Price Determination

Theory of Demand and Supply
in the Product Market

The Big Picture

Bringing together…

PRICE

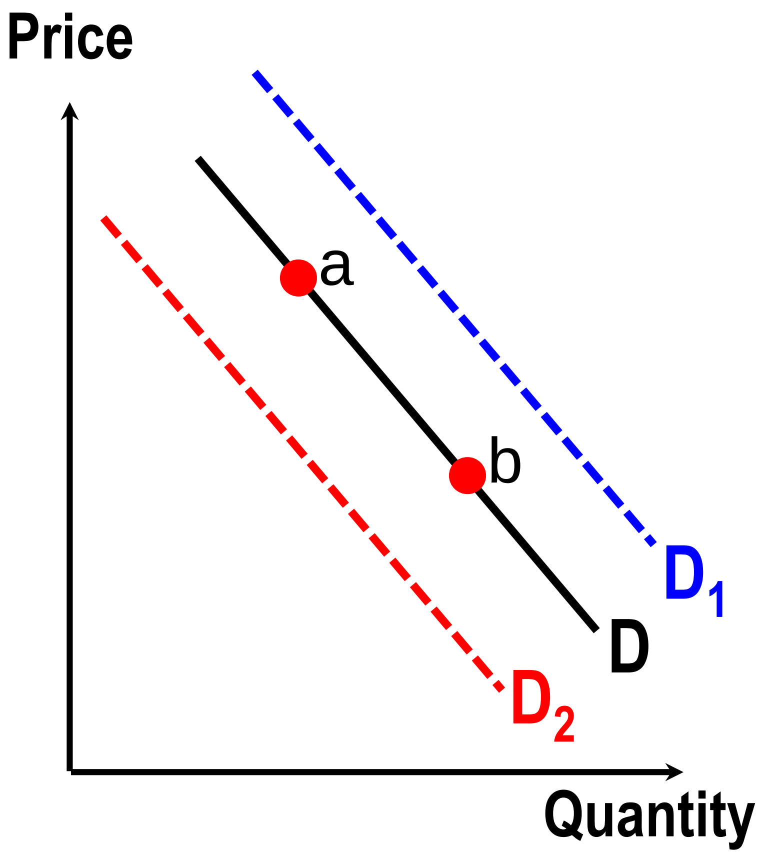
Free market force of

Free market force of

… to determine **PRICE!**

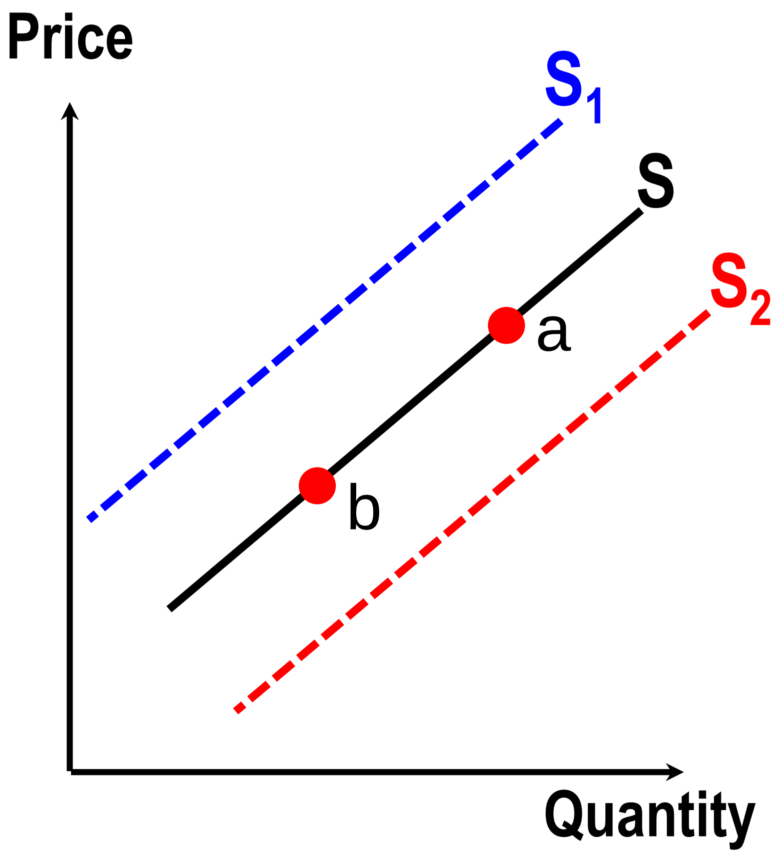
Recall …

Change in Quantity Demanded	Change in Demand
Caused by changes in the **price** of the good or service	Caused by changes in **non-price factors**
Results in **movement** along demand curve	Results in **shift** of demand curve



Recall ...

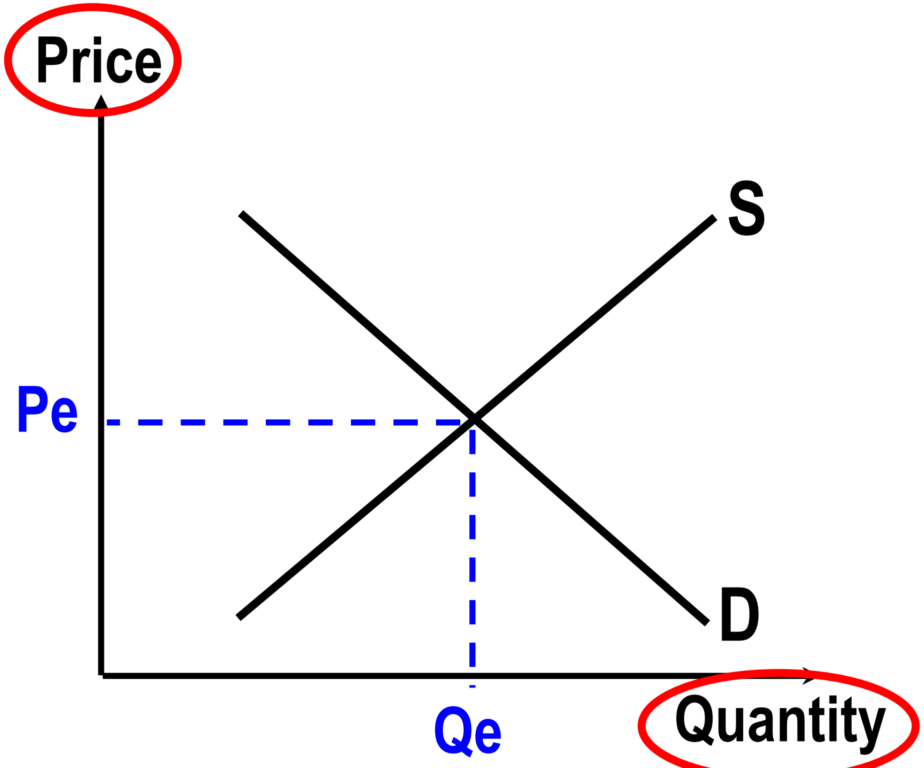
Change in Quantity Supplied	Change in Supply
Caused by changes in the **price** of the good or service	Caused by changes in **non-price factors**
Results in **movement** along supply curve	Results in **shift** of supply curve



SO WHAT?

The Bigger Picture

Bringing together…



… to determine **PRICE!**

Lesson Objectives

By the end of today's lesson, you should be able to:

- Explain how equilibrium price and quantity are determined.
- Distinguish between market equilibrium and disequilibrium.
- Explain how market forces of demand and supply interact to achieve stable market equilibrium.
- Explain how equilibrium price and quantity are affected, given the changes in demand **OR** supply.

Equilibrium:

What is Equilibrium?

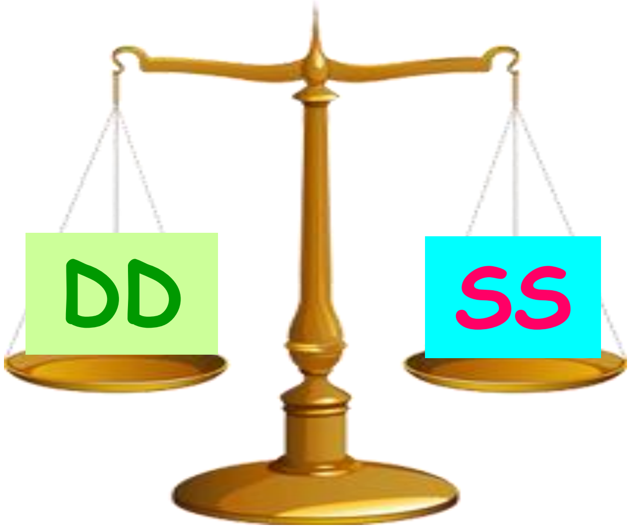
Equilibrium refers to a position of **balance.**

It is a position from which there is no inherent tendency to move away from.

Market Equilibrium:

What is Market Equilibrium?

Market Equilibrium refers to the state of a market that has no tendency to change.



Quantity that consumers want to buy

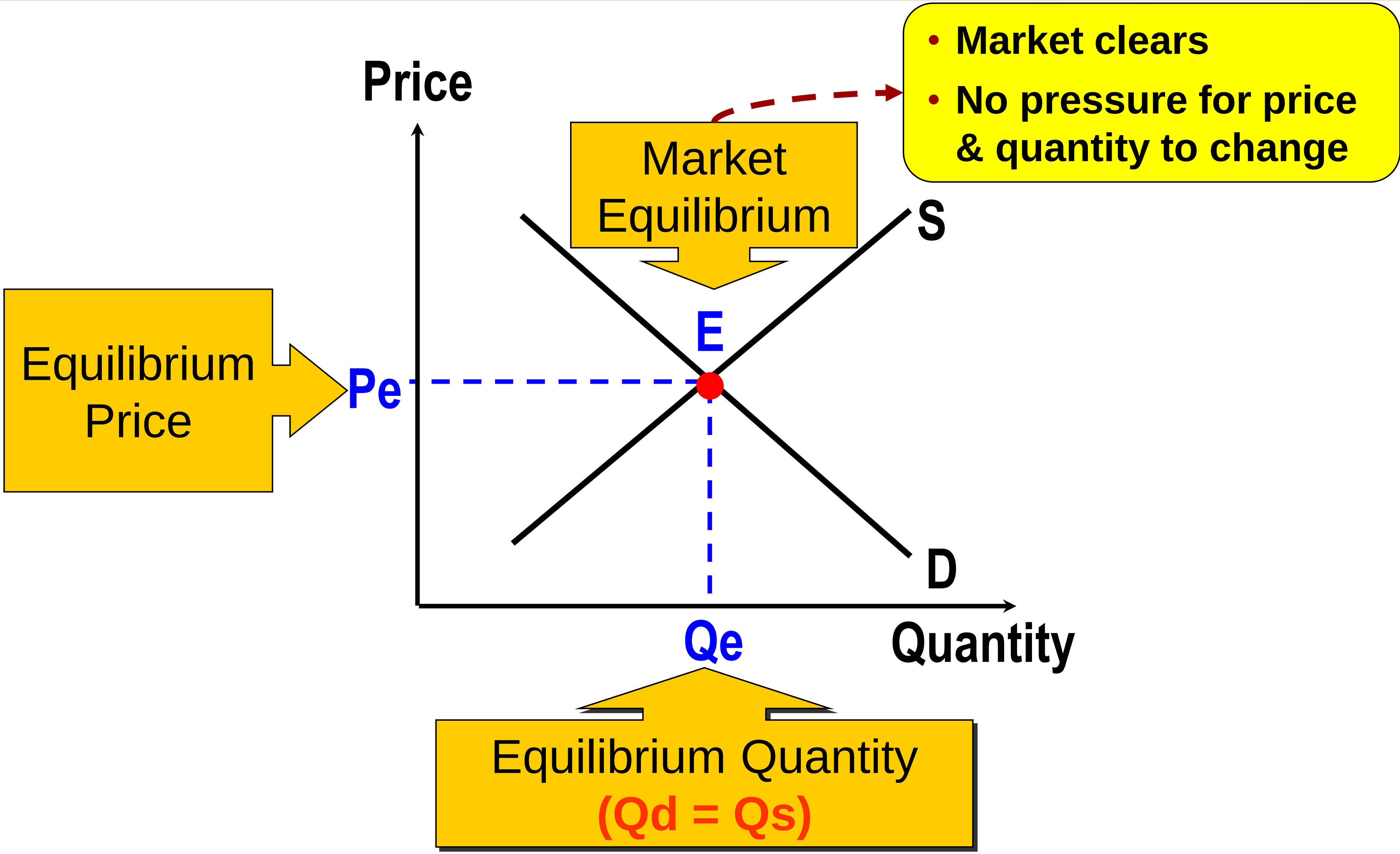
EQUALS

Quantity that producers offer for sale

At equilibrium, there is no surplus or shortage.

Market Equilibrium:

A Graphical Illustration



Lecture Objectives

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Equilibrium Price vs Market Price

Equilibrium Price

Price at which **quantity** demanded is **equal** to **quantity** supplied

No tendency to change unless demand or supply changes.

Market Price

Actual price the consumer pays for a good or service at any point in time.

What happens if …
Equilibrium Price ≠ Market Price

When equilibrium price ≠ market price, market is in **disequilibrium**.

↓

Quantity demanded ≠ Quantity supplied

↓

A **shortage** or **surplus** arises.

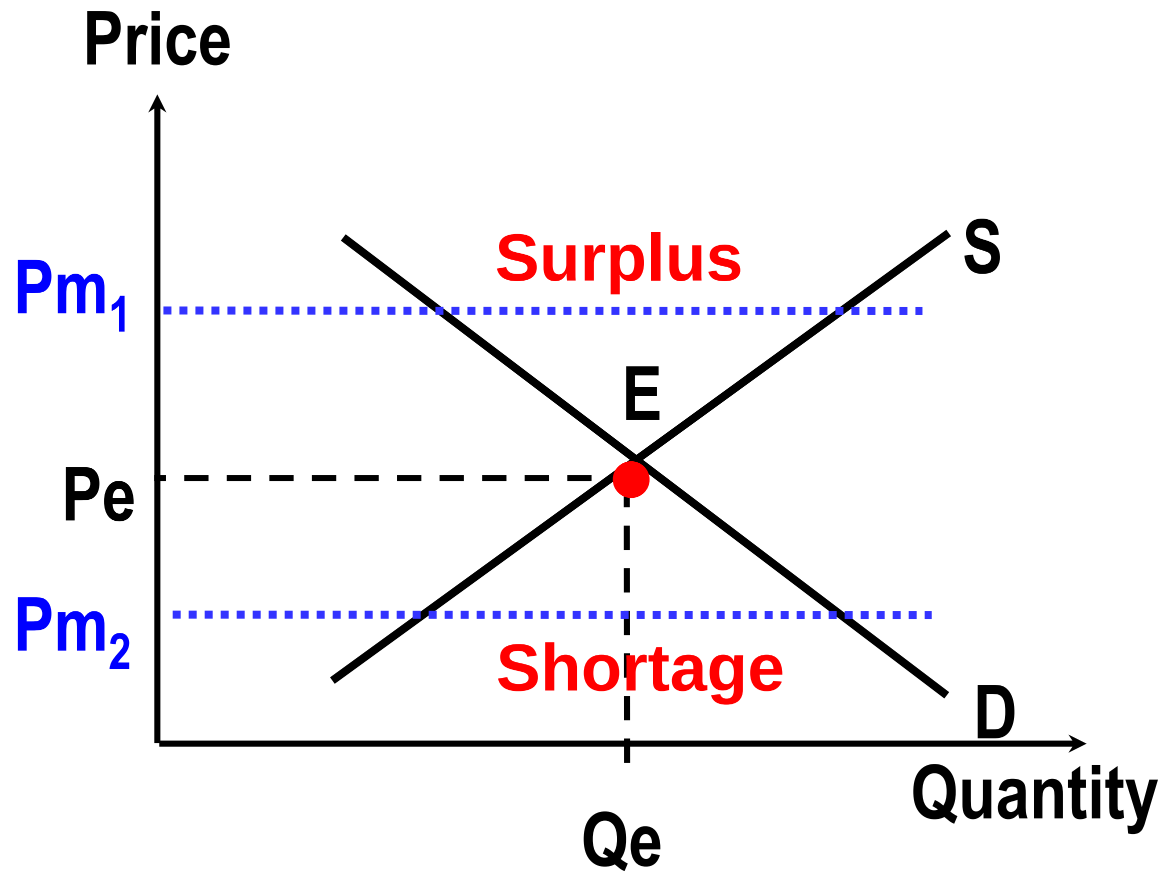
Market price will usually move towards equilibrium price.

What happens if ...
Equilibrium Price ≠ Market Price

Pm > Pe

Pm = Pe

Pm < Pe



What happens when equilibrium price ≠ market price?

Summary:
Market Equilibrium vs Disequilibrium

Market Equilibrium

Occurs at a price where quantity demanded is **equal** to quantity supplied

Market **clears**
(ie. supply matches demand)

Market Disequilibrium

Occurs at a price where quantity demanded is **not equal** to quantity supplied

Shortages or **surpluses** arise in the market

Drives **market price** towards **equilibrium price**

HOW?

Lesson Objectives

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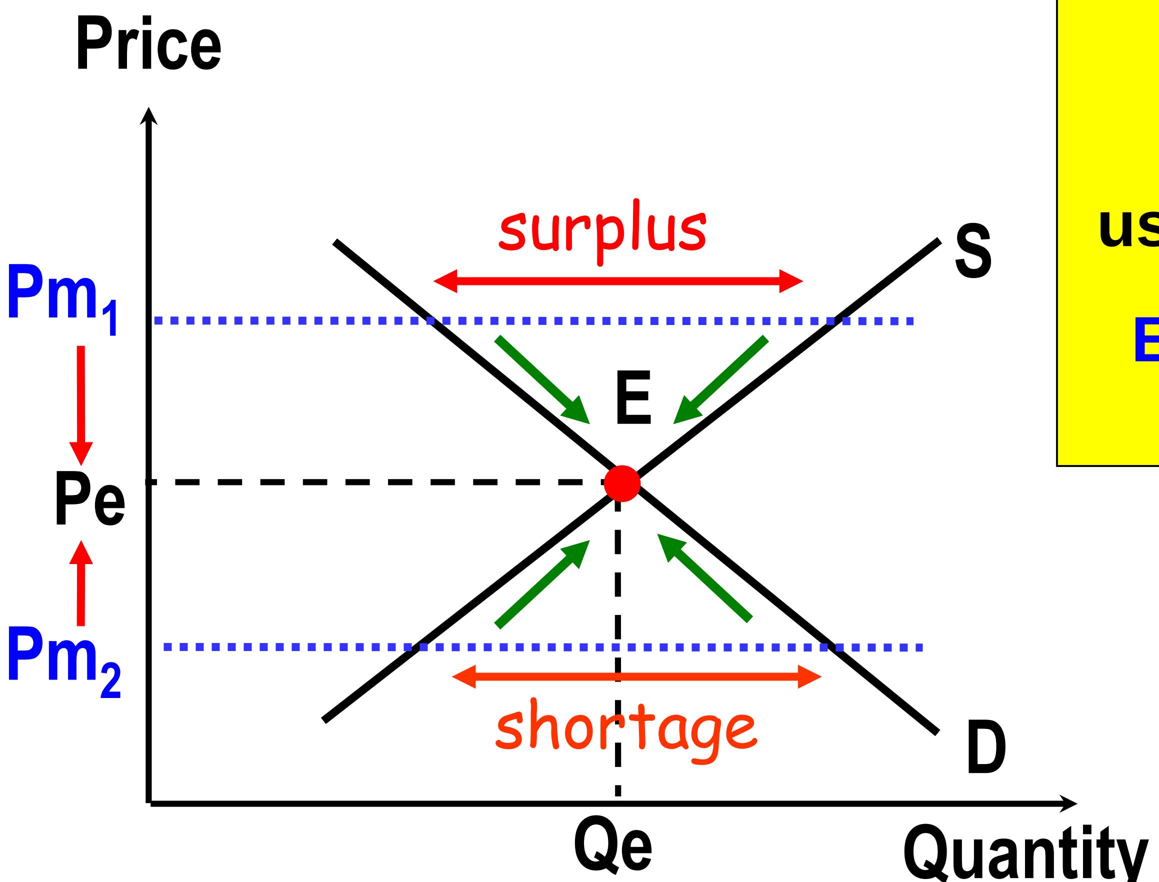
Interaction of Demand & Supply Forces



MARKET PRICE

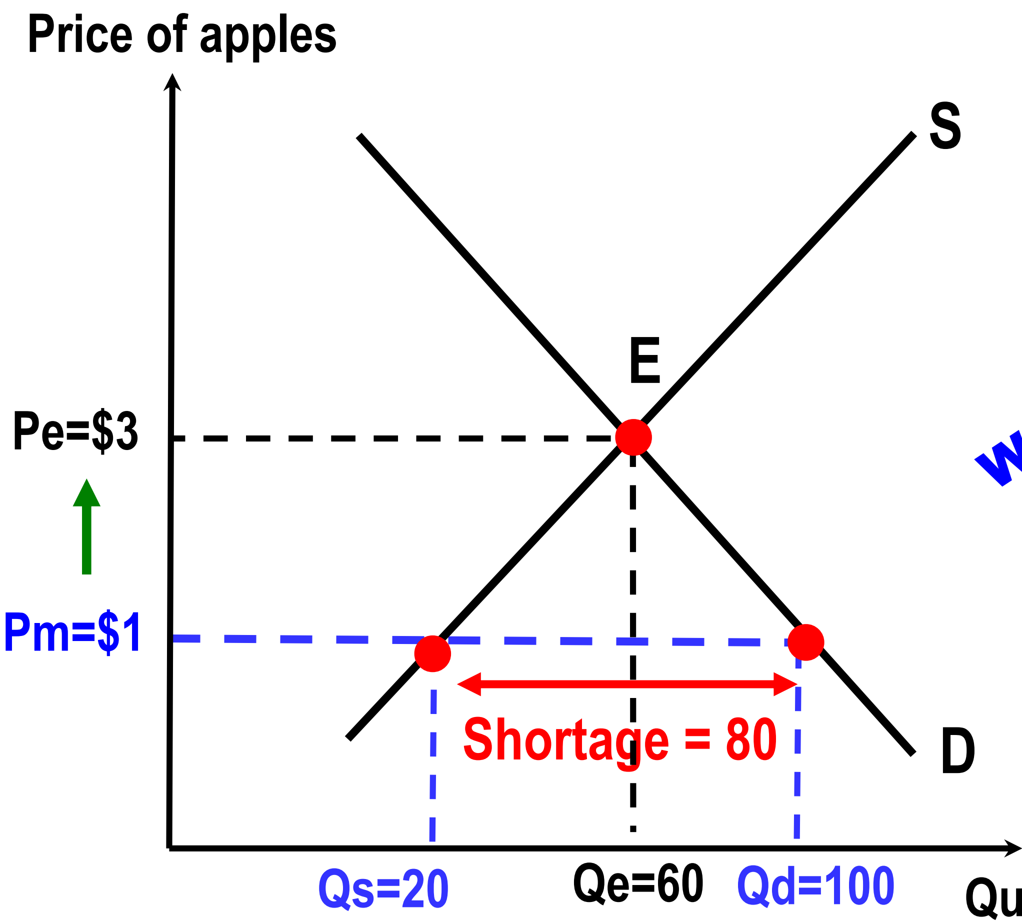
usually moves towards

EQUILIBRIUM PRICE

WHY?

Demand & supply forces at work

Market Price < Equilibrium Price
- How will market price adjust?



At market eqm (E):
- Eqm price (Pe) = $3
- Eqm quantity (Qe) = 60

Market price (Pm) is set at $1
- Qd > Qs ⇒ shortage

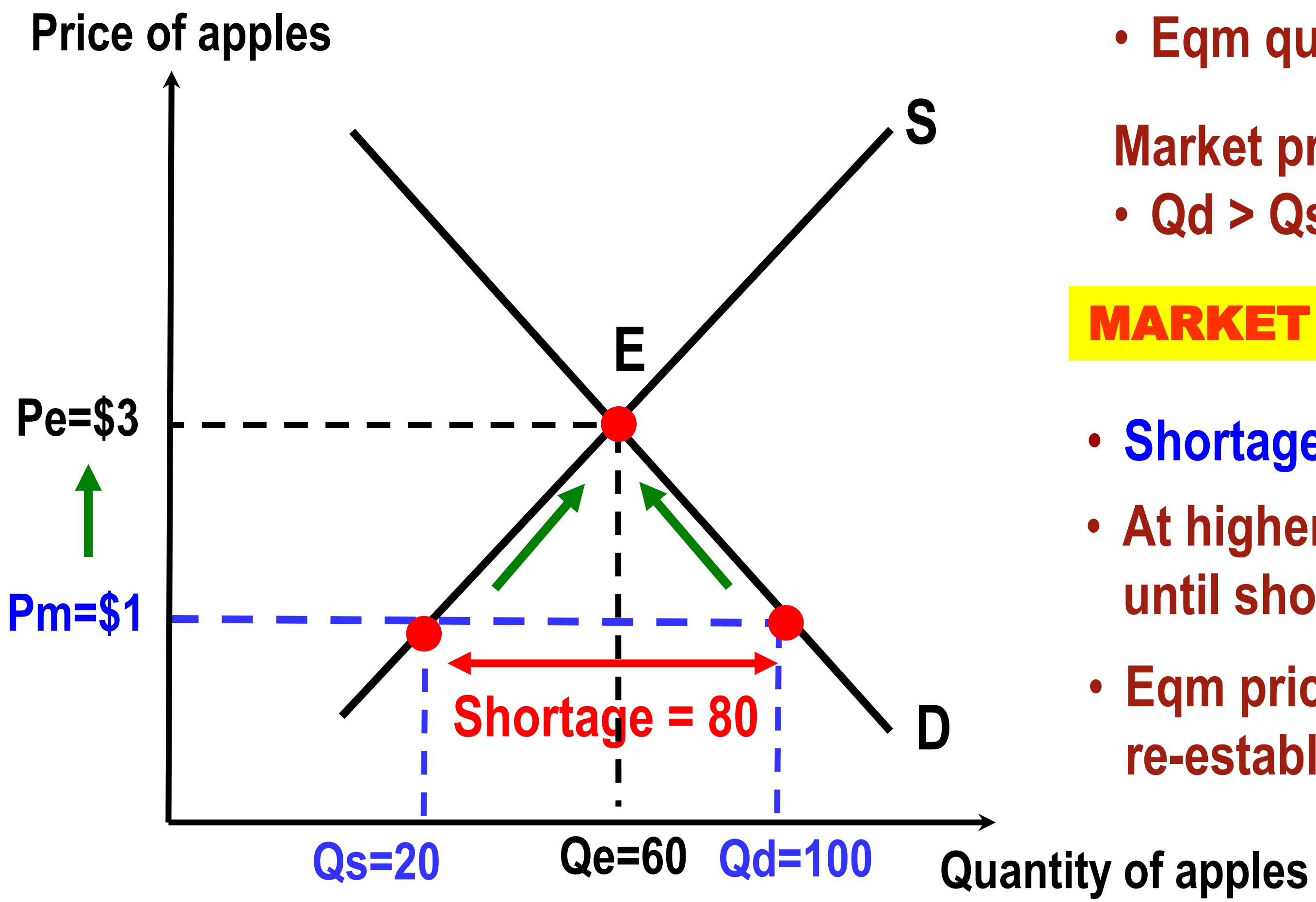
MARKET DISEQUILIBRIUM

WHY?

- Shortage drives Pm up.

- Consumers offer higher prices.
- Producers ask for higher prices.

Market Price < Equilibrium Price
- How will market price adjust?



At market eqm (E):

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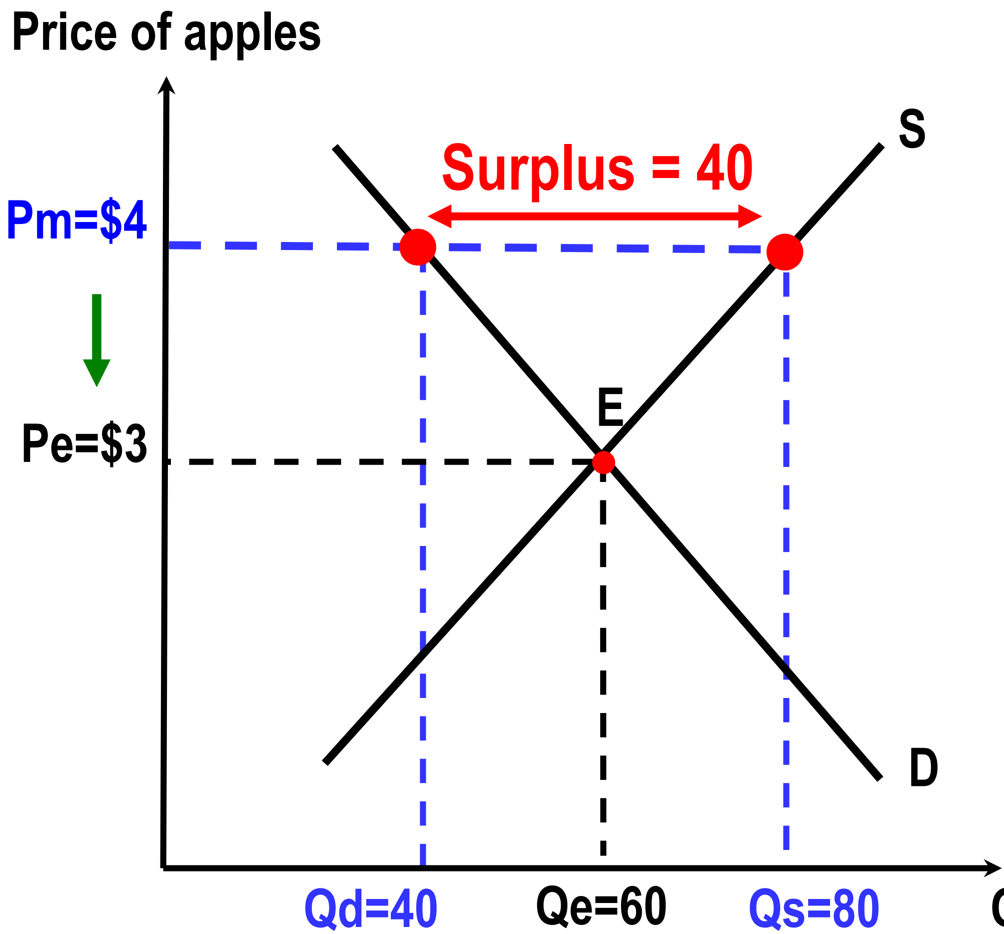
Market price (Pm) is set at $1

- Qd > Qs ⇒ shortage

MARKET DISEQUILIBRIUM

- Shortage drives Pm up.
- At higher prices, Qd ↓ & Qs ↑ until shortage is eliminated.
- Eqm price & quantity is re-established at point E.

Market Price > Equilibrium Price
- How will market price adjust?



At market eqm (E):

- Eqm price (Pe) = $3
- Eqm quantity (Qe) = 60

Market price (Pm) is set at $4

- Qd < Qs ⇒ surplus

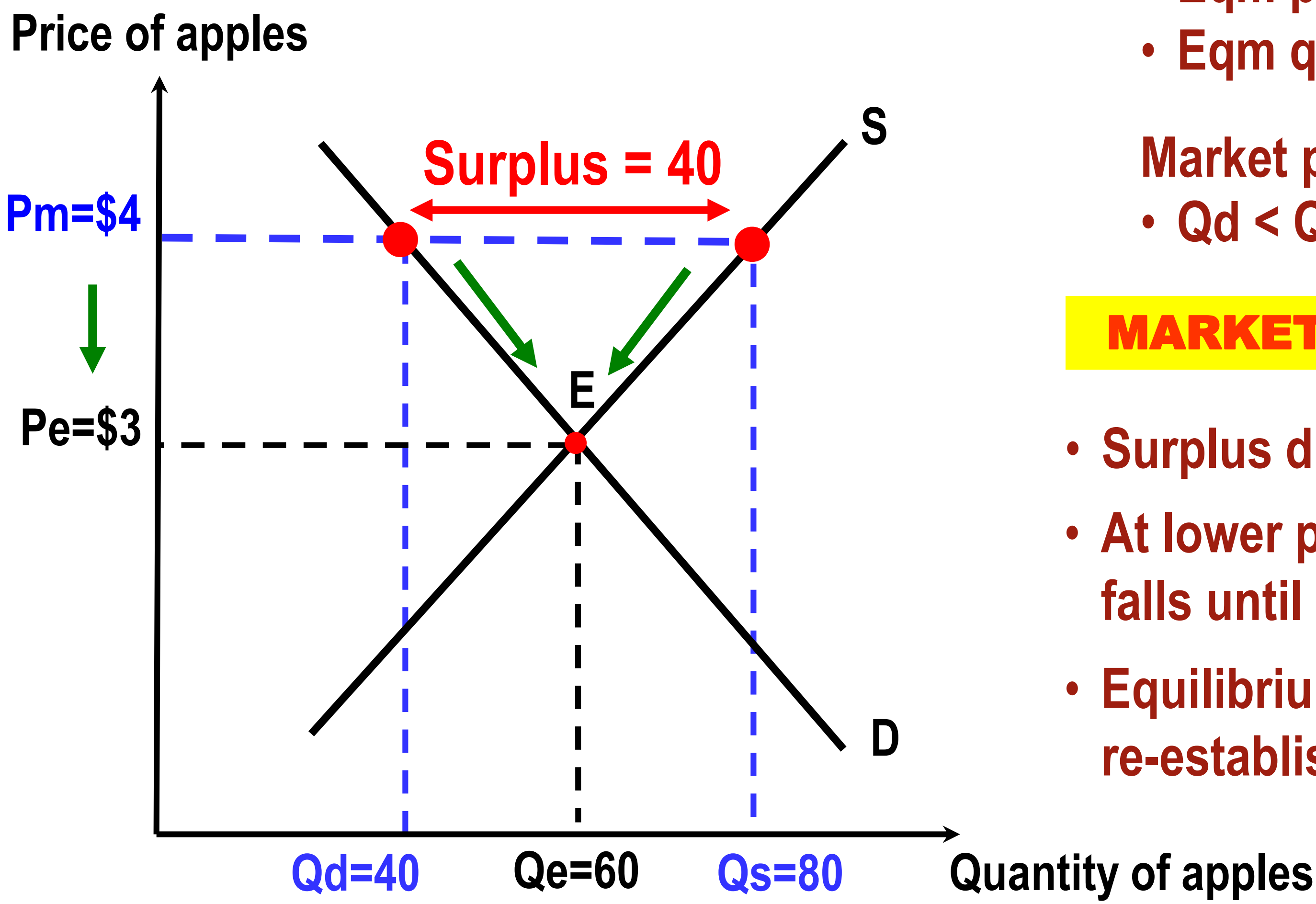
MARKET DISEQUILIBRIUM

WHY?

- Surplus drives Pm down.

- Consumers offer lower prices.
- Producers ask for lower prices.

Market Price > Equilibrium Price
- How will market price adjust?



At market eqm (E):
- Eqm price (Pe) = $3
- Eqm quantity (Qe) = 60

Market price (Pm) is set at $4
- Qd < Qs ⇒ surplus

MARKET DISEQUILIBRIUM

- Surplus drives Pm down.
- At lower prices, Qd ▲& Qs ▼ falls until surplus is eliminated.
- Equilibrium price & quantity is re-established at point E.

Summary:
Stable Market Equilibrium

When the market is at disequilibrium, the **market forces of demand and supply** will tend to move price towards equilibrium.

PRICE MECHANISM

Once equilibrium price is reached,

- Market clears.
- No surplus or shortage.
- No pressure for price to change.
- **Stable market equilibrium** is reached.

Let's Consolidate

What happens when there are changes to demand and/or supply?

Lecture Objectives

By the end of today's lecture, you should be able to:

- Explain how equilibrium price and quantity are determined.
- Distinguish between market equilibrium and disequilibrium.
- Explain how market forces of demand and supply interact to achieve stable market equilibrium.
- Explain how equilibrium price and quantity are affected, given the changes in demand **OR** supply.

Recap:

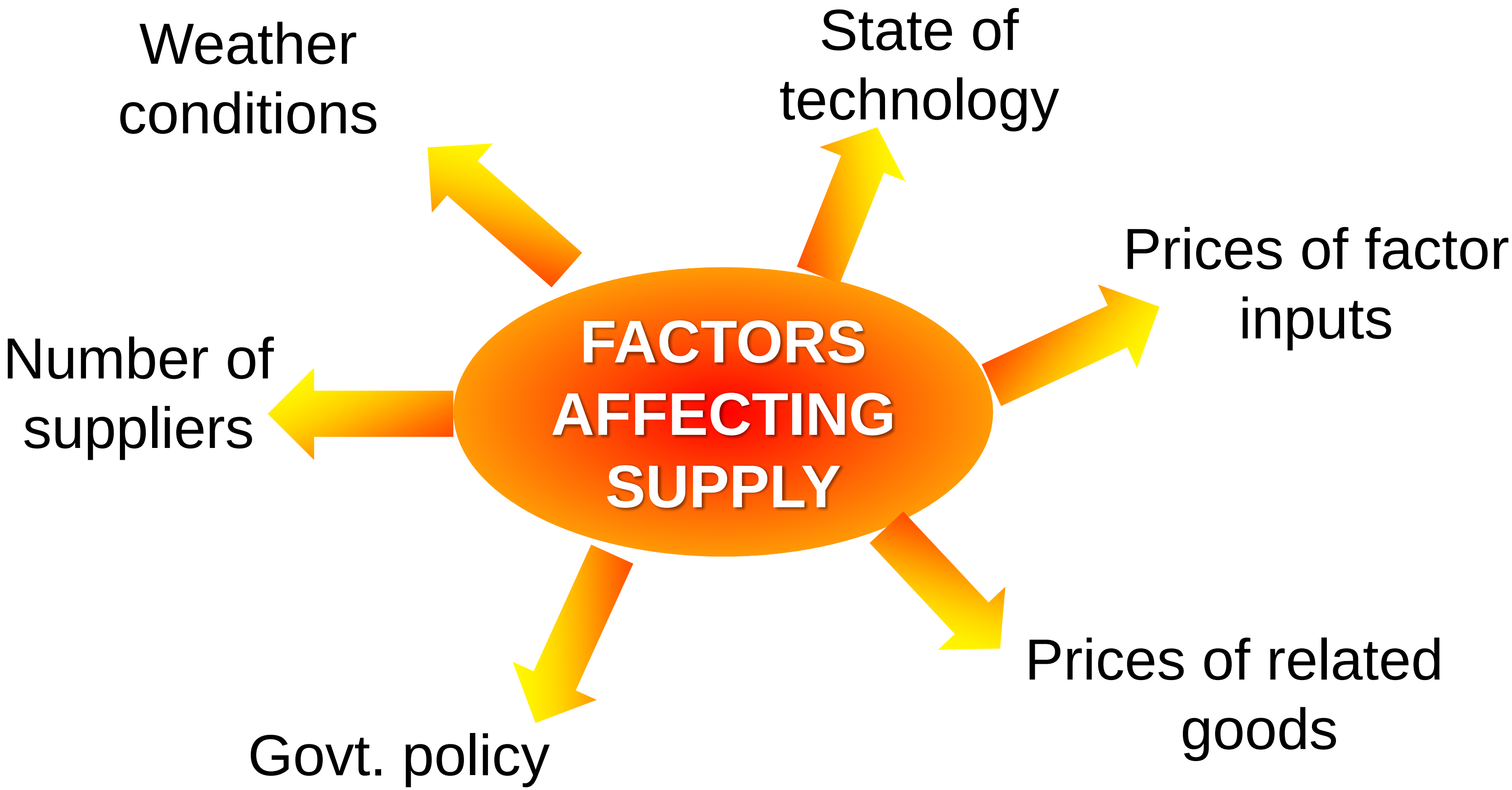
What Causes Demand to Change?

FACTORS AFFECTING DEMAND

- Other govt. economic policies
- Prices of related goods
- Consumers' money income
- Tastes & preferences
- Expectations about future price changes
- Availability of credit facilities & hire purchases
- Size & composition of population
- Seasonal factors
- Govt. distribution of income

Recap:

What Causes Supply to Change?



Summary

	Changes in Equilibrium	
Causes	Price	Quantity
Increase in DD, cp		
Decrease in DD, cp		
Increase in SS, cp		
Decrease in SS, cp		

Case 1: Market for Luxury Cars

- Strong economy
- Bullish stock market
- 1/3 ↑ in number of millionaires

DD or SS factors?

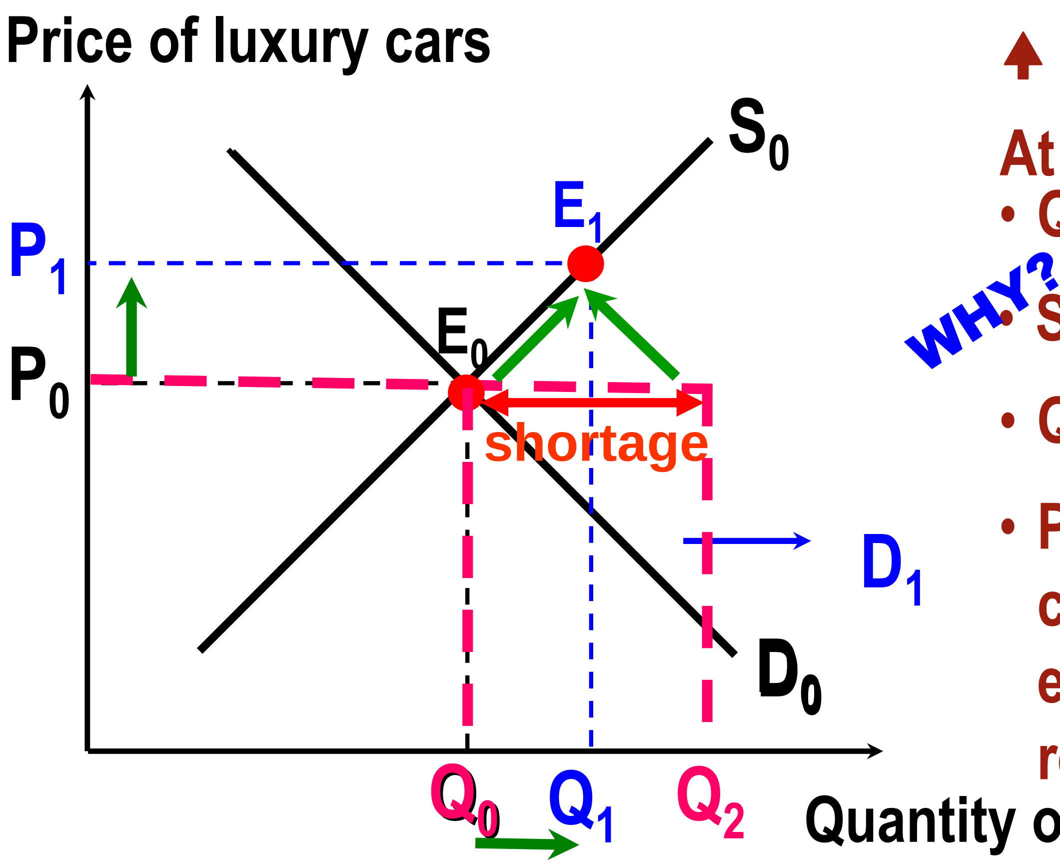
How will the curve shift?

Increase in demand for luxury cars due to more people with greater purchasing power (elaborate).

Case 1: Market for Luxury Cars

**Implication on
equilibrium price and quantity of luxury cars?**

Increase Demand, Supply Unchanged



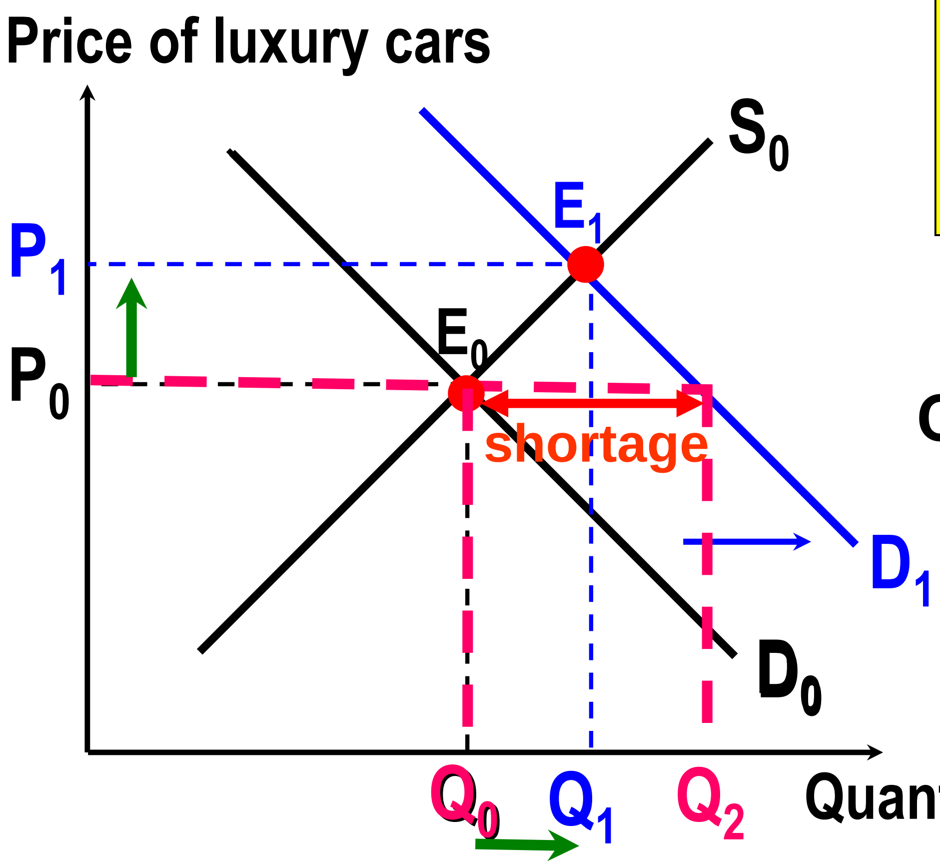
↑ DD to D_1, SS constant

At original price, Po:

- Qd > Qs ⇒ shortage of Q_oQ_2
- Shortage drives price up.
- Qd falls and Qs rises.
- Price adjustment process continues until the new equilibrium, P_1 and Q_1 are reached.

An increase in demand, ceteris paribus, will increase both equilibrium price & equilibrium quantity.

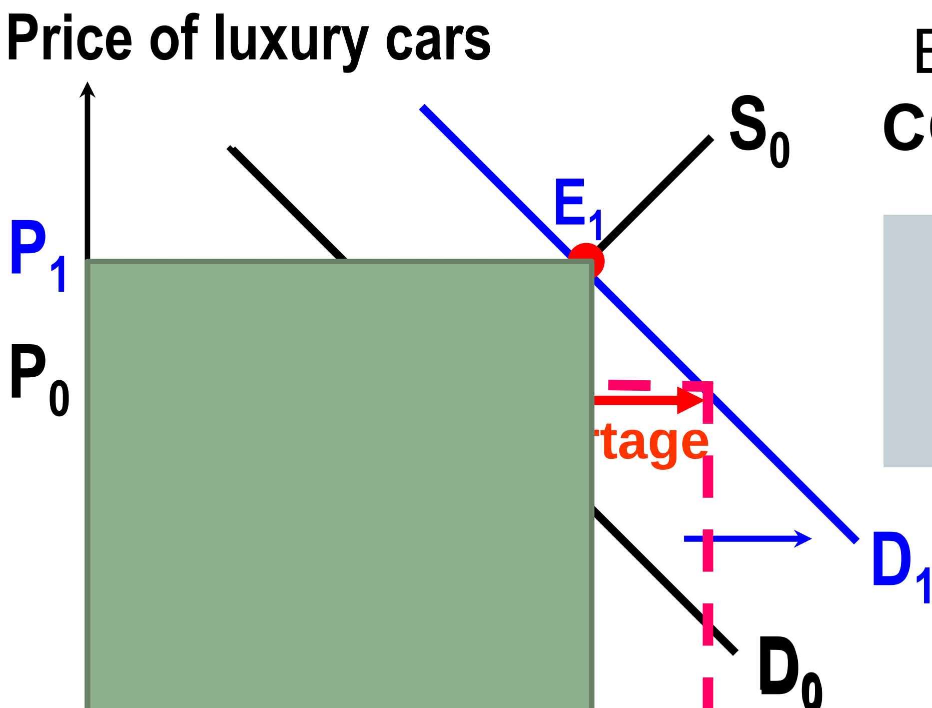
Increase Demand, Supply Unchanged



An increase in demand, ceteris paribus, will increase both equilibrium price & equilibrium quantity.

Effect on **TOTAL REVENUE** or **CONSUMERS' EXPENDITURE**?

Increase Demand, Supply Unchanged



Effect on **TOTAL REVENUE** or **CONSUMERS' EXPENDITURE**?

Total revenue
= ↑P x ↑Q
= Consumer's expenditure

An increase in demand, ceteris paribus, will increase both equilibrium price & equilibrium quantity, which in turn leads to an increase in total revenue / consumer's expenditure

Summary

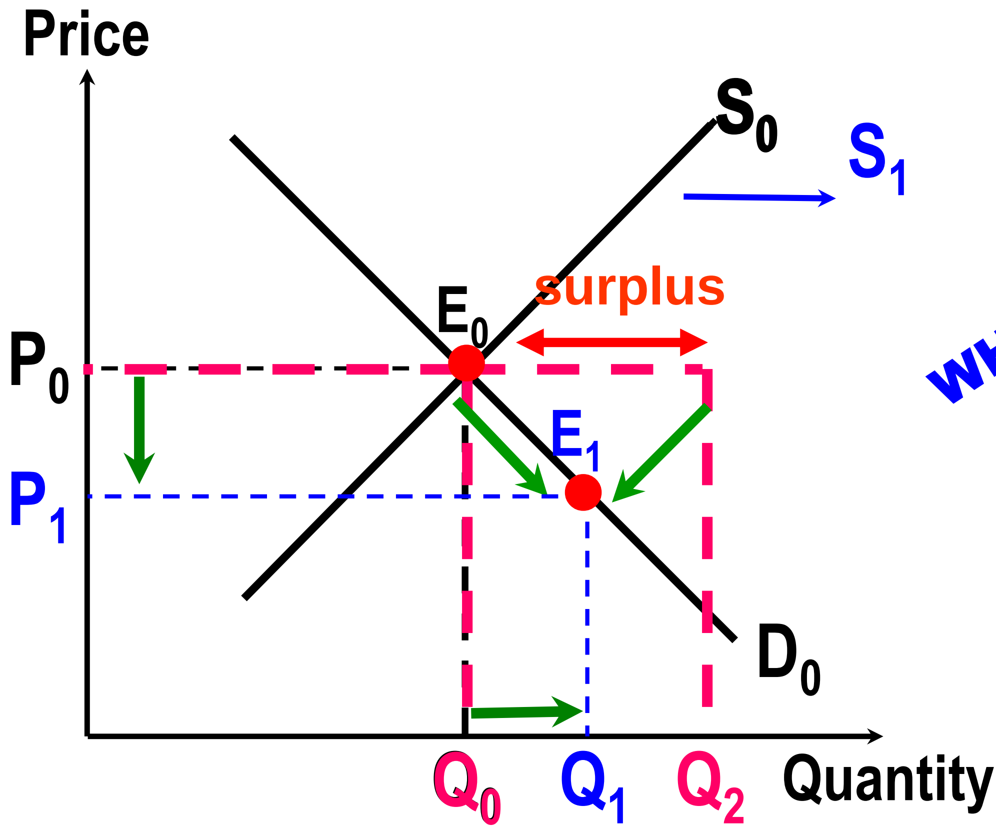
	Δ in Equilibrium	
Causes	Price	Quantity
Increase in DD, cp	↑	↑
Increase in SS, cp		

PRACTICE SESSION

Explain <u>using a diagram</u>
what happens to equilibrium price and quantity when there is:
An increase in supply, (dd held constant)

02:00

Increase Supply, Demand Unchanged



↑SS to S_1, DD constant

At original price, Po:
- Qs > Qd ⇒ surplus of Q_0Q_2

WHY?

- Surplus drives price down.
- Qd rises and Qs falls.
- Adjustment process continues until the new equilibrium, P_1 and Q_1 are reached.

An increase in supply, ceteris paribus, will decrease equilibrium price but increase equilibrium quantity.

Summary

	∆ in Equilibrium	
Causes	**Price**	**Quantity**
Increase in DD, cp	↑	↑
Increase in SS, cp	↓	↑

Summary

	Δ in Equilibrium	
Causes	**Price**	**Quantity**
Increase in DD, cp	↑	↑
Decrease in DD, cp	↓	↓
Increase in SS, cp	↓	↑
Decrease in SS, cp	↑	↓

Summary

- In a **FREE market**, prices will adjust whenever there is a shortage or surplus such that the market equilibrium will result.
- This is known as the **PRICE MECHANISM**!

Summary

Given these Causes,
Increase in DD, cp
Decrease in DD, cp
Increase in SS, cp
Decrease in SS, cp

Explain effect on equilibrium price and quantity

Summary

Explain the Causes,
Increase in DD?
Decrease in DD?
Increase in SS?
Decrease in SS?

Given an effect on equilibrium price (either increase or decrease)

Case 2: Coffee Woes

↑10-30¢

↑10¢

↑20¢

What could have caused the increase in coffee prices?

Summary

	Changes in Equilibrium	
Causes	**Price**	**Quantity**
Increase in DD, cp	↑	↑
Decrease in DD, cp	↓	↓
Increase in SS, cp	↓	↑
Decrease in SS, cp	↑	↓

Case 2: Coffee Woes

- Rising incomes
- Tastes & preferences changing in favour of coffee as lifestyles become more hectic
- Poor weather conditions
- Prices of sugar, used to roast coffee beans, rose by 30%

Recap Lecture Objectives

Now, are you able to:

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- Explain how equilibrium price and quantity are affected, given the changes in demand **OR** supply.