Real GDP

For 2019 real GDP we use prices paid in base year

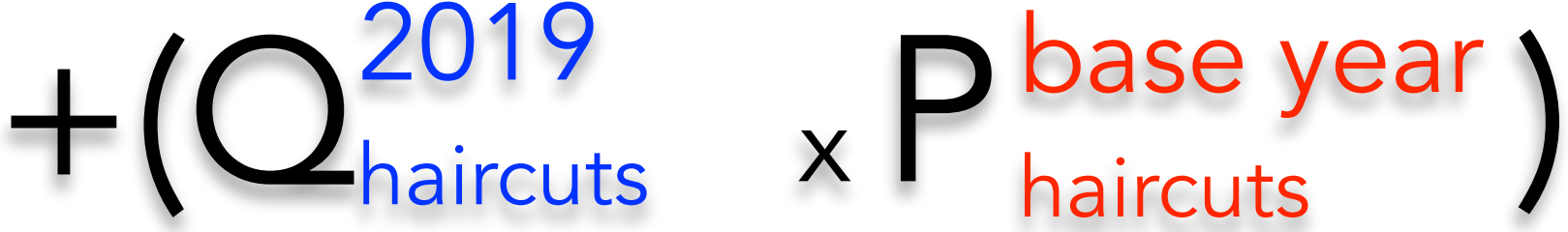
2019 Real GDP use
quantities purchased in
2019 but uses prices
paid in the base year

Since prices are fixed at base year prices, we know changes in Real GDP are due to a change in quantities not prices

= $11,000B

$$(Q_{\text{apples}}^{2019} \times P_{\text{apples}}^{\text{base year}})$$

+(Q 2019 computers x P base year computers)


+(Q 2019 haircuts x P base year haircuts)

+(Q 2019 cars x P base year cars)

$$+\left(Q_{houses}^{2019} \times P_{Houses}^{base\ year}\right)$$

For 2019 real GDP we use prices paid in base year

$$(Q^{2019}_{apples} \times P^{base\ year}_{apples}) + (Q^{2019}_{computers} \times P^{base\ year}_{computers}) + (Q^{2019}_{haircuts} \times P^{base\ year}_{haircuts})$$
$$+ (Q^{2019}_{cars} \times P^{base\ year}_{cars}) + (Q^{2019}_{houses} \times P^{base\ year}_{Houses}) + \ldots = \$11{,}000B$$

2019 Real GDP use quantities purchased in 2019 but uses prices paid in the base year

Real GDP

Since prices are fixed at base year prices, we know changes in Real GDP are due to a change in quantities not prices

Nominal GDP

Real GDP