

Year	Price X	Quantity X	Price Y	Quantity Y	Price Z	Quantity Z	Nominal GDP
1	1	100	0.5	50	0.6	10	$(1 \times 100) + (0.5 \times 50) + (0.6 \times 10) = 131$
2	2	100	1	50	1.2	10	$(2 \times 100) + (1 \times 50) + (1.2 \times 10) = 262$
3	4	100	2	50	2.4	10	$(4 \times 100) + (2 \times 50) + (2.4 \times 10) = 524$
4	8	100	4	50	4.8	10	$(8 \times 100) + (4 \times 50) + (4.8 \times 10) = 1,048$

T





a





u



a



e

R

e

a



G

D

P







S



W

e

C

h





S

e

a



b

a

S

e



Y

e

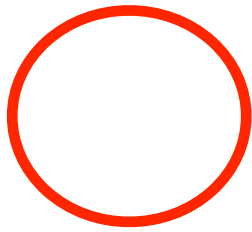
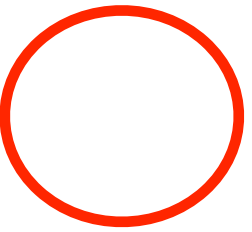
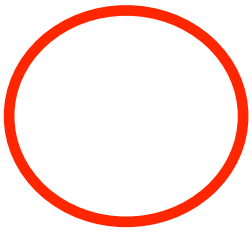
a

r

1

0.5

0.6



1

0.5

0.6

1

0.5

0.6

$$\text{Real GDP} = P_{x \text{ base}} Q_x + P_{y \text{ base}} Q_y + P_{z \text{ base}} Q_z$$

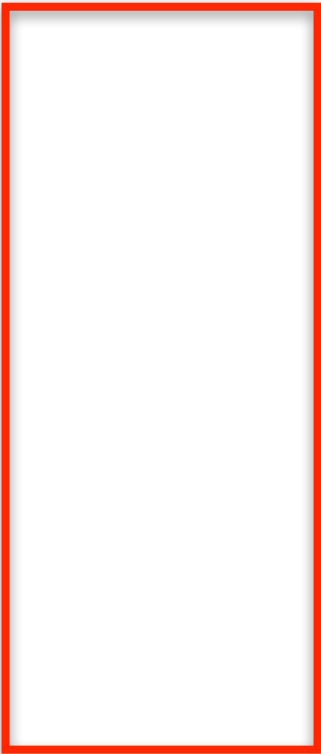
Real GDP

$$(1 \times 100) + (0.5 \times 50) + (0.6 \times 10) = 131$$

$$(1 \times 100) + (0.5 \times 50) + (0.6 \times 10) = 131$$

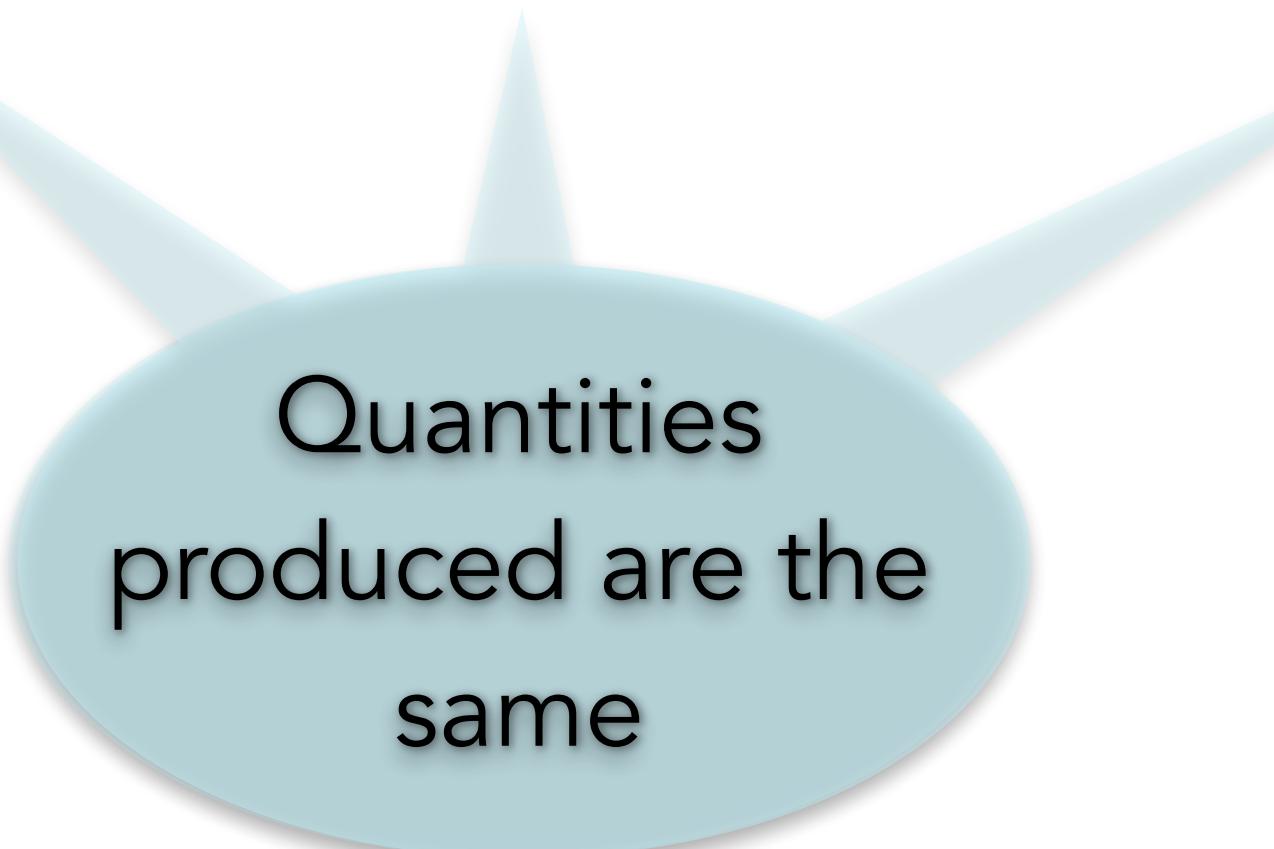
$$(1 \times 100) + (0.5 \times 50) + (0.6 \times 10) = 131$$

$$(1 \times 100) + (0.5 \times 50) + (0.6 \times 10) = 131$$




Choosing Year 1 as the **base** means that we will pretend that prices did not change from what they were in year 1

The choice of base year is arbitrary. In this example we'll use Year 1 as the base



Quantities
produced are the
same



Real GDP
correctly shows
that production
is the same



Nominal GDP tells us
that production
increased!

To calculate **Real** GDP first we
choose a "**base**" year

Choosing Year 1 as the **base** means that we will pretend that prices did not change from what they were in year 1

Real GDP= $P_{x \text{ base}}Q_x + P_{y \text{ base}}Q_y + P_{z \text{ base}}Q_z$

Year	Price X	Quantity X	Price Y	Quantity Y	Price Z	Quantity Z	Real GDP
1	1	100	0.5	50	0.6	10	$(1 \times 100) + (0.5 \times 50) + (0.6 \times 10) = 131$
2	1	100	0.5	50	0.6	10	$(1 \times 100) + (0.5 \times 50) + (0.6 \times 10) = 131$
3	1	100	0.5	50	0.6	10	$(1 \times 100) + (0.5 \times 50) + (0.6 \times 10) = 131$
4	1	100	0.5	50	0.6	10	$(1 \times 100) + (0.5 \times 50) + (0.6 \times 10) = 131$

Quantities produced are the same

Real GDP correctly shows that production is the same

Comparing Real and Nominal GDP