

LM03 · ECONOMICS · CFA LEVEL I

Fiscal Policy

How governments use taxation and spending to shape aggregate demand, output, and employment

What This Reading Covers

Fiscal policy is the government's use of **taxation and spending** to influence the economy. This module compares fiscal policy with monetary policy, describes the roles and objectives of fiscal policy (including debates on national-debt-to-GDP), lays out the tools (spending and revenue), and explains implementation — including lags, multipliers, and whether a given stance is expansionary or contractionary.

Learning Outcome Statements

- LOS a** Compare monetary and fiscal policy
- LOS b** Describe roles and objectives of fiscal policy as well as arguments as to whether the size of a national debt relative to GDP matters
- LOS c** Describe tools of fiscal policy, including their advantages and disadvantages
- LOS d** Explain the implementation of fiscal policy and difficulties of implementation, as well as whether a fiscal policy is expansionary or contractionary

Exam Tip: The examinable pieces of LM03 are the **fiscal multiplier** formula $1/(1 - MPC(1 - t))$, the **balanced-budget multiplier** intuition, the **lags** (recognition / action / impact), **Ricardian equivalence**, **crowding out**, and the **Debt/GDP sustainability** condition.

LOS A · MONETARY VS. FISCAL POLICY · THE GOVERNMENT BUDGET

Fiscal Policy, Monetary Policy & the Budget

FISCAL POLICY

Government actions aimed at influencing economic activity through **taxation and spending**.

MONETARY POLICY

Central-bank actions aimed at influencing the **money supply and credit** through interest rates, repo rates, open-market operations, etc. Central banks typically act independently of government.

Shared goal: create an economic environment in which growth is **stable and positive** and inflation is **low and stable** — avoiding boom/bust scenarios. Both policies regulate or influence economic activity over time — to accelerate or slow the economy.

Why Government Matters to Fiscal Policy

- 1 Governments are **large employers**.
- 2 Government spending is a **large component of aggregate demand (AD)**.
- 3 Governments are the **largest bond issuer** (debt).
- 4 Policy is also used to **redistribute wealth and income**.

The Government Budget

POSITION	CONDITION	IMPLICATION
Balanced budget	Tax revenues = government spending	Neutral
Budget surplus	Tax revenues > government spending	Pay down debt · contractionary stance
Budget deficit	Tax revenues < government spending	Issue debt · expansionary stance

Debt is the accumulation of deficits. Deficits are financed by issuing bonds — typically held by banks, insurance companies, and pension funds.

How Fiscal Policy Affects AD

Taxation affects:

- Disposable income (Y_D)
- Consumption (via sales tax)
- CAPEX — business investment
- Employment

Spending affects:

- Consumption (government purchases, G)
- Employment (direct hiring)
- Aggregate demand (AD)

Keynesian vs. Monetarist Views

Keynesians — fiscal policy can have a *significant* effect on AD , Y , and employment when there is an output gap. **Monetarists** — fiscal changes have only a *temporary* effect on AD .

LOS B · ROLES AND OBJECTIVES OF FISCAL POLICY

What Fiscal Policy Tries to Do

THREE OBJECTIVES OF FISCAL POLICY

1. STABILIZE

Influence level of AD
and economic activity

Primary objective

Recession → expansion
Overheating → contraction

2. REDISTRIBUTE

Income and wealth
across population

Progressive taxes
Transfer payments
Social insurance

3. ALLOCATE

Resources between
sectors and agents

Health · education
Defense · infrastructure
Excise on tobacco/alcohol

Through fiscal policy, a government can influence:

- 1 **Overall level of aggregate demand** — and hence the level of economic activity. *Often the primary objective.*
- 2 **Distribution of income and wealth** among different segments of the population.
- 3 **Allocation of resources** between different sectors and economic agents.

Stance → Budget Position

Recession (expansionary):

Increase spending / lower taxes → raise employment
and Y → Revenue < Expenditure → **budget deficit**
→ issue debt.

Expansion / overheating (contractionary):

Lower spending / raise taxes → cool AD → Revenue
> Expenditure → **budget surplus** → pay down debt.

Rule of thumb: *surplus = contractionary, deficit = expansionary fiscal policy.*

QUIZ 1 · CHECKPOINT

Test Your Understanding: Policy Basics & Objectives

Q1. Which of the following *best* distinguishes fiscal policy from monetary policy?

Q2. A government has tax revenues that are less than its spending. It has a:

Q3. According to the Keynesian view, fiscal policy is *most effective* when:

Q4. Which of the following is *least likely* to be identified as an objective of fiscal policy?

LOS B/D · AUTOMATIC STABILIZERS VS. DISCRETIONARY FISCAL POLICY

Two Ways Fiscal Policy Stabilizes the Economy

AUTOMATIC STABILIZERS

Non-discretionary — kick in *without* explicit action by policymakers.

- **Slowdown:** transfer payments (unemployment benefits, welfare) rise; tax revenues fall
- **Expansion / full employment:** transfer payments fall; tax revenues rise → budget moves toward surplus

Effect: reduce output fluctuations — they help cushion recessions.

DISCRETIONARY FISCAL POLICY

Deliberate changes in government spending or tax rates *decided by policymakers*.

- Subject to lags (recognition, action, impact)
- Used when automatic stabilizers are insufficient
- Differs from stabilizers primarily with respect to **timing**

Structural (Cyclically Adjusted) Deficit

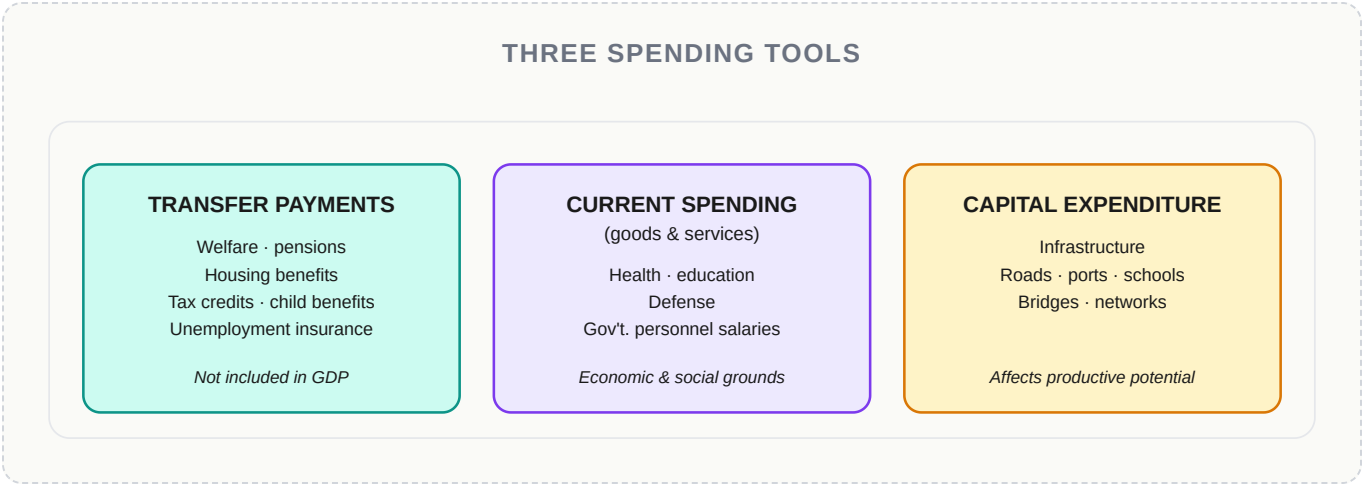
The **structural (or cyclically adjusted) deficit/surplus** is what would exist if the economy were operating at **full employment** (or full potential output).

Why it matters: automatic stabilizers affect the headline deficit/surplus in ways that are *unrelated* to deliberate fiscal policy. What may appear to be expansionary or contractionary policy may only be the result of non-discretionary reactions to the cycle. Therefore, the **level of surplus/deficit may not be a good indicator of the fiscal-policy stance** — economists often use the structural deficit to gauge policy.

Exam Tip: "Automatic stabilizers reduce output fluctuations without policymaker intervention." Classic examples: unemployment benefits, progressive income taxes.

LOS C · FISCAL POLICY TOOLS — SPENDING SIDE

Fiscal Policy Tools: Spending (Outflows)



Details

TOOL	WHAT IT IS	NOTES
Transfer payments	Payments to households (welfare, pensions, housing benefits, tax credits, child benefits, unemployment insurance, social security)	Primarily aimed at redistributing wealth . Not included in GDP — these are not considered spending by government on goods/services.
Current expenditure	On-going spending on goods and services — health, education, defense, salaries of government personnel	Justified on both economic and social grounds.
Capital expenditure	Government spending on infrastructure projects — roads, ports, schools, bridges, road networks	Boosts economic productive potential . Long gestation periods delay the impact of fiscal policy.

Budget identity for flow stance: **G – T + B = budget deficit**, where G = spending, T = revenue, B = transfer payments.

LOS C · FISCAL POLICY TOOLS — REVENUE SIDE

Fiscal Policy Tools: Revenue (Inflows) — Taxes

DIRECT TAXES

Taxes levied on **wealth and income**.

Income	Wages, capital gains, interest, dividends
Wealth	Estate tax, property tax
Corporate	Taxes on corporate profits
Capital gains	Tax on gains from asset sales

INDIRECT TAXES

Taxes levied on **goods and services**.

Excise duties	Fuel, alcohol, tobacco ("sin" taxes)
Sales tax	Tax at point of sale
VAT	Value-added tax
Lotteries	Government-run revenue

Advantages & Disadvantages of Revenue Tools

TOOL	ADVANTAGES	DISADVANTAGES
Indirect taxes	Implemented swiftly , generate revenue <i>immediately</i> with little cost. VAT and excise can influence spending behavior instantly and be used to discourage consumption of sin products (alcohol, tobacco).	Can be regressive; may distort consumption choices.
Direct taxes & transfer-payment changes	Can be progressive; broaden the redistribution toolkit.	Implementation of changes is time-consuming , delaying the impact of the fiscal policy.
Capital expenditure	Adds to productive capacity long-term.	Road-construction-type projects have long gestation periods , delaying the impact of fiscal policy.

Inflation **helps both direct and indirect tax revenue** — bracket creep lifts income-tax receipts; higher nominal prices lift VAT/sales-tax receipts.

LOS C · DESIRABLE ATTRIBUTES OF A TAX POLICY

Desirable Attributes of a Tax Policy

Taxation is justified on two grounds: **revenue** and **income/wealth redistribution**. Four desirable attributes of a tax policy:

1. SIMPLICITY

Tax code should be easy to understand, comply with, and administer.

2. EFFICIENCY

Taxes should interfere as little as possible in choices. They should discourage work and investment as little as possible.

Often broken: alcohol and tobacco taxes intentionally change behavior.

3. FAIRNESS (EQUITY)

Horizontal equity — people in similar situations should pay the same tax.

Vertical equity — those who earn more should pay more.

4. REVENUE SUFFICIENCY

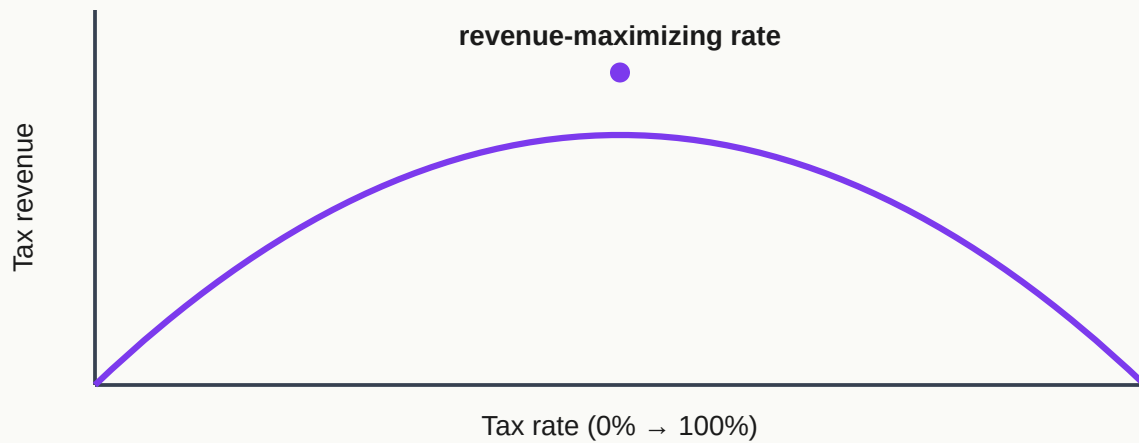
Tax system must raise enough revenue to meet the government's spending needs.

May conflict with other attributes.

Practical Issues

- 1 High tax rates may **reduce incentives to work or save**, including **flight** of capital/labour (Laffer curve — beyond a certain rate, additional increases actually reduce tax revenue).
- 2 **Fairness is subjective** — depends on your position.
- 3 Tax reform vs. spending reform — political tension about which lever to use.

LAFFER CURVE — TAX REVENUE VS. TAX RATE

**QUIZ 2 · CHECKPOINT****Test Your Understanding: Stabilizers, Tools & Taxes**

Q5. Which of the following is an example of an *automatic stabilizer*?

Q6. Government transfer payments are *best* described as:

Q7. A value-added tax (VAT) is *most accurately* classified as:

Q8. Which desirable attribute of tax policy is *most clearly* violated by high excise duties on tobacco and alcohol?

Q9. The principle that people in similar economic situations should pay the same tax is called:

LOS D · IMPLEMENTATION — THE FISCAL (KEYNESIAN) MULTIPLIER

The Fiscal Multiplier

The **fiscal multiplier** measures how much output changes for a change in government spending (or taxation / transfer payments). A \$1 increase in government spending generates a first round of income; a fraction is consumed (MPC) and the rest saved (MPS). The consumed portion becomes someone else's income — and the chain continues.

Derivation Building Blocks

Disposable income	$Y_D = Y - NT = (1 - t)Y$, where NT = net taxes (taxes less transfer payments) and t is the tax rate
Consumption	$C \cdot Y_D = C(Y - NT) = C(1 - t)Y \rightarrow$ effective MPC in presence of tax = $(1 - t) \cdot MPC$
MPC	Marginal propensity to consume
MPS	Marginal propensity to save = $1 - MPC$

The Two Multiplier Formulas

Without tax (lump-sum)

$$k = \frac{1}{1 - MPC}$$

The unconstrained geometric sum when all income can be consumed.

With income-tax rate t

$$k = \frac{1}{1 - MPC(1 - t)}$$

Taxes leak each round; the effective MPC becomes $MPC \cdot (1 - t)$.

k	fiscal (Keynesian) multiplier	MPC	marginal propensity to consume	t	income tax rate
MPS	marginal propensity to save = $1 - MPC$				

EXAMPLE 1 Computing the Fiscal Multiplier

GIVEN

MPC = 0.9 · tax rate $t = 20\%$ · Government injects an extra \$1 of spending.

? FIND

The fiscal multiplier. Then re-compute if t rises to 22%.

→ SOLUTION

- 1 Trace the first-round income. Of the 1 spent, the household pays tax at 20% in disposable income. With MPC = 0.9, consumption this round = $0.80 \times 0.9 = 0.72$ (save 0.08).

$$\text{Round 1: } C = 1 \times (1 - 0.2) \times 0.9 = 0.72$$

- 2 Round 2: the \$0.72 becomes someone else's income; again $(1 - t) \cdot \text{MPC}$ of it is spent.

$$\text{Round 2: } C = 0.72 \times 0.8 \times 0.9 = 0.5184$$

- 3 Sum the infinite geometric series with ratio $(1 - t) \cdot \text{MPC} = 0.8 \times 0.9 = 0.72$.

$$\text{Multiplier} = 1 / (1 - \text{MPC}(1 - t))$$

- 4 Plug in $t = 20\%$, MPC = 0.9.

$$= 1 / (1 - 0.8 \times 0.9) = 1 / (1 - 0.72) = 1 / 0.28 = 3.571$$

- 5 Re-compute at $t = 22\%$.

$$= 1 / (1 - 0.78 \times 0.9) = 1 / (1 - 0.702) = 1 / 0.298 = 3.356$$

- 6 The multiplier dropped by about 0.215 when the tax rate rose from 20% to 22%. Higher taxes → bigger leakage each round → smaller multiplier.

✓ ANSWER

Multiplier at $t = 20\%$, MPC = 0.9	3.571
Multiplier at $t = 22\%$, MPC = 0.9	3.356

Change in spending power**– 0.215****◆ TAKEAWAY**

A higher MPC *raises* the multiplier (less saved, more re-spent); a higher tax rate *lowers* it (more leaks out of the circular flow each round).

LOS D · THE BALANCED-BUDGET MULTIPLIER

The Balanced-Budget Multiplier

Key insight: if G is increased by \$1 *and* tax revenue is increased by \$1 (so the budget stays balanced), total spending in the economy **still increases**. Government spends the full 1, *but households cut consumption by only $MPC \times 1$* (they save some of the tax hit). Net effect is positive.

Worked Example from Source

Assume $MPC = 0.9$, initial $Y = 1000$, tax rate $t = 20\%$.

	BEFORE (BASELINE)	AFTER: $G \uparrow \$200$, $T \uparrow$ (BALANCE)
Income Y	1000	1080
Consumption C	900 ($= 1000 \times 0.9$)	720 ($= 1000 \times (1 - 0.2) \times 0.9$)
Investment I	100 (assumed fixed, not income-related)	180
Government G	0	200
Total spending	1000	1100 in components — <i>but</i> $C + I + G = 720 + 180 + 200 = 1100$

Conclusion: even though the government financed all its extra spending via equal tax, total spending rose (920 of private spending plus 200 of G versus 900 of private spending before — plus I changes, aggregate rises). The balanced-budget multiplier is positive because G purchases are *fully* spent while households only partially reduce consumption from the tax.

Caveat from the source

The example assumes **investment I is fixed and not related to income** — an assumption that is *not fully defensible* in a realistic model. Still, the balanced-budget-multiplier intuition holds.

LOS B · DOES THE SIZE OF NATIONAL DEBT MATTER?

Debt Arguments: Ricardian Equivalence & Crowding Out

ARGUMENTS AGAINST BEING CONCERNED
(SIZE DOESN'T MATTER)

- A majority of **debt holders are domestic citizens** — internal owing
- Debt used for **CAPEX** → raises economic productivity; future profits repay
- Deficit may require **tax reform** that corrects existing distortions
- **Ricardian equivalence** — private saving rises in anticipation; no net impact
- If an **output gap** exists, debt is not competing with more productive uses of savings (no crowding out)
- Future tax revenues can be increased
- Fiscal deficits can aid an economy in recession

ARGUMENTS FOR BEING CONCERNED (SIZE MATTERS)

- Higher debt → **higher future tax rates** → disincentives to work/save/entrepreneurship → lower growth
- **Loss of confidence** in the government → refinancing difficulties; central bank may have to print money (inflationary)
- Debt in **foreign currency** → default risk; debt in **local currency** → monetize → inflation
- May **crowd out private investment**: $S = I$; if government is taking more S, less private I

Ricardian Equivalence — Closer Look

The Ricardian-equivalence proposition argues that households are forward-looking:

- 1 Higher government **spending today** = higher **taxes tomorrow**.
- 2 Rational households respond by **increasing savings today** to pay the expected future taxes.
- 3 Private saving rises to offset public dissaving → **no net impact on AD** from deficit financing.

If Ricardian equivalence holds perfectly, fiscal policy loses its AD effect.

Crowding Out — Closer Look

If government borrowing competes for a fixed pool of savings, it drives up interest rates:

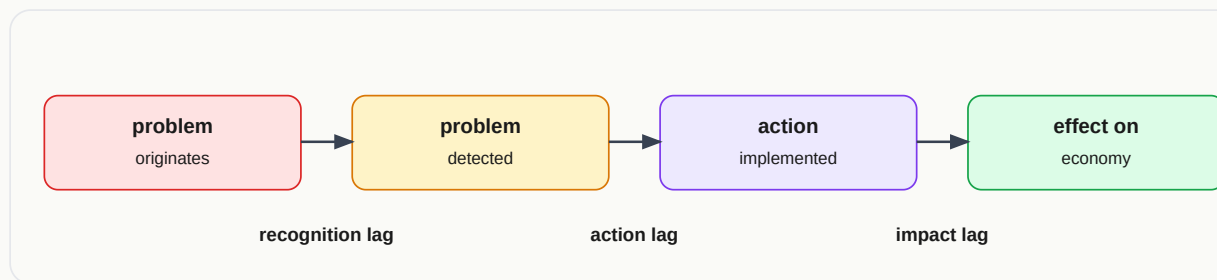
- 1 $S = I$ (saving = investment in equilibrium). Gov't absorbs more S → less private I.
- 2 Higher interest rates → private borrowers step back → less private investment/spending.
- 3 Reduces the effective impact of expansionary fiscal policy.

*Note: Crowding out is less of an issue when a significant **output gap** (spare capacity) exists.*

LOS D · IMPLEMENTATION — LAGS, STANCE, DIFFICULTIES

Lags, Stance, and Implementation Difficulties

THREE LAGS BETWEEN PROBLEM AND ECONOMIC EFFECT



LAG	WHAT IT IS
Recognition lag	Time taken to recognize the state of the economy.
Action lag	Time taken by governments to determine and enact the required fiscal-policy changes.
Impact lag	Time taken for the fiscal policy to actually affect economic activity.

Other Implementation Difficulties

- 1 Action decided under uncertainty** — by the time action is decided, other units (households, businesses) may have already adjusted behavior.
- 2 Misreading economic statistics** — expansionary policy misapplied at full capacity just drives inflation higher.
- 3 Crowding-out effect** — raises interest rates, decreases private investment.
- 4 Supply shortages** — if slack is due to resource constraints (e.g., labour shortage), fiscal expansion will not raise AD but will raise inflation.
- 5 Limits to deficits** — markets may refuse to finance deficits already too high relative to GDP.
- 6 Multiple targets** — high unemployment combined with high inflation cannot both be addressed simultaneously.

Expansionary vs. Contractionary Fiscal Policy

EXPANSIONARY

When: recession / output gap / high unemployment.

- Lower personal income tax → raises disposable income
- Lower sales tax → lowers prices
- Lower corporate tax → more to invest
- Higher spending on social goods and infrastructure

Fiscal-stance indicator: an *increase* in the budget deficit (or a *decrease* in the surplus).

CONTRACTIONARY

When: overheating / inflationary pressures / economy above potential.

- Higher taxes
- Lower government spending

Fiscal-stance indicator: an *increase* in the budget surplus (or a *decrease* in the deficit).

Exam Tip: Raising AD via spending is **only useful if spare capacity exists**. With spare capacity but a labour shortage, spending will *not* raise AD but *will* raise inflation.

LOS B · DEBT / GDP RATIO AND SUSTAINABILITY

Debt/GDP and the Sustainability Condition

Debt is the accumulation of past deficits. When evaluating whether a country's debt burden is sustainable, economists look at the **Debt/GDP ratio** — not the absolute level of debt.

Why the Ratio Can Improve Even With Rising Debt

If the denominator (nominal GDP) grows, and tax revenue is a roughly constant percentage of GDP, then:

$$\frac{\text{Revenue}}{\text{nGDP}} \approx \text{constant} \Rightarrow \text{if nGDP} \uparrow \text{ then Revenue} \uparrow$$

$$\frac{\text{Interest Payments}}{\text{nGDP}} \downarrow \Rightarrow \text{debt-servicing ability improves}$$

Sustainability — The Key Inequality

$$\text{Sustainability: } g_{\text{real GDP}} > r_d$$

 g

real GDP growth rate

 r_d

real interest rate on government debt

$$r_{\text{GDP}} > r_d$$

Debt/GDP *improves* (falls) over time — economy outgrows the interest bill.

$$r_{\text{GDP}} < r_d$$

Debt/GDP *worsens* over time — $r_d \times D$ grows faster than r_{GDP} ; interest cost outpaces growth.

Inflation's Effect

Higher inflation → higher *nominal* GDP, but does *not* inflate the stock of debt (debt is typically nominal).

∴ **Debt/GDP gets better with inflation** and **worse with deflation** — for the same stock of nominal debt, a bigger nominal-GDP denominator shrinks the ratio.

When Debt-to-GDP Pressures Build

- 1 If markets perceive the deficit/debt as already too high relative to GDP, funding becomes problematic — can push interest rates higher, worsening the situation.
- 2 Loss of confidence in government → central bank may be forced to print money → inflationary.
- 3 Foreign-currency debt introduces default risk distinct from local-currency debt (which can be monetized).

Bottom line

A country's debt path is sustainable when the economy's **real growth rate exceeds the real rate of interest on the debt**. Deflation or stagnant growth makes the trajectory worse; inflation and strong growth help shrink the ratio.

QUIZ 3 · CHECKPOINT

Test Your Understanding: Multipliers, Debt & Implementation

Q10. With an MPC of 0.75 and a tax rate of 20%, the fiscal multiplier is *closest to*:

Q11. Ricardian equivalence suggests that an increase in government spending financed by deficit will:

Q12. Crowding out refers to:

Q13. The time required for policymakers to *determine and enact* fiscal-policy changes is *best* described as the:

Q14. A country's debt-to-GDP ratio is *most likely* to be sustainable (improving) when:

MODULE COMPLETE

Your Scorecard

0 / 14

LM03 Key Takeaways — Exam-Ready Cheat Sheet

Fiscal vs. Monetary & The Budget

- 1 **Fiscal policy** = government taxation & spending. **Monetary policy** = central-bank control of money supply and credit.
- 2 **Budget:** surplus ($\text{Rev} > \text{Exp}$, contractionary) · balanced · deficit ($\text{Rev} < \text{Exp}$, expansionary → issue debt).
- 3 **Three objectives:** (1) stabilize AD and economic activity (primary), (2) redistribute income/wealth, (3) allocate resources across sectors.

Stabilizers & Tools

- 4 **Automatic stabilizers** (non-discretionary) vs. **discretionary** changes in G or t . Structural deficit measures the stance at full employment.
- 5 **Spending tools:** transfer payments (not in GDP), current expenditure (goods & services), capital expenditure (infrastructure).
- 6 **Revenue tools:** direct taxes (income, wealth, corporate, capital gains) · indirect taxes (VAT, sales, excise). Indirect taxes implement *fastest*; direct-tax & CAPEX changes are slower.
- 7 **Desirable tax attributes:** simplicity · efficiency · fairness (horizontal & vertical equity) · revenue sufficiency.

Multipliers & Debt Debate

- 8 **Fiscal multiplier:** $1 / (1 - MPC(1 - t))$. Worked at $MPC = 0.9$, $t = 20\% \rightarrow 1/0.28 = 3.571$.
- 9 **Balanced-budget multiplier > 0:** equal ΔG and ΔT still raises total spending because G is fully spent while households only partly cut C .
- 10 **Ricardian equivalence:** private saving rises to offset future tax liabilities $\rightarrow$ no net AD impact from deficit financing.
- 11 **Crowding out:** gov't borrowing $\rightarrow$ higher interest rates $\rightarrow$ less private investment ($S = I$; more G -borrow $\rightarrow$ less private I).

Implementation & Sustainability

- 12 **Three lags:** recognition (see it) $\rightarrow$ action (decide/enact) $\rightarrow$ impact (bite).
- 13 **Expansionary** (lower taxes, higher spending) — when output gap exists. **Contractionary** (higher taxes, lower spending) — when overheating.
- 14 **Debt/GDP sustainable** when $rGDP > \text{real } r_d$. Inflation helps ($nGDP \uparrow$, D fixed); deflation worsens. Crowding out less of an issue when spare capacity exists.

Last-Minute Exam Checklist

Stance rule: surplus = contractionary, deficit = expansionary

Fiscal multiplier: $1 / (1 - MPC(1 - t))$ — higher $MPC \uparrow$ multiplier, higher $t \downarrow$ multiplier

Balanced-budget multiplier > 0 ($\Delta G = \Delta T$, Y still rises)

Lags: Recognition $\rightarrow$ Action $\rightarrow$ Impact

Sustainability: $rGDP > r_d$

Ricardian equivalence neutralizes deficit effects; **crowding out** weakens them

Indirect taxes = fastest implementation; direct-tax / CAPEX changes = long lags