

UCLA-ALIGNED COURSE FIELD NOTES

ECON 102

Macroeconomic Theory

Growth, fluctuations, labor, money, expectations, and monetary and fiscal policy

How these notes are written. I wrote each chapter the way I wish the material had been explained the first time: the real idea, the point where I usually get stuck, the simplest mental model that still stays honest, and a worked decision instead of a polished answer appearing from nowhere. Every chapter closes with practice and a fully written solution. If a sentence sounds impressive but does not help me solve or explain something, it does not belong here.

Daniel Mastick

Curriculum map, working notes, practice, and solutions

Course map

Week	Core thread	What should be solid by the end
1	National accounts and macroeconomic equilibrium	Reconstruct the model, work an application, test its assumptions, and explain the result in ordinary language.
2	Solow growth and convergence	Reconstruct the model, work an application, test its assumptions, and explain the result in ordinary language.
3	Consumption, saving, and investment	Reconstruct the model, work an application, test its assumptions, and explain the result in ordinary language.
4	Money, inflation, and asset pricing	Reconstruct the model, work an application, test its assumptions, and explain the result in ordinary language.
5	Short-run demand and interest-rate models	Reconstruct the model, work an application, test its assumptions, and explain the result in ordinary language.
6	Aggregate supply, unemployment, and expectations	Reconstruct the model, work an application, test its assumptions, and explain the result in ordinary language.
7	Monetary and fiscal stabilization	Reconstruct the model, work an application, test its assumptions, and explain the result in ordinary language.
8	Open-economy macro and business cycles	Reconstruct the model, work an application, test its assumptions, and explain the result in ordinary language.
9	Integration studio	Combine several chapters in one case, preserve their assumptions, and reconcile the result across representations.
10	Cumulative review	Retrieve the full course map from memory and solve mixed problems without chapter labels.

Scope anchor: <https://catalog.registrar.ucla.edu/course/2025/econ102>. The sequence is aligned to the official catalog description and expanded into a practical ten-week study plan.

How I would use this packet

Treat each numbered section as one chapter. Read the formal explanation, pause at the student interpretation, and see whether the easy version still says the same thing. Rework the example without looking, then cover the solution in the chapter practice box. The cumulative set at the end is deliberately mixed: knowledge becomes durable when I have to choose the tool instead of being told which chapter I am in.

Contents

1	National accounts and macroeconomic equilibrium	5
1.1	Rebuild the chapter from first principles	5
1.2	Details I would refuse to skip	5
1.3	How this chapter connects	6
1.4	The full working model	6
2	Solow growth and convergence	7
2.1	Rebuild the chapter from first principles	7
2.2	Details I would refuse to skip	8
2.3	How this chapter connects	8
2.4	The full working model	8
3	Consumption, saving, and investment	10
3.1	Rebuild the chapter from first principles	10
3.2	Details I would refuse to skip	10
3.3	How this chapter connects	11
3.4	The full working model	11
4	Money, inflation, and asset pricing	12
4.1	Rebuild the chapter from first principles	12
4.2	Details I would refuse to skip	13
4.3	How this chapter connects	13
4.4	The full working model	14
5	Short-run demand and interest-rate models	15
5.1	Rebuild the chapter from first principles	15
5.2	Details I would refuse to skip	15
5.3	How this chapter connects	16
5.4	The full working model	16
6	Aggregate supply, unemployment, and expectations	17
6.1	Rebuild the chapter from first principles	18
6.2	Details I would refuse to skip	18
6.3	How this chapter connects	18

6.4	The full working model	19
7	Monetary and fiscal stabilization	20
7.1	Rebuild the chapter from first principles	20
7.2	Details I would refuse to skip	21
7.3	How this chapter connects	21
7.4	The full working model	21
8	Open-economy macro and business cycles	23
8.1	Rebuild the chapter from first principles	23
8.2	Details I would refuse to skip	23
8.3	How this chapter connects	24
8.4	The full working model	24

CHAPTER 1 National accounts and macroeconomic equilibrium

The idea

National income identities connect production, expenditure, income, saving, investment, government balances, and net exports. An identity always holds by definition; a behavioral equilibrium explains how variables adjust to make plans consistent.

Rebuild the chapter from first principles

The claim I need to own is this: National income identities connect production, expenditure, income, saving, investment, government balances, and net exports. An identity always holds by definition; a behavioral equilibrium explains how variables adjust to make plans consistent. I do not count that as learned just because the sentence looks familiar. I should be able to name the objects, state what changes and what stays fixed, recover the rule from the definitions, and explain why the result is allowed.

The move

My working sequence

1. **Translate.** Rewrite the prompt in the language of national accounts and macroeconomic equilibrium. List the known quantities, the unknown, the units or types, and any hidden constraint.
2. **Choose.** State the theorem, model, algorithm, accounting rule, or physical law before substituting values. This is where I make the assumption visible.
3. **Execute.** Work one justified step at a time and keep intermediate state readable enough that I can audit it later.
4. **Verify.** Check a boundary case, sign, unit, invariant, order of magnitude, or alternative derivation. Then translate the result back into an ordinary sentence.

Details I would refuse to skip

- **Definitions:** I should be able to define every technical noun in the chapter without using that same noun in the definition.
- **Assumptions:** I write the condition that makes the method legal beside the method itself. A correct procedure under the wrong assumptions is still a wrong answer.
- **Representation:** I move freely among words, equations or code, a diagram, and a small numerical example. If one representation disagrees with another, that disagreement is useful evidence.
- **Failure modes:** I keep the nearest counterexample in mind: the boundary where the rule changes, the invariant breaks, or the model stops matching reality.
- **Communication:** My final answer names what the result means and what it does not establish. I do not let notation do the explanatory work for me.

Sanity check

Closed-note check. Can I teach national accounts and macroeconomic equilibrium on a blank page, derive or reconstruct its main rule, work a fresh example, and diagnose a deliberately broken solution? If I can only recognize the finished work, I am not done.

How this chapter connects

I read this chapter as the bridge from the course foundations to solow growth and convergence. The earlier material supplies the language and constraints; this chapter adds a new reasoning move; the later material asks me to use that move without being told its name. That connection matters because exams and real projects mix chapters on purpose.

The full working model

- **Core claim.** National income identities connect production, expenditure, income, saving, investment, government balances, and net exports.
- **What moves.** An identity always holds by definition; a behavioral equilibrium explains how variables adjust to make plans consistent.
- **What keeps the answer honest.** The model becomes useful only when I can apply national accounts and macroeconomic equilibrium to an unfamiliar case and defend the assumptions.
- **Mastery standard.** I can define the objects, rebuild the rule, work a fresh case, compare alternatives, and diagnose a broken solution without relying on recognition.

How I actually think about it

I mark identities and behavioral equations differently so I do not claim an identity causes anything.

The easy version

National income identities connect production, expenditure, income, saving, investment, government balances, and net exports.

Worked example

Question. In a closed economy with government, relate national saving to private and public saving.

Walkthrough. National saving equals private saving plus public saving: income minus consumption and taxes, plus taxes minus government spending. In equilibrium it finances investment.

Common miss

The fastest way to get this chapter wrong is to use the visible procedure without naming its assumption, units, time period, reference group, or boundary. I put that condition beside the work and verify the result independently.

Solved chapter practice

Practice 1. In a closed economy with government, relate national saving to private and public saving.

Solution. National saving equals private saving plus public saving: income minus consumption and taxes, plus taxes minus government spending. In equilibrium it finances investment.

Practice 2. Explain national accounts and macroeconomic equilibrium to a classmate using one definition, one concrete example, one assumption, and one failure mode.

Solution. Begin with the core claim above, use the worked case as the concrete example, state the condition highlighted by the warning, and choose a failure where that condition does not hold. A complete explanation connects all four pieces instead of listing them.

Mastery practice A. Reconstruct national accounts and macroeconomic equilibrium from a blank page. Include the central definition, the governing rule, one required assumption, and one boundary case.

Solution. Start from the blue idea box, but rewrite it in my own words. Identify the objects and state, name the rule before using it, copy the relevant assumption from the details audit, and choose a boundary where that assumption becomes equality or fails. A complete solution explains why each part belongs; a list of vocabulary is not enough.

Mastery practice B. A classmate gets a polished-looking answer to a national accounts and macroeconomic equilibrium problem but never states a model or checks the result. Write the shortest useful review of that solution.

Solution. I would ask four concrete questions: What exactly are the inputs and desired output? Which rule licenses the main step? Which assumption could invalidate it? Which independent check supports the conclusion? If the answer cannot survive those four questions, I treat the numerical or verbal result as unverified.

CHAPTER 2 Solow growth and convergence

The idea

The Solow model balances saving-driven capital accumulation against depreciation and population or technology growth. Diminishing returns produce a steady state; technology drives sustained per-capita growth in the basic model.

Rebuild the chapter from first principles

The claim I need to own is this: The Solow model balances saving-driven capital accumulation against depreciation and population or technology growth. Diminishing returns produce a steady state; technology drives sustained per-capita growth in the basic model. I do not count that as learned just because the sentence looks familiar. I should be able to name the objects, state what changes and what stays fixed, recover the rule from the definitions, and explain why the result is allowed.

The move

My working sequence

1. **Translate.** Rewrite the prompt in the language of solow growth and convergence. List the known quantities, the unknown, the units or types, and any hidden constraint.
2. **Choose.** State the theorem, model, algorithm, accounting rule, or physical law before substituting values. This is where I make the assumption visible.
3. **Execute.** Work one justified step at a time and keep intermediate state readable enough that I can audit it later.
4. **Verify.** Check a boundary case, sign, unit, invariant, order of magnitude, or alternative derivation. Then translate the result back into an ordinary sentence.

Details I would refuse to skip

- **Definitions:** I should be able to define every technical noun in the chapter without using that same noun in the definition.
- **Assumptions:** I write the condition that makes the method legal beside the method itself. A correct procedure under the wrong assumptions is still a wrong answer.
- **Representation:** I move freely among words, equations or code, a diagram, and a small numerical example. If one representation disagrees with another, that disagreement is useful evidence.
- **Failure modes:** I keep the nearest counterexample in mind: the boundary where the rule changes, the invariant breaks, or the model stops matching reality.
- **Communication:** My final answer names what the result means and what it does not establish. I do not let notation do the explanatory work for me.

Sanity check

Closed-note check. Can I teach solow growth and convergence on a blank page, derive or reconstruct its main rule, work a fresh example, and diagnose a deliberately broken solution? If I can only recognize the finished work, I am not done.

How this chapter connects

I read this chapter as the bridge from national accounts and macroeconomic equilibrium to consumption, saving, and investment. The earlier material supplies the language and constraints; this chapter adds a new reasoning move; the later material asks me to use that move without being told its name. That connection matters because exams and real projects mix chapters on purpose.

The full working model

- **Core claim.** The Solow model balances saving-driven capital accumulation against depreciation and population or technology growth.
- **What moves.** Diminishing returns produce a steady state; technology drives sustained per-capita growth in the basic model.

- **What keeps the answer honest.** The model becomes useful only when I can apply solow growth and convergence to an unfamiliar case and defend the assumptions.
- **Mastery standard.** I can define the objects, rebuild the rule, work a fresh case, compare alternatives, and diagnose a broken solution without relying on recognition.

How I actually think about it

My shorthand for this chapter is: my shorthand for this chapter is: a higher saving rate changes the level and transition path, not the long-run technological growth rate.

The easy version

The Solow model balances saving-driven capital accumulation against depreciation and population or technology growth.

Worked example

Question. What happens when saving rises below steady state?

Walkthrough. Investment per effective worker rises above break-even investment, capital deepens, and output grows during transition until a higher steady-state level is reached.

Common miss

The fastest way to get this chapter wrong is to use the visible procedure without naming its assumption, units, time period, reference group, or boundary. I put that condition beside the work and verify the result independently.

Solved chapter practice

Practice 1. What happens when saving rises below steady state?

Solution. Investment per effective worker rises above break-even investment, capital deepens, and output grows during transition until a higher steady-state level is reached.

Practice 2. Explain solow growth and convergence to a classmate using one definition, one concrete example, one assumption, and one failure mode.

Solution. Begin with the core claim above, use the worked case as the concrete example, state the condition highlighted by the warning, and choose a failure where that condition does not hold. A complete explanation connects all four pieces instead of listing them.

Mastery practice A. Reconstruct solow growth and convergence from a blank page. Include the central definition, the governing rule, one required assumption, and one boundary case.

Solution. Start from the blue idea box, but rewrite it in my own words. Identify the objects and state, name the rule before using it, copy the relevant assumption from the details audit, and choose a boundary where that assumption becomes equality or fails. A complete solution explains why each part belongs; a list of vocabulary is not enough.

Mastery practice B. A classmate gets a polished-looking answer to a solow growth and convergence problem but never states a model or checks the result. Write the shortest useful review of that solution.

Solution. I would ask four concrete questions: What exactly are the inputs and desired output?

Which rule licenses the main step? Which assumption could invalidate it? Which independent check supports the conclusion? If the answer cannot survive those four questions, I treat the numerical or verbal result as unverified.

CHAPTER 3 Consumption, saving, and investment

The idea

Intertemporal households smooth marginal utility subject to lifetime resources and borrowing limits. Firms invest when expected discounted returns exceed user cost; expectations, adjustment costs, and uncertainty make spending forward-looking.

Rebuild the chapter from first principles

The claim I need to own is this: Intertemporal households smooth marginal utility subject to lifetime resources and borrowing limits. Firms invest when expected discounted returns exceed user cost; expectations, adjustment costs, and uncertainty make spending forward-looking. I do not count that as learned just because the sentence looks familiar. I should be able to name the objects, state what changes and what stays fixed, recover the rule from the definitions, and explain why the result is allowed.

The move

My working sequence

1. **Translate.** Rewrite the prompt in the language of consumption, saving, and investment. List the known quantities, the unknown, the units or types, and any hidden constraint.
2. **Choose.** State the theorem, model, algorithm, accounting rule, or physical law before substituting values. This is where I make the assumption visible.
3. **Execute.** Work one justified step at a time and keep intermediate state readable enough that I can audit it later.
4. **Verify.** Check a boundary case, sign, unit, invariant, order of magnitude, or alternative derivation. Then translate the result back into an ordinary sentence.

Details I would refuse to skip

- **Definitions:** I should be able to define every technical noun in the chapter without using that same noun in the definition.
- **Assumptions:** I write the condition that makes the method legal beside the method itself. A correct procedure under the wrong assumptions is still a wrong answer.
- **Representation:** I move freely among words, equations or code, a diagram, and a small numerical example. If one representation disagrees with another, that disagreement is useful evidence.
- **Failure modes:** I keep the nearest counterexample in mind: the boundary where the rule changes,

the invariant breaks, or the model stops matching reality.

- **Communication:** My final answer names what the result means and what it does not establish. I do not let notation do the explanatory work for me.

Sanity check

Closed-note check. Can I teach consumption, saving, and investment on a blank page, derive or reconstruct its main rule, work a fresh example, and diagnose a deliberately broken solution? If I can only recognize the finished work, I am not done.

How this chapter connects

I read this chapter as the bridge from solow growth and convergence to money, inflation, and asset pricing. The earlier material supplies the language and constraints; this chapter adds a new reasoning move; the later material asks me to use that move without being told its name. That connection matters because exams and real projects mix chapters on purpose.

The full working model

- **Core claim.** Intertemporal households smooth marginal utility subject to lifetime resources and borrowing limits.
- **What moves.** Firms invest when expected discounted returns exceed user cost; expectations, adjustment costs, and uncertainty make spending forward-looking.
- **What keeps the answer honest.** The model becomes useful only when I can apply consumption, saving, and investment to an unfamiliar case and defend the assumptions.
- **Mastery standard.** I can define the objects, rebuild the rule, work a fresh case, compare alternatives, and diagnose a broken solution without relying on recognition.

How I actually think about it

Current income and permanent resources are different, so I ask whether a shock is temporary or persistent.

The easy version

Intertemporal households smooth marginal utility subject to lifetime resources and borrowing limits.

Worked example

Question. How should a consumption smoother react to a one-time temporary income bonus?

Walkthrough. It spreads the gain over time, increasing current consumption by only part of the bonus and saving the rest, unless borrowing constraints or short horizons dominate.

Common miss

The fastest way to get this chapter wrong is to use the visible procedure without naming its assumption, units, time period, reference group, or boundary. I put that condition beside the work and verify the result independently.

Solved chapter practice

Practice 1. How should a consumption smoother react to a one-time temporary income bonus?

Solution. It spreads the gain over time, increasing current consumption by only part of the bonus and saving the rest, unless borrowing constraints or short horizons dominate.

Practice 2. Explain consumption, saving, and investment to a classmate using one definition, one concrete example, one assumption, and one failure mode.

Solution. Begin with the core claim above, use the worked case as the concrete example, state the condition highlighted by the warning, and choose a failure where that condition does not hold. A complete explanation connects all four pieces instead of listing them.

Mastery practice A. Reconstruct consumption, saving, and investment from a blank page. Include the central definition, the governing rule, one required assumption, and one boundary case.

Solution. Start from the blue idea box, but rewrite it in my own words. Identify the objects and state, name the rule before using it, copy the relevant assumption from the details audit, and choose a boundary where that assumption becomes equality or fails. A complete solution explains why each part belongs; a list of vocabulary is not enough.

Mastery practice B. A classmate gets a polished-looking answer to a consumption, saving, and investment problem but never states a model or checks the result. Write the shortest useful review of that solution.

Solution. I would ask four concrete questions: What exactly are the inputs and desired output? Which rule licenses the main step? Which assumption could invalidate it? Which independent check supports the conclusion? If the answer cannot survive those four questions, I treat the numerical or verbal result as unverified.

CHAPTER 4 Money, inflation, and asset pricing

The idea

Money demand reflects transactions, opportunity cost, risk, and payment technology. Long-run inflation relates money growth to real growth under stable velocity, while Fisher effects and asset prices incorporate expectations.

Rebuild the chapter from first principles

The claim I need to own is this: Money demand reflects transactions, opportunity cost, risk, and payment technology. Long-run inflation relates money growth to real growth under stable velocity, while Fisher effects and asset prices incorporate expectations. I do not count that as learned just because the sentence

looks familiar. I should be able to name the objects, state what changes and what stays fixed, recover the rule from the definitions, and explain why the result is allowed.

The move

My working sequence

1. **Translate.** Rewrite the prompt in the language of money, inflation, and asset pricing. List the known quantities, the unknown, the units or types, and any hidden constraint.
2. **Choose.** State the theorem, model, algorithm, accounting rule, or physical law before substituting values. This is where I make the assumption visible.
3. **Execute.** Work one justified step at a time and keep intermediate state readable enough that I can audit it later.
4. **Verify.** Check a boundary case, sign, unit, invariant, order of magnitude, or alternative derivation. Then translate the result back into an ordinary sentence.

Details I would refuse to skip

- **Definitions:** I should be able to define every technical noun in the chapter without using that same noun in the definition.
- **Assumptions:** I write the condition that makes the method legal beside the method itself. A correct procedure under the wrong assumptions is still a wrong answer.
- **Representation:** I move freely among words, equations or code, a diagram, and a small numerical example. If one representation disagrees with another, that disagreement is useful evidence.
- **Failure modes:** I keep the nearest counterexample in mind: the boundary where the rule changes, the invariant breaks, or the model stops matching reality.
- **Communication:** My final answer names what the result means and what it does not establish. I do not let notation do the explanatory work for me.

Sanity check

Closed-note check. Can I teach money, inflation, and asset pricing on a blank page, derive or reconstruct its main rule, work a fresh example, and diagnose a deliberately broken solution? If I can only recognize the finished work, I am not done.

How this chapter connects

I read this chapter as the bridge from consumption, saving, and investment to short-run demand and interest-rate models. The earlier material supplies the language and constraints; this chapter adds a new reasoning move; the later material asks me to use that move without being told its name. That connection matters because exams and real projects mix chapters on purpose.

The full working model

- **Core claim.** Money demand reflects transactions, opportunity cost, risk, and payment technology.
- **What moves.** Long-run inflation relates money growth to real growth under stable velocity, while Fisher effects and asset prices incorporate expectations.
- **What keeps the answer honest.** The model becomes useful only when I can apply money, inflation, and asset pricing to an unfamiliar case and defend the assumptions.
- **Mastery standard.** I can define the objects, rebuild the rule, work a fresh case, compare alternatives, and diagnose a broken solution without relying on recognition.

How I actually think about it

I distinguish a one-time price-level change from continuing inflation.

The easy version

Money demand reflects transactions, opportunity cost, risk, and payment technology.

Worked example

Question. Money grows 7 percent, real output 2 percent, and velocity is stable. Approximate inflation.

Walkthrough. Quantity-theory arithmetic gives about 5 percent inflation in the long run, subject to the assumptions about velocity and real output.

Common miss

The fastest way to get this chapter wrong is to use the visible procedure without naming its assumption, units, time period, reference group, or boundary. I put that condition beside the work and verify the result independently.

Solved chapter practice

Practice 1. Money grows 7 percent, real output 2 percent, and velocity is stable. Approximate inflation.

Solution. Quantity-theory arithmetic gives about 5 percent inflation in the long run, subject to the assumptions about velocity and real output.

Practice 2. Explain money, inflation, and asset pricing to a classmate using one definition, one concrete example, one assumption, and one failure mode.

Solution. Begin with the core claim above, use the worked case as the concrete example, state the condition highlighted by the warning, and choose a failure where that condition does not hold. A complete explanation connects all four pieces instead of listing them.

Mastery practice A. Reconstruct money, inflation, and asset pricing from a blank page. Include the central definition, the governing rule, one required assumption, and one boundary case.

Solution. Start from the blue idea box, but rewrite it in my own words. Identify the objects and state, name the rule before using it, copy the relevant assumption from the details audit, and

choose a boundary where that assumption becomes equality or fails. A complete solution explains why each part belongs; a list of vocabulary is not enough.

Mastery practice B. A classmate gets a polished-looking answer to a money, inflation, and asset pricing problem but never states a model or checks the result. Write the shortest useful review of that solution.

Solution. I would ask four concrete questions: What exactly are the inputs and desired output? Which rule licenses the main step? Which assumption could invalidate it? Which independent check supports the conclusion? If the answer cannot survive those four questions, I treat the numerical or verbal result as unverified.

CHAPTER 5 Short-run demand and interest-rate models

The idea

Goods-market spending and monetary-policy or money-market conditions jointly determine output and interest rates in short-run models. Multipliers, crowding out, expectations, and the zero lower bound change policy transmission.

Rebuild the chapter from first principles

The claim I need to own is this: Goods-market spending and monetary-policy or money-market conditions jointly determine output and interest rates in short-run models. Multipliers, crowding out, expectations, and the zero lower bound change policy transmission. I do not count that as learned just because the sentence looks familiar. I should be able to name the objects, state what changes and what stays fixed, recover the rule from the definitions, and explain why the result is allowed.

The move

My working sequence

1. **Translate.** Rewrite the prompt in the language of short-run demand and interest-rate models. List the known quantities, the unknown, the units or types, and any hidden constraint.
2. **Choose.** State the theorem, model, algorithm, accounting rule, or physical law before substituting values. This is where I make the assumption visible.
3. **Execute.** Work one justified step at a time and keep intermediate state readable enough that I can audit it later.
4. **Verify.** Check a boundary case, sign, unit, invariant, order of magnitude, or alternative derivation. Then translate the result back into an ordinary sentence.

Details I would refuse to skip

- **Definitions:** I should be able to define every technical noun in the chapter without using that same noun in the definition.

- **Assumptions:** I write the condition that makes the method legal beside the method itself. A correct procedure under the wrong assumptions is still a wrong answer.
- **Representation:** I move freely among words, equations or code, a diagram, and a small numerical example. If one representation disagrees with another, that disagreement is useful evidence.
- **Failure modes:** I keep the nearest counterexample in mind: the boundary where the rule changes, the invariant breaks, or the model stops matching reality.
- **Communication:** My final answer names what the result means and what it does not establish. I do not let notation do the explanatory work for me.

Sanity check

Closed-note check. Can I teach short-run demand and interest-rate models on a blank page, derive or reconstruct its main rule, work a fresh example, and diagnose a deliberately broken solution? If I can only recognize the finished work, I am not done.

How this chapter connects

I read this chapter as the bridge from money, inflation, and asset pricing to aggregate supply, unemployment, and expectations. The earlier material supplies the language and constraints; this chapter adds a new reasoning move; the later material asks me to use that move without being told its name. That connection matters because exams and real projects mix chapters on purpose.

The full working model

- **Core claim.** Goods-market spending and monetary-policy or money-market conditions jointly determine output and interest rates in short-run models.
- **What moves.** Multipliers, crowding out, expectations, and the zero lower bound change policy transmission.
- **What keeps the answer honest.** The model becomes useful only when I can apply short-run demand and interest-rate models to an unfamiliar case and defend the assumptions.
- **Mastery standard.** I can define the objects, rebuild the rule, work a fresh case, compare alternatives, and diagnose a broken solution without relying on recognition.

How I actually think about it

I use IS-LM or its modern policy-rule cousin as a map of interactions, not a literal mechanical economy.

The easy version

Goods-market spending and monetary-policy or money-market conditions jointly determine output and interest rates in short-run models.

Worked example

Question. What is the standard IS effect of higher government purchases?

Walkthrough. The IS schedule shifts right. Output and the interest rate tend to rise; the rate increase crowds out some private spending unless monetary policy accommodates.

Common miss

The fastest way to get this chapter wrong is to use the visible procedure without naming its assumption, units, time period, reference group, or boundary. I put that condition beside the work and verify the result independently.

Solved chapter practice

Practice 1. What is the standard IS effect of higher government purchases?

Solution. The IS schedule shifts right. Output and the interest rate tend to rise; the rate increase crowds out some private spending unless monetary policy accommodates.

Practice 2. Explain short-run demand and interest-rate models to a classmate using one definition, one concrete example, one assumption, and one failure mode.

Solution. Begin with the core claim above, use the worked case as the concrete example, state the condition highlighted by the warning, and choose a failure where that condition does not hold. A complete explanation connects all four pieces instead of listing them.

Mastery practice A. Reconstruct short-run demand and interest-rate models from a blank page. Include the central definition, the governing rule, one required assumption, and one boundary case.

Solution. Start from the blue idea box, but rewrite it in my own words. Identify the objects and state, name the rule before using it, copy the relevant assumption from the details audit, and choose a boundary where that assumption becomes equality or fails. A complete solution explains why each part belongs; a list of vocabulary is not enough.

Mastery practice B. A classmate gets a polished-looking answer to a short-run demand and interest-rate models problem but never states a model or checks the result. Write the shortest useful review of that solution.

Solution. I would ask four concrete questions: What exactly are the inputs and desired output? Which rule licenses the main step? Which assumption could invalidate it? Which independent check supports the conclusion? If the answer cannot survive those four questions, I treat the numerical or verbal result as unverified.

CHAPTER 6 Aggregate supply, unemployment, and expectations

The idea

Price and wage stickiness create short-run output gaps. Phillips curves link inflation to slack and expectations; natural-rate and hysteresis ideas explain why labor-market history and institutions matter.

Rebuild the chapter from first principles

The claim I need to own is this: Price and wage stickiness create short-run output gaps. Phillips curves link inflation to slack and expectations; natural-rate and hysteresis ideas explain why labor-market history and institutions matter. I do not count that as learned just because the sentence looks familiar. I should be able to name the objects, state what changes and what stays fixed, recover the rule from the definitions, and explain why the result is allowed.

The move

My working sequence

1. **Translate.** Rewrite the prompt in the language of aggregate supply, unemployment, and expectations. List the known quantities, the unknown, the units or types, and any hidden constraint.
2. **Choose.** State the theorem, model, algorithm, accounting rule, or physical law before substituting values. This is where I make the assumption visible.
3. **Execute.** Work one justified step at a time and keep intermediate state readable enough that I can audit it later.
4. **Verify.** Check a boundary case, sign, unit, invariant, order of magnitude, or alternative derivation. Then translate the result back into an ordinary sentence.

Details I would refuse to skip

- **Definitions:** I should be able to define every technical noun in the chapter without using that same noun in the definition.
- **Assumptions:** I write the condition that makes the method legal beside the method itself. A correct procedure under the wrong assumptions is still a wrong answer.
- **Representation:** I move freely among words, equations or code, a diagram, and a small numerical example. If one representation disagrees with another, that disagreement is useful evidence.
- **Failure modes:** I keep the nearest counterexample in mind: the boundary where the rule changes, the invariant breaks, or the model stops matching reality.
- **Communication:** My final answer names what the result means and what it does not establish. I do not let notation do the explanatory work for me.

Sanity check

Closed-note check. Can I teach aggregate supply, unemployment, and expectations on a blank page, derive or reconstruct its main rule, work a fresh example, and diagnose a deliberately broken solution? If I can only recognize the finished work, I am not done.

How this chapter connects

I read this chapter as the bridge from short-run demand and interest-rate models to monetary and fiscal stabilization. The earlier material supplies the language and constraints; this chapter adds a new reasoning move; the later material asks me to use that move without being told its name. That

connection matters because exams and real projects mix chapters on purpose.

The full working model

- **Core claim.** Price and wage stickiness create short-run output gaps.
- **What moves.** Phillips curves link inflation to slack and expectations; natural-rate and hysteresis ideas explain why labor-market history and institutions matter.
- **What keeps the answer honest.** The model becomes useful only when I can apply aggregate supply, unemployment, and expectations to an unfamiliar case and defend the assumptions.
- **Mastery standard.** I can define the objects, rebuild the rule, work a fresh case, compare alternatives, and diagnose a broken solution without relying on recognition.

How I actually think about it

My shorthand for this chapter is: my shorthand for this chapter is: expected inflation moves the whole short-run tradeoff, so yesterday's policy rule becomes part of today's model.

The easy version

Price and wage stickiness create short-run output gaps.

Worked example

Question. What happens if actual inflation repeatedly exceeds expected inflation?

Walkthrough. Contracts and forecasts eventually adjust upward, shifting the short-run Phillips curve. Output cannot remain permanently above potential through surprise inflation alone.

Common miss

The fastest way to get this chapter wrong is to use the visible procedure without naming its assumption, units, time period, reference group, or boundary. I put that condition beside the work and verify the result independently.

Solved chapter practice

Practice 1. What happens if actual inflation repeatedly exceeds expected inflation?

Solution. Contracts and forecasts eventually adjust upward, shifting the short-run Phillips curve. Output cannot remain permanently above potential through surprise inflation alone.

Practice 2. Explain aggregate supply, unemployment, and expectations to a classmate using one definition, one concrete example, one assumption, and one failure mode.

Solution. Begin with the core claim above, use the worked case as the concrete example, state the condition highlighted by the warning, and choose a failure where that condition does not hold. A complete explanation connects all four pieces instead of listing them.

Mastery practice A. Reconstruct aggregate supply, unemployment, and expectations from a blank page. Include the central definition, the governing rule, one required assumption, and one boundary case.

Solution. Start from the blue idea box, but rewrite it in my own words. Identify the objects and state, name the rule before using it, copy the relevant assumption from the details audit, and choose a boundary where that assumption becomes equality or fails. A complete solution explains why each part belongs; a list of vocabulary is not enough.

Mastery practice B. A classmate gets a polished-looking answer to a aggregate supply, unemployment, and expectations problem but never states a model or checks the result. Write the shortest useful review of that solution.

Solution. I would ask four concrete questions: What exactly are the inputs and desired output? Which rule licenses the main step? Which assumption could invalidate it? Which independent check supports the conclusion? If the answer cannot survive those four questions, I treat the numerical or verbal result as unverified.

CHAPTER 7 Monetary and fiscal stabilization

The idea

Policy design weighs inflation and output goals, lags, credibility, automatic stabilizers, debt dynamics, multipliers, financial stability, and distribution. Rules and discretion trade commitment against flexibility.

Rebuild the chapter from first principles

The claim I need to own is this: Policy design weighs inflation and output goals, lags, credibility, automatic stabilizers, debt dynamics, multipliers, financial stability, and distribution. Rules and discretion trade commitment against flexibility. I do not count that as learned just because the sentence looks familiar. I should be able to name the objects, state what changes and what stays fixed, recover the rule from the definitions, and explain why the result is allowed.

The move

My working sequence

1. **Translate.** Rewrite the prompt in the language of monetary and fiscal stabilization. List the known quantities, the unknown, the units or types, and any hidden constraint.
2. **Choose.** State the theorem, model, algorithm, accounting rule, or physical law before substituting values. This is where I make the assumption visible.
3. **Execute.** Work one justified step at a time and keep intermediate state readable enough that I can audit it later.
4. **Verify.** Check a boundary case, sign, unit, invariant, order of magnitude, or alternative derivation. Then translate the result back into an ordinary sentence.

Details I would refuse to skip

- **Definitions:** I should be able to define every technical noun in the chapter without using that same noun in the definition.
- **Assumptions:** I write the condition that makes the method legal beside the method itself. A correct procedure under the wrong assumptions is still a wrong answer.
- **Representation:** I move freely among words, equations or code, a diagram, and a small numerical example. If one representation disagrees with another, that disagreement is useful evidence.
- **Failure modes:** I keep the nearest counterexample in mind: the boundary where the rule changes, the invariant breaks, or the model stops matching reality.
- **Communication:** My final answer names what the result means and what it does not establish. I do not let notation do the explanatory work for me.

Sanity check

Closed-note check. Can I teach monetary and fiscal stabilization on a blank page, derive or reconstruct its main rule, work a fresh example, and diagnose a deliberately broken solution? If I can only recognize the finished work, I am not done.

How this chapter connects

I read this chapter as the bridge from aggregate supply, unemployment, and expectations to open-economy macro and business cycles. The earlier material supplies the language and constraints; this chapter adds a new reasoning move; the later material asks me to use that move without being told its name. That connection matters because exams and real projects mix chapters on purpose.

The full working model

- **Core claim.** Policy design weighs inflation and output goals, lags, credibility, automatic stabilizers, debt dynamics, multipliers, financial stability, and distribution.
- **What moves.** Rules and discretion trade commitment against flexibility.
- **What keeps the answer honest.** The model becomes useful only when I can apply monetary and fiscal stabilization to an unfamiliar case and defend the assumptions.
- **Mastery standard.** I can define the objects, rebuild the rule, work a fresh case, compare alternatives, and diagnose a broken solution without relying on recognition.

How I actually think about it

I evaluate policy by state contingency and implementation, not by whether I generally like 'more' or 'less' government.

The easy version

Policy design weighs inflation and output goals, lags, credibility, automatic stabilizers, debt dynamics, multipliers, financial stability, and distribution.

Worked example

Question. Why may an automatic stabilizer act faster than discretionary policy?

Walkthrough. Tax payments and transfers respond mechanically to income and unemployment without waiting for new legislation, though their size and targeting depend on existing program design.

Common miss

The fastest way to get this chapter wrong is to use the visible procedure without naming its assumption, units, time period, reference group, or boundary. I put that condition beside the work and verify the result independently.

Solved chapter practice

Practice 1. Why may an automatic stabilizer act faster than discretionary policy?

Solution. Tax payments and transfers respond mechanically to income and unemployment without waiting for new legislation, though their size and targeting depend on existing program design.

Practice 2. Explain monetary and fiscal stabilization to a classmate using one definition, one concrete example, one assumption, and one failure mode.

Solution. Begin with the core claim above, use the worked case as the concrete example, state the condition highlighted by the warning, and choose a failure where that condition does not hold. A complete explanation connects all four pieces instead of listing them.

Mastery practice A. Reconstruct monetary and fiscal stabilization from a blank page. Include the central definition, the governing rule, one required assumption, and one boundary case.

Solution. Start from the blue idea box, but rewrite it in my own words. Identify the objects and state, name the rule before using it, copy the relevant assumption from the details audit, and choose a boundary where that assumption becomes equality or fails. A complete solution explains why each part belongs; a list of vocabulary is not enough.

Mastery practice B. A classmate gets a polished-looking answer to a monetary and fiscal stabilization problem but never states a model or checks the result. Write the shortest useful review of that solution.

Solution. I would ask four concrete questions: What exactly are the inputs and desired output? Which rule licenses the main step? Which assumption could invalidate it? Which independent check supports the conclusion? If the answer cannot survive those four questions, I treat the numerical or verbal result as unverified.

CHAPTER 8 Open-economy macro and business cycles

The idea

International capital flows connect saving, investment, exchange rates, and policy. Mundell-Fleming logic depends on exchange-rate regime and capital mobility; real-business-cycle and New Keynesian views emphasize different shocks and propagation.

Rebuild the chapter from first principles

The claim I need to own is this: International capital flows connect saving, investment, exchange rates, and policy. Mundell-Fleming logic depends on exchange-rate regime and capital mobility; real-business-cycle and New Keynesian views emphasize different shocks and propagation. I do not count that as learned just because the sentence looks familiar. I should be able to name the objects, state what changes and what stays fixed, recover the rule from the definitions, and explain why the result is allowed.

The move

My working sequence

1. **Translate.** Rewrite the prompt in the language of open-economy macro and business cycles. List the known quantities, the unknown, the units or types, and any hidden constraint.
2. **Choose.** State the theorem, model, algorithm, accounting rule, or physical law before substituting values. This is where I make the assumption visible.
3. **Execute.** Work one justified step at a time and keep intermediate state readable enough that I can audit it later.
4. **Verify.** Check a boundary case, sign, unit, invariant, order of magnitude, or alternative derivation. Then translate the result back into an ordinary sentence.

Details I would refuse to skip

- **Definitions:** I should be able to define every technical noun in the chapter without using that same noun in the definition.
- **Assumptions:** I write the condition that makes the method legal beside the method itself. A correct procedure under the wrong assumptions is still a wrong answer.
- **Representation:** I move freely among words, equations or code, a diagram, and a small numerical example. If one representation disagrees with another, that disagreement is useful evidence.
- **Failure modes:** I keep the nearest counterexample in mind: the boundary where the rule changes, the invariant breaks, or the model stops matching reality.
- **Communication:** My final answer names what the result means and what it does not establish. I do not let notation do the explanatory work for me.

Sanity check

Closed-note check. Can I teach open-economy macro and business cycles on a blank page, derive or reconstruct its main rule, work a fresh example, and diagnose a deliberately broken solution? If I can only recognize the finished work, I am not done.

How this chapter connects

I read this chapter as the bridge from monetary and fiscal stabilization to the cumulative course model. The earlier material supplies the language and constraints; this chapter adds a new reasoning move; the later material asks me to use that move without being told its name. That connection matters because exams and real projects mix chapters on purpose.

The full working model

- **Core claim.** International capital flows connect saving, investment, exchange rates, and policy.
- **What moves.** Mundell-Fleming logic depends on exchange-rate regime and capital mobility; real-business-cycle and New Keynesian views emphasize different shocks and propagation.
- **What keeps the answer honest.** The model becomes useful only when I can apply open-economy macro and business cycles to an unfamiliar case and defend the assumptions.
- **Mastery standard.** I can define the objects, rebuild the rule, work a fresh case, compare alternatives, and diagnose a broken solution without relying on recognition.

How I actually think about it

I name the exchange-rate regime before predicting policy effects.

The easy version

International capital flows connect saving, investment, exchange rates, and policy.

Worked example

Question. Under high capital mobility and a fixed exchange rate, why is independent monetary policy constrained?

Walkthrough. A rate change triggers capital flows and pressure on the peg. Defending the fixed rate forces offsetting reserve operations, limiting autonomous monetary policy.

Common miss

The fastest way to get this chapter wrong is to use the visible procedure without naming its assumption, units, time period, reference group, or boundary. I put that condition beside the work and verify the result independently.

Solved chapter practice

Practice 1. Under high capital mobility and a fixed exchange rate, why is independent monetary policy constrained?

Solution. A rate change triggers capital flows and pressure on the peg. Defending the fixed rate forces offsetting reserve operations, limiting autonomous monetary policy.

Practice 2. Explain open-economy macro and business cycles to a classmate using one definition, one concrete example, one assumption, and one failure mode.

Solution. Begin with the core claim above, use the worked case as the concrete example, state the condition highlighted by the warning, and choose a failure where that condition does not hold. A complete explanation connects all four pieces instead of listing them.

Mastery practice A. Reconstruct open-economy macro and business cycles from a blank page. Include the central definition, the governing rule, one required assumption, and one boundary case.

Solution. Start from the blue idea box, but rewrite it in my own words. Identify the objects and state, name the rule before using it, copy the relevant assumption from the details audit, and choose a boundary where that assumption becomes equality or fails. A complete solution explains why each part belongs; a list of vocabulary is not enough.

Mastery practice B. A classmate gets a polished-looking answer to a open-economy macro and business cycles problem but never states a model or checks the result. Write the shortest useful review of that solution.

Solution. I would ask four concrete questions: What exactly are the inputs and desired output? Which rule licenses the main step? Which assumption could invalidate it? Which independent check supports the conclusion? If the answer cannot survive those four questions, I treat the numerical or verbal result as unverified.

Cumulative study plan

I use this packet in three passes. First I reconstruct each model and work its examples without looking. Second I mix chapters so the tool is no longer named for me. Third I explain a complete case aloud, including assumptions, units, uncertainty, failure modes, and what evidence would change my conclusion.