

## Instructor's Manual

### Summary of chapter 1

1. Costs of a monetary union arise because, when joining the union, a country loses its monetary policy instrument (e.g. exchange rate).
2. When asymmetric shock occurs (e.g. asymmetric demand shock) the country that is in the union cannot use its national monetary policy to stabilize the national economy.
3. The union central bank cannot use its monetary policy instrument (e.g. the interest rate) to deal with these asymmetric shocks. In contrast the union central bank can use its instrument only when the shocks are symmetric.
4. There are alternative adjustment mechanisms that make the adjustment to asymmetric shocks in a monetary union possible. These involve wage and price flexibility and labour mobility. In its absence, a monetary union can be costly.
5. A monetary union can be made less costly if an insurance mechanism is in place. Such an insurance mechanism can be organized publicly or privately
6. A public insurance system can be organised by a centralisation of national budgets. This central budget allows for automatic transfers between countries of monetary union. It is largely absent at the European level
7. In the absence of budget centralisation national budgets allow for automatic transfers between generations within the same countries. They create problems of debt accumulation and sustainability.
8. Some shocks are symmetric but are transmitted asymmetrically in the member countries of the union. These shocks lead to similar problems in the monetary union as asymmetric shocks.

### Questions

1. Explain how wage flexibility allows countries to reduce the cost of a monetary union when an asymmetric demand shock occurs.
2. The mobility of labour was also identified as a possibility to adjust to asymmetric shocks. Identify the similarities and the differences between labour mobility and wage flexibility. Are the implications for the cost of a monetary union the same?
3. Differences in preferences of the national monetary authorities concerning inflation and unemployment can be a source of cost of a monetary union. Do you think these differences in preferences are important today in Europe? What about other parts of the world?
4. Why was the difference in fiscal systems among EU-countries not a major source of cost of the monetary union?

5. Explain why countries with a very centralized wage bargaining system may find it easier to avoid a wage price spiral after an oil shock than countries with less centralized wage bargaining.

### Summary of chapter 2

1. There are two views about how trade integration will affect the asymmetry of shocks. The optimistic view is that when the countries in a monetary union integrate more the shocks hitting the national economies become less important. As a result, the cost of the monetary union is reduced. The pessimistic view is that economic integration increases the asymmetry of shocks.
2. The empirical evidence seems to indicate that the optimistic view is the right one.
3. Asymmetries of shocks, however, will not disappear. Its main source could be that nations-states continue to exist in the monetary union.
4. The traditional analysis of optimal currency areas is too optimistic about the capacity of national monetary policies to affect output and employment
5. In the long run the capacity to influence output and employment by monetary means is zero
6. There is a possibility for short-term stabilization of output and employment by monetary policies.
7. Small countries lose less when they join a monetary union than large countries.
8. Because of differences in the growth rates of labour productivity inflation differentials in a monetary union continue to exist
9. The Barro-Gordon model illustrates that high inflation countries find it more attractive to join a monetary union than the low inflation countries.
10. Fixing the exchange rate is insufficient to credibly lower the rate of inflation.

### Questions

1. Explain why the optimists argue that economic integration leads to less asymmetric shocks.
2. Explain why the pessimists argue that economic integration leads to more asymmetric shocks.
3. Why is the existence of nation-states in a monetary union a potential source of asymmetric shocks?
4. Under what conditions is a centralization of wage bargaining not a good idea in a monetary union
5. Why are inflation differentials going to continue to exist in a monetary union? Is this a problem that will plague a monetary union for the indefinite future?

6. Explain why the low inflation countries in Europe were more reluctant than the high inflation countries to join the monetary union. What was the effect of this asymmetry in preferences?
7. Explain why the costs of a monetary union are typically smaller for relatively open economies than for relatively closed ones.

### Summary of chapter 3

1. Contrary to the costs of monetary union, which are macroeconomic in nature, the benefits of monetary union are to be found in efficiency gains. These are microeconomic in nature.
2. By eliminating the need to exchange currencies, monetary union reduces transactions costs in international trade, and makes the economic system more efficient
3. Monetary union should lead to more price transparency, thereby increasing competition and leading to lower price differentials.
4. Price differentials will continue to exist because of transactions costs at the retail level and product differentiation.
5. By eliminating exchange rates among the members of the union, a monetary union eliminates an important source of risk, i.e. the exchange risk.
6. It is unclear, though, whether systemic risk is reduced in a monetary union.
7. The economic growth effects of a monetary union are unclear.
8. Recent empirical evidence suggest that these could be substantial. More research will have to be done to find out how robust this evidence is, and if confirmed what mechanism produces this effect.
9. Small open economies are more likely to benefit from monetary union than large and relatively closed economies.

### Questions

1. What are the reasons why the systemic risk in a monetary union might actually increase, despite the fact that the exchange risk is eliminated? Identify the factors that contribute to this outcome. Is this likely to be the case in the European monetary union?
2. Explain why producers might be better off in an environment characterized by exchange risk. What does this depend on?
3. Is the relationship between exchange risk and welfare a linear one?
4. Identify the factors that may boost economic growth in a monetary union?

5. If such growth boosting effects of a monetary union exist, are these likely to be temporary or permanent?
6. Why are the benefits of a monetary union likely to be larger for small and relatively open economies than for large and relatively closed economies?

### Summary of chapter 4

1. The Keynesian view is pessimistic about the desirability of a monetary union. The monetarist view is optimistic.
2. An increase in flexibility of the labour market makes a monetary union more attractive.
3. If economic integration leads to less asymmetric shocks the conditions to form a monetary union improve.
4. The EU-15 is unlikely to be an optimal currency area. This conclusion may change in the future as the EU-15 integrates more.
5. When the European monetary union will be enlarged, this enlarged union is even less likely to be an optimal currency area.
6. There is a self-fulfilling component in the decision to form a monetary union, i.e. the decision to form a monetary union may improve the benefit-cost balance of the union. This has been called the endogeneity of the criteria for a monetary union.
7. The UK is characterized by significant asymmetric shocks and relatively little openness vis a vis the rest of the EU. This reduces the desirability of entering the Eurozone for the UK. Conversely, the UK has more flexibility in its labour markets than most of the other EU-countries. This reduces the cost of the monetary union for the UK
8. Latin America will have to increase economic integration in order to form an optimal currency area.

### Questions

1. What is the Keynesian view of the costs and benefits of a monetary union? What is the monetarist view?
2. Explain why the Keynesian view is pessimistic about the prospects of a monetary union and why the monetarist view is optimistic. What is your view on this issue?
3. Why did monetary union become popular in Europe during the 1980s and 1990s?
4. Explain why an increase in the asymmetry of shocks must lead to more labour market flexibility to make a monetary union attractive to its members.
5. Why is it unlikely that the EU-15 is an optimal currency area?
6. Could your conclusion that the EU-15 is not an optimal currency area change in the future? What does it depend on?

7. An increase in economic integration can also lead to an increase in the asymmetric shocks. This could make a monetary union less attractive. Do you think this is a serious obstacle to a monetary union?

### Summary of chapter 5

1. Over time fixed exchange rate regimes (incomplete monetary unions) tend to disintegrate after speculative crises. The fundamental reason for the fragility of these regimes is the lack of credibility of the fixed exchange rate commitment.
2. The “first generation model” of exchange crises predicts that these occur because the authorities follow domestic policies that are inconsistent with the fixing of the exchange rate.
3. In the “second generation model” more than one equilibrium is possible, whereby the choice of the equilibrium depends on the expectations of speculators. In this model speculation is self-fulfilling and can bring down the fixed exchange rate even if the authorities behave well.
4. In a world of capital mobility the fragility of fixed exchange rate regimes increases.
5. The fixed exchange rate regime can be made more robust by increasing the cost of devaluation.
6. During the transition towards monetary union in Europe the cost of devaluation was raised by the threat that those countries which devalued would not be allowed into the union. This stabilized the exchange rates of the prospective member countries.
7. Fixed exchange rate regimes also suffer from asymmetric shocks. The latter often lead to speculative crises, like during the crisis of the EMS in 1992-93.
8. The failure to stabilize the exchange rates within the European Monetary System is one of the reasons why EU-countries went for a monetary union.

### Questions

1. Explain why time is against fixed exchange rate regimes.
2. Explain the difference between the first and second-generation models of exchange crises.
3. How can one make fixed exchange rate regimes more robust?
4. Explain why fixed exchange regimes tend to become asymmetric in that one country sets monetary policy for the system as a whole.
5. Show that when an asymmetric shock occurs, a symmetric intervention system will distribute the cost of adjustment to the shock better.
6. How can one measure the credibility of a fixed exchange rate regime?

### Summary of chapter 6

1. The Maastricht blueprint for monetary unification is based on gradualism and the prior achievement of macroeconomic convergence among the prospective members of the monetary union.
2. According to the Maastricht Treaty, convergence should be achieved in different areas (inflation rates, long term interest rates, government budget deficits and government debt levels). In addition, countries should abstain from devaluations prior to entry in the union.
3. The convergence criteria were introduced not so much because they are inherently necessary to start a monetary union, but as a proof by the high inflation countries that they are serious about maintaining low inflation in the future monetary union.
4. The Maastricht entry conditions do not take any account of the traditional criteria developed in the theory of optimal currency areas.
5. The entry into the Eurozone went very smoothly as a result of the official announcement of fixed bilateral conversion rates prior to the start of EMU.
6. The EU-candidate countries will have to satisfy the same Maastricht convergence criteria.

### Questions

1. Can you give a good justification of why countries should lower their government debt levels prior to entry into the monetary union?
2. What is the “no-bail-out” clause in the Maastricht Treaty? Is this clause likely to be credible?
3. Why is the Maastricht interest rate convergence requirement superfluous?
4. Where do the 3% budget deficit criterion and the 60% debt level criterion come from?
5. The nominal growth rate of GDP in Euroland has declined to 4%. Assume that this is the new steady state level of the nominal growth rate in Euroland. What does this imply for the government budget deficits if one wants to stabilize the debt levels at 60% of GDP?
6. Some Southern Eurozone countries and Ireland experience higher nominal growth rates of their GDP than the average Eurozone countries. What does this imply for their debt to GDP ratio (as compared to the debt to GDP ratios of the average Euroland country) if they adhere to the budget deficit criterion?
7. Why was it important to announce fixed bilateral conversion rates prior to the start of EMU?

### Summary of chapter 7

1. The ECB incorporates the two principles that also played a central role in the German Bundesbank. These principles are that the primary objective of the central bank is price stability and that the central bank should be independent from political institutions.
2. The statutes of the ECB also mandate that the ECB stabilize the economy, provided this does not endanger price stability.
3. While the political independence of the ECB, which is a good feature, has been carefully defined, the accountability has not. This could create problems in the future.
4. The Eurosystem combines elements of centralized decision-making and decentralized implementation of these decisions.
5. The enlargement of the Eurozone will create new challenges to the decision-making process. A new voting procedure will be necessary to ensure that the decisions of the Governing Council of the Eurosystem reflect the needs of Euroland as a whole.
6. Failure to centralize the supervision of the banking system at the level of Euroland in an integrated Euro banking system might prevent a smooth managing of financial crises.

### Questions

1. Why is it that the Bundesbank became the role model for the ECB?
2. There is a difference between “instrument conservatism” and “target conservatism” in central banking. Can you explain the difference?
3. The Rogoff idea of appointing a conservative central banker solves one problem but creates a new one. Explain.
4. The Central Bank Governors in the Governing Council each have one vote, despite large differences in country size. Why did the drafters of the statutes of the ECB not choose for a qualified voting system, as is the case in the Council of Ministers.
5. How can the Taylor rule be used to measure the degree of convergence (or divergence) in the interest rates that are desired by the Governors of the national central banks?
6. Discuss the different options in the future reform of the decision making process in the Governing Council of the ECB.

### Summary of chapter 8

1. The ECB cannot deal with asymmetric shocks. In contrast, it is well equipped to deal with symmetric shocks.
2. Since most shocks are a combination of symmetry and asymmetry, the ECB is often perceived by individual countries as failing to take sufficient care of national economic conditions.
3. Asymmetric developments of inflation and output growth have surprisingly been substantial since 1999.
4. The Balassa-Samuelson effect seems to have played a role in explaining the relatively large differences in national inflation rates.
5. The Monetary Policy Strategy of the ECB stresses the importance of the growth rate of money. In practice, however, the growth rate of money has played only a small part in the ECB's monetary policies.
6. The ECB has defined price stability to be a rate of inflation between 0% and 2%. This decision has been criticized by many economists.
7. The main operational instrument of the ECB is the short-term interest rate used in open market operations.

### Questions

1. Why is it that despite the privileged role the ECB gives to the growth rate of money, this variable has been disregarded most of the time by the ECB?
2. Is inflation always and everywhere a monetary phenomenon?
3. Why is the ECB criticized for setting an inflation target between 0% and 2%? Do you agree with this criticism?
4. What is the difference between explicit inflation targeting and the ECB's "two-pillar strategy"? Could explicit inflation targeting be a good alternative for the two-pillar strategy of the ECB?
5. What is the difference between tender procedures with variable and fixed rates? Why did the ECB switch from fixed rate tenders to variable rate tenders?

### Summary of chapter 9

1. The theory of optimum currency areas leads to the following implications for fiscal policy in a monetary union.
  - In a monetary union it is desirable to centralize a significant part of the national budgets to the European level. Risk sharing reduces the social costs of a monetary union.

- If such a centralization of the national government budgets in a monetary union is not possible, then national fiscal policies should be used in a flexible way and national budgetary authorities should enjoy autonomy.
2. The Maastricht Treaty has followed a different logic in its prescriptions for fiscal policies. This is that fiscal policies should be subjected to rules. This idea has been reinforced in the Stability and Growth Pact, which prescribes that member countries of the union should balance their budgets over the medium run and should not allow their budget deficits to exceed 3% of GDP.
  3. The main rationale for the rules approach in the fiscal policies of the monetary union is that without such rules governments will be tempted to create excessive debts and deficits which may become unsustainable thereby forcing the other members of the union into a costly bail-out.
  4. Although some rules are important, the Stability and Growth Pact may have gone too far in stressing rules. Some flexibility in the rules is necessary for a well-functioning monetary union.

### Questions

1. Why does the no-bail-out clause in the Maastricht Treaty lack credibility?
2. Why is it that in a monetary union country may have incentives to create excessive government deficits and debts?
3. What is the implication for the dynamics of debt accumulation of a decline in the nominal growth rate of GDP? Assume that the nominal interest rate remains constant.
4. Describe the main features of the Stability and Growth Pact.
5. Explain why in efficient capital markets there is no spillover of high debts and deficits created in one member country of the monetary union to other member countries.
6. Under what conditions will these spillover effects reappear even if capital markets work efficiently?
7. Explain why in a monetary union the default risk (credit risk) of government debt may increase. Is there evidence that this has happened in Euroland?

### Summary of chapter 10

1. The existence of the euro will intensify financial integration in Euroland.
2. Important obstacles, however, continue to exist preventing complete financial integration to be realised in Euroland. These obstacles find their origin in different national institutions and legislations.

3. Financial integration is important in a monetary union because it provides for an automatic insurance mechanism against asymmetric shocks thereby reducing the costs of a monetary union.
4. The empirical evidence suggests that in the US the insurance against asymmetric shocks provided by the capital markets is substantial, while this insurance is very weak in Euroland.
5. The euro has the potential of becoming an international currency like the dollar. However, the smaller size of Euroland's capital markets and the lack of full integration act as handicaps for the euro to become equally important as the dollar.
6. The factors that affect the potential for a currency to become a global one are not directly related to factors that affect strength of a currency.

### Questions

1. Why are the bond and equity markets in Euroland less integrated than the money market?
2. Is the insurance against asymmetric shocks provided by integrated financial markets a perfect substitute for the insurance provided by an integrated government budget?
3. Explain why the dollar became the most prominent world currency despite the fact that it has sometimes been subjected to large depreciations.
4. Explain why the continuing segmentation of the banking systems in Europe reduces the potential for insurance against asymmetric shocks.