | 5.50% |  | 2002 | 179.9 | 1.60% |
| 1937 | 14.4 | 3.70% |  | 1970 | 38.8 | 5.80% |  | 2003 | 184 | 2.30% |
| 1938 | 14.1 | -2.00% |  | 1971 | 40.5 | 4.30% |  | 2004 | 188.9 | 2.70% |
| 1939 | 13.9 | -1.30% |  | 1972 | 41.8 | 3.30% |  | 2005 | 195.3 | 3.40% |
| 1940 | 14 | 0.70% |  | 1973 | 44.4 | 6.20% |  | 2006 | 201.6 | 3.20% |
| 1941 | 14.7 | 5.10% |  | 1974 | 49.3 | 11.10% |  | 2007 | 207.3 | 2.90% |
| 1942 | 16.3 | 10.90% |  | 1975 | 53.8 | 9.10% |  | 2008 | 215.3 | 3.80% |
| 1943 | 17.3 | 6.00% |  | 1976 | 56.9 | 5.70% |  | 2009 | 214.5 | -0.40% |
| 1944 | 17.6 | 1.60% |  | 1977 | 60.6 | 6.50% |  | 2010 | 218.1 | 1.60% |
| 1945 | 18 | 2.30% |  | 1978 | 65.2 | 7.60% |  | 2011 | 224.9 | 3.20% |
|  |  |  |  |  |  |  |  | 2012 | 229.6 | 2.1% |
| *Source: The Federal Reserve Bank of Minneapolis* |  |  |  |  |  |  |  | 2013 | 233.0 | 1.5% |

**Consumer Price Index (CPI) Calculations**

Use the CPI table and the formula for inflation-adjusted price below to answer the questions that follow.

$$Year 2 price=(Year 1 price)∙\left(\frac{CPI Year 2}{CPI Year 1}\right) $$

1. You move out and rent an apartment this year for $700 per month. How much would an equivalent apartment (in an equivalent neighborhood) have cost your grandparents in 1962? (Use the 2013 CPI to represent this year’s CPI.)
2. In 1950 the median family income was $3,319, while the average Major League baseball player salary was $13,228. In 1998 the median household income was $38,885, while the average Major League baseball player was $1.4 million.

Using the CPI table, convert each of the 1950 incomes to inflation-adjusted 1998 dollars and compare the salaries of baseball players and the average household to each other and to their actual 1998 values. Record the values in the table below.

|  |  |
| --- | --- |
| **Average baseball salary** | **Median household income** |
| Year | Current Income | Inflation-adjusted 1998 dollars | Year | Current Income | Inflation-adjusted 1998 dollars |
| 1950 | $13,228 | $\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | 1950 | $3,319 | $\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 1998 | $1,400,000 | $1,400,000 | 1998 | $38,885 | $38,885 |

Why do you think that, even when inflation is taken into account, the median income of the average household and average baseball player has increased?

**Consumer Price Index (CPI) Calculations SOLUTIONS**

Use the CPI table and the formula for inflation-adjusted price below to answer the questions that follow.

$$Year 2 price=(Year 1 price)∙\left(\frac{CPI Year 2}{CPI Year 1}\right) $$

1. You move out and rent an apartment this year for $700 per month. How much would an equivalent apartment (in an equivalent neighborhood) have cost your grandparents in 1962? (Use the 2013 CPI to represent this year’s CPI.)

$$1962 price=2013 price\left(\frac{1962 CPI}{2013 CPI}\right)=700\left(\frac{30.3}{233}\right)=\$91.03$$

1. In 1950 the median family income was $3,319, while the average Major League baseball player salary was $13,228. In 1998 the median household income was $38,885, while the average Major League baseball player was $1.4 million.

Using the CPI table, convert each of the 1950 incomes to inflation-adjusted 1998 dollars and compare the salaries of baseball players and the average household to each other and to their actual 1998 values.

|  |  |
| --- | --- |
| Average baseball salary | Median household income |
| Year | Current Income | Inflation-adjusted 1998 dollars | Year | Current Income | Inflation-adjusted 1998 dollars |
| 1950 | $13,228 | $89,467.39 | 1950 | $3,319 | $22,448.01 |
| 1998 | $1,400,000 | $1,400,000 | 1998 | $38,885 | $38,885 |

Why do you think that, even when inflation is taken into account, the median income of the average household and average baseball player has increased?

The median income of the average household has likely increased from 1950 to 1998 because many more households in 1998 had two adults working than in 1950. Also, in 1998 many more people had college educations and thus were likely employed in jobs that paid more in constant 1998 dollars than the jobs that people held in 1950. The median MLB player salary likely increased from 1950 to 1998 due to popularity and player endorsements. Also, before the 1970’s player contracts were not guaranteed like they are today, so if a player was cut partway through the season he earned only the portion of his salary for which he had played games. (source: <http://sabr.org/research/baseball-s-major-salary-milestones>)