The Income- Consumption and Income- Saving Relationships:

Personal Consumption (C): is the part of disposable income that the individual consumed.
Personal Saving (S): part of disposable income not consumed.

Personal saving (S) = Disposable income (DI) – Personal Consumption (C).

Many factors determine a level of consumption and saving, but the most significant is disposable income. Both consumption spending and saving rise when disposable income increases, both fall when disposable income decreases.

هناك العديد من العوامل التي تحدد مستوى الاستهلاك والادخار، أهم هذه العوامل الدخل المتاح . يرتفع كل من الإنفاق الاستهلاكي والادخار عندما يزيد الدخل المتاح ، وينخفض كلاهما عندما ينخفض الدخل المتاح.

DI ↑ → C ↑ and when DI ↑ → S ↑

DI ↓ → C ↓ and when DI ↓ → S ↓

Other thing equal, there is a direct (positive) relationship between income and consumption and income and saving.

The Consumption Schedule

Shows the various amounts that households intend to consume at the various income and output levels, assuming a fixed price level.

يبين منحنى الاستهلاك المبالغ المختلفة التي تنوي الأسر استهلاكها عند مستويات الدخل والإنتاج المختلفة ، بافتراض مستوى سعر ثابت.

Consumption function is a function of disposable income: DI ↑ → C ↑ and DI ↓ → C ↓

The Saving Schedule

Shows the various amounts that households intend to save at the various income and output levels, assuming a fixed price level.

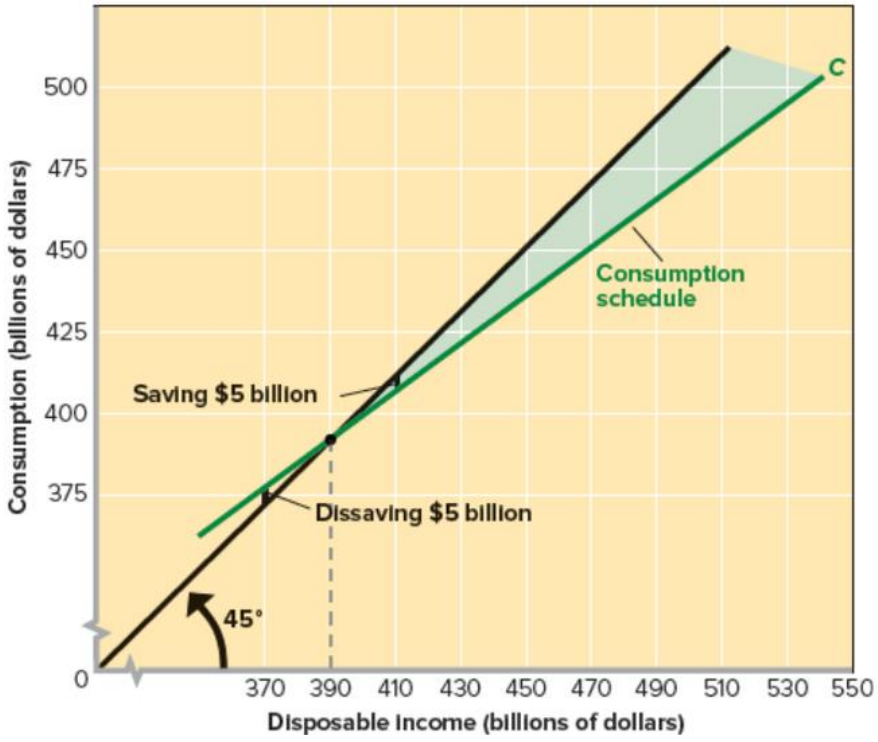
يُظهر منحنى الادخار المبالغ المختلفة التي تنوي الأسر ادخارها عند مستويات الدخل والإنتاج المختلفة ، بافتراض مستوى سعر ثابت.

Saving function is a function of disposable income: DI ↑ → S ↑ and DI ↓ → S ↓

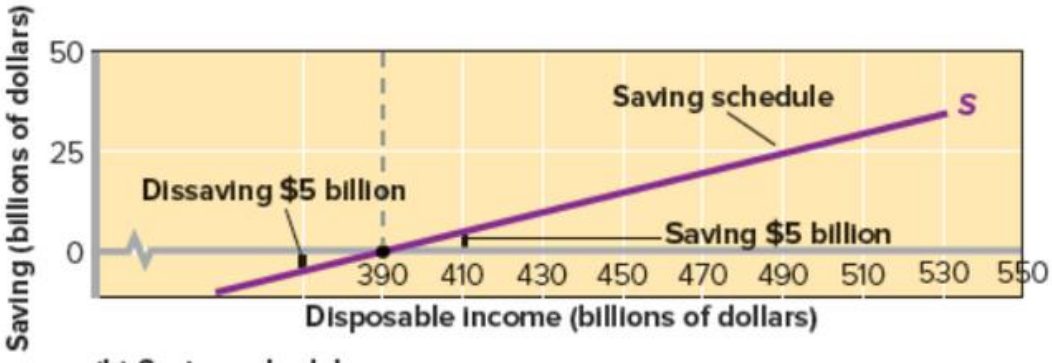
GDP=DI	Consumption (C)	Saving(S)
$370	$375	$-5
390	390	0
410	405	5
430	420	10
450	435	15
470	450	20

Consumption and Saving curves

The two parts of this figure show the income-consumption and income-saving relationships graphically. The saving schedule in (b) is found by subtracting the consumption schedule in (a) vertically from the 45° line. Consumption equals disposable income (and saving thus equals zero) at $390 billion for these hypothetical data.



(a) Consumption schedule



(b) Saving schedule

Autonomous consumption الاستهلاك الذاتي أو بالاستهلاك المستقل أو التلقائي

Even with zero disposable income, households still consume as they liquidate wealth (sell assets), spend some savings, or borrow (dissavings).

Autonomous consumption is the intercept of the consumption function

الاستهلاك الذاتي: وهو يسمى كذلك بالاستهلاك المستقل أو التلقائي وهذا الاستهلاك يمثل قيمة ثابتة وهو مستقل عن مستوى الدخل أي لا يتغير بتغير الدخل، وهذا يتمشى مع واقع الحياة حيث لا يمكن تصور عائلة من العائلات بدون استهلاك حتى ولو لم يكن لها دخل، ويتم تمويل هذا الاستهلاك إما من مدخرات سابقة أو عن طريق الاقتراض مثلاً. وهو يعني قيمة الاستهلاك عندما يكون الدخل = صفر.

Each point on the 45° line consumption equal disposable income (DI =C).

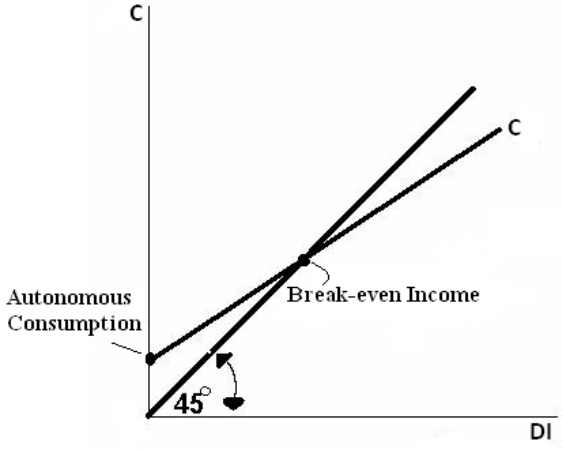
Figure above tell us that at incomes below $390, the consumer is consuming more than his income; as a result, saving is negative and this is referred to as **dissaving**. But at incomes above $390, the consumer is spending less than his income; and so saving is positive.

If the consumer is consuming more than his income (C >DI) → saving is negative (dissaving)
If the consumer is consuming less than his income (DI > C) → saving is positive

Break-even income نقطة التعادل

Is the income level at which households plan to consume their entire incomes ($C = DI \text{ or } S = 0$).

Graphically, the consumption schedule cuts the 45° line, and the saving schedule cuts the horizontal axis at the break-even income level.



Example:
The disposable income (DI) and consumption (C) schedules are for a private closed economy. All figures are in billions of dollars.

Disposable Income	Consumption
$0	$8
80	80
160	152
240	224
320	296
400	368

1. What is the amount of autonomous consumption?

   Autonomous consumption: The value of consumption when disposable income = 0

   Autonomous consumption = $8

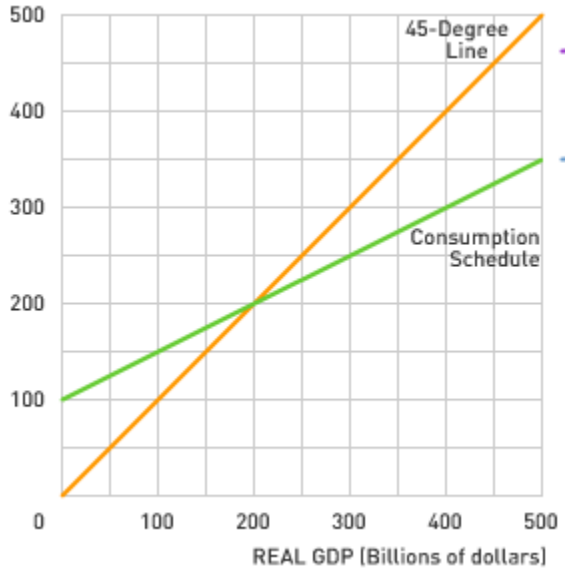
2. What is the break-even income?

   At break- even income DI = C → Break- even income = $80

3. At disposable income 400, what is the value of saving?

   $S = DI - C = 400 - 368 = \$32$

Example:
Use the following diagram to answer questions below it.



1. What is the amount of autonomous consumption?

   Autonomous consumption is the intercept of the consumption function (consumption schedule cuts the vertical line (Y axis)

   Autonomous consumption = 100

2. At disposable income 300, what is the value of saving?

   From the diagram: at DI = 300; Consumption = 250

   $S = DI - C = 300 - 250 = \$50$

3. What is the break-even income?

   At break- even income DI = C or when consumption schedule cuts the 45° line

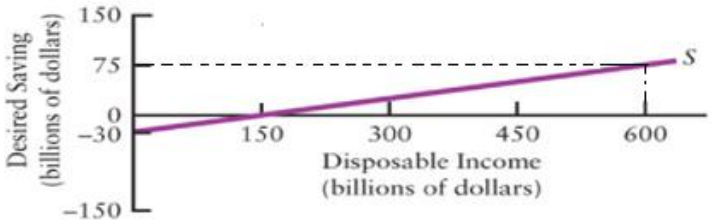
   Break- even income = $200

Example:
Use the following saving function to answer questions below it.

1. What is the break-even income?

   At break- even income S = 0 (when saving schedule cuts the x -axis)

   Autonomous consumption = $150



2. At disposable income 600, what is the value of consumption?

   From the diagram: at DI = 600; Saving = 75

   $C = DI - S = 600 - 75 = \$525$

Average and Marginal propensities

Average propensity to consume (APC): is the fraction, or percentage, of total income that is consumed

$$\text{Average propensity to consume (APC)} = \frac{\text{Consumption (C)}}{\text{Disposable Income (DI)}}$$

Average propensity to save (APS): is the fraction, or percentage, of total income that is saved

$$\text{Average propensity to save (APS)} = \frac{Saving(S)}{Disposable\ Income\ (DI)}$$

Because disposable income is either consumed or saved, the fraction of any DI consumed plus the fraction saved must exhaust that income.

$$APC + APS = 1$$

Marginal propensity to consume (MPC): The fraction of any change in income consumed

مقدار التغيير في الاستهلاك عندما يتغيير الدخل ب 1$

Marginal propensity to consume (MPC) = $\frac{Change\ in\ Consumption\ (\Delta C)}{Change\ in\ Disposable\ Income\ (\Delta DI)}$

Marginal propensity to save (MPS): The fraction of any change in income saved.

مقدار التغيير في التوفير عندما يتغيير الدخل ب 1$

Marginal propensity to save (MPS) = $\frac{Change\ in\ Saving(\Delta S)}{Change\ in\ Disposable\ Income\ (\Delta DI)}$

The sum of the MPC and the MPS for any change in DI must always be 1.

$$MPC + MPS = 1$$

As disposable income increase: APC decrease, but APS will increase

As disposable income decrease: APC increase, but APS will decrease

Example

DI	C	S	APC C / DI	APS S /DI	MPC Δ C / Δ DI	MPS Δ S / Δ DI
370	375	-5	375/370 = 1.01	1 - 1.01 = - 0.1	0.75	1 - 0.75 = 0.25
390	390	0	390/390 = 1.00	1 - 1.00 = 0.0	(390-375)/(390-370) = 0.75	1 - 0.75 = 0.25
410	405	5	405/410 = 0.99	1 - 0.99 = 0.1	(405-390)/(410-390) = 0.75	1 - 0.75 = 0.25
430	420	10	420/430 = 0.98	1 - 0.98 = 0.2	(420-405)/(430-410) = 0.75	1 - 0.75 = 0.25
450	435	15	435/450 = 0.97	1 - 0.97 = 0.3	(435-420)/(450-430) = 0.75	1 - 0.75 = 0.25

Example:

Suppose a family's annual disposable income is $8,000 of which it saves $2,000.

1. What is their APC?

APS = $\frac{Saving(S)}{Disposable\ Income\ (DI)} = \frac{2{,}000}{8{,}000} = 0.25$

APC = 1 - APS = 1 - 0.25 = 0.75

2. If their income rises to $10,000 and they plan to save $2,800, what are their MPS and MPC?

MPS = $\frac{Change\ in\ Saving(\Delta S)}{Change\ in\ Disposable\ Income\ (\Delta DI)} = \frac{(2{,}800-2{,}000)}{(10{,}000-\ 8{,}000)} = \frac{800}{2{,}000} = 0.4$

MPC = 1 - MPS = 1 - 0.4 = 0.6

Example:

The disposable income (DI) and consumption (C) schedules are for a private closed economy. All figures are in billions of dollars.

Disposable Income	Consumption
$0	$8
80	80
160	152
240	224
320	296
400	368

1. At disposable income 160, what is the value of APC and APS?

$$APC = \frac{Consumption\ (C)}{Disposable\ Income\ (DI)} = \frac{152}{160} = 0.95$$

$$APS = 1 - APC = 1 - 0.95 = 0.05$$

2. What are the values of MPC and MPS?

$$MPC = \frac{Change\ in\ consumption(\Delta C)}{Change\ in\ Disposable\ Income\ (\Delta DI)} = \frac{(80-8)}{(80-0)} = \frac{72}{80} = 0.9$$

$$MPS = 1 - MPC = 1 - 0.9 = 0.1$$

Example: Choose the correct answer

1. Dissaving occurs when:
   A. Income is greater than saving
   B. Income is less than consumption
   C. Saving is greater than consumption
   D. Saving is greater than the interest rate

2. If consumption increases while income remains the same, the average propensity to consume will:
   A. Increase and then decrease
   B. Remain constant
   C. Increase
   D. Decrease

3. If there is a decrease in disposable income in an economy, then:
   A. Both the APC and the APS rise
   B. The APC rises and the APS falls
   C. The APC falls and the APS rises
   D. Both the APC and the APS fall

4. If disposable income is $900 billion when the average propensity to consume is 0.9, it can be concluded that:
   A. The marginal propensity to consume is also 0.9
   B. The marginal propensity to save is 0.1
   C. Consumption is $900 billion
   D. Saving is $90 billion

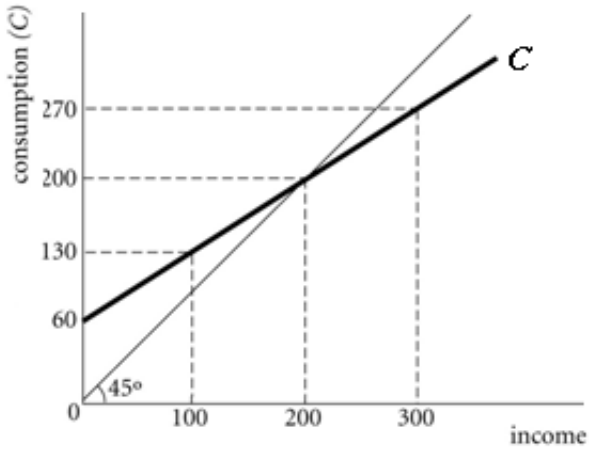
5. If you know that an increase in a household's disposable income from $35,000 to $45,000 leads to an increase in consumption from $30,000 to $38,000, then you can conclude that the:
   A. Slope of the consumption schedule is 0.75
   B. Average propensity to consume is 0.8
   C. Marginal propensity to save is 0.25
   D. Marginal propensity to consume is 0.8

6. If disposable income decreases from $1800 to $1500 and MPC = 0.75, then saving will:
   A. Increase by $225
   B. Decrease by $225
   C. Increase by $75
   D. Decrease by $75

MPC and MPS as Slopes

The MPC is the slope of the consumption function, and the MPS is the slope of the saving function.

Example:
Refer to the information provided in Figure below to answer the questions that follow.



What are the MPC and MPS for this household?

When DI = 100; C = 130
DI = 200; C = 200

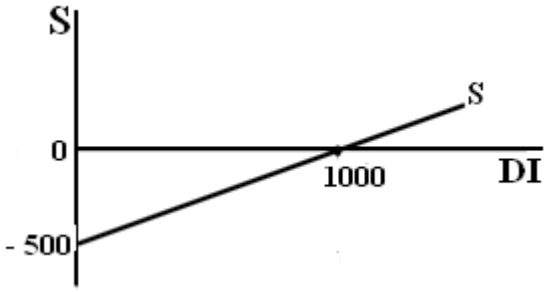
$MPC = \frac{\Delta C}{\Delta DI} = \frac{(200 - 130)}{(200 - 100)} = \frac{60}{100} = 0.6$

$MPS = 1 - MPC = 1 - 0.6 = 0.4$

Example
Answer the next questions based on the following saving function.

A. What is the break-even income for this country?

At a break-even: S = 0 → Break-even income = $1000



B. At DI = 1000, what is APC?

At DI = 1000, S = 0
But DI = C + S ⇨ 1000 = C + 0 ⇨ C = 1000

APC = $\frac{C}{DI} = \frac{1000}{1000} = 1$

C. What are the MPS and MPC?

MPS = slope of the saving function

(DI = 1000, S = 0) and (DI = 0, S = -500)

MPS = $\frac{Change\ in\ Saving(\Delta S)}{Change\ in\ Disposable\ Income\ (\Delta DI)} = \frac{(-500 - 0)}{(0 - 1000)} = \frac{-500}{-1000} = 0.5$

MPC = 1 - MPS = 1 - 0.5 = 0.5

Determinates of Consumption and Saving محددات الاستهلاك والتوفير

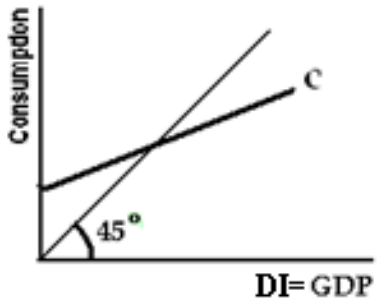
The amount of disposable income is the basic determinant of the amounts households will consume and save. But certain determinants other than income might prompt households to consume more or less at each possible level of income and thereby change the locations of the consumption and saving schedules. Those other determinants are wealth, borrowing, expectations, and interest rate.

المحدد الاساسي للاستهلاك والادخار هو الدخل المتاح . لكن بعض المحددات بخلاف الدخل قد تدفع الأسر إلى الاستهلاك أكثر أو أقل وبالتالي تغيير مواقع منحنى الاستهلاك والادخار. تلك المحددات الأخرى هي الثروة والاقتراض والتوقعات ومعدل الفائدة.

There are several additional important points regarding the consumption and saving schedules:

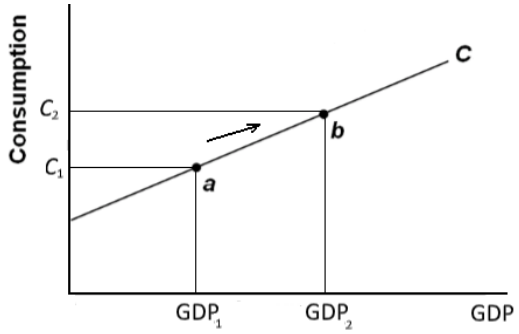
Switching to real GDP:

When developing macroeconomic models, economists change their focus from the relationship between consumption (and saving) and disposable income to the relationship between consumption (and saving) and real domestic output (real GDP). This modification is reflected in Figure, where the horizontal axes measure real GDP.



Changes along schedules:

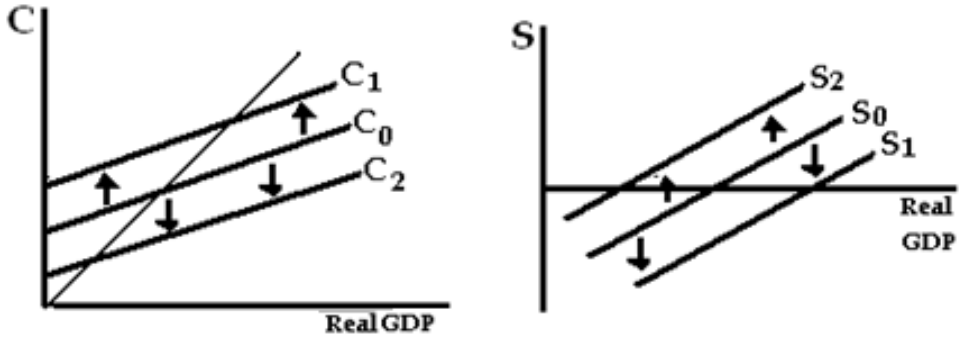
The movement from one point to another on a consumption schedule (for example, from a to b on C) in Figure below is a change in the amount consumed and is solely caused by a change in real GDP.



Schedule Shifts:

If households consume more at each level of real GDP, they are necessary saving less.
Graphically this means that an upwards shift to the consumption schedule (C_0 to C_1), and a downward shift of the saving schedule (S_0 to S_1).

If households consume less at each level of real GDP, they are saving more.
Graphically this means that a downward shift to the consumption schedule (C_0 to C2), and an upwards shift of the saving schedule (S_0 to S2).



Determinates of Consumption and Saving (shifters)

1. Wealth الثروة

A household's wealth is the dollar amount of all the assets that it owns minus the dollar amount of its liabilities. The point of building wealth is to increase consumption possibilities. The larger the stock of wealth that a household can build up, the larger will be its present and future consumption possibilities.

Wealth effect: when wealth increase households tend to increase their spending and reduce their saving.

Wealth ↑ ⇨ consumption (C) ↑ and saving ↓ (shifts the consumption curve upwards and the saving curve downwards).

تختلف الثروة عن الدخل ، فالثروة تمثل رصيداً أما الدخل فيثمل تدفقاً أو تياراً لأنه مرتبط بالزمن، أما الثروة فهي جميع ممتلكات الأفراد من الأصول المالية والعقارات .ولا شك أن زيادة حجم الثروة يؤدي إلى زيادة الاستهلاك وانتقال دالة الاستهلاك إلى أعلى من C0 إلى C1

أما في حالة نقص الثروة يؤدي ذلك إلى نقص الاستهلاك وانتقال دالة الاستهلاك إلى أسفل من C0 إلى C2 . وطالما أن الدخل يقسم بين الاستهلاك والادخار فإنه يلاحظ بشكل عام أن زيادة الاستهلاك تعني نقص الادخار والعكس صحيح، فإذا انتقلت دالة الاستهلاك إلى أعلى من C0 إلى C1 فإن دالة الادخار تنتقل إلى أسفل من S0 إلى S1

2. Borrowing

When household borrows, it can increase current consumption and reduce saving (shift the consumption curve upwards and the saving curve downwards).

Borrowing increase → consumption (C) increase and saving decrease (shifts the consumption curve upwards and the saving curve downwards).

3. Expectation About Future Prices and Income التوقعات الخاصة بالدخل و الأسعار

Expectation of rising prices tomorrow may trigger more spending and less saving today. This lead to shift current consumption up and current saving down.

Expectation of a recession and thus lower income in the future may lead household to reduce consumption and save more today (consumption curve shift down and the saving curve shift up).

فمثلاً إذا توقع الأفراد زيادة دخلهم في العام القادم فإن استهلاكهم من السلع والخدمات يزداد الآن وتنتقل دالة الاستهلاك إلى أعلى من C0 إلى C1 ويحدث العكس إذا توقع الأفراد انخفاض دخلهم في المستقبل . وبشكل عام كلما كانت التوقعات متفائلة حول الدخل والثروة كلما زاد استهلاك الأفراد ، والعكس صحيح فالتوقعات المتشائمة تدعو إلى تقليل الاستهلاك والميل نحو الادخار أكثر .

4. Real Interest Rate معدل الفائدة

When the interest rate fall, households tend to borrow more, consume more and save less.

Lower interest rates shift the consumption function upwards and the saving function downwards. Higher interest rates do the opposites.

i ↓ ⇨ C ↑ , S↓

i ↑ ⇨ C ↓ , S↑

المقصود بها معدلات الفائدة على المدخرات التي يودعها الأفراد في البنوك ، فعند زيادة أسعار الفائدة على المدخرات يزداد الادخار وتنتقل دالة الادخار إلى أعلى من S0 إلى S2 ، وعند زيادة الادخار يقل الاستهلاك وتنتقل دالة الاستهلاك إلى أسفل من C0 إلى C2 .
أما في حالة انخفاض أسعار الفائدة يقل الادخار وتنتقل دالة الادخار إلى أسفل من S0 إلى S1 ويزداد الاستهلاك وتنتقل دالة الاستهلاك إلى أعلى من C0 إلى C1 .

5. Taxation

In the contrast, *a change in taxes shifts the consumption and saving functions in the same direction.*

Taxes are paid partly at the expense of consumption and partly at the expense of saving. So an increase in taxes will reduce both consumption and saving (shifts both consumption and saving downwards).

T ↑ ⇨ C↓ and S↓ (shift both consumption and saving schedules downward)

T↓ ⇨ C↑ and S↑ (shift both consumption and saving schedules upward)

Example: Choose the correct answer

1. Which of the following may shift the consumption schedule upward?
   A. An increase in disposable income
   B. A decrease in interest rates
   C. A significant decrease in stock prices
   D. A decrease in people's ability to borrow

2. If the consumption schedule shifts downward, and the shift was not caused by a tax change, then the saving schedule:
   A. May shift either upward or downward
   B. Will shift downward
   C. Will shift upward
   D. Will not shift

3. Which of the following would shift the consumption schedule downward?
   A. A decrease in real interest rates
   B. An increase in the value of financial assets
   C. An increase in the probability of a recession
   D. A decrease in disposable income

4. An increase in household wealth that creates a wealth effect shifts the:
   A. Consumption schedule and the saving schedule upward
   B. Consumption schedule and the saving schedule downward
   C. Consumption schedule upward and the saving schedule downward
   D. Consumption schedule downward and the saving schedule upward

The Interest Rate - Investment Relationship علاقة معدل الفائدة والاستثمار

Investment consists of expenditures on new plants, capital equipment, machinery, inventories, and so on.

The investment decision is a marginal benefit-marginal cost decision

- The marginal benefit from investment is the expected rate of return (r)
- The marginal cost is the interest rate (i) that must be paid for borrowed funds; the two are the determinants of investment spending.

- Businesses will invest in all projects for which the expected rate or return exceeds the interest rate $(r > i)$. Investments are not made when interest rate exceeds the expected rate of return $(r < i)$

  Expected return and the interest rate are the two basic determinants of investment spending.

يتجه المستثمرون نحو شراء السلع الرأسمالية إذا توقعوا الحصول على أرباح منها ، أي إذا كانت العوائد (الإيرادات) من الاستثمار أكبر من التكاليف المترتبة عليه، وبشكل عام يوجد ثلاثة عناصر رئيسية تحدد عملية اتخاذ قرار الاستثمار، وتتلخص هذه العناصر في العوائد، والتكاليف ، والتوقعات حول الوضع الاقتصادي المستقبلي .

Expected Rate of Return: معدل العائد على الاستثمار

Businesses only make investments when they expect to receive profits.

$$Expected\ rate\ of\ return\ (r) = \frac{Total\ Revenue\ (TR) - Cost\ of\ Investment(TC)}{Cost\ of\ Investment(TC)} = \frac{Profit}{Cost\ of\ Investment(TC)}$$

For example, Suppose the owner of a small making shop is considering whether to invest in a new sanding machine that cost $1000 and has a useful life of only 1 year. The new machine will increase the firm's output and sales revenue. Suppose the net expected revenue from the machine is $1100. What is the expected rate of return?

$$Expected\ rate\ of\ return\ (r) = \frac{Total\ Revenue\ (TR) - Cost\ of\ Investment(TC)}{Cost\ of\ Investment(TC)} = \frac{\$1{,}100 - \$1{,}000}{\$1{,}000} = 10\%$$

The Real Interest Rate

Interest Rate (i): the financial cost of borrowing

إذا أراد أحد المستثمرين شراء آلة معينة فإن تمويل شراء هذه الآلة يتم بأحد الأسلوبين التاليين:
الأسلوب الأول : عن طريق التمويل الذاتي، وفي هذه الحالة فإن تكلفة هذا التمويل تكون هي تكلفة الفرصة البديلة ، ويقصد بها (العائد الذي كان يمكن الحصول عليه لو تم استثمار الأموال في مجالات أخرى كشراء الأسهم والسندات أو إيداعها في البنك) فإذا كان العائد المتوقع الحصول عليه من هذه الآلة أكبر من العائد الذي يمكن الحصول عليه في المجالات الأخرى فإن الاستثمار يكون مجدياً من شراء هذه الآلة ، والعكس صحيح . أما الاسلوب الثاني عن طريق الاقتراض من البنك، وبالطبع فإن تكلفة الاقتراض من البنك هي سعر الفائدة، وعلى هذا الأساس فإن ارتفاع سعر الفائدة يقلل الاقتراض من البنوك وانخفاض سعر الفائدة يزيد الاقتراض من البنوك ،لذلك فإن انخفاض أسعار الفائدة يشجع المستثمرين على تمويل استثماراتهم عن طريق الاقتراض من البنوك وهذا يؤدي إلى زيادة حجم الاستثمار داخل الاقتصاد الوطني .

If the expected rate of return exceeds the interest rate (r > i), the investment should be profitable. But if the interest rate exceeds the rate of return (i > r), the investment should be unprofitable.

The firm should undertake all investment projects it thinks will be profitable. That means it should invest up to the point where r = i because then it has undertaken all investment for which r > i.

Investment Demand Curve منحنى الطلب على الاستثمار

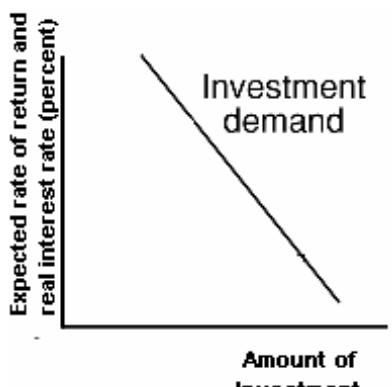
The investment demand curve shows the total monetary amounts that will be invested by an economy at various possible real interest rates.

Investment demand curve slopes downward, reflecting an inverse relationship between the real interest rate and the quantity of investment spending.

بشكل عام يوجد علاقة عكسية بين سعر الفائدة وحجم الاستثمار فإذا ارتفع سعر الفائدة يقل الاقتراض من البنوك فيقل حجم الاستثمار ، أما إذا انخفض سعر الفائدة فيزيد الاقتراض من البنوك فيزيد حجم الاستثمار

At the interest rate of 12 percent, $10 billion of investment goods will be demanded. If the interest rate is lower, say, 8 percent, the amount of investment for which r equals or exceeds i is 20 billion. Thus, firms will demand $20 billion of investment goods at an 8 percent real interest rate.

Expected Rate of Return (r)	Cumulative Amount of Investment Having This Rate of Return or Higher (I)
16%	$ 0
14%	5
12%	10
10%	15
8%	20
6%	25
4%	30
2%	35
0%	40



Shifts of the Investment Demand Curve

Any factor that leads businesses collectively to expect grater rates of return on their investment increases investment demand. That factor shifts the investment demand curve to the right as from ID_0 to ID_1.

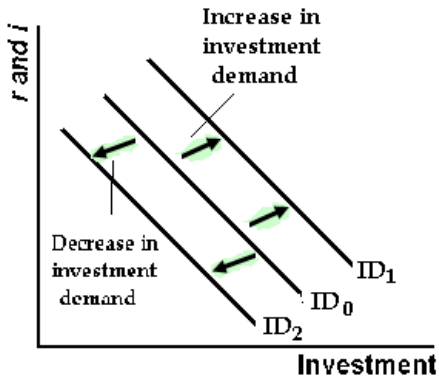
An increase in the expected rate of retrain (r) → investment demand (ID) increase → shifts the investment demand curve to the right

An increase in the interest rate (i) → movement from one point to another from the fixed ID curve (the amount of investment demand decrease)

Any factor that leads businesses collectively to expect lower rates of return on their investment decreases investment demand. That factor shifts the investment demand curve to the left, from ID_0 to ID_2.

A decrease in the expected rate of retrain (r) → investment demand (ID) decrease → shifts the investment demand curve to the left

A decrease in the interest rate (i) → the amount of investment demand increase (ID do not shifts).



Determinates of Investment Demand: العوامل المؤثرة على منحنى الطلب على الاستثمار (محددات الاستثمار)

1. **Acquisition, Maintenance, and Operating Cost.** تكاليف الامتلاك والصيانة والتكاليف التشغيلية

   The initial costs of capital goods, the operating, and maintaining those goods, affect the expected rate of return on investment. For example, higher electricity costs associated with operating tools and machinery shifts the ID curve to the left. Lower costs shift it to the right.

   $r = \frac{\text{Profit}}{\text{Cost}}$, when cost increase → rate of retain (r) decrease → ID decrease → shifts the investment demand curve to the left

2. **Business Taxes**

   An increase in business taxes lowers the expected profitability of investment and shifts the ID curve to the left; a reduction of business taxes shifts it to the right.

   Increase in business taxes → cost increase → rate of retain(r) decrease → ID decrease → shifts the investment demand curve to the left.

3. **Technological Change التطور التقني أو التكنولوجي**

The development of new products, improvements in existing products, and the creation of new machinery and production processes, lowers production costs or improves in product quality and increase in expected rate of return (r), this leads to increase in ID (shift to the right).

إن حدوث تطورات تكنولوجية وأساليب حديثة في الانتاج يؤدي إلى زيادة حجم الاستثمار بالرغم من ثبات سعر الفائدة ، وبالتالي انتقال منحنى الطلب على الاستثمار إلى اليمين

4. **Stock of Capital Goods on Hand.مخزون السلع الرأسمالية في متناول اليد .**

Stock of capital goods on hand, relative to output and sales, influence investment decisions by firms. When the firms have excessive inventories of finished goods, the expected rate of return on new investment decline.

Firms with excess production capacity have little incentive to invest in new capital → decrease ID (shift to the left)

When firms are selling their output as fast as they can produce it, the expected rate of return on new investment increase and the investment demand curve shifts to the right.

5. **Planned Inventory Changes**

An increase in inventories is counted as positive investment while a decrease in inventories is counted as negative investment.

If firms are planning to increase their inventories, the investment demand curve shifts to the right. If firms are planning to decrease their inventories, the investment demand curve shifts to the lefts.

6. **Expectations**

The expected rate of return on capital investment depends on the firm's expectations of future sales, future operating costs, and future profitability of the product that the capital helps produce.

If expectations become more optimistic about future sales, costs, and profits, the investment demand curve will shift to the right.

ونعني بذلك الثقة بالوضع الاقتصادي المستقبلي، فإذا توقع المستثمرون حدوث ركود اقتصادي في دولة ما ، فإن حجم الاستثمار سيقل في هذه الدولة، الأمر الذي سيؤدي إلى انتقال منحنى الطلب الاستثماري لليسار ، أما إذا توقع المستثمرون حدوث انتعاش اقتصادي ، فإن حجم الاستثمار سيزيد، ومن ثم ينتقل منحنى الاستثمار لليمين