

Ref CPI<sub>IssueDate</sub> = 161.55484

Resolution:

$$\text{Index Ratio}_{\text{Date}} = \text{Ref CPI}_{\text{Date}} / \text{Ref CPI}_{\text{IssueDate}} = 163.29032 / 161.55484 = 1.01074$$

$$v^n = 1 / (1 + i/2)^n = 1 / (1 + .0365/2)^{18} = 0.72213844$$

$$a_n = (1 - v^n) / (i/2) = (1 - 0.72213844) / (.0365/2) = 15.22529106$$

Formula:

$$P = \frac{(C/2) + (C/2)a_n + 100v^n}{1 + (r/s)(i/2)} - [(s-r)/s](C/2)$$

$$P = \frac{(3.625/2) + (3.625/2)(15.22529106) + 100(0.72213844)}{1 + (92/184)(0.0365/2)} - [(184-92)/184](3.625/2)$$

$$P = \frac{1.8125 + 27.59584005 + 72.213844}{1.009125} - (92/184)(1.8125)$$

$$P = \frac{101.62218405}{1.009125} - 0.906250$$

$$P = 100.703267 - 0.906250$$

$$P = 99.797017$$

$$P = 99.797$$

$$P_{\text{adj}} = P \times \text{Index Ratio}_{\text{Date}}$$

$$P_{\text{adj}} = 99.797 \times 1.01074 = 100.8688$$

$$P_{\text{adj}} = 100.869$$

$$A = [(184 - 92)/184] \times 3.625/2 = 0.906250$$

$$A_{\text{adj}} = A \times \text{Index Ratio}_{\text{Date}}$$

$$A_{\text{adj}} = 0.906250 \times 1.01074 = 0.915983$$

$$SA = P_{\text{adj}} + A_{\text{adj}} = 100.869 + 0.915983$$

$$SA = 101.784983$$

**Note:** For the real price (P), and the inflation-adjusted price (P<sub>adj</sub>), we have rounded to three places. For accrued interest (A) and the adjusted accrued interest (A<sub>adj</sub>), we have rounded to six places. These amounts are based on 100 par value.

#### IV. Computation of Adjusted Values and Payment Amounts for Stripped Inflation-Protected Interest Components

**Note:** Valuing an interest component stripped from an inflation-protected security at its adjusted value enables this interest component to be interchangeable (fungible) with other interest components that have the same maturity date, regardless of the underlying inflation-protected security from which the interest components were stripped. The adjusted value provides for fungibility of these various interest components when buying, selling, or transferring them or when reconstituting an inflation-protected security.

Definitions:

c = C/100 = the regular annual interest rate, payable semiannually, e.g., .03625 (the decimal equivalent of a 3<sup>3</sup>/<sub>8</sub>% interest rate)

Par = par amount of the security to be stripped

Ref CPI<sub>IssueDate</sub> = reference CPI for the original issue date (or dated date, when the dated date is different from the original issue date) of the underlying (unstripped) security

Ref CPI<sub>Date</sub> = reference CPI for the maturity date of the interest component

AV = adjusted value of the interest component

PA = payment amount at maturity by Treasury

Formulas:

$$AV = \text{Par}(C/2)(100/\text{Ref CPI}_{\text{IssueDate}}) \text{ (rounded to 2 decimals with no intermediate rounding)}$$

$$PA = AV(\text{Ref CPI}_{\text{Date}}/100) \text{ (rounded to 2 decimals with no intermediate rounding)}$$

Example:

A 10-year inflation-protected note paying 3<sup>7</sup>/<sub>8</sub>% interest was issued on January 15, 1999, with the second interest payment on January 15, 2000. The Ref CPI of January 15, 1999 (Ref CPI<sub>IssueDate</sub>) was 164.00000,

and the Ref CPI on January 15, 2000 (Ref CPI<sub>Date</sub>) was 168.24516. Calculate the adjusted value and the payment amount at maturity of the interest component.

Definitions:

$$c = .03875$$

$$\text{Par} = \$1,000,000$$

$$\text{Ref CPI}_{\text{IssueDate}} = 164.00000$$

$$\text{Ref CPI}_{\text{Date}} = 168.24516$$

Resolution:

For a par amount of \$1 million, the adjusted value of each stripped interest component