CHARTA LEARNING · LESSON NOTES

Fiscal and monetary policy

Economics

1 Fiscal policy: the government's wallet

- Fiscal policy = government spending and taxes
- Aims: steady growth, stable prices, fairer incomes
- Tools: spending (buying and transfers) and taxes
- Easy policy lifts demand; tight policy cools it

IN THE LESSON

- Imagine a town where business is slow, with people out of work.
- The town council has two things it can do.
- It can spend more, say by building a new bridge, which gives people jobs.
- Or it can collect less in local taxes, so families have more to spend.
- Using spending and taxes to steer the whole economy is called fiscal policy.
- Its aims are usually steady growth, stable prices and a fairer spread of incomes.
- Its tools are the two we just met.
- Spending includes things the state buys, and also transfers, which are payments like benefits that move money between people without buying anything.
- The other tool is taxes.
- Easy policy lifts demand.
- Tight policy cools it.

2 The budget: deficit, surplus and debt

A small economy with GDP of 1,000 (made-up numbers)

Government spending	includes 24 of interest	**280**
Tax revenue		**240**
Budget balance	240 − 280	**−40**
Deficit as share of GDP	40 ÷ 1,000	**4.0%**
Debt as share of GDP	600 ÷ 1,000	**60%**

Primary balance = balance before interest: −16

IN THE LESSON

- Every year the government has a budget.
- If it spends more than it collects in taxes, the gap is a budget deficit.
- If it collects more than it spends, that is a surplus.
- To cover a deficit it borrows, and all the borrowing piled up over the years is the national debt.
- Let's use made-up round numbers for a small economy with gross domestic product, or G D P, of one thousand.
- The government spends two hundred and eighty and collects two hundred and forty in tax.
- Spending minus tax is forty, so the deficit is forty.
- Divide by G D P and the deficit is four per cent of G D P.
- Debt of six hundred is sixty per cent of G D P.

3 Easy or tight? Automatic or chosen?

Which way is policy leaning?

Situation	Stance
Output below potential	Expansionary
Economy overheating	Contractionary
Recession: benefits rise, taxes fall	Automatic
New law changes spending or tax	Discretionary

IN THE LESSON

- Now, when does the government lean which way?
- If output is below what the economy could produce, with many people jobless, the government uses expansionary policy: it spends more, or it cuts taxes, or both.
- If the economy is overheating, with prices rising fast, it uses contractionary policy: it spends less or raises taxes.
- Some changes happen with no vote at all.
- In a downturn, more people claim unemployment benefits and tax receipts fall, so the deficit widens by itself and cushions the blow.
- These are automatic stabilisers.
- A new law that changes spending or tax rates is a discretionary change.

4 The fiscal multiplier

Multiplier = 1 ÷ [1 − MPC × (1 − t)]

Spending share (MPC)	Share of extra income spent
Tax rate (t)	Share of income paid in tax
Multiplier	Total rise in GDP per 1 spent

IN THE LESSON

- When the government spends, the money does not stop there.
- A builder is paid, spends part of it in a shop, the shopkeeper spends part of that, and so on.
- The total effect on output is a multiple of the first spend.
- The multiplier equals one divided by one minus M P C times one minus t.
- M P C is the marginal propensity to consume, the share of each extra pound of income that people spend, so it equals one minus the share they save.
- The letter t is the tax rate.
- The more people spend, the bigger the multiplier.
- The more they save or pay in tax, the smaller it gets.

5 Example 1: a multiplier at work

MPC 0.8, tax rate 25%, a package worth 40

MPC × (1 − t)	0.8 × 0.75	**0.60**
1 − 0.60		**0.40**
Multiplier	1 ÷ 0.40	**2.5**
GDP rise, spending up 40	40 × 2.5	**+100**
GDP rise, tax cut of 40	40 × 0.8 × 2.5	**+80**

IN THE LESSON

- Let's work an example.
- People spend eighty per cent of any extra income, so M P C is zero point eight.
- The tax rate is twenty five per cent.
- First, M P C times one minus t is zero point eight times zero point seven five, which is zero point six.
- One minus zero point six is zero point four.
- The multiplier is one divided by zero point four, which is two point five.
- If the government spends forty more, G D P rises by forty times two point five, which is one hundred.
- Now compare a tax cut of the same size, a lump sum of forty.
- Households spend only eighty per cent of it, and the saved part leaks away.
- So the effect is forty times zero point eight times two point five, which is eighty.
- That is why a spending rise usually beats a tax cut of the same size.

6 The three lags of fiscal policy

- Recognition lag: seeing the problem in the data
- Action lag: the plan is debated and passed
- Impact lag: the money takes time to work through
- Together they can exceed a year

IN THE LESSON

- So fiscal policy sounds powerful, but it is slow, like steering a huge ship.
- There are three delays, called lags.
- The recognition lag comes first.
- The numbers on jobs and output arrive late and get revised, so it takes time to see that the economy is in trouble.
- Next comes the action lag.
- The government must agree a plan, the legislature must debate it and vote, and parties must haggle.
- And last is the impact lag.
- Even once the law passes, contracts must be signed, bridges built and cheques sent, so the money works through only slowly.

7 Example 2: help that arrives too late

Made-up timeline for a downturn, in months

Recognition lag	data confirm the recession	**6**
Action lag	package agreed	**9**
Impact lag	spending reaches the economy	**9**
Total delay	6 + 9 + 9	**24 months**
Recovery had begun at		**month 12**

IN THE LESSON

- Let's put numbers on the lags, using a made-up timeline in months.
- A recession starts.
- It takes six months before the data confirm it: that is the recognition lag.
- The legislature then spends nine months agreeing a package: the action lag.
- The spending takes another nine months to reach the economy: the impact lag.
- Six plus nine plus nine is twenty four months in all.
- Now suppose the economy bottomed out on its own and began to recover at month twelve.
- The stimulus lands twelve months after the recovery started.
- Instead of lifting a weak economy, it adds fuel to a recovery that was already under way, and may push prices up.

8 Crowding out

- Government borrows more to fund a deficit
- Demand for loans rises, so interest rates rise
- Firms borrow and invest less: crowding out
- Strongest near full capacity, weak in a slump

IN THE LESSON

- Imagine a town with a fixed amount of savings that banks can lend.
- If the town council borrows a large amount to fund a deficit, there is less left for local firms, and lenders can ask for a higher price.
- The rise in interest rates makes firms drop plans to build factories or buy machines.
- This is called crowding out: government borrowing squeezes out private investment.
- It is strongest when the economy is already near full capacity, because there are no idle savings to go round.
- In a deep slump, with plenty of spare savings and weak demand for loans, crowding out is small.
- So the answer to how big it is depends on how busy the economy already is.

9 Ricardian equivalence, with numbers

A tax cut of 100 paid for by borrowing at 5% for 10 years

Tax cut today (borrowed)		**100**
Debt after ten years	100 × 1.05^10	**162.89**
Value today of the future tax	162.89 ÷ 1.05^10	**100**
Extra spending if fully Ricardian	household saves it all	**0**

IN THE LESSON

- Here is a more subtle limit.
- Suppose the government cuts your tax bill by one hundred and borrows the money instead.
- Do you spend it?
- A clever household reasons: the government must repay that debt one day, which means higher taxes later.
- Say the debt grows at five per cent for ten years.
- One hundred times one point oh five to the power of ten is one hundred and sixty two point eight nine, due in future tax.
- Discount that back at five per cent and it is worth exactly one hundred today.
- So the tax cut is no gift at all.
- A fully Ricardian household saves the whole hundred to pay the future bill, and spends nothing extra.
- This is Ricardian equivalence.
- In real life it holds only partly.

10 Can the debt be sustained?

Change in debt ratio ≈ (interest rate − growth) × debt ratio − primary surplus

Interest rate	What the debt costs each year
Growth rate	How fast income grows
Debt-to-GDP	Debt divided by GDP
Primary surplus	Budget surplus before interest

IN THE LESSON

- The last fiscal limit is the debt itself.
- What matters is the debt ratio, which is debt divided by G D P.
- It changes with two forces.
- The first is interest: the debt grows at the interest rate while G D P grows at the growth rate.
- If interest is higher than growth, the ratio drifts up, and the higher the starting debt, the faster the drift.
- The second force is the primary balance, which is the budget before interest payments.
- A primary surplus pulls the ratio down.
- So, to a good approximation, the change in the debt ratio equals interest minus growth, times the debt ratio, minus the primary surplus.

11 Example 3: sustaining a debt

Debt 100% of GDP, interest rate 5%, growth 2%

Interest minus growth	5% − 2%	**3%**
Times debt ratio	3% × 100%	**3.0 pts**
Less primary surplus	1% of GDP	**−1.0 pts**
Change in debt ratio	3.0 − 1.0	**+2.0 pts**
Surplus to hold it steady	3.0% of GDP	**3.0%**

IN THE LESSON

- Here is an example.
- A country has debt of one hundred per cent of G D P.
- The interest rate is five per cent and G D P grows two per cent a year, both in money terms.
- Interest minus growth is three per cent.
- Multiply by the debt ratio of one, and the pull upward is three points of G D P.
- Now suppose the government runs a primary surplus of one per cent of G D P.
- Three minus one leaves a rise of two points, so the ratio creeps up towards one hundred and two per cent.
- To hold the ratio steady, the primary surplus must be three per cent of G D P.

12 Four fiscal mistakes to avoid

- 1. Deficit means spending above taxes
- 2. A tax cut works only through spending
- 3. Crowding out is not always large
- 4. Judge debt by interest vs growth, not size

IN THE LESSON

- Before we move on, four fiscal mistakes that cost marks.
- One.
- Mixing up the words.
- A deficit means spending is above tax.
- A surplus is the reverse.
- Two.
- Forgetting that a tax cut works only through spending.
- The part that people save does not lift demand, so a tax cut is a less certain tool than a spending rise.
- Three.
- Treating crowding out as always large.
- It is strong near full capacity and weak in a slump.
- Four.
- Judging a debt by its size alone.
- Look at interest against growth, and at the primary balance.

13 What a central bank does

- Issues currency; banker to government and banks
- Lender of last resort; oversees payments and banks
- Runs monetary policy: the cost and supply of money
- Main goal: price stability, often with employment

IN THE LESSON

- Now to the second lever.
- Think of the central bank as the bank for the banks.
- The central bank also prints the currency, acts as banker to the government, and oversees the payment systems that move money around.
- In many countries it supervises banks, and when a bank runs short of cash in a panic, it can lend as a last resort.
- But today its best known job is monetary policy, controlling the cost and supply of money.
- Its goal is most often price stability, meaning prices that rise slowly and predictably.
- Many also care about jobs and about the safety of the financial system.

14 Targets and independence

- Inflation target: a number such as 2%, or a band
- Operational independence: the bank picks the tools
- Target independence: the bank sets the goal too
- Credible bank = inflation expectations stay anchored

IN THE LESSON

- How does a central bank make price stability concrete?
- Most set an inflation target, a number such as two per cent a year, or a band, say between one and three.
- Inflation is how fast the general price level rises.
- Next, independence.
- Operational independence means the bank chooses its own tools and when to use them.
- Target independence means it also sets the target.
- Why does it matter?
- Picture a government that can order lower rates before every election.
- Nobody would believe the bank's promise.
- Independence makes the target credible, and a credible target keeps people's inflation expectations anchored.
- That matters because wages and prices are set today based on what people expect tomorrow.

15 The policy rate and open market operations

- Policy rate: price of the shortest bank loans
- Open market operations: buy or sell bonds
- Buy bonds: more reserves in banks, rates fall
- Sell bonds: fewer reserves, rates rise

IN THE LESSON

- Now, what are the bank's tools?
- The main one is the policy rate.
- It is the interest rate the central bank sets or targets for very short loans between banks.
- When it moves, the rates on mortgages, car loans and business loans tend to move the same way.
- Lower rate, cheaper borrowing, more spending.
- Higher rate, the opposite.
- To make the market rate hit the target, the bank uses open market operations, which are purchases and sales of securities, mostly government bonds.
- When the bank buys bonds, it pays with newly created reserves, so banks hold more cash and rates fall.
- When it sells bonds, reserves shrink and rates rise.

16 Reserves and the money multiplier

Money multiplier = 1 ÷ reserve requirement
Deposits created = new reserves × multiplier

Reserve requirement	Share of deposits kept back
Money multiplier	Money created per 1 of reserves
New reserves	Cash injected into the banks

IN THE LESSON

- Another tool is the reserve requirement, the share of deposits that a bank must keep in reserve rather than lend.
- Here is how money gets created.
- Banks lend most of those deposits out, and the loan is spent and ends up as a new deposit in another bank, which lends again.
- Every round creates money.
- The total effect is the money multiplier, which equals one divided by the reserve requirement.
- If banks must keep ten per cent, the multiplier is ten.
- New reserves times the multiplier gives the largest possible rise in deposits.

17 Example 4: money created round by round

Deposit of 1,000; reserve requirement 10%

Round 1: keeps 100, lends		**900**
Round 2: keeps 90, lends		**810**
Round 3: keeps 81, lends		**729**
Deposits when it ends	1,000 × 1 ÷ 0.10	**10,000**
New money from lending	10,000 − 1,000	**9,000**

IN THE LESSON

- Let's watch it happen.
- The reserve requirement is ten per cent.
- You deposit one thousand in Bank A.
- It must keep one hundred and may lend nine hundred.
- The borrower spends the nine hundred, and it lands in Bank B.
- Bank B keeps ninety and lends eight hundred and ten.
- That is spent and lands in Bank C.
- It keeps eighty one and lends seven hundred and twenty nine.
- And so it goes on, each round ten per cent smaller.
- Add every round and total deposits reach one thousand times one over zero point ten, which is ten thousand.
- The original deposit was one thousand, so lending has created nine thousand of new money.

18 Each round adds less



IN THE LESSON

- Here are the first rounds as bars.
- A bank receives a deposit of one thousand and must keep ten per cent in reserve, so it lends nine hundred.
- That money is spent and lands in another bank as a new deposit.
- That bank keeps ninety and lends eight hundred and ten.
- The next lends seven hundred and twenty nine.
- Each bar is nine tenths of the one before, so the bars shrink but never stop at once.
- Add all the rounds together and the deposits reach ten thousand, ten times the first deposit, which is one over the reserve requirement.

19 Example 5: turning the dials

Same start; change one dial at a time

Reserve requirement 10%	1 ÷ 0.10	**10**
Raise it to 20%	1 ÷ 0.20	**5**
Deposits from 1,000 at 20%	1,000 × 5	**5,000**
Bank buys 50 of bonds	new reserves of 50	**50**
Deposits that can follow at 10%	50 × 10	**500**

IN THE LESSON

- Now we change one dial at a time.
- Start with the ten per cent requirement and a multiplier of ten.
- Raise the requirement to twenty per cent and the multiplier falls to five, because banks must keep back more and lend less.
- The same deposit of one thousand then supports only five thousand in deposits, half as much.
- Now a different dial.
- The central bank buys fifty of bonds from banks, an open market operation.
- Banks gain fifty of new reserves.
- At a multiplier of ten that can support up to five hundred of new deposits.
- Notice the words up to.
- In practice banks may sit on spare reserves, so many countries now rely little on reserve requirements and steer the policy rate instead.

20 Quantitative easing

A ten-year bond pays 100 at maturity and nothing before

Price at a 4% yield	100 ÷ 1.04^10	**67.56**
Central bank buys; yield falls to		**3%**
Price at a 3% yield	100 ÷ 1.03^10	**74.41**
Price gain	74.41 − 67.56	**6.85**

IN THE LESSON

- What if the policy rate is already near zero and the economy still needs help?
- Then the central bank can turn to quantitative easing, or Q E.
- It creates new reserves and uses them to buy long-dated bonds in big amounts.
- Buying pushes bond prices up, and when a bond's price rises its yield falls.
- Let's see it.
- A ten year bond pays one hundred in ten years and nothing before.
- At a yield of four per cent, its price is one hundred divided by one point oh four to the power of ten, about sixty seven point five six.
- The price becomes seventy four point four one.
- Longer rates fall, so mortgages and business loans get cheaper, even though the policy rate has not moved.

21 Forward guidance

Two-year rate is about the average of expected one-year rates

Policy rate today		**0.5%**
Expected next year, no guidance		**2.5%**
Two-year rate, no guidance	(0.5 + 2.5) ÷ 2	**1.5%**
Expected next year, with promise		**0.5%**
Two-year rate, with promise	(0.5 + 0.5) ÷ 2	**0.5%**

IN THE LESSON

- A last tool costs nothing to use but a lot of credibility: forward guidance.
- The central bank tells people where it expects to keep rates.
- Why does this move today's borrowing costs?
- Because a longer rate is roughly an average of the short rates people expect over that period.
- Suppose the policy rate is one half of one per cent.
- With no guidance, markets guess it will rise to two and a half next year, so the two year rate is about the average, one and a half.
- Now the bank promises to hold rates at one half for two years, and people believe it.
- The two year rate is then about one half.
- Without moving the policy rate at all, longer rates fall.
- If markets do not believe the promise, the tool fails.

22 Limits: lags, forecasts and targets

- Long and variable lags: act on forecasts
- Supply shocks: higher rates cannot make more oil
- A target can leave out jobs and asset prices
- One rate for every region: a blunt tool

IN THE LESSON

- Monetary policy is powerful, but it has limits.
- First, lags.
- A change in the policy rate takes a year or two to show up in spending and prices, and the delay is long and variable, not fixed.
- So the bank must act on forecasts, not on today's data.
- Second, a target has limits too.
- A supply shock, such as a sudden jump in oil prices, lifts inflation, yet raising rates cannot make more oil.
- Third, a strict inflation target can leave out jobs and asset prices.

23 The zero lower bound

Nominal policy rate at its floor of 0%

Real rate if inflation is 2%	0 − 2	**−2%**
Real rate if prices fall 1%	0 − (−1)	**+1%**
Policy tightened by	+1 − (−2)	**3 points**
Room to cut the nominal rate	none left	**0**

IN THE LESSON

- Next, the floor.
- If the bank cuts the policy rate to zero, it cannot cut much further, because people would simply hold cash, which pays zero.
- This is the zero lower bound.
- Why does it hurt?
- Look at real rates, the nominal rate minus inflation.
- With the policy rate at zero and inflation at two per cent, the real rate is minus two, which is helpful and stimulating.
- Now prices start to fall by one per cent.
- The real rate becomes zero minus minus one, which is plus one.
- The bank wants to cut and cannot.
- That is why falling prices are so dangerous, and why the bank uses Q E and guidance instead.

24 Liquidity traps and weak transmission

- Liquidity trap: cheap money is hoarded, not used
- Weak banks lend less, so cuts do not reach firms
- High debts and low confidence blunt borrowing
- After a crisis, cuts did less than expected

IN THE LESSON

- Even with room to cut, cheap money may not do its job.
- In a liquidity trap, people and firms are so fearful that they hoard the extra money rather than spend or borrow it.
- Cut rates, add reserves, and it sits idle in bank accounts.
- Then there is transmission, the chain from the policy rate to real spending.
- The chain runs through banks.
- If banks are weak, short of capital or afraid of losses, they will not lend to firms even at low funding costs.
- The rate cut never arrives.
- High existing debts and low confidence blunt it too.
- This is why, after a financial crisis, central banks found that cutting rates did far less than their models had promised.

25 The neutral rate

Neutral rate = real trend growth + inflation target

Real trend growth	Steady growth of output
Inflation target	Inflation the bank aims for
Neutral rate	Stance: neither easy nor tight

IN THE LESSON

- How do we tell whether policy is easy or tight?
- We compare the policy rate to the neutral rate.
- This is the rate that neither speeds up nor slows down the economy when it is growing steadily and inflation sits at target.
- A handy approximation: the neutral rate equals the real trend growth rate of the economy plus the inflation target.
- If the policy rate is above neutral, policy is contractionary, because it restrains demand.
- If it is below neutral, policy is expansionary.
- At neutral, policy is neither easy nor tight.

26 Example 6: reading the policy stance

Trend real growth 2.0%, inflation target 2.0%

Neutral rate	2.0 + 2.0	**4.0%**
Policy rate 5.5%	1.5 above neutral	**Contractionary**
Policy rate 2.5%	1.5 below neutral	**Expansionary**
Policy rate 4.0%	equals neutral	**Neutral**

IN THE LESSON

- Let's use it.
- Suppose trend real growth is two per cent and the inflation target is two per cent.
- The neutral rate is two plus two, which is four per cent.
- Now check three policy rates.
- A policy rate of five and a half per cent is one and a half points above neutral.
- That is contractionary: it is holding demand back, as the bank might want when inflation is running hot.
- A policy rate of two and a half per cent is one and a half points below neutral, so it is expansionary.
- And a rate of four per cent is simply neutral.
- Your job is just this: compute neutral, compare, and name the stance.

27 Fiscal and monetary: the four combinations

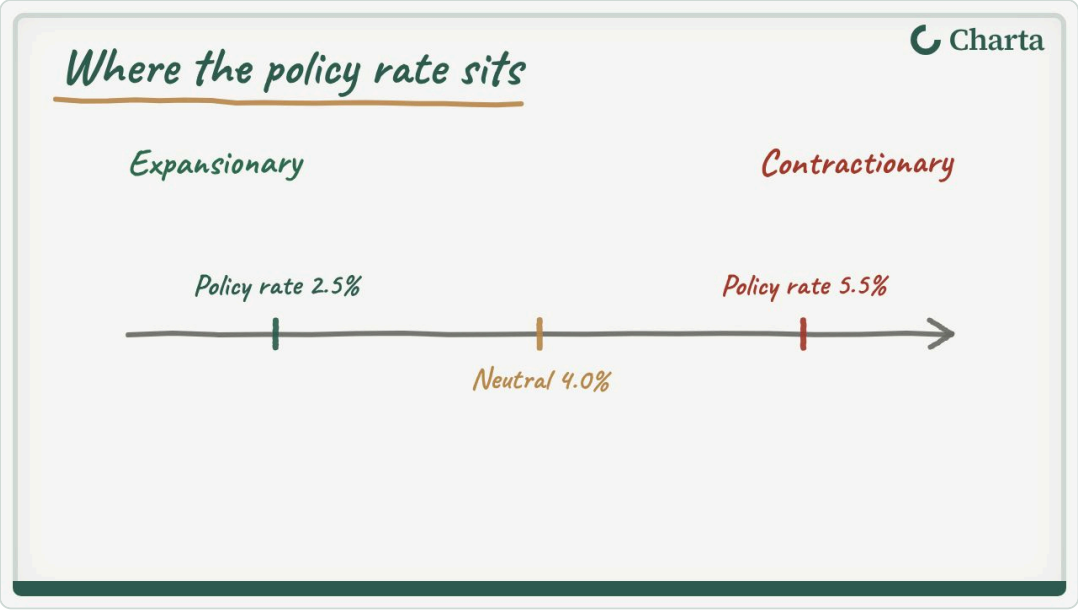
Fiscal stance + monetary stance

Easy fiscal + easy monetary	rates unclear	**Output up**
Tight fiscal + tight monetary	rates unclear	**Output down**
Tight fiscal + easy monetary	rates down	**Output unclear**
Easy fiscal + tight monetary	rates up	**Output unclear**

IN THE LESSON

- Now the two levers together.
- There are four combinations, each easy or tight on the fiscal side and on the monetary side.
- If both are easy, demand rises strongly, but the effect on interest rates is unclear: the government's borrowing pushes them up while the central bank pushes them down.
- If both are tight, output falls, and again rates are unclear.
- If fiscal is tight and monetary is easy, interest rates fall, and private spending rises as public spending shrinks, but the effect on output is unclear.
- If fiscal is easy and monetary is tight, rates rise, the state takes a bigger share of spending, and the effect on output is unclear.

28 Where the policy rate sits



IN THE LESSON

- Here is the stance on a line.
- In the middle is the neutral rate, four per cent in our example: real trend growth of two per cent plus an inflation target of two per cent.
- A policy rate to the left of it, such as two and a half per cent, leaves policy easy, so it is expansionary.
- A policy rate to the right, such as five and a half per cent, is tight, so it is contractionary.
- What matters is the distance from neutral, not the level of the rate on its own.

29 Example 7: why some answers are unclear

Made-up effects on growth: fiscal ±1.0, monetary ±1.5

Easy + easy	+1.0 + 1.5	**+2.5 pts**
Tight + tight	−1.0 − 1.5	**−2.5 pts**
Tight fiscal + easy monetary	−1.0 + 1.5	**+0.5 pts**
Easy fiscal + tight monetary	+1.0 − 1.5	**−0.5 pts**

Swap the sizes and the signs flip: so output is unclear

IN THE LESSON

- Why is output unclear in the mixed cases?
- Because it depends on which lever is stronger.
- Let's use made-up effects on growth.
- Say the fiscal lever moves growth by one point either way, and the monetary lever by one and a half.
- Easy and easy gives plus one plus one and a half, which is plus two point five points.
- Tight and tight gives minus two point five.
- Now the mixed cases.
- Tight fiscal and easy monetary gives minus one plus one and a half, which is plus half a point.
- Easy fiscal and tight monetary gives plus one minus one and a half, which is minus half a point.
- That is why the textbook says unclear.

30 Pulling together or pulling apart

- Together: both easy to fight a deep slump
- Apart: big deficit with a high policy rate
- The mix shifts spending between state and firms
- In practice: name the mix, then trace the effects

IN THE LESSON

- In real life, the two authorities are separate, and they do not always agree.
- They pull together in a deep slump: the government spends and the bank cuts rates, and both push demand the same way.
- They pull apart when the government runs a big deficit while the independent bank holds rates high to fight inflation.
- Then the government competes with firms for scarce funds, interest rates stay high, and private investment suffers.
- The mix also changes who gets the funds.
- Easy money with tight budgets shifts activity to private firms.
- For any question, name the combination first, then work out the likely effects on rates, output and the shares of spending.

31 Recap: the numbers to remember

Fiscal multiplier = 1 ÷ [1 − MPC × (1 − t)]
Money multiplier = 1 ÷ reserve requirement
Neutral rate = real trend growth + inflation target

Multiplier	Fiscal: spending beats tax cuts
Debt-to-GDP	Debt rises if rate beats growth
Money multiplier	Money created by lending
Neutral rate	Compare it with the policy rate

IN THE LESSON

- Let's pull it together.
- Fiscal policy uses spending and taxes.
- The fiscal multiplier is one over one minus M P C times one minus t, and a spending rise beats a tax cut of the same size.
- Its limits are the three lags, crowding out, Ricardian equivalence and the debt ratio, which rises when interest is above growth.
- Monetary policy is run by a central bank, aiming for price stability, with independence for credibility.
- Its tools are the policy rate, open market operations, reserve requirements, quantitative easing and forward guidance.
- The money multiplier is one over the reserve requirement.
- Its limits are lags, the zero lower bound, liquidity traps and weak banks.
- The neutral rate is trend growth plus the inflation target.
- Last, remember the four combinations.

32 Try three quick questions

1. MPC is 0.75 and the tax rate is 0%. What is the fiscal multiplier?
   Answer: 1 ÷ (1 − 0.75) = 4
2. Reserve requirement 25%; banks gain 200 of new reserves. Largest rise in deposits?
   Answer: Multiplier 4, so 200 × 4 = 800
3. Trend growth 1.5%, target 2%, policy rate 3%. What is the stance?
   Answer: Neutral 3.5%; 3% is below it: expansionary

IN THE LESSON

- Now try three quick questions yourself.
- Question one.
- M P C is point seven five and the tax rate is zero.
- What is the fiscal multiplier?
- One over one minus point seven five is four.
- Question two.
- The reserve requirement is twenty five per cent and a bank gains new reserves of two hundred.
- What is the largest rise in deposits?
- One over point two five is four, and four times two hundred is eight hundred.
- Question three.
- Trend growth is one point five per cent, the inflation target is two per cent and the policy rate is three per cent.
- What is the stance?
- Neutral is three point five, so a policy rate of three is below it, and that is expansionary.
- Well done.