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# Written exam for the B.Sc. or the M.Sc. in Economics
# The Economics of the European Union

February 11, 2016

**Number of questions:** This exam consists of 3 questions.

1. **Which of the following statements are correct? Remember to provide a brief explanation.**

   This question relates to the following learning objectives: understand and explain theoretical and applied issues of the process of Economic and Monetary Union in the EU; explain the theory of optimum currency area and apply this theory to the analysis of the European Monetary Union;

   (a) The Impossible Trinity states that a country cannot at the same time have full capital mobility, fixed exchange rate and independent monetary policy.

   True, the impossible trinity states that a country cannot at the same time have full capital mobility, fixed exchange rates and an autonomous monetary policy. With a fixed exchange rate, monetary policy is endogenous. With fixed exchange rates and autonomous monetary policy, capital cannot be mobile. Autonomous monetary policy and full capital mobility implies that the exchange rate must float.

   (b) A fixed exchange rate imposes discipline on monetary policy.

   True, using PPP we know that if the exchange rate is fixed, then inflation rates must be identical or using UIP we find that the domestic interest rate must be equal to the foreign interest rate. Therefore, a fixed exchange rate policy imposes restrictions and discipline on monetary policy.

   (c) The Eurosystem is comprised of central banks of monetary union members.

   False! The Eurosystem consists of the central banks of monetary union members and the ECB.

   (d) Discretionary fiscal policy is the automatic response of for example unemployment benefits when there is a downturn in the economy.

   False, this is the definition of automatic stabilizers. Discretionary fiscal policy is active measures taken by the government in order to stabilize the economy.

(e) News that the Fed will tighten monetary policy should result in an immediate strengthening of the dollar.

True. News that interest rates will be higher in the future will imply an appreciated dollar in the future, which through UIP, will imply an immediate appreciation of the dollar.

2. **ECB and monetary policy**

This question relates to the following three learning objectives: explain and describe the main political and institutional characteristics of EU and the European Monetary Union; understand and explain theoretical and applied issues of the process of Economic and Monetary Union in the EU; and explain the role and institutional characteristics of the common monetary policy and of the national fiscal policies in the European Monetary Union;

(a) Describe the objective of monetary policy in the European Monetary Union.

The overall objective of ECB is to maintain price stability. To clarify (it is not necessary to state the following from the Treaty on the Functioning of the European Union for full credit), Article 127 of the Treaty states that "The primary objective of the European System of Central Banks (hereinafter referred to as 'the ESCB') shall be to maintain price stability."

In order to make this objective operational, ECB has adopted a definition of price stability. ECB has decided to define price stability as a year-on-year increase in the Harmonized Index of Consumer Prices for the euro area of below 2% and that this objective is to be achieved in the medium term. In practice this means that ECB targets an inflation rate between 1.5% and 2% over a 2-3 year period.

In addition to the price stability objective, ECB should also support the internal market, work for a sustainable development in Europe with a balanced economic growth, competitive social market economy, and aiming at full employment. However, price stability is the main objective.

There are also other regulations including the no bail-out rule stipulating that neither the ECB nor National central banks are allowed to buy securities issued by a member country and that no member state is allowed to be responsible for or take over debt issued by any other member state. This rule ensures that the responsibility for repaying public debt remains national. In addition, there is a rule prohibiting monetary financing of budget deficits.

(b) Give a brief description of the system of central banks and the voting system used in the Eurosystem.

The European System of Central Banks (ESCB) consists of 28 countries with 28 National Central Banks (NCBs) and a new central bank at the centre: the European Central Bank (ECB).

The Eurosystem consists of the 19 euro area member states and ECB.

There is a rotation voting system. There are six permanent members of the Executive Board of the ECB and they have six permanent voting rights. The remaining countries (and their voting rights) are divided into three groups. The five largest economies (Germany, France, Italy, Spain and the Netherlands) have four voting rights with a rotation that takes place each month. The remaining countries are then divided into two groups, also depending on the size of the economies. The 15 largest countries form one group with eight voting rights and the last group consists of 9 countries with three voting rights. This means that there are 21 voting rights in total.

(c) It is often argued that central banks should be independent and accountable. What are the main arguments underlying this view.

The main underlying argument for independence is that governments are shortsighted and may give priority to other goals than low inflation. Such time-inconsistency problems means that governments make poor decisions about monetary policy since they may be influenced by short-term political considerations. There is a temptation for governments to, for example, cut the interest rate which increases growth, reduces unemployment and increase the likelihood of re-election at the expense of higher inflation (inflation exceeding the inflation target). Therefore, it is argued, central banks should be independent to governments. Increased independence and credibility also tends to reduce inflationary expectations which is crucial when reducing inflation.

The ECB is an independent central bank, according to the Treaty neither the ECB nor the national central banks, nor any member of their decision-making bodies, are allowed to seek or take instructions from EU institutions or bodies, from any government of an EU Member State or from any other body.

In order to build credibility it is argued that central banks should be transparent. Transparency means that the central bank should provide the general public and the markets with all relevant information on its strategy, assessments and policy decisions as well as its procedures. The reason again is that this builds credibility and improves the effectiveness of monetary policy. It further means that the public (as well as markets) understand the motives behind the policy, its mandate and future policy. Transparency also implies that the ECB announces and communicates its assessment of current and future economic developments making monetary policy more predictable. This implies that market expectations can be formed more efficiently and accurately allowing for a rapid implementation of monetary policy, the transmission of monetary policy is made more efficient. Transparency also imposes self-discipline on ECB, it ensures that the policy decisions and explanations are consistent over time.

Eurosystem is characterized by a great degree of independence. Eurosystem operates under the control of the European Parliament.

(d) Compare independence and transparency of ECB to other central banks.

ECB is one of the most indendent and transparent central banks in the world. As is the case for the main central banks, interest rate decisions and the motivations for monetary policy are released immediately by the ECB. Only Bank of England deviate from this practice and releases the motivation in some cases. Minutes from the meetings are not released by ECB. By contrast many other central banks do release minutes. This is a difference between ECB and other central banks. This also holds for the details of the minutes released. Some central banks, including the Federal Reserve and Bank of England release the full details (the internal debate and the individual's views). Verbatim records are kept by the ECB but not released to the public. There are only two central banks that release the verbatim records, the Federal Reserve and the Bank of Japan.

Combining independence and transparency, we find that ECB is among the most independent central banks in a cross-country setting. Transparency is, on the other hand close to the mean (on a level with Bank of Canada) and is regarded as being less transparent than for example the Federal Reserve, the Swedish Riksbank, Bank of Japan and central banks in many other advanced countries.

3. **The Eurozone crisis**

This question mainly relates to the learning objective: explain and describe the causes of and policies designed to resolve the euro crisis.

(a) Describe the Boom-Bust theory.

This is the model discussed by Jonung (2008) which is a main part of the curriculum. The boom-bust model consists of two parts, the boom phase and the bust phase. Consider first the boom phase. The starting point of this process is a positive impulse or shock, for example financial deregulation, large capital inflow, low real interest ratesor an international boom. These impulses affect the financial sector where we observe an increased demand for credit (mathced by an increased supply of credit since there was a positive impulse), market participants have an optimistic view about the future implying optimistic risk assessments and there could be financial innovations (the creation of new financial instruments). This feeds into the real economy as well as into asset markets. Investment and consumption increase, there is a fall in saving and since consumption increases, there will import growth. A booming real economy gives feedback effects on the financial sector leading to further increases in the demand for credit (and even more optimistic risk assessments). At the same time, asset markets boom, stock prices as well as housing prices increase leading to positive wealth effects. Leverage becomes important and indebtedness is increasing. This also feeds back into the financial sector. This circle continues leading to an overheated economy, exchange rate appreciation, worsening current account, budget surplus and an expansion of the non-traded sector. The boom phase create an overheated economy that also is financially vulnerable, and overvalued currency and high inflation.

The bust phase starts with a negative impulse. These could include a sudden increase in the real exchange rate (for example an increase in the after tax real exchange rate caused by a tax change), sudden capital flight (if investors believe that their investments are at risk), an international downturn or falling housing prices. If any of these impulses materializes there will be strong and negative effects on the financial sector. The demand and supply of credit will dry out and investors will become more pessimistic and maybe also overrate risks. As a result, both asset markets and the real economy are affected leading to falling asset prices, lower growth, higher unemployment and a rise in savings. If these changes are strong, the economy might end up in a financial crisis (or a deep recession). Budget deficits increase both because of the recession and because the government responds by implementing an expansionary fiscal policy.

(b) Does this theory explain the current financial crisis? Motivate your answer.

The boom characteristics of the current crisis include credit expansion, high leverage, increases in asset prices in particular housing prices, and macroeconomic imbalances. All these are part of the boom phase. Financial innovation was also a major factor during the boom (and also explains the bust and the following crisis). The trigger of the crisis was that housing prices in the US suddenly started to fall and the failure of Lehman Brothers. These explanations are also consistent with the boom-bust theory. The policy responses to the crisis was expansionary fiscal policy creating large budget deficits and sharp increases in government debt in many countries. This is also suggested by the boom-bust theory as a result of a bust. In addition, there have been a number of bail-outs, not only of governments but also the financial sector (both banks and insurance companies). So, an overall evaluation ends with the conclusion that the boom-bust theory can explain at least some of the developments during the boom and the bust phases.

(c) Explain why Greece has a sovereign debt crisis.

Since Greece joined the euro area, inflation has been higher than in Germany resulting in losses of competitiveness and increasing current account deficits. At the same time, long-term interest rates converged prior to the introduction of the euro implying that the risk of default was regarded as very similar in all eruo area countries including Greece.

There are two theoretical explanations; one explanation is that market participants were convinced that Greece could not service the debt. This was reinforced by the fact that government debt was kept hidden by the use of "creative accounting". An alternative explanation relies on the idea of multiple equilibria. If market participants observe that other market participants start to worry, they also start to worry. Increasing interest rates → increasing costs of servicing the debt → larger budget deficits → increasing debt further. The difference between these two explanations is that the first explanation relies on the view that market participants believe a default is unavoidable whereas the second explanation relies on the fact that market participants were worried that a default could occur. This createed self-fulfilling expectations about a default. There are two possible equilibria, markets worry and the crisis occurs or markets believe that the debt level is sustainable.

Greece took advantage of the interest rate convergence (lower interest rates) by borrowing more. Significant tax evasion combined with a too large public sector lead to large deficits and growing debt. Falling GDP increasing debt to GDP ratio, contraction of shipping and tourism sectors all contributed to the insolvency. As a result, the default risk increased (rising CDS spreads and long-term interest rates).

(d) What are the main arguments for bailouts?

The Maastricht Treaty include a no-bailout clause stating that neither ECB nor other member countries are allowed to take over the responsibility of government debt in other member countries. For Greece, this meant that default became a necessity. But a Greek default was viewed as very costly. Estimates suggested that in 2009 over 70 percent of Greek debt was held by foreign banks and other institutional investors (German and French banks). In 2010, German and French banks held about 30 percent of Greek debt. EU/IMF and ECB hold a significant amount of Greek debt. The fear was that a Greek default could lead to speculative attacks on other countries such as Ireland and Portugal (by raising yields to high levels and force a default) and eventually also spread to larger economies such as Spain and Italy who were deemed to be 'too big to rescue'.

Other explanations include: Membership of a monetary union may be a weakness, national central banks cannot help governments and therefore ECB has to provide assistance; there is no lender of last resort in the euro area; competitiveness issues cannot be resolved by internal devaluations; policy mistakes by governments in the euro zone (austerity in a recession), policy responses were partial and half-hearted.

(e) Do the bailouts violate the Treaty?

This is an open question. The main underlying argument for a bailout was to avoid contagion, this was the official argument at least. The decision may be incompatible with the Treaty. There are two articles in the Treaty that prohibit bailouts, the first prohibiting ECB and national central banks to directly buy debt instruments or any other type of credit and the second article prohibit ECB and national central banks to take on any commitment from governments and public authorities. These two articles constitute the no-bailout clause.

The official argument for bailouts was another article in the Treaty, the solidarity principle. The solidarity article states that the Council may decide, in a spirit of solidarity, measures appropriate to the economic situation. Furthermore, the solidarity Treaty states that when a member state is in difficulties or is seriously threatened caused by for example exceptional circumstances, the Council may grant financial assistance to the member state.

A second official argument is that ECB has not lent directly to the governments concerned, ECB only bought existing debt on the market and the ECB has not taken over debt from a member state, they only offered loans. At the same time it could be argued that large bond purchases are not in the spirit of the no-bailout clause and that by lending to these governments ECB has in effect made some commitments.

The German Constitutional Court has ruled on the decision and formally stated that the bailouts were not violating German constitution but did not address the question whether the Treaty was violated. The French Finance Minister said, however, that the bailouts were violating the Treaty and de facto changed it but at the same time acknowledged that the bailouts were needed in order to rescue the euro zone.