1. (1) GDP名义1 = 100×10 + 200×1 + 500×0.5 = 1450 (美元)

(2) GDP名义2 = 110×10 + 200×1.5 + 450×1 = 1850 (美元)

(3) GDP实际2016 = 100×10 + 200×1 + 500×0.5 = 1450 (美元)

GDP实际2017 = 110×10 + 200×1 + 450×0.5 = 1525 (美元)

变化: $\frac{1525-1450}{1450} \times 100\% \approx 5.17\%$

(4) GDP实际2016′ = 100×10 + 200×1.5 + 500×1 = 1800 (美元)

GDP实际2017′ = 110×10 + 200×1.5 × 450×1 = 1850 (美元)

变化: $\frac{1850-1800}{1800} \times 100\% \approx 2.78\%$

(5) 这句话较片面,因为GDP还受生产产品与劳务的数量变化的影响

(6) 由(3)知 GDP实际2016 = 1450 (美元), GDP实际2017 = 1525 (美元)

GDP平减指数2016 = $\frac{1450}{1450} \times 100\% = 100\%$

GDP平减指数2017 = $\frac{1850}{1525} \times 100\% = 121.31\%$

2. (1) 折旧 = 总投资 − 净投资 = 800 − 300 = 500

NDP = GDP − 折旧 = 4800 − 500 = 4300 (亿美元)

(2) NX = GDP − C − I − G = 4800 − 3000 − 800 − 960 = 40 (亿美元)

(3) 税收 − 政府转移支付 = 政府预算盈余 + G = 30 + 960 = 990 (亿美元)

(4) 个人可支配收入 = NDP − 税收 + 政府转移支付

= 4300 − 990 = 3310 (亿美元)

(5) 个人储蓄 = 个人可支配收入 − C = 3310 − 3000 = 310 (亿美元)

附加练习

1. (1) 劳动力人数 = 134000 + 860 = 14260 (万)

(2) 劳动力参与率 = $\frac{14260}{14260+7090} \times 100\% = 66.79\%$

(3) 失业率 = $\frac{860}{14260} \times 100\% = 6.03\%$

2. (1) $GDP_{2001名义} = 10\times9 + 5\times6 = 120$

$GDP_{2002名义} = 12\times10 + 6\times8 = 168$

$GDP_{2003名义} = 10\times12 + 8\times10 = 200$

(2) $GDP_{2001实际} = 10\times9 + 6\times6 = 120$

$GDP_{2002实际} = 10\times10 + 5\times8 = 140$

$GDP_{2003实际} = 10\times12 + 5\times10 = 170$

(3) GDP平减指数$_{2001} = \frac{120}{120}\times100\% = 100\%$

GDP平减指数$_{2002} = \frac{168}{140}\times100\% = 120\%$

GDP平减指数$_{2003} = \frac{200}{170}\times100\% = 117.65\%$

$\pi_{2002} = \frac{120\%-100\%}{100\%}\times100 = 20\%$

$\pi_{2003} = \frac{117.65\%-120\%}{120\%}\times100 = -2\%$

(4) 以2001年为基期，则

$CPI_{2001} = \frac{2\times10+1\times5}{2\times10+1\times5}\times100 = 100$

$CPI_{2002} = \frac{2\times12+1\times6}{2\times10+1\times5}\times100 = 120$

$CPI_{2003} = \frac{2\times10+1\times8}{2\times10+1\times5}\times100 = 112$

$\pi_{2002}' = \frac{120-100}{100}\times100\% = 20\%$

$\pi_{2003}' = \frac{112-120}{120}\times100\% = -6.67\%$

$\pi_{2002}' = \pi_{2002}$，但$\pi_{2003} > \pi_{2003}'$

原因：用CPI计算的π保持产品的篮子固定

但用GDP平减指数计算的π允许产品篮子变化

3. (1) $CPI_{2010} = \frac{50\times4+20\times100+80\times2}{50\times4+20\times100+80\times2}\times100 = 100$

$CPI_{2011} = \frac{50\times5+20\times150+80\times3}{2360}\times100 = 147.88$

$CPI_{2012} = \frac{50\times6+20\times300+80\times2}{2360}\times100 = 273.72$

(2) $\pi_{2012} = \frac{147.88-100}{100}\times100\% = 47.88\%$

$r_{2013} = \frac{273.72-147.88}{147.88} \times 100\% = 85.10\%$

(3) 衣服，从2010年到2011年，P衣上涨50元，增加1000元支出，带动CPI上涨47.4%

从2011年到2012年，带动CPI上涨86.0%

衣服一直是当年CPI上涨的主因

(4) $CPI'_{2010} = \frac{4\times50+100\times20+2\times80}{4\times50+100\times20+2\times80} \times 100 = 100$

$CPI'_{2011} = \frac{5\times50+150\times20+3\times80+0.5\times5000}{2360} \times 100 = 253.8$

$CPI'_{2012} = \frac{6\times50+300\times20+2\times80+10000}{2360} \times 100 = 697.5$