

## Household-Consumption

### Part 1

## What is GDP?

- **Gross Domestic Product (GDP)**- is the nation's expenditure on all the final goods and services produced during the year at market price.

## How is GDP calculated?

- You will learn one way to calculate GDP is by adding all of **Nation's expenditures**.
- Another method used is the income approach (not discussed here).

## Nation's Expenditures

Consumption

Investment

Government Spending

Net Exports

$$C + I + G + X_n = \text{GDP}$$

This lecture will concentrate on Consumption

## Consumption

- Consumption is the nation's expenditures on all final goods and services produced during the year at market prices
  - Consumption was almost \$2 trillion dollars in 2002

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## Consumption

- Americans spend over 95% of their income after taxes
- The total of everyone's expenditures is called *consumption*
  - Consumption is designated by the letter C

- C is the largest sector of GDP
- C is just over two-thirds of GDP

### Consumption (Continued)

- The consumption functions states
  - As income rises, consumption (C) rises, but not as quickly
  - Therefore, consumption varies with disposable income (DI)

### Consumption and Disposable Income

Disposable Income	Consumption
1,000	1,400
2,000	2,200
3,000	3,000
4,000	3,800
5,000	4,600

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### Consumption and Disposable Income

As Income rises so does Consumption  
**BUT NOT AS QUICKLY!**

DI increases . . . C increases but by a **smaller amount**

DI decreases . . . C decreases but by a **smaller amount**

### Consumption and Disposable Income (Continued)

Disposable Income	Consumption
1,000 + 1000	1,400 + 800
2,000 + 1000	2,200 + 800
3,000 + 1000	3,000 + 800
4,000 + 1000	3,800 + 800
5,000	4,600

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### Two Ways To View Consumption-Income Relationship

1. As the ratio of **total** consumption to **total** disposable income.
2. As the relationship of **changes** in consumption to **changes** in disposable income.

## Average Vs. Marginal

- The *average propensity to consume (APC)* is total consumption in a given period divided by total disposable income.

$$APC = \frac{\text{Total consumption}}{\text{Total disposable income}} = \frac{C}{Y_D}$$

$$APS = \frac{\text{Total saving}}{\text{Total disposable income}} = \frac{S}{Y_D}$$

## Average Propensity to Consume (APC/The Percent of DI Spent)

$$APC = \frac{\text{Consumption}}{\text{Disposable Income}}$$

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### Table 2

Disposable Income	Consumption	Saving
\$40,000	\$30,000	

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### Table 2 (Continued)

Disposable Income	Consumption	Saving
\$40,000	\$30,000	\$10,000

$$APC = \frac{C}{DI} = \frac{30000}{40000} = \frac{3}{4} = .75$$

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### Table 2 (Continued)

Disposable Income	Consumption	Saving
\$40,000	\$30,000	\$10,000

$$APC = \frac{C}{DI} = \frac{30000}{40000} = \frac{3}{4} = .75$$

$$APS = \frac{S}{DI} = \frac{10000}{40000} = \frac{1}{4} = .25$$

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### Table 2 (Continued)

Disposable Income	Consumption	Saving
\$40,000	\$30,000	\$10,000

$$APC = \frac{C}{DI} = \frac{30000}{40000} = \frac{3}{4} = .75$$

+

$$APS = \frac{S}{DI} = \frac{10000}{40000} = \frac{1}{4} = \frac{.25}{1.00}$$

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**Table 3**

<b>Disposable Income</b>	<b>Saving</b>
\$20,000	\$1,500

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**Table 3 (Continued)**

<b>Disposable Income</b>	<b>Saving</b>	<b>Consumption</b>
\$20,000	\$1,500	\$18,500

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**Table 3 (Continued)**

<b>Disposable Income</b>	<b>Saving</b>	<b>Consumption</b>
\$20,000	\$1,500	\$18,500

$$APC = \frac{C}{DI} = \frac{18500}{20000} = \frac{37}{40} = .925$$

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**Table 3 (Continued)**

<b>Disposable Income</b>	<b>Saving</b>	<b>Consumption</b>
\$20,000	\$1,500	\$18,500

$$APC = \frac{C}{DI} = \frac{18500}{20000} = \frac{37}{40} = .925$$

$$APS = \frac{S}{DI} = \frac{1500}{20000} = \frac{3}{40} = .075$$

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**Table 3 (Continued)**

<b>Disposable Income</b>	<b>Saving</b>	<b>Consumption</b>
\$20,000	\$1,500	\$18,500

$$APC = \frac{C}{DI} = \frac{18500}{20000} = \frac{37}{40} = .925$$

+

$$APS = \frac{S}{DI} = \frac{1500}{20000} = \frac{3}{40} = \frac{.075}{1.00}$$

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### APCs Greater than One

<b>Disposable Income</b>	<b>Consumption</b>	<b>Saving</b>
\$10,000	\$12,000	

## APCs Greater than One (Continued)

Disposable Income	Consumption	Saving
\$10,000	\$12,000	- 2000

Where is this going to come from?

## APCs Greater than One

Disposable Income	Consumption	Saving
\$10,000	\$12,000	- 2000

$$APC = \frac{C}{DI} = \frac{\$12,000}{\$10,000} = \frac{12}{10} = 1.2$$

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## APCs Greater than One

Disposable Income	Consumption	Saving
\$10,000	\$12,000	- 2000

$$APC = \frac{C}{DI} = \frac{\$12,000}{\$10,000} = \frac{12}{10} = 1.2$$

$$APS = \frac{S}{DI} = \frac{-\$2,000}{\$10,000} = \frac{-2}{10} = -0.2$$

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## APCs Greater than One

Disposable Income	Consumption	Saving
\$10,000	\$12,000	- 2000

$$APC = \frac{C}{DI} = \frac{\$12,000}{\$10,000} = \frac{12}{10} = 1.2$$

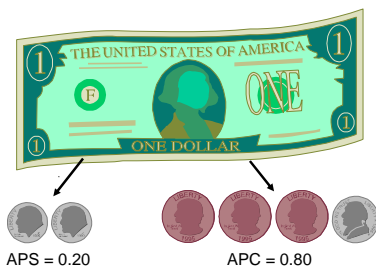
$$+ APS = \frac{S}{DI} = \frac{-\$2,000}{\$10,000} = \frac{-2}{10} = -0.2$$

$$\underline{\quad\quad\quad 1.00}$$

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$$APC + APS = 1$$



## The Marginal Propensity to Consume

- The **marginal propensity to consume (MPC)** is the fraction of each additional (marginal) dollar of disposable income spent on consumption.

## Marginal Propensity to Consume (MPC)

$$\text{MPC} = \frac{\text{CHANGE in Consumption}}{\text{CHANGE in Income}}$$

## Marginal Propensity to Consume (MPC)

Table 4

Year	DI	C	S
1998	\$30000	\$23000	\$7000
1999	\$40000	\$31000	\$9000

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## Marginal Propensity to Consume (MPC)

Table 4 (continued)

Year	DI	C	S
1998	\$30000	\$23000	\$7000
Change →	10000	8000	2000
1999	\$40000	\$31000	\$9000

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Table 4 (Continued)

Year	DI	C	S
1998	\$30000	\$23000	\$7000
Change →	10000	8000	2000
1999	\$40000	\$31000	\$9000
MPC =	$\frac{\text{Change in C}}{\text{Change in DI}} = \frac{8000}{10000} = \frac{8}{10} = .8$		

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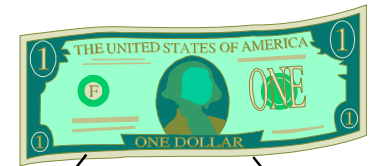
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Table 4 (Continued)

Year	DI	C	S
1998	\$30000	\$23000	\$7000
Change →	10000	8000	2000
1999	\$40000	\$31000	\$9000
MPC =	$\frac{\text{Change in C}}{\text{Change in DI}} = \frac{8000}{10000} = \frac{8}{10} = .8$		
+			
MPS =	$\frac{\text{Change in S}}{\text{Change in DI}} = \frac{2000}{10000} = \frac{2}{10} = .2$		
			<u>1.0</u>

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## The MPC and MPS



MPS = 0.20

MPC = 0.80