

## Macroeconomics Prelims

### Hilary Term 2006

This course covers the macroeconomic theory that you will need for Prelims. The course is also intended to make you think carefully about the microeconomic foundations of macroeconomics, which are of considerable importance.

The course begins with an introduction to macroeconomic principles, measurement and models. It follows with a discussion of the main components of aggregate demand: consumption, investment, government spending and net exports. The course continues with material intended to cover the main areas of macroeconomic thought: the labour market; aggregate demand and supply; the monetary sector; the ISLM model; inflation and unemployment, and the open economy.

The recommended textbook for the course is Greg Mankiw's *Macroeconomics*. Miles and Scott's *Macroeconomics: Understanding the Wealth of Nations* is also worth reading. For a more technical alternative, see Burda and Wyplosz's *Macroeconomics: A European Text*. Students who have not studied economics before may also benefit from Lipsey and Chrystal's *Principles of Economics*, but this is not sufficient in itself. Remember that it will not suffice to rely on just one text alone. If you have difficulty finding a particular topic in one textbook, look in a different textbook; the excuse that you were not able to find relevant material will not be convincing!

Please note that the chapter references below may refer to different versions of these textbooks! Use your common sense when doing the reading!

The teaching for this course will consist of four tutorials and three classes. For the tutorials you will write an essay. For the classes, there are short problem sets. For both classes and tutorials, please be prepared to discuss the key topics listed. In addition, each week there is a fact-finding exercise for which you may wish to use the internet – a good place to start is [www.statistics.gov.uk](http://www.statistics.gov.uk).

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# Aggregate Demand and Its Components

## Macroeconomics Prelims

### 1. Readings

Mankiw, *Macroeconomics*, chapters 1-3 & 15-17.

Miles and Scott, *Macroeconomics: Understanding the Wealth of Nations*, chs 1-3, 10, 13 & 14.

Burda and Wyplosz, *Macroeconomics: A European Text*, chapters 3-4, 20-21.

Lipsey and Chrystal, *Principles of Economics*, chapters 1-3, 15-17, 20-23.

### 2. Take notes on the following topics (and be prepared to discuss them in the tute)

- i. The measurement of national output.
- ii. Is GDP a good measure of welfare?
- iii. The circular flow of income
- iv. The multiplier and the balanced budget multiplier.
- v. The Paradox of Thrift.
- vi. Intertemporal consumption decisions.
- vii. The Keynesian consumption function.
- viii. The life-cycle hypothesis & the permanent income hypothesis.

### 3. Essay

‘What are the likely effects on aggregate consumption of

- (a) a temporary decline in income;
- (b) a rise in the inequality of income distribution;
- (c) a rise in the expected rate of economic growth;
- (d) the abolition of state pension schemes.’ (2001)

### 4. Fact-finding

a) What was GDP and GDP per capita in the UK, the USA, Germany, France, Ireland, Greece, and China in the year 2000? How has it grown in these countries since 1990?

b) Construct a graph of the ratios of personal consumption, investment, net exports, and stock-building to GDP for the UK since 1980. Which is more volatile?

# The Labour Market and Aggregate Supply

## Macroeconomics Prelims

### 1. Readings

Mankiw, *Macroeconomics*, chapters 6 & 13.

Miles and Scott, *Macroeconomics: Understanding the Wealth of Nations*, chapters 8.

Burda and Wyplosz, *Macroeconomics: A European Text*, chapter 6.

Lipsey and Chrystal, *Principles of Economics*, chapter 23, 24, 31.

### 2. Take notes on the following topic (and be prepared to discuss them in class)

- i. Inter-temporal labour supply.
- ii. Involuntary unemployment & voluntary unemployment.
- iii. The equilibrium rate of unemployment.
- iv. The determinants of equilibrium unemployment.
- v. Efficiency wages and collective bargaining.
- vi. The vertical AS curve: competitive labour markets.
- vii. The non-vertical AS curve: wage stickiness & money illusion.

### 3. Class-work (to be handed in)

Consider an economy with a Cobb-Douglas production function with a labour share of two-thirds and which has 1000 units of capital and 1000 workers.

- (a) What is the equation describing demand for labour in this economy?
- (b) If the real wage can adjust to clear the labour market, what is the real wage? In this equilibrium, what is employment, output, and the total amount earned by workers?
- (c) Suppose that Congress is worried about the low-paid and passes a law requiring firms to pay workers a real wage of 1 unit of output. How does this wage compare with the equilibrium wage?
- (d) Congress cannot dictate how many workers are hired at this wage. Given this fact, what are the effects of this law? Specifically, what happens to employment, output and the total amount earned by workers?
- (e) Will Congress succeed in its goal of helping the working-class? Explain.
- (f) Do you think that this analysis provides a good way to think about a minimum wage law? Why or why not? [Mankiw]

### 4. Fact-finding

Construct a table of the unemployment rates in the UK, France, Germany and the USA each year from 1990 to 2000. Also, what were the unemployment rates in 1970 and 1980?

# Aggregate Demand and Aggregate Supply

## Macroeconomics Prelims

### 1. Readings

Mankiw, *Macroeconomics*, chapters 10, 13

Miles and Scott, *Macroeconomics: Understanding the Wealth of Nations*, chapter 15.

Burda and Wyplosz, *Macroeconomics: A European Text*, chapter 13.

Lipsey and Chrystal, *Principles of Economics*, chapters 23, 24, 31.

### 2. Take notes on the following topics (and be prepared to discuss them in the tute)

- i. The Keynesian cross diagram (also known as the  $45^\circ$  diagram).
- ii. Aggregate demand in the short and long run.
- iii. Aggregate supply in the short and long run.
- iv. Equilibrium in the AS-AD model.
- v. AS-AD equilibrium with flexible prices.
- vi. AS-AD equilibrium with sticky prices.
- vii. AS-AD equilibrium with money illusion.

### 3. Essay

‘Unemployment can only persist in the long-run when wages and prices are inflexible.’  
Discuss.

### 4. Fact-finding

Construct a graph showing the rate of change of nominal GDP and the rate of change in prices in the USA since 1990.

# The Monetary Sector

## Macroeconomics Prelims

### 1. Reading

Mankiw, *Macroeconomics*, chapters 7 & 18.

Miles and Scott, *Macroeconomics: Understanding the Wealth of Nations*, chapter 12.

Burda and Wyplosz, *Macroeconomics: A European Text*, chapters 8 & 9.

Lipsey and Chrystal, *Principles of Economics*, chapter 25.

### 2. Take notes on the following topics (and be prepared to discuss them in class)

- i. What is money? What are its functions?
- ii. The demand for money by an individual: interest rates and prices.
- iii.  $MV \equiv PT$  and  $M = kPY$ .
- iv. The money multiplier and the banking system.
- v. Controlling the money supply: open market operations, reserve ratios, cash ratios and monetary targets.
- vi. Central bank independence, inflation targeting.
- viii. The Taylor Rule.

### 3. Class-work (to be handed in)

- (a) Suppose you are advising a small country (for example, Bermuda) on whether to print its own money or to use the money of its larger neighbour (the United States). What are the costs and benefits of national money? Does the relative political stability of the two countries have any rôle in this decision? [Mankiw]
- (b) Some economic historians have noted that during the period of the Gold Standard, gold discoveries were most likely to occur after a long deflation (for example, 1896). Why might this be true? [Mankiw]
- (c) What does the story of the Wizard of Oz tell us about the Gold Standard?
- (d) Suppose that aliens visit Earth and pay for \$1bn of Frodo Baggins toys with perfectly forged dollar bills. Who, if anyone, loses?
- (e) High Street Bank sets its loans on the basis of a 5% reserve requirement and has £100m in cash in its vaults. What is the maximum value of loans it can make? If the bank has lent £50m to real estate firms and is required to hold a 50% reserve requirement against these loans, how does this change your answer?
- (f) The Bank of England prints a £5 note and issues it to the Broad Bank. Describe how the £5 of high-powered money leads to a rise in the money supply, noting the effect of the decisions of the banking system and of its customers.

### 4. Fact-finding

Construct a graph of the growth of M0, M4 and the annual retail price inflation rate in the UK since 1970.

## The Macro Model with Money: The ISLM model

### Macroeconomics Prelims

#### 1. Readings

Mankiw, *Macroeconomics*, chapters 10 & 11.

Miles and Scott, *Macroeconomics: Understanding the Wealth of Nations*, chapter 17.

Burda and Wyplosz, *Macroeconomics: A European Text*, chapter 10.

Lipsey and Chrystal, *Principles of Economics*, chapters 26-29, 30.

#### 2. Take notes on the following topics (and be prepared to discuss them in the tute)

- i. Goods market equilibrium and the IS curve.
- ii. Money market equilibrium and the LM curve.
- iii. General equilibrium determination of output, interest rates and prices.
- iv. The transmission mechanism for monetary policy.
- v. Fiscal policy, crowding-out and Ricardian Equivalence.
- vi. The liquidity trap and the wealth effect.
- vii. Government budget constraint, the money supply and the national debt.

#### 3. Essay

Using ISLM analysis, show the effects of

- (a) a fall in the marginal propensity to save;
- (b) a reduction in the rate of tax on corporate profits;
- (c) an increase in government spending financed by taxation;
- (d) an increase in government spending financed by printing money. (2001)

#### 4. Fact-finding

Construct a graph showing the annual budget surplus of deficit in the UK since 1970.  
What is the current level of the national debt?

# Inflation

## Macroeconomics Prelims

### 1. Readings

Mankiw, *Macroeconomics*, chapters 10 & 11.

Miles and Scott, *Macroeconomics: Understanding the Wealth of Nations*, chapter 16.

Burda and Wyplosz, *Macroeconomics: A European Text*, chapter 12.

Lipsey and Chrystal, *Principles of Economics*, chapter 30.

### 2. Take notes on the following (and be prepared to discuss them in class)

- i. Okun's Law.
- ii. The cost of inflation.
- iii. The Phillips Curve.
- iv. Adaptive and rational expectations.
- v. The expectations-augmented Phillips Curve.
- vi. Inflation as a monetary phenomenon.
- vii. Inflation targets and credibility.

### 3. Class-work (to be handed in)

- (a) Who pays the inflation tax? [Mankiw]
- (b) If inflation rises from 6 to 8 percent, what happens to real and nominal interest rates according to the Fisher effect? [Mankiw]
- (c) List all the costs of inflation you can think of, and rank them according to how important you think they are. [Mankiw]
- (d) The UK price index has the value 109 in 1661, 83 in 1691, 81 in 1891, 231 in 1919, 208 in 1946, 1103 in 1975, and 5350 in 2000. Imagine a one pound note accidentally left in an attic in 1661. Calculate the real value of the note in each of the years listed above. [Miles and Scott]

### 4. Fact-finding

Construct a graph showing inflation in the UK, Japan and the USA since 1970.

# Macroeconomics in the Open Economy

## Macroeconomics Prelims

### 1. Readings

Mankiw, *Macroeconomics*, chapter 12.

Miles and Scott, *Macroeconomics: Understanding the Wealth of Nations*, chapter 18 and 19.

Burda and Wyplosz, *Macroeconomics: A European Text*, chapter 11 & 19.

Lipsey and Chrystal, *Principles of Economics*, chapter 28.

### 2. Take notes on the following topics (and be prepared to discuss them in the tute)

- i. The Current and Capital Account of the Balance of Payments.
- ii. Foreign currency reserves and the monetary base.
- iii. The ISLM model with zero capital mobility and perfect capital mobility.
- iv. The effect of fiscal policy under fixed and floating exchange rates.
- v. The effect of monetary policy under fixed and floating exchange rates.
- vi. The real exchange rate and the nominal exchange rate.
- vii. Short-run and long-run movements in exchange rates: interest parity and purchasing power parity.

### 3. Essay

‘Since government can control neither the money supply nor the exchange rate, joining the European Monetary Union should be a high priority.’ Evaluate this view (1999).

### 4. Fact-finding

Please graph the sterling/euro exchange rate since its inception and the sterling/dollar rate since 1990.