Correction Manual for Exam Winter 2010/2011

Economics of the EU

Question 1.

In appendix 1 you find some debt statistics of the EU Member States. Make the assumption that the average growth rate of the economies of the EU Member States is 2% per year, and make the simplified assumption that all Member States have this (same) growth. Then on that background – and still using the table in Appendix 1 - comment on the impact in 2010 on the debt levels of the EU and the various Member States of three different scenarios of nominal deficits:

A) nominal deficit 1% of GDP of all member states.
B) nominal deficit 3 % of GDP of all member states.
C) nominal deficit 5% of GDP of all member states.

Use, for instance, the gross debt ratio of 2010, as benchmark for your analysis.

This question is to be answered using the equation: change in debt = d - gb from De Grauwe, 2010, page 148), where d is the deficit/GDP, g is nominal growth, and b is the debt/GDP.

In this first part of the exercise, the students should only fill in d and g in accordance with this assumption and then calcute the development of the debt level under these assumptions, and answer whether the debt levels are expected to rise, to fall or to become unchanged under these assumption.
The calculations may be summarised as in the following table:

	b	d	d	d	g	1% deficit	2%deficit	3pct deficit
	Gross debt	Deficit 1%	Deficit 2%	Deficit 3%	growth	d-gb	d-gb	d-gb
BE	0,99	0,01	0,02	0,03	0,02	-0,010	0,000	0,010
DE	0,79	0,01	0,02	0,03	0,02	-0,006	0,004	0,014
IE	0,77	0,01	0,02	0,03	0,02	-0,005	0,005	0,015
EL	1,25	0,01	0,02	0,03	0,02	-0,015	-0,005	0,005
ES	0,65	0,01	0,02	0,03	0,02	-0,003	0,007	0,017
FR	0,84	0,01	0,02	0,03	0,02	-0,007	0,003	0,013
IT	1,18	0,01	0,02	0,03	0,02	-0,014	-0,004	0,006
LU	0,19	0,01	0,02	0,03	0,02	0,006	0,016	0,026
NL	0,66	0,01	0,02	0,03	0,02	-0,003	0,007	0,017
AT	0,70	0,01	0,02	0,03	0,02	-0,004	0,006	0,016
PT	0,86	0,01	0,02	0,03	0,02	-0,007	0,003	0,013
SI	0,42	0,01	0,02	0,03	0,02	0,002	0,012	0,022
FI	0,51	0,01	0,02	0,03	0,02	0,000	0,010	0,020
MT	0,72	0,01	0,02	0,03	0,02	-0,004	0,006	0,016
CY	0,62	0,01	0,02	0,03	0,02	-0,002	0,008	0,018

SK	0,41	0,01	0,02	0,03	0,02	0,002	0,012	0,022
EA-16	0,85	0,01	0,02	0,03	0,02	-0,007	0,003	0,013
BG	0,17	0,01	0,02	0,03	0,02	0,007	0,017	0,027
CZ	0,50	0,01	0,02	0,03	0,02	0,000	0,010	0,020
DK	0,50	0,01	0,02	0,03	0,02	0,000	0,010	0,020
EE	0,10	0,01	0,02	0,03	0,02	0,008	0,018	0,028
LV	0,45	0,01	0,02	0,03	0,02	0,001	0,011	0,021
HU	0,78	0,01	0,02	0,03	0,02	-0,006	0,004	0,014
PL	0,60	0,01	0,02	0,03	0,02	-0,002	0,008	0,018
RO	0,36	0,01	0,02	0,03	0,02	0,003	0,013	0,023
SE	0,42	0,01	0,02	0,03	0,02	0,002	0,012	0,022
UK	0,79	0,01	0,02	0,03	0,02	-0,006	0,004	0,014
EU-27	0,74	0,01	0,02	0,03	0,02	-0,005	0,005	0,015

The following developments may be commented:

- Overall development of debt of the EU-27 is respectively falling, status quo more or less and rising under -1, -2 and -3 deficit assumptions. The 3 pct deficit criterion is thus no longer suitable on average in the EU as it was when the Stability and Growth Pact was initiated.
- All countries have an increasing debt under the 3 pct. Nominal deficit criterion as it is now – clearly those with lowest debt level suffer most from increased deficit levels measured on their debt. This also indicates that this particular exercise does not tell so much about the actual sustainability of the debt.
- Looking at the result from the nominal deficit 1% assumption, one sees that the EU as a whole will experience a reduced debt level approximately at the same level as the Euro group (EA-16). Again the higher your initial debt levels are the more you benefit from the 1% deficit policy in terms of changes in debt levels – under these assumptions, for instance, Sweden experiences a slightly positive increase in debt with a starting point of 42 % debt/GDP compared to the UK's reduction in debt with a starting point of 79% debt/GDP.
- The nominal 2% criterion is generally a status quo situation for the euro-group and the EU-27 as a whole. The question is of course if this situation is good enough for the markets – which is a question that needs to be asked in the case of each individual country. As for some of these countries, such as Portugal, Greece, Spain and Ireland it would probably be a great success if they would be able to lower their nominal deficit to 1% of the GDP – as shown it will have a positive impact on the debt developments.

Assume then, <u>hypothetically</u>, that the debt levels of the EU Member States in 2010 as shown in Appendix 1 actually are indicative of a steady state level of debt (with no increase in debt over time). Estimate under that assumption the level of government deficit needed to stabilize the government debt at this level (growth still assumed to be 2%).

In this second part of the question the increase in debt is hypothetically put to zero, so that d=gb. Since the student already know g and b, the student is asked to calculate the deficit level that holds this debt level sustainable.

	Second part of question
BE	0,0198
DE	0,0158

IE	0,0154
EL	0,025
ES	0,013
FR	0,0168
IT	0,0236
LU	0,0038
NL	0,0132
AT	0,014
PT	0,0172
SI	0,0084
FI	0,0102
MT	0,0144
CY	0,0124
SK	0,0082
EA-16	0,017
BG	0,0034
CZ	0,01
DK	0,01
EE	0,002
LV	0,009
HU	0,0156
PL	0,012
RO	0,0072
SE	0,0084
UK	0,0158

The interesting part of the results are that even if one assumed that the relatively high debt levels of the EU-27 and the euro-group today were to be sustainable, the deficit criterion were to be on average at either 1,7 % for the Euro-group and 1,6 % for the EU-27 in other to keep this debt unchanged, thus at deficit levels far below 3%.

The calculations however also reveals the weakness of the condition represented in the equation d=gb that were used by the EU as background for choosing the 3%, 60% levels of deficit and debt for the Stability and Growth Pact. The weakness is – as mentioned above – that it is each individual member states individual economic strength that in the end decides what debt level might be sustainable.

The model thus represented this way in a certain way “favours” high debt countries in the sense that the higher your debt, the higher deficit you are allowed to have. However, even with this malfunction of the model, a country like Italy with 118 % debt/gdp as a sustainable level of debt (hypotetically) would need to have a deficit development below 3 pct.

The important factor that creates this development is the assumption on the level of growth. When the pact was initiated, the assumption was that the growth level would be 5%. As it is now, and as it is in the question, growth levels are set to approximately 2%.

Comment on these results in the light of the debt/deficit challenges – some say crisis – of the European Union Member States, especially, Portugal, Ireland, Greece and Spain.

The student should here also comment on EU’s work regarding fighting these challenges, especially the package to save the Greek economy etc.

The European Financial Stability Facility (EFSF) was agreed by the 27 Member States of the European Union on 9 May 2010 in order to provide financial assistance to euro zone states in difficulty. The Facility

may issue bonds, notes or other debt instruments on the market, and use these money to make loans up to a maximum of €440 bn to Euro-area member states in need. Eventual emissions of bonds are backed by guarantees given by the euro area member states on a pro rata basis, in accordance with their share in the paid-up capital of the European Central Bank.

The EFSF is able to be combined with loans up to €60 bn coming from the European Financial stabilisation mechanism. This mechanism relies on funds raised by the European Commission using the EU budget as collateral. Moreover the EFSF may be combined with up to €250 from the IMF. All in all, the EFSF thus may obtain financial safety net up to €750 bn.

The facility has until now been used by Greece, but Ireland is predicted to become the second Euro-member state to use the facility.

Apart from the debt and deficit criterion, describe, finally, the other main nominal and real convergence indicators used by analysts to determine whether Member States are ready to join either the ERM-II or the EMU.

In this final part of the question, the student should mention and describe the other main criteria, ie.:

Nominal criteria:
- inflation
- exchange rate fluctuations
- interest rate developments

Real convergence indicators:

From OCA theory:
- openness
- diversity of economy
- mobility of factors

Other real convergence criteria:
- growth
- unemployment
- investment

Question 2

Using, for instance, the graph in Appendix 2, describe the standards gains from trade argument in a partial equilibrium framework.

Artis & Nixson: page 57.

Extend this analyse to a preferential trading area with at least three countries, and explain, the effects of trade creation and trade diversion in this context.

Artis & Nixson: page 58.

Compare these results with the results, i.e. the distribution of gains and losses between countries, in a general equilibrium framework.

Artis & Nixson: page 59-61.

It is a general equilibrium setting allowing for two additional things compared to the partial equilibrium analysis.

1) countries are exporting some goods and importing others, so there are assumed to be more than one market.
2) Countries may have different volumes of trade, some may even have an impact on the world prices.

Artis & Nixson is particularly concerned with 1) the analysis of effects of trade creation and trade diversion assuming more than one market.

The conclusions are put forward already in the second section on page 59:

If Germany has a comparative advantage in capital intensive goods relative to Spain and to the rest of the world and Spain has a comparative advantage in labour intensive goods to Germany, but not relative to the rest of the world, then if Spain and Portugal form a Preferential Trading Area (PTA), the following effects apply:

A) Spain gets only trade creation. Because Germany has a comparative advantage in capital intensive goods both towards Spain and rest of the world, production is only moved from higher cost to lower cost producer, i.e. no trade diversion.
B) Germany gets some trade diversion. It comes to import its labour intensive good from Spain instead from the rest of the world, and thus production is moved from low cost producing rest of the world to higher cost producing Spain of the labour intensive good.

In Figure 3.3. the above effects are demonstrated and explained in the text.

Note that the initial situation is not with free trade to world prices pw but a position in which all imports by countries G and S are subject to tariffs at rate t.

This results in Spain neither exporting nor importing, as the prize is set so high (by assumption) that Spain is self-sufficient. For Germany the domestic price ratio is pw + t. The budget constraint holds as world prices pw.

When the two countries form a customs union, the internal prices of the Spain and Germany are the same, however, note that the internal prices are not necessarily pw. Actually, there is an important additional assumption, that the customs Union still continues to import some of the labour intensive good from the rest of the world, resulting in internal prices pw+t. The important information is however that they have the same internal prices, the same price of good A in terms of good m.

One could also have made the assumption that Spain and Germany did not continue to import the labour intensive good from the rest of the world at all. Then the internal price might have been another price than pw+t, e.g. pw. However, that is not the case in this example.

What could the expected effects of the creation of a monetary union, such as the EMU, be on the trade, including the trade creation and trade diversion effects analysed in this question.

- EMU has both theoretically and empirically been shown to have had a positive impact on trade. De Grauwe page 87 in particular useful.
- One may also include that trade creation and tradediversion are higher/lower depending on:
    - Initial level of tariffs between partners
    - level of tariff between partner and third countries
    - degree of competitiveness between partner countries

What are the expected effects of free trade on the number of firms in the integrated market?

Question to be answered using Baldwin and Wyplosz, chapter 11, page 259-261:
- Generally, free trade leads to a shift in the break-even point (curve) of the economy to the right. The extra competition forces mark ups to be reduced together with prices. However, at this specific combination of sales per firm and mark-up, all firms begin to lose money. This profit pressure forces industrial reorganisation (mergers, acquisitions and bankruptcies) that gradually reduces the number of firms to a new long run equilibrium. At this equilibrium firms are bigger and more efficient and they are also facing more effective competition than before the liberalisation.

And, finally, what are the expected effects on free trade on the number of firms, their total sales, the prices, and ultimately the size of firms under:

- full competition. (as mentioned above)
- perfect collusion. According to Baldwin and Wyplosz page 60: lower total sales, higher prices (monopoly prices), same number of firms or even more firms, thus smaller firms than before.
- partial collusion According to Baldwin and Wyplosz page 60: lower total sales, but more than under perfect collosion), higher prices (however lower than monopoly prices), lower number of firms than perfect collusion but more than under perfect competition, thus smaller firms than before..

Question 3

Analyse EU's financial perspectives from 2007-2013.

Use Susan Senor Nello, Chapter 11, where there is a description of the financial perspectives on page 270-272:

- fixing of the own resources at 1,05 % of GNI after initial proposal of 1,24% of GNI.
- A number of expenditure ceilings to face unforeseen events such as:
    - EU solidarity FUND to allow rapid financial assistance in the event of natural disasters in a member state
    - Flexibility instrument to allow additional expenditure in defined circumstances.
    - Emergency aid reserve to allow rapid response to specific unforeseen aid requirements of third countries.
    - European Globalisation Adjustment Fund mobilizing unused appropriations to support workers who have suffered as a result of major structural changes in the pattern of world trade.
- UK gave up one fifth of previously gained rebate or a maximum of 10.5 billion euros attributable to Eastern enlargement.
- Reduced VAT contributions were also agreed for all member states, with additional discounts for the other main contributors, Germany, Netherlands, Sweden and Austria.

Include in among other relevant issues in your analysis, the influence of the European Parliament on the yearly budget of the European Union.

Basic procedures of the Budget – as mentioned in Nello, Chapter 11 page 263-264 should be mentioned, e.g. Preliminary draft budget by the Commission and transmission to budgetary authorities no later than 15 June; first reading of the preliminary draft budget by the council before 31 July and transmission of the draft to the European Parliament in the first half of September. First reading by Parliament in October; second reading by Council in the third week of November, and second reading of the Parliament (!) and adoption of the budget.

Comment on whether the budget of the EU may be used or has been used to combat increased economic diversiveness across regions/member states in the EU – both theoretically and empirically.

Regional policy of the EU description – with various objectives 1-3 described. Artis & Nixson, page 177-179:

- Objective 1: EU regional policy aims to promote development and structural adjustment of regions lagging behind. Those regions that are poor, less developed with a GDP per capita below the threshold 75 % if average EU income. Almost 70% of EU structural fund budgets go to these areas. Funding

especially infrastructure investment, encouraging business investment, and promoting training of students and workers.
- Weakest members also gets support from Cohesion fund, to finance large scale infrastructure projects in the transport and environment sectors.
- Objective 2: Supporting economic and social conversion in small, industrial, rural, urban or fisheries-dependent areas in the richer member states, which face structural difficulties. About 12 % of structural fund budgets.
- Objective 3: EU contributes to active labour market policies outside objective 1 areas. It co-finances training schemes to upgrade and modernize professional skills in order to fight structural unemployment, youth and long term unemployment. About 13 % of total funding.

Describe also various views regarding whether European integration leads or has led to more or less specialization interindustry as well as intra industry.

- Krugman (more integration, more specialization) versus Commission view (more integration, less specialization) (De Grauwe)

- Baldwin and Wyplosz – more empirical note:
  - Only modest relocation of industry among nations, at least when one lumps all industries together
  - The little movement that is goes in the direction of manufacturing activities having become more geographically dispersed across nations, not less.
  - Most European nations have become more specialised on a sector by sector basis
  - At the sub-national level, industry has become more concentrated spatially.

- Artis and Nixson: Page 71:
  - Using Krugman specialization index:
    - Since 80/3 more or less steady increase, indicating divergence – more specialization.
    - Also at national level.
    - A slow process, but reorganization takes place, making the EU look more and more like the US.

Appendix 1

Table I.1.3: **Composition of changes in the government debt ratio in EU Member States (% of GDP)**

	Gross debt ratio					Change in debt ratio	Change in the debt ratio in 2007-11 due to:		
	2007	2008	2009	2010	2011	2007-11	Primary balance	Interest &growth contribution	Stock-flow adjustment
BE	84.2	89.8	96.7	99.0	100.9	16.7	2.2	8.5	6.0
DE	65.0	66.0	73.2	78.8	81.6	16.5	2.2	8.4	5.9
IE	25.0	43.9	64.0	77.3	87.3	62.3	35.5	14.6	12.2
EL	95.7	99.2	115.1	124.9	133.9	38.2	19.7	15.0	3.5
ES	36.2	39.7	53.2	64.9	72.5	36.3	25.7	7.2	3.4
FR	63.8	67.5	77.6	83.6	88.6	24.8	15.6	5.9	3.4
IT	103.5	106.1	115.8	118.2	118.9	15.5	-1.0	14.8	1.7
LU	6.7	13.7	14.5	19.0	23.6	16.9	3.4	0.5	13.1
NL	45.5	58.2	60.9	66.3	69.6	24.1	7.0	5.9	11.2
AT	59.5	62.6	66.5	70.2	72.9	13.4	2.2	6.2	5.0
PT	63.6	66.3	76.8	85.8	91.1	27.5	16.4	8.9	2.2
SI	23.4	22.6	35.9	41.6	45.4	22.0	12.2	4.3	5.5
FI	35.2	34.2	44.0	50.5	54.9	19.7	-0.3	3.4	16.5
MT	61.9	63.7	69.1	71.5	72.5	10.6	3.2	5.7	1.7
CY	58.3	48.4	56.2	62.3	67.6	9.3	9.1	4.0	-3.8
SK	29.3	27.7	35.7	40.8	44.0	14.7	14.8	1.0	-1.1
EA-16	**66.0**	**69.4**	**78.7**	**84.7**	**88.5**	**22.5**	**9.0**	**8.7**	**4.9**
BG	18.2	14.1	14.8	17.4	18.8	0.6	3.8	-0.4	-2.8
CZ	29.0	30.0	35.4	39.8	43.5	14.6	13.7	3.8	-3.0
DK	27.4	34.2	41.6	46.0	49.5	22.1	1.9	6.0	14.2
EE	3.8	4.6	7.2	9.6	12.4	8.6	7.9	1.6	-0.9
LV	9.0	19.5	36.1	48.5	57.3	48.3	24.0	14.0	10.3
LT	16.9	15.6	29.3	38.6	45.4	28.5	23.9	5.6	-1.0
HU	65.9	72.9	78.3	78.9	77.8	11.9	-1.6	10.2	3.3
PL	45.0	47.2	51.0	53.9	59.3	14.3	14.4	-0.5	0.3
RO	12.6	13.3	23.7	30.5	35.8	23.3	23.1	1.0	-0.8
SE	40.8	38.3	42.3	42.6	42.1	1.3	-2.6	0.7	3.2
UK	44.7	52.0	68.1	79.1	86.9	42.2	28.2	5.4	8.6
EU-27	**58.8**	**61.6**	**73.6**	**79.6**	**83.8**	**25.0**	**11.5**	**9.7**	**3.8**

Notes: Differences between the sum and the total of individual items are due to rounding.
Source: Commission services' Spring 2010 Economic Forecast.

2009 to 79.6% in 2010, and to rise further to 83.8% in 2011, not least because of a very significant increase in the debt ratio in the UK. Finally, risks of further debt increases stem from public intervention in the financial sector.

Aggregate figures tend to mask diverging developments at the country level. There are several Member States which before the current financial and economic crisis had low or very low debt levels, which however are now rising sharply. This group of countries includes Ireland, Spain, Latvia, Lithuania and the United Kingdom. Moreover, three euro area-countries are expected to surpass again the 100% of GDP public debt threshold by 2011. Notably, Italy already had a public debt-to-GDP ratio above 100% of GDP before the crisis and given that debt has increased again and is expected to remain above this threshold in 2010 and beyond. In Belgium the debt ratio rose again in 2008 and subsequently, after having remained on a steady downward path for many years. It stood at 84.2% of GDP in 2007, but is forecast to exceed the 100% of GDP threshold by 2011. In Greece the debt ratio, from a trough of 95.7% in 2007, is also expected to increase over the forecast horizon, up to 133.9% of GDP in 2011 (as usual under the no-policy change assumption). As to the other Member States with debt ratios above the 60% of GDP threshold in 2009, namely Germany, France, Hungary, Malta, Austria, and Portugal, further increases of these ratios are projected in all of them but Hungary.

Appendix 2