

CHAPTER 3

Theory of Individual Behavior

INTRODUCTION

Learning objectives

What will you learn in this module?

- What are the four basic properties of consumer's preference?
- How changes in price and income influences individual's opportunities?
- Explain the consumer equilibrium point where marginal rate of substitution is equal to the ratio of prices of two goods.
- Explain how change in price of a good create substitution effects and income effects of consumer.

Consumer Behavior

- A **consumer** is an individual who purchases goods and services from firms for the purpose of consumption.
- As a manager of a firm, you are interested not only in who consumes the good but in who purchases it. The theory of consumer behaviour helps us to draw individual and market demand curves.

Consumer Behaviour

In characterising consumer behaviour, there are two important factors to consider:

1. **Consumer Opportunities**

- Consumer opportunities are the set of goods and services that consumers can afford to consume.

2. **Consumer Utility Preferences**

- Determine what are the particular goods will be consumed.

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UTILITY PREFERENCES

4 Properties of Utility Preferences

- **Completeness**

- Preferences are **complete**: we assume that an individual can state which of any two options is preferable.

- **Transitivity:**

- Preferences are **transitive**: For any three bundles, A , B , and C : if A is preferred to B , and B is preferred to C , then A must be preferred to C

- **More is better**

- Economic good yields positive benefits to consumer. Thus, more quantity of a good is always better than less.

- **Diminishing marginal rate of substitution**

- As an individual will reduce consumption of good Y to get one more unit of good X

The Indifference Curve

- **Definition:** An indifference curve is a graph showing combination of two goods that give the consumer equal satisfaction and utility. Each point on an indifference curve indicates that a consumer is **indifferent** between the two and all points give him the same utility.
- **Description:** Graphically, the indifference curve is drawn as a downward sloping convex to the origin. The graph shows a combination of two goods that the consumer consumes.
- 6 hamburgers, 2 soft drinks a week (point A) have equal satisfaction and utility with 4 hamburgers and 3 soft drinks a week (point B)

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VIDEO!**

A VIDEO ABOUT

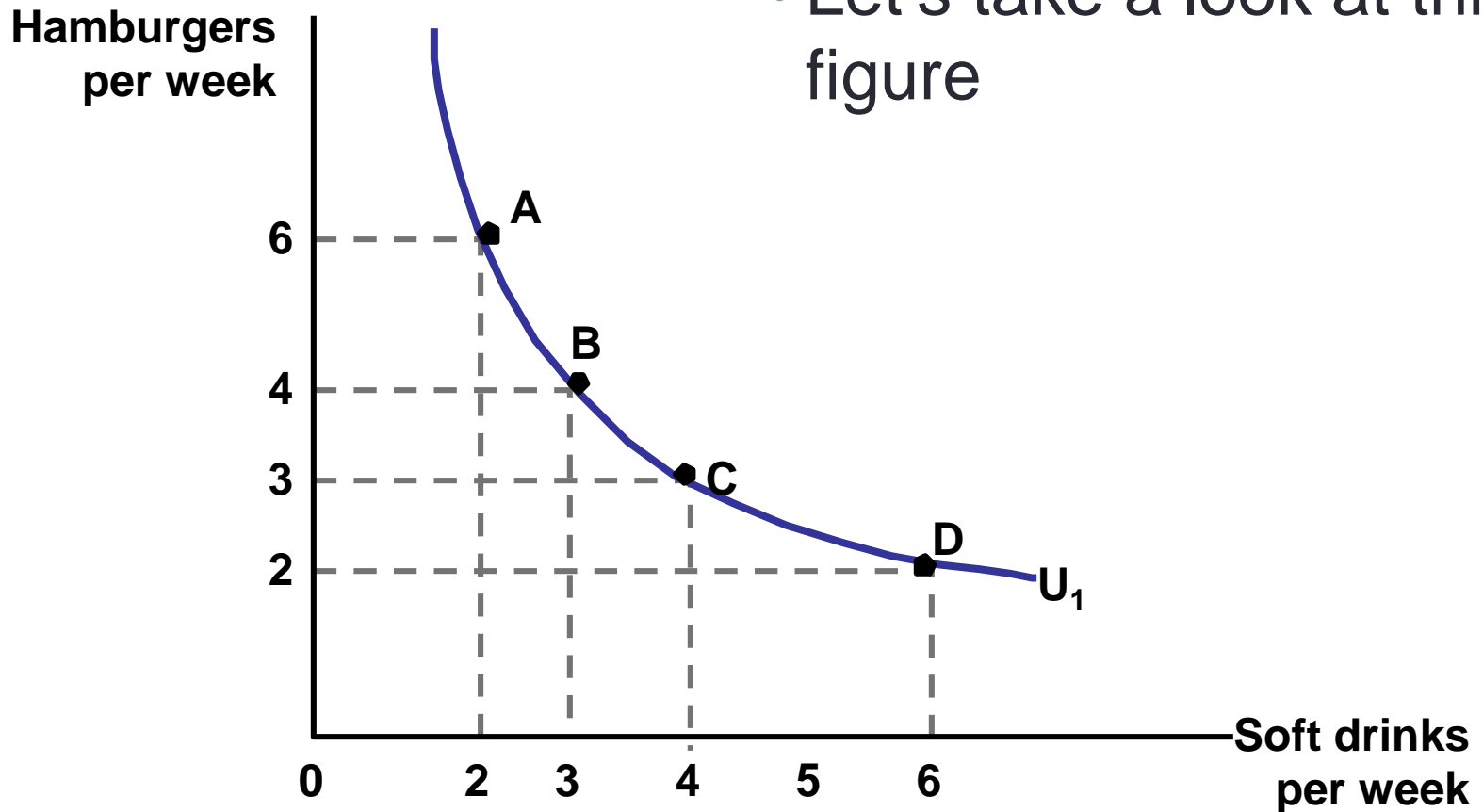
For more information on indifference curve,
please view:

<https://www.youtube.com/watch?v=iOmDo5jLFw>

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The Indifference Curve

- Let's take a look at this figure

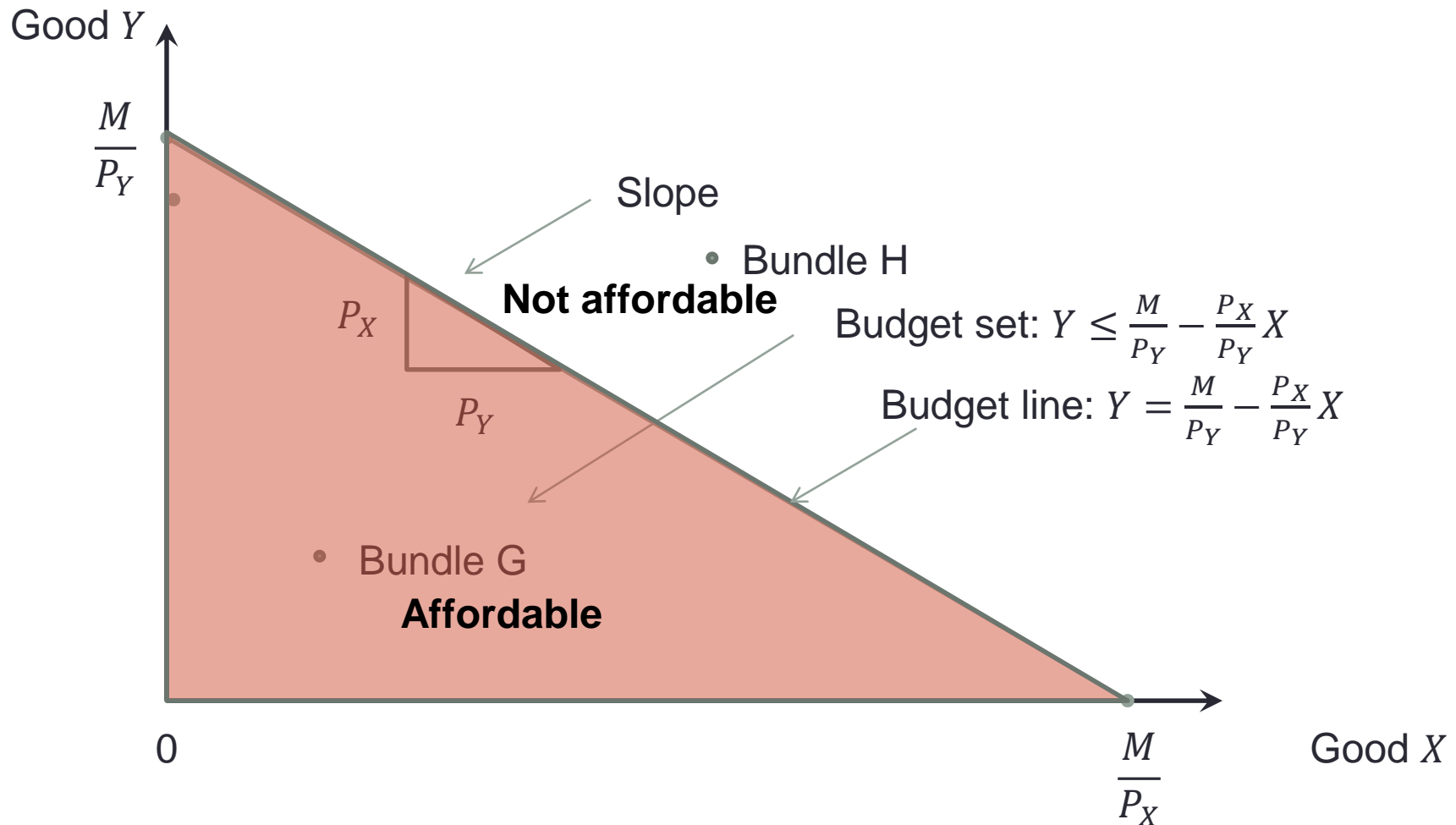


The Budget Constraint

- **Budget constraint**
- Individual's **budget constraint** is the limit that a person's income places on the combinations of goods and services that a consumer can buy.
 - Budget set:
 - Expenditure do no exceed their income M
 - Budget line

The consumer's budget constraint shows in Figure: The Budget Set. The shaded area represents the consumer's budget set or the opportunity set.

The Budget Constraint



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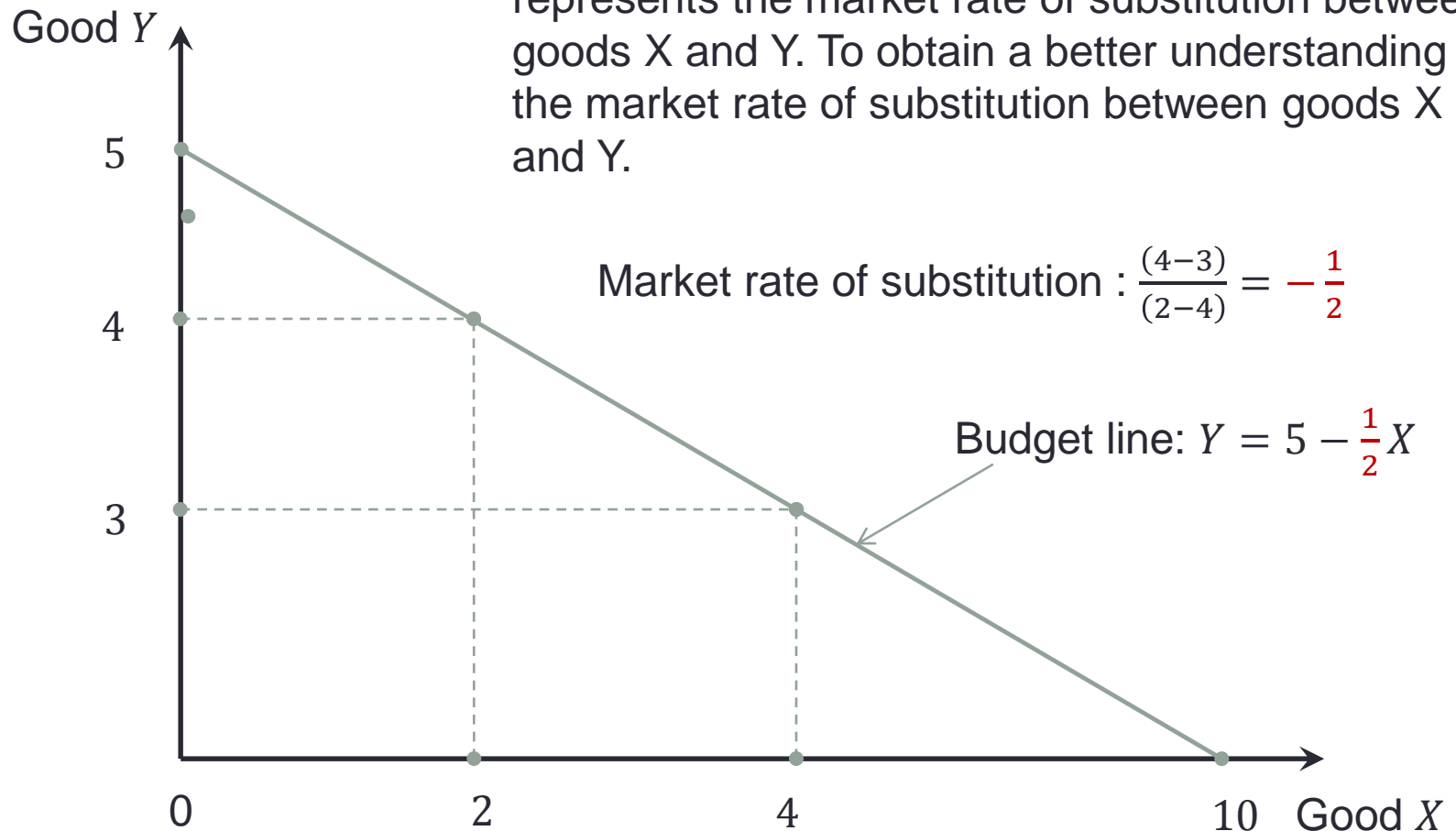
For more information on “Budget Constraint”

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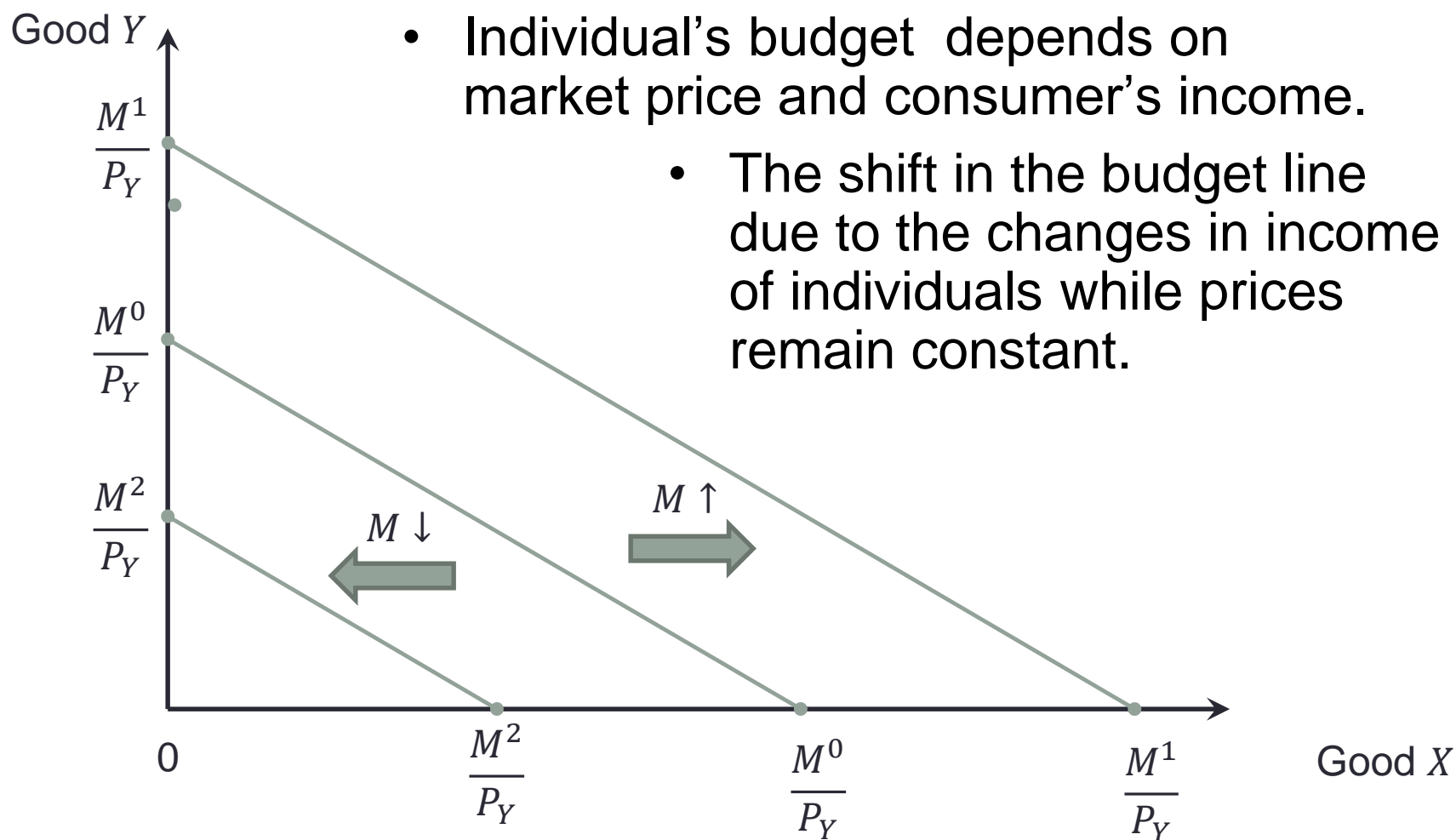
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The Budget Line

- The slope of the budget line is given by $\frac{\Delta Y}{\Delta X}$ and represents the market rate of substitution between goods X and Y. To obtain a better understanding of the market rate of substitution between goods X and Y.

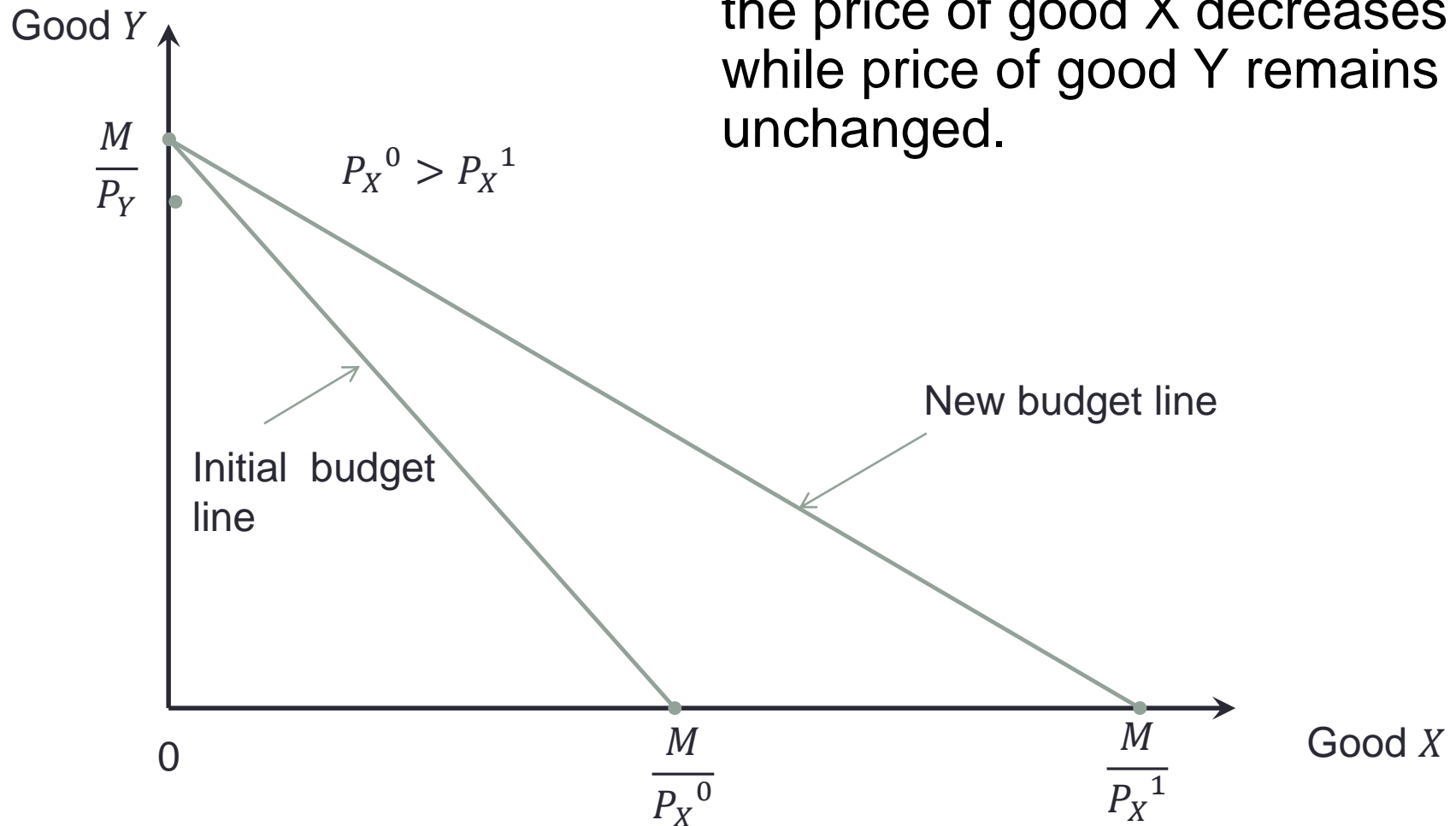


Changes in Income



Changes in Price

- The shift in the budget line as the price of good X decreases while price of good Y remains unchanged.



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UTILITY MAXIMIZATION

Utility Maximization

- **Consumer equilibrium**

- the consumer chooses X, Y is the affordable point that lies on (is tangent to) the highest indifference curve, so it represents utility maximization.
- **marginal rate of substitution** (Slope of indifference curve) = Slope of budget constraint
- The **marginal rate of substitution (MRS)** can be defined as how many units of good x have to be given up in order to gain an extra unit of good y , while keeping the same level of utility. Therefore, it involves the trade-offs of goods, in order to change the allocation of bundles of goods while maintaining the same level of satisfaction.

Utility Maximization

Consider a bundle such as A in the Figure: Consumer Equilibrium. This combination of Goods X and Y lies on the budget line, so the cost of Bundle A completely exhausts the consumer's income.

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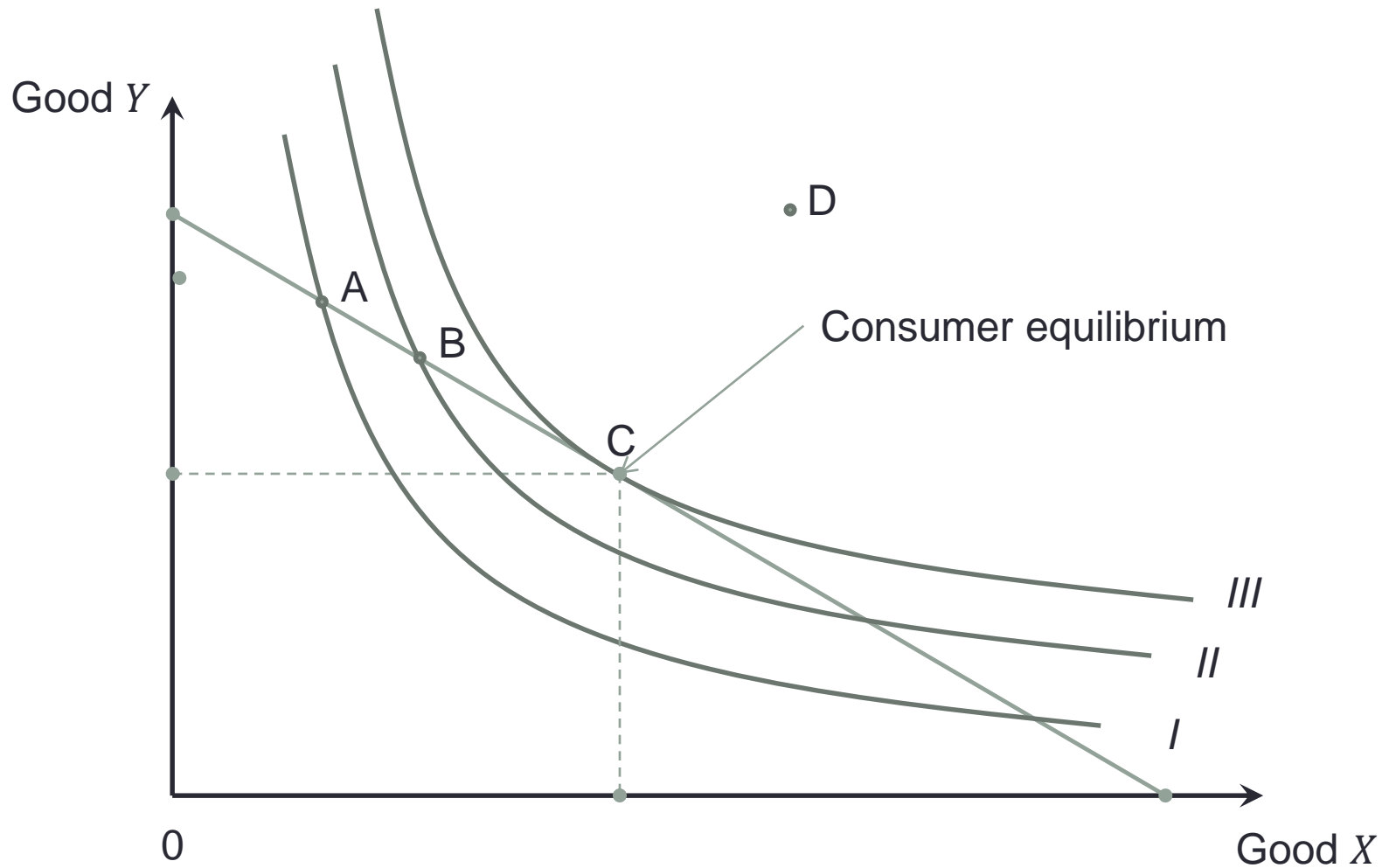


A VIDEO ABOUT

For more information on “Utility Maximization”

[https://www.youtube.com/watch?v=MXIgp-P-
FeY](https://www.youtube.com/watch?v=MXIgp-P-FeY)

Consumer Equilibrium



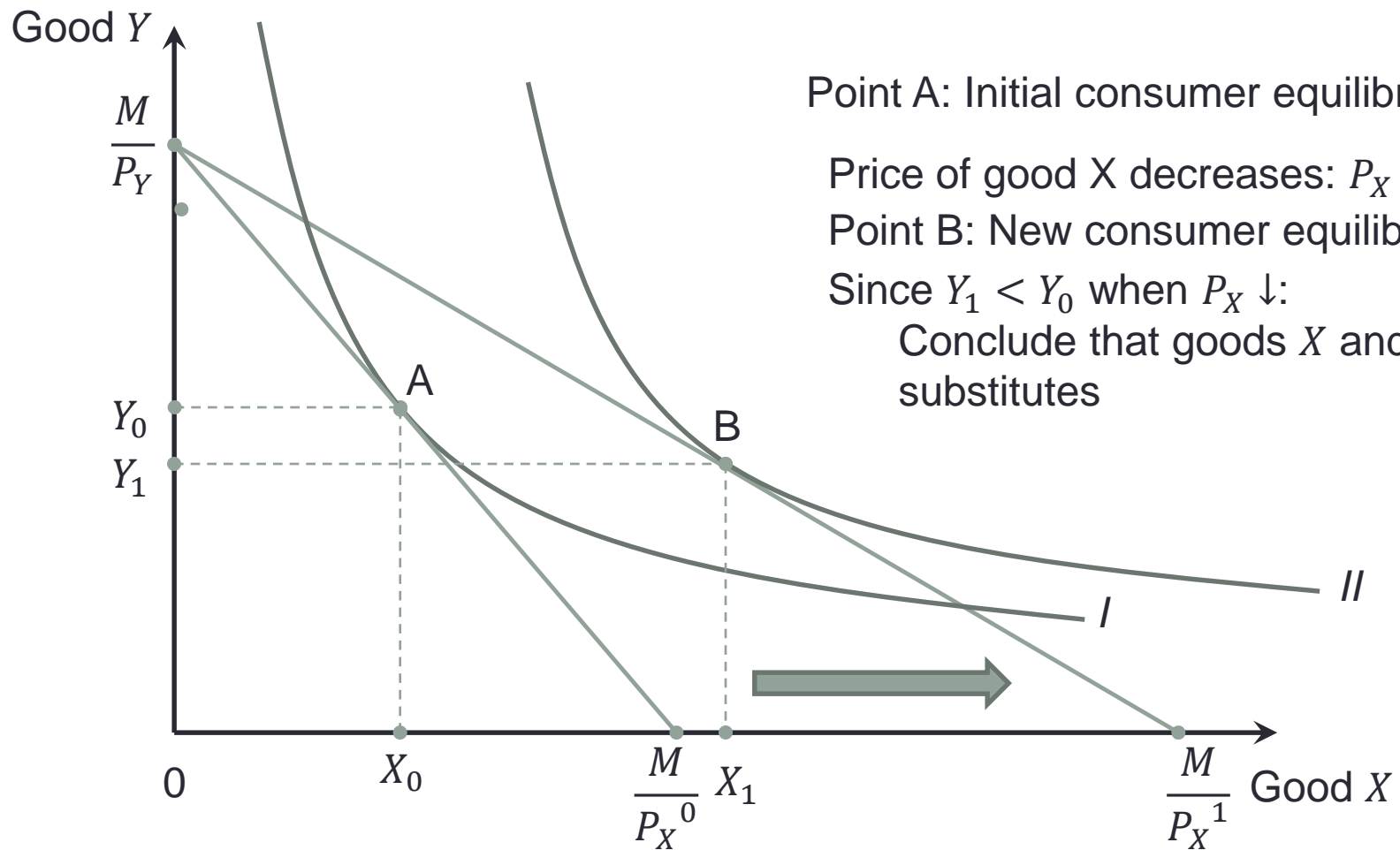
Change in Consumer Demand

- Price and income changes that influence consumer's budget and their level of satisfaction.
- how price and income changes influence consumer equilibrium.

Price Changes and Consumer Equilibrium

- Price increases (decreases) reduce (expand) a consumer's budget.
- The new consumer equilibrium resulting from a price change depends on consumer preferences:
 - Goods X and Y are:
 - **substitutes** when an increase (decrease) in the price of X leads to an increase (decrease) in the consumption of Y.
 - **complements** when an increase (decrease) in the price of X leads to a decrease (increase) in the consumption of Y.

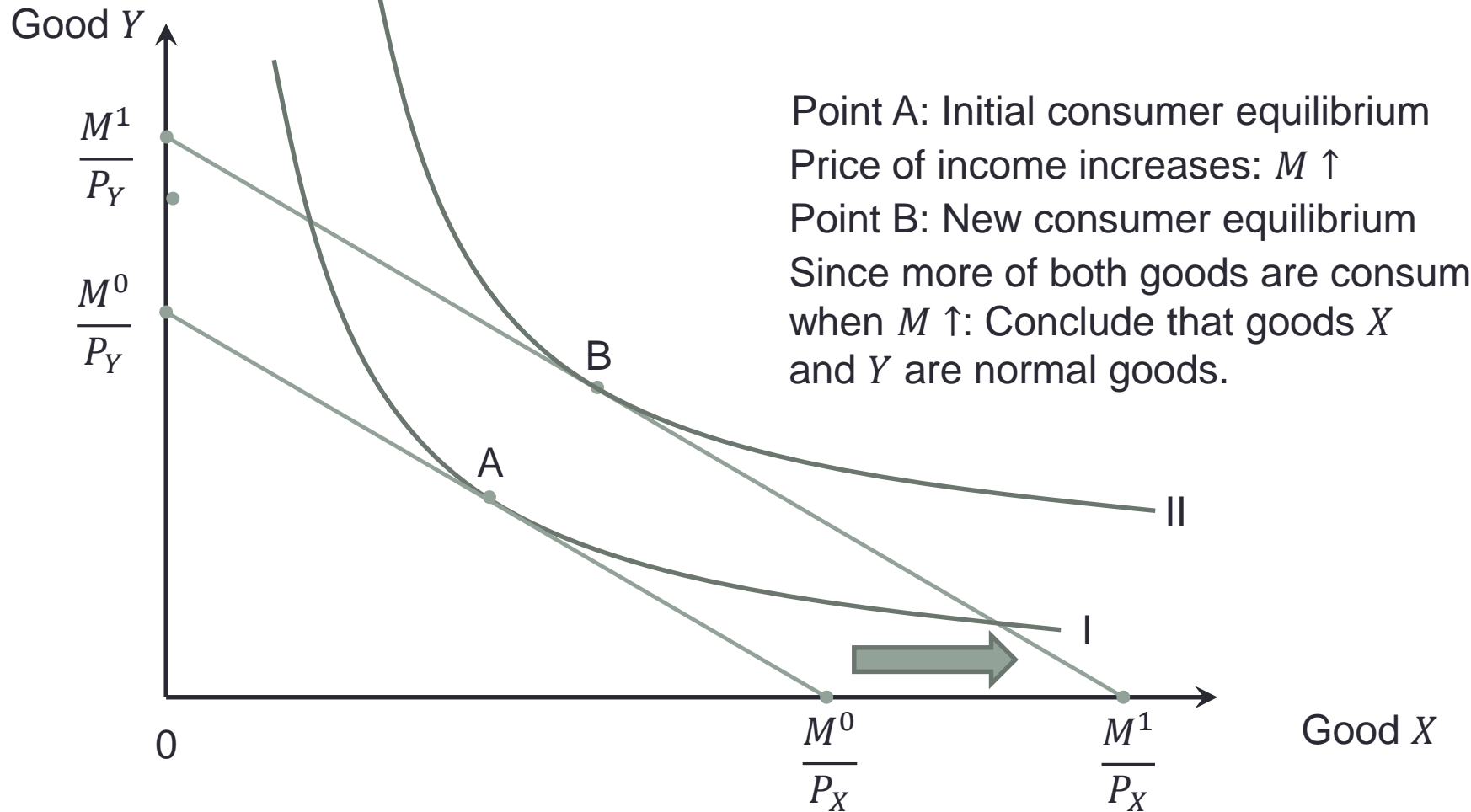
Price Changes and Consumer Equilibrium



Income Changes and Consumer Equilibrium

- Income increases (decreases) reduce (expand) a consumer's budget set.
- The new consumer equilibrium resulting from an income change depends on consumer preferences:
 - Good X is:
 - a **normal good** when an increase (decrease) in income leads to an increase (decrease) in the consumption of X.
 - an **inferior good** when an increase (decrease) in income leads to a decrease (increase) in the consumption of X.

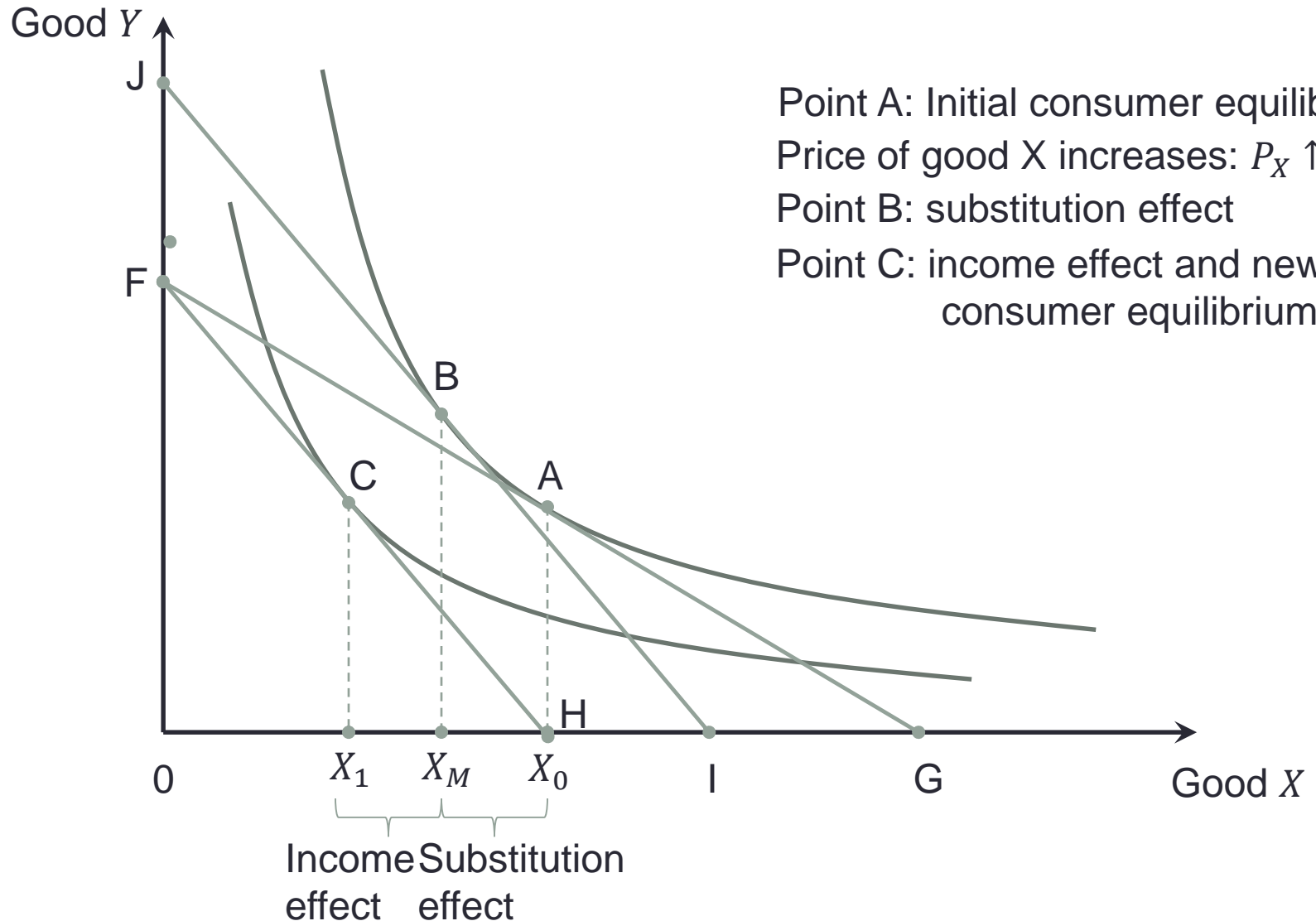
Income Changes and Consumer Equilibrium



Substitution and Income Effect

- Part of the change in the quantity demanded for other goods is caused by the **substitution** of one good for another: called **substitution effect**
- Price change creates difference in real purchasing power; consumers move to a new indifference curve consistent with their new purchasing power
- Part of the change in the quantity demanded is caused by the change in real income: called **income effect**.

Substitution and Income Effects



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CONSUMER DEMAND

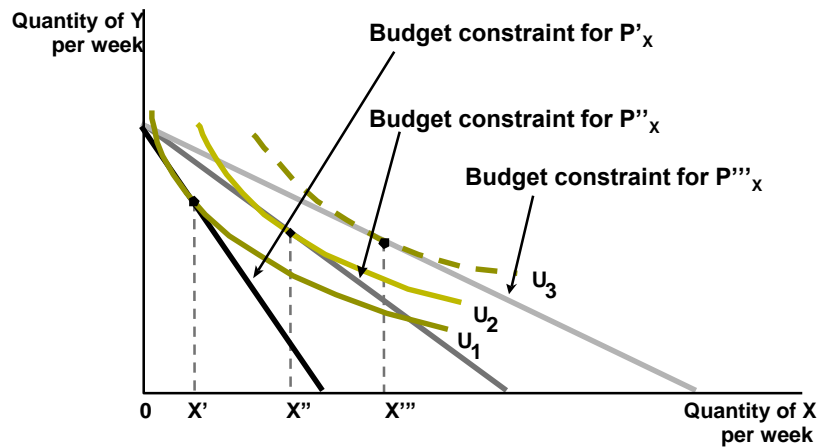
Consumer Demand

- The indifference curves and consumers' reactions to changes in prices and income are the basis of the demand functions
- Relationship between Indifference Curves and Demand Curves.
- Individual's Demand Curve is to see where the demand curve for normal goods come from.
- The consumer initially is in equilibrium at Point X', where income is fixed and prices at P_{ox} .

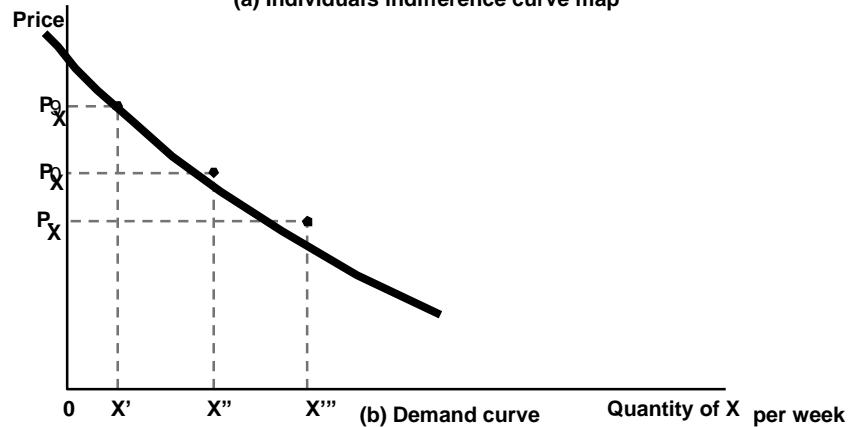
Individual's Demand Curve

- But when the price of good X falls to the lower level P_1x , the opportunity expands and the consumer reaches a new equilibrium at Point.
- You may see the relationship between the price of good X and the quantity consumed of good X is graphed in the Figure (b) and is individual consumer's demand curve for good X.

Individual's Demand Curve



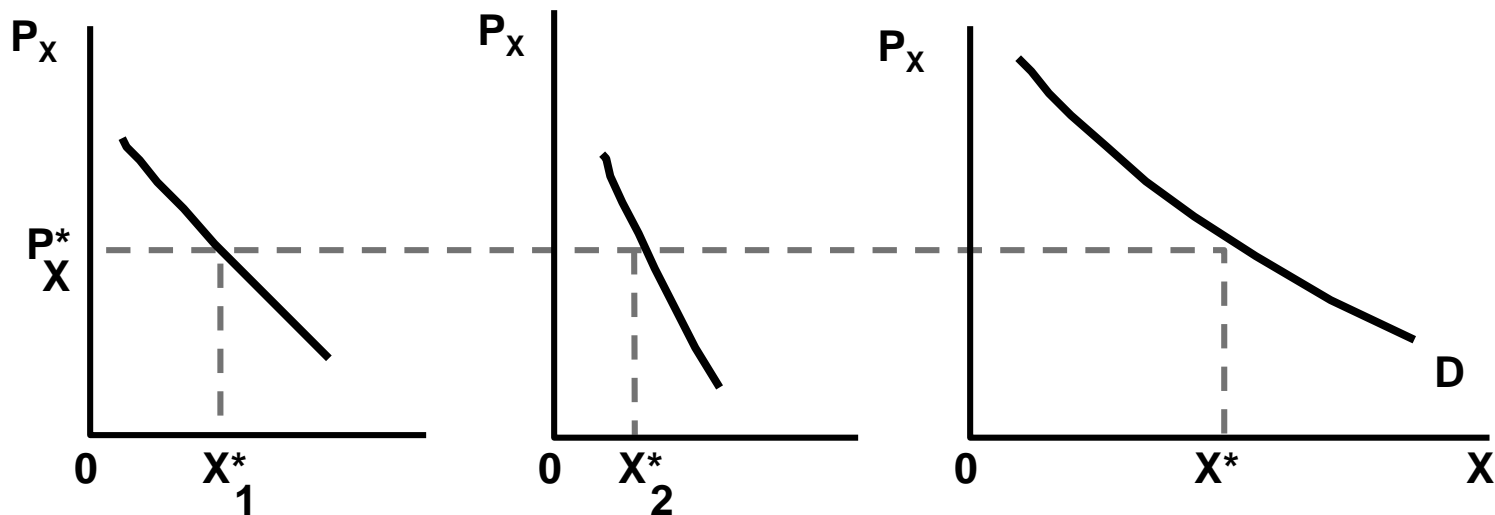
(a) Individual's indifference curve map



(b) Demand curve

Market Demand

we can derive market demand curve based on two individuals



(a) Individual 1

(b) Individual 2

(c) Market Demand

RECAP

On Key Terms and Concepts

Key Concepts Chapter 3

- Indifference curve properties
- Consumer preferences
- Budget constraint
- Budget line
- Marginal Rate of Substitution
- Substitution effects
- Income effects
- Normal goods and Inferior goods
- Individual Demand
- Market demand.