Evaluating the macro and micro economic effects of the current economic crisis and analysing the implications for the short and medium term planning in private tertiary education in Greece

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Abstract: This paper is an attempt to bring forth, analyse and evaluate the microeconomic and macroeconomic effects of the current economic crisis both in global and country level. It concentrates in Greece and the private tertiary education (Colleges), where examines the implications from the crisis as well as opportunities and challenges that might arise from the current situation for the country and the sector itself. Greece, as other countries, was affected by the financial crisis originally started in USA. However, this brought to light its lasting internal economic inconsistencies and distortions. The "twin" deficits (fiscal and current accounts) and the "twin" debts (public and external) in combination with the gradual loss of competitiveness revealed a vulnerable economy. To cope with that, it is imperative to proceed fast with structural changes, which are expected to bring back the country to sustainable development. Among this, private tertiary education has a unique opportunity to re-establish its role of linking the academia with the industry and re-position itself in the new environment.

Keywords: Origin of the crisis, macroeconomic, microeconomic, private tertiary education

1. INTRODUCTION

In this section we aim to give a description of the current economic crisis both in global level and in Greece. Based on literature review, it is expected to brief how the crisis started and affected the involved economies. Special focus is given in the United States, Euro zone and Greece. In the next section, a number of macroeconomic indicators are examined in order to get a detailed picture of the impact and the consequences of crisis. In the third section of the paper, there is an attempt to examine the private tertiary education sector of Greece, in microeconomic level. In continuous, there is a discussion on government's policy, which in the case of Greece is imposed by certain entities (European Commission, European Central Bank, International Monetary Fund). In the last section there is an analysis of the impact origins from external changes, in the planning of the specific sector. Finally, there are a number of conclusions as derived from the present study through literature and findings.

1.1 A short description of the current economic crisis

According to Schneider and Kirchgassner *(2009),* we are currently observing one of the most severe and deep world financial and economic crises in history. They identified three reasons as the sources of the crisis and these are: (a) the subprime mortgages in USA, and the underestimation of their dynamic, in combination with the tendency of financial normalization and innovation to go ahead of financial regulation, (b) the booming in consumer spending, which started from 2002 and resulted in domestic and international imbalances not only in USA but in other strong economies as well, and (c) the financial internationalization. Actually, the above together with the lack of adequate regulation directed to financial innovations, such as "complex derivative securities" and "structured investment vehicles". In addition, the unclear relation between the financial and other sectors of the economy created a blurred framework in global and regional level.

Moreover, Lang and Jagtiani *(2010)* agreed that the boom and bust in the housing market, which started on August 2007 in USA, was the causal factor of the crisis. They argued though, that the role of risk management from the companies' side, and corporate governance from the government's side, was fatal, since they did manage neither to predict nor to overcome it, in time. Lack of transparency in complex financial products, overestimation of "too-big-to fail" attitudes, and

lax controls in big firms, encouraged a framework of "big expectations". Although financial risk controls are designed to avoid such occasions, it was identified that big concentration was given in the positive turbulence expected to penetrate in the whole economy, rather than measure the risk exposure and obvious weaknesses of the mortgage market.

In the same manner, Wallison (2010) stressed that financial crisis originated by the sustained government policies in USA that distorted the housing market and generated high-risk mortgages.

However, Gros and Alcidi *(2009)* claimed that the crisis might have originated in the USA but the European financial sector was already very fragile and exposed to losses from USA. Almost all major crises have started from two main reasons: the increase in leverage (credit expansion) and the unusual increase in asset prices.

On the other side, Gaffney *(2009)* and Wheelock *(2010),* highlighted that current financial crisis, has antecedents in earlier crises, including the "Great Depression" of '30s. They both argued that the problem begun from the fundamental principles of banking, implying the creation of liquidity and the destroyed behaviour of individual financial institutions.

The crisis was transmitted among economies and this, was translated in a number of imbalances almost the same in most of them. As Danu *(2009)* stated, one of the affected factors was country risk, which is an indicator that summarises the main global co ordinations of the quality national business environment, and the credibility of its foreign relations. In other words, it is the general level of the political and economic uncertainty in a country affecting the loans and investments in the country. The crisis phenomena lead to a decrease in interest for developing business in a national environment. In *Appendix A*, is given a description and details of the country risk as a crucial indicator in a country level.

Gaffney *(2009)* argued that, no amount of gold or money can sustain a financial system, if there is no trust. When operating in a global environment, trust is considered as an asset.

The European Bank for Reconstruction and Development *(EBRD, 2010),* identified that crisis led gradually to a build up of vulnerabilities not only among its members but also among the so-called developed countries. That was translated mostly to current account deficits and rising debts which in turn directed them to a greater need for external financing.

The dependence on the external financing characterises a series of internal affects for an economy. For example, according to Gros and Alcidi *(2009),* European corporate sector has a high reliance on external financing asserting that, this by itself, will take longer for Europe to recover.

Another consequence is that the financial shock of late 2008 led to a current trade shock. Actually, although crisis started from USA, Euro area and other strong economies who have cultivated a credit booming during previous years are facing the same "diseases".

Regarding Greece, after a 10-year period of strong growth, the country has started to feel the effects of the global downturn, which rose in early 2009. The existed large fiscal deficit and external imbalances in a changing environment have made the economy vulnerable *(IMF, Executive Board, 2009)*. Since March 2010, Greece operates under a memorandum of economic policy as introduced by European Commission (EC), European Central Bank (ECB) and International Monetary Fund (IMF), which has placed the country in a specific action plan until 2013 *(IMF, 2010).* Nevertheless, according to Mr Provopoulos, CEO of Bank of Greece *(Provopoulos, Bank of Greece Annual Report, 2010),* the crisis in Greece is an outcome of lasting internal problems which were affected crucially by the global effects as well.

Therefore, currently the country is facing a multilevel economic recession which is consisted of the following characteristics *(Provopoulos, Bank of Greece Annual Report, 2010):*

- A negative environment (both economic and social) due to (a) the lasting structural weaknesses and distortions, (b) the macroeconomic imbalances, and (c) the non-sustainable development, as proved to be a posterior, the growth during the years 1996-2007.
- The high risk for the country loosing the opportunity, to get advantage of the global recovery.
- Luck of confidence in country's prospects to overcome its problems and return to development and prosperity.
- The inability to get external financing due to the above characteristics.

2. ANALYSIS OF MACROECONOMIC EFFECTS

2.1 The Global Environment

2.1.1 Gross Domestic Product (GDP)

The Gross Domestic Product is the sum of all final goods and services produced for the market in a given time period, calculating each good or service at its market price *(Schiller, 2010).* Some other interesting indicators according to Arnold *(2010)* are price level and real GDP, where the first is the weighted average of the prices of all goods and prices and the second represents the value of the entire output produced annually in a country, adjusted for price changes. Therefore, we could mention the equation,

$$GDP=P*Q$$

*whereas: **P**=the price level and **Q**=Real GDP*

Multiple macroeconomic indicators are related to changes either with the first or the second of the participants in this equation, such as the employment *(Arnold, 2010).*

According to World Bank Data Indicators *(2010),* world's GDP had a steady increase during years 2005 to 2008, where in 2009 declined from approximately 61 trillion USD to 58 trillion USD. The expectation for 2010 is that it will increase. Besides that, the GDP per capita, which is the value of total output to the number of people, shared this output, had the same impact and declined from 9,153 USD in 2008 to 8,594 USD in 2009 *(World Bank Data Indicators, 2010).*

Moreover, crisis had a clear impact in the World's annual growth of GDP (Gross Domestic Product). As shown in *Appendix B*, the global growth in 2008 fall to 1.70% from 3.84% in 2007 and 3.96% in 2006. The GDP annual growth rate in 2009 was negative, (-1.90%), while the expected rate for 2010 will be negative as well *(World Bank Data Indicators, 2010).*

Obviously economy is facing a serious decline in global level, related to the GDP. According to Schiller *(2010),* the value of GDP can be computed if we sum up the expenditures of market participants.

Thus,

$$GDP=C+I+G+(X-M)$$

where: C=consumption expenditure, I=investment expenditure, G=government expenditure, X=exports, M=imports

GDP accounts have two sides: the expenditure (demand-side) and income (supply-side) *(Schiller, 2010).* In the next figure we are adopting the model of Schiller, where it illustrates the link between spending on output and the income.

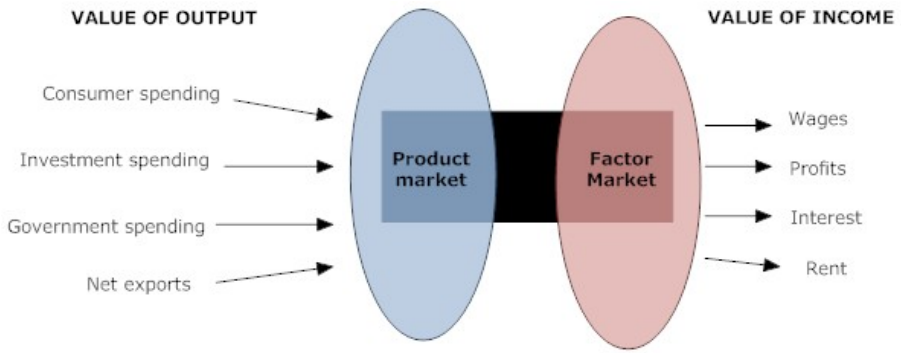

Figure 1. Output equals to income

(Source: B.R. Schiller, 2010 The Economy Today, International Edition. McGraw Hill, London. p.101)

According to European Commission *(Trading Economics, 2010),* the average annual growth rate of GDP in Euro area, for 2008, was 1.4% while in the end of the year fell to 0.3%. During 2009, there was a negative growth rate ranging from -4.9% to -2.0%. Since January 2010, Euro area returned back to positive rates ranging from 0.5% to 1.9% according to latest data of August 2010. Similarly, the GDP annual growth rate in Unites States followed the same path *(Appendix C1).* The Gross Domestic Product (GDP) growth rate for Euro area is now on 0.4% while in USA reaches 2.5% *(Appendix C2).* The rate turned negative in both economies for the period of 2008 and 2009, until early 2010.

2.1.2 Unemployment

Employment is related to the labour force of a country. People that is currently employed or seeking for a job is counted as labour force *(Schiller, 2010).* Actually they are considered as labour-force participants, while the ones that do not seek for a job are considered as non-participants. The labour force of a country is affected from two parameters: (a) the population increase and (b) the continuing immigration. The proportion of the labour force that is unemployed, although seeking to be employed is called unemployment rate *(Schiller, 2010).*

Taking into account the unemployment rates of both USA and Euro area, these were registered almost 10%, based on data of November 2010 *(Trading Economics, 2010).* The reaction to crisis was almost the same for both economies, since USA had an unemployment rate of 4.5% in 2009, while in the Euro area that was 7.5%. Despite that, USA faced a deeper cut in its employment, meaning a total of 15.1 million of unemployed persons at the end of this year *(Appendix D).*

The BRIC countries though preserved an unemployment rate below 8%, according to recent data *(Appendix N).*

However, due to IMF forecasts, USA's employment is expected to return in pre-crisis numbers of employment by 2012, which corresponds to an approximate of 145 million employed persons in total *(Appendix D1).* In the next figures 2 & 3 are given some useful data regarding the unemployment rates of last year in some of the developed economies.

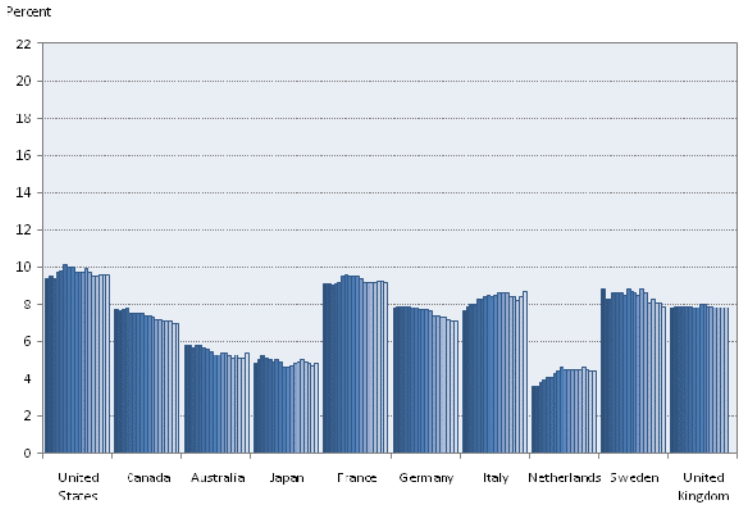

Figure 2. Monthly unemployment rates adjusted to U.S. concepts, 10 countries, seasonally adjusted, May 2009–October 2010

(Source: United States Department of Labour, Bureau of Labour Statistics, http://stats.bls.gov/fls/intl_unemployment_rates_monthly.htm, International unemployment rates and employment indexes, 02/12/2010)

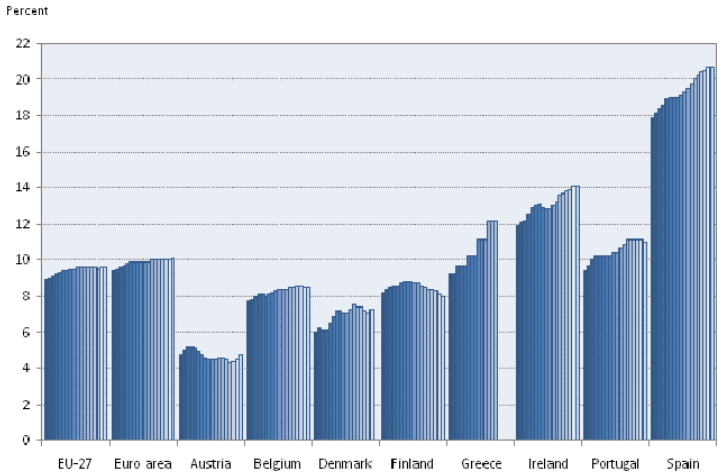

Figure 3. Monthly unemployment rates unadjusted by BLS, 10 European Union countries or areas, seasonally adjusted, May 2009–October 2010
(Source: United States Department of Labour, Bureau of Labour Statistics
http://stats.bls.gov/fls/intl_unemployment_rates_monthly.htm, International unemployment rates and employment indexes, 02/12/2010)

In *Appendix O,* there are a number of extra tables given which illustrate in details the unemployment in most of the developed countries on monthly and quarterly basis.

2.1.3 Inflation

Inflation is the increase in the average level of prices of goods and services. On the opposite, the decrease is called deflation. Inflation can be used by either an excessive pressure on the demand side or the supply side *(Schiller, 2010).* The inflation rate in Euro area in October 2010 was 1.9%. In USA it was reported to be 1.2%. The period of late 2008 the inflation rate started falling both in Euro area (from 4% to -0.5) and in USA (from 5.5% to -2%) as illustrated in *Appendix E.*
On the other side, inflation in China rose to 5.1% in November 2010. China faced a negative inflation for less than a year (March 2009 to November 2009), but returned back since the change of the year. An important factor is that the country had an inflation of more than 8% for the half of 2008 *(Appendix E1).*

In general, the so-called BRIC countries, currently experience fairly high inflation rates. Moreover, their GDP growth rates are higher compared to Euro area and USA. Only Brazil remains in the level of 0.5%.

2.1.4 Other macroeconomic factors

If we focus on another macro indicator, the current accounts, which in other words is the sum of the balance of trade, net income and net transfer payments, the impact of crisis was significant and continues to affect, both USA and Euro zone *(Appendix F).* Actually, the balance of trade is the most significant part. It is worth to mention that current accounts in Euro area have a deficit which ranges from -17,3 billion Euro (on 2008), to -25,4 billion Euro (last registration on mid-2010). On the other side USA, experienced a deeper impact, acquiring a deficit ranged from -176.83 billion $ (on 2008), to -123.3 billion $ (last registration on early 2010), *(Trading Economics, 2010)*.

Concerning the balance of trade, taking into account last 3 years (2007 to 2010), there is a difference among USA and Euro area. The goods and services deficit increased in USA on July 2008 and on July 2010. Moreover during the referred 3 years balance of trade remained in a deficit status. On the contrary, Euro area appeared to have a surplus, on July 2010 in total. Instead, during the 3 years period there is a mix of either a surplus or deficit. It is worthy to mention that both economies faced identical deficits in the period of early 2008 to early 2009 (January), obviously as a crisis' impact *(Appendix G).*

In more detail, in *Appendices H and I*, is considered necessary to illustrate both imports and exports for Euro area and USA. The specific diagrams clearly declare the sudden decrease of almost all economic activities in both economies. Especially, started in January 2009 and till mid-2009, imports and exports faced a real precipitation.

The Consumer Price Index (CPI) reflects changes in the cost to the average consumer of acquiring a basket of goods and services in a specific period of time e.g. yearly. This index has a continuous increase in both economies. In USA the average for 2010 is expected to reach 127.26 while the forecast of International Monetary Fund for 2015 is to reach 140.781 (base year 2000=100). In Euro area the index in 2008 (average of the year) was 108.43 (base year 2005=100). *(Appendix J)*

If we recall two more indexes, the business confidence and consumer confidence and compare them with the imports and exports, it is interesting to identify that both had an identical affect in USA and Euro area as well. To be more specific, business confidence started dropping down in the two economies on July 2008 and gave the first signs of return after one year in USA economy and almost 2 years in Euro zone. Regarding consumer confidence, in Euro area, the index was solely negative started increasing January 2008, (-10) reaching a roof of (-35) on March 2009. On the contrary the crisis effect was the same in USA where the index decreased but not turned to negative at all *(Appendices K and L).*

The industrial production is an economic index that measures changes in output for the industrial sector of the specific economy *(Trading Economics, 2010)*. Comparing the two tables in *Appendix M*, we identify that during years 2008 and 2009 there was a deep fall in both economies turning into negative space. Nevertheless since January 2010, there are strong signs of recovery which in case of Euro area is higher.

2.2 Greece

2.2.1 General Data

Greece is a country-member of the European Monetary Union (EMU) with 11 million inhabitants but 5 million of labour force. The one fifth of this force is consisted of immigrants. Less than half of the registered population belongs to economic active population. A percentage of 65% is occupied in services, a 23% in industry and the rest 12% in agriculture.

Over the last fifteen years country has exhibited a remarkable record of economic growth and monetary convergence with the euro zone. Economic expansion has been largely based in (a) the liberalisation of the financial sector (provide cheap credits to households), (b) the reduction of interest rates due to EMU, (c) the migration inflows, (d) the pervasion to the southeast European markets, (e) the growth in public investments, (f) the inflows from EU programmes and (g) the consumption.

However, this growth was neither balanced nor in relation to labour productivity, employment participation and technology adoption. The country has one of the highest disparities between the number of public servants, as percentage of the workforce, and their compensation as percentage of total compensation. The compensation of civil servants in Greece is relatively high *(OECD, 2010)*.

2.2.2 Macroeconomic indicators

Most recent data *(Trading Economics 2010)* estimate currently an inflation rate of 5.5%, an unemployment rate of 11% and a negative balance of trade. The GDP growth rate is -1.5% while the GDP annual growth rate for 2010 is -3.5% *(Appendix P).* The forecast of IMF regarding unemployment is to be 12% till the end of 2010. In addition, the average of consumer prices index for 2010 is 136.05 while the forecast for 2015 is estimated to reach 145.70 (base 2000=100) *(Appendix Q).*

During 2007, Greece had shown a positive GDP growth rate, where it reached almost 2%. In early 2009 the rate started getting a negative track. Referring to inflation, in the years prior to 2009 it was reported among 2.5% and 5%, while there was a serious drop during January 2009 to January 2010. *(Appendix R).*

In terms of budget, data for 2009, there were revenues of 109 billion dollars and expenditures of 145 billion dollars. The fiscal deficit reached the 13% of GDP in 2009 *(OECD, 2010)*. Public debt was about 100% of GDP in 2008 and 113.4% of GDP in 2009 ranking the country in the 8th place globally. Actually public debt was revised to almost 115% of GDP for 2009, based on recent and more accurate data.

Greece has a fiscal deficit of fifteen percent (15%). The Greek government has to finance this deficit, in other words find ways to ensure that accounts will be paid and cash flow will not stop.

So far, growth has been financed by a private sector borrowing and a public sector spending. A significant income channel came from the absorption of EU structural adjustment funds *(Political Risk Services, 2009)*.

Actually the financial sector's liberalization and lower interest rates after euro adoption caused a demand boom. Nevertheless, inflation and labour cost growth exceeded that of trading partners and eroded competitiveness *(IMF, Country Report, 2009)*. Imbalances persisted and in combination with the global financial crisis, that have weakened sentiment and sent spreads soaring, causing a financial scare. In addition, the lack of political consensus hampers policy making *(IMF, Country Report, 2009)*. Revenue shortfalls and rising expenditure are widening the fiscal deficit.

Main forces are lower investments and exports, destocking and a decline in private consumption because confidence and employment have dropped *(IMF, Country Report, 2009)*.

The Greek "product" is considered expensive, since costs are too high. As a result it cannot stand in the globalized markets; it is less competitive and provides no sustainable future.

On the other hand, high costs lead to a massive current account deficit and among others contribute to high levels of unemployment *(Aliber, 2010)*. Unemployment directs to low level of fiscal revenues. A bigger economy makes it easier to absorb aging costs and improves the standard of living for all Greeks. Revenues need to increase and expenditures need to be cut. Greece will face incremental difficulties in placing additional debt not because the past debt, which has already been absorbed by the market, but because of the pressures from implicit future debt under current policies *(IMF, Country Report, 2009)*.

The longer the government waits to adjust the comprehensive net worth gap, the more difficult it gets, because the shortfall is projected to get deeper every year.

2.2.3 The environment

The country is still today less developed than other euro zone countries. At the same time, it showed greater rates of growth and higher rates of inflation than other member countries. This was due to "a structural expensiveness" in the Greek market which mostly has an oligopolistic nature, with almost the unique exception of the telecommunications sector *(Pelagidis, Toay, 2007)*.

The product market rigidities may be considered as the impact derived from excessive regulations, complicated hiring burdens and mediating costs that are keeping bended any free-will for investments. Moreover, there are serious obstacles in business activities due to bureaucratic issues. Such cases encourage money laundering and financial crimes.

According to Global Corruption Report 2009 *(Transparency International, 2009),* Greece was placed in the 57th out of 180 countries for the year 2008. According to a national survey presented by the Transparency International Greek branch, for the year 2009 it is estimated that the size of the total corruption (both public and private sectors) increased at approximately 787 million euro, than 748 million euro of 2008 *(Transparency International-Greece, 2009)*.

Levels of foreign investing are low comparing to other OECD countries, since Greece is ranked in the 28th out of 30 countries *(Political Risk Services, 2009).* Openness to foreign investment could be considered rather restricted. Foreign and domestic investors face almost the same screening criteria. Foreign firms are not subject to discriminatory taxation. There is though the "Invest in Greece Agency" which operates as a one-stop shop for assisting investments in the country (fast-track option).

Greece has experienced a loss of competitiveness. The real exchange rate is significantly overvalued relative to fundamentals. Labour markets are relatively weak. The employment rate is low and the unemployment duration is among the highest among peers. Long-term unemployment turns to inactivity. Structural impediments hinder product market performance such as: limited liberalisation of utilities, insufficient internal competition due to high regulation, low ICT penetration, and high barriers to entry in the market especially in services.

Besides that, it is difficult to measure productivity especially in the public sector where there is no clear image of what is the value of produced goods or services, since there isn't an evaluation framework.

3. ANALYSIS OF MICROECONOMIC EFFECTS

3.1 Industry Analysis

During the last 20 years, private tertiary education in Greece (Colleges as parts of EU Universities operating locally) faced a rather unstable environment in terms of legal and economic matters. Education, such as other vital sectors in the country (health, transportation, commercial ports, major industries etc.) remained part of the what-so-called "the spending public sector". Although various decisions of the Court of European Union throughout the years imposed actions to be taken for the de-regulation of the sector, the country avoided to embed the directions

preferring to maintain the traditional model. This inertia was part of a wider local attitude of change aversion.

As a result, the sector faced a number of serious destabilising factors such as:

- Lack of national accreditation
- Lack of a framework for scrutinising the involved Institutions
- Blurred image about the services offered to the academia
- Unclear position about their existence and their progress

This internal market's situation, have directed the qualitative private institutes to expand. In early 2000 they have penetrated in other markets of South-East Europe (Albania, Bulgaria, Fyrom, Serbia, Kosovo, Romania) by creating more opportunities and grabbing the potentials raised from their expertise and know-how. As a result, they have cultivated a multinational attitude and developed operations and attributes of global-oriented academic institutions.

Nevertheless, just two years ago (2008), there was a first attempt, in governmental level, to clarify and define a commonly accepted framework for the operation of these Institutions in Greece. Moreover, in mid-2010, it seemed that there was a willingness to start adopting a European oriented philosophy, in terms of equalising the graduates of Colleges studying at branches, with the graduates of the metropolitan Universities (professional rights). In any case, till December 2010, Greece had the full responsibility to apply this directive, since this was an extra obligation through the revised memorandum of economic policy *(IMF, August 2010).*

The above two issues, (a) legal framework and (b) professional rights, were always the components that stopped the progress of the sector or at least placed it in a continuous questionable status.

Since, both of them have been re-established in a new framework and the government has already issued the laws, at least this shows willingness for change.

3.2 Microeconomic analysis

We could claim that education, is rather an inelastic good, especially when we are referring to the public tertiary one. Demand is mostly defined by macroeconomic policies and expectations rather than narrow consumptive criteria. However, it depends on the education policy makers, in terms of employment and education. Besides that, the determinants of demand: tastes, income, expectations and availability of substitutes, are present.

Demand curve

According to Gerasimou *(2005),* the equilibrium between supply and demand in higher education in Greece, is determined by the academic departments' entrance grades. Obviously this fits to the public tertiary education since there are no fees, therefore non-existing market prices. The demand curve depends in factors such as: (a) the entry grades of students to get in the public university (minimum basis for AEI and TEI), (b) the cost of studying abroad and the cost-benefit analysis of this experience, (c) the existence of alternatives in local level. In the next figure it is presented the number of total candidates and total entrants in the public tertiary education for the years 1975 to 2003. The number of total candidates was always a reference point for the potential customers-students that were willing to study not only for the internal public universities but also for other paths of education. The number of total available places offered to the candidates in the Greek universities was another significant factor.

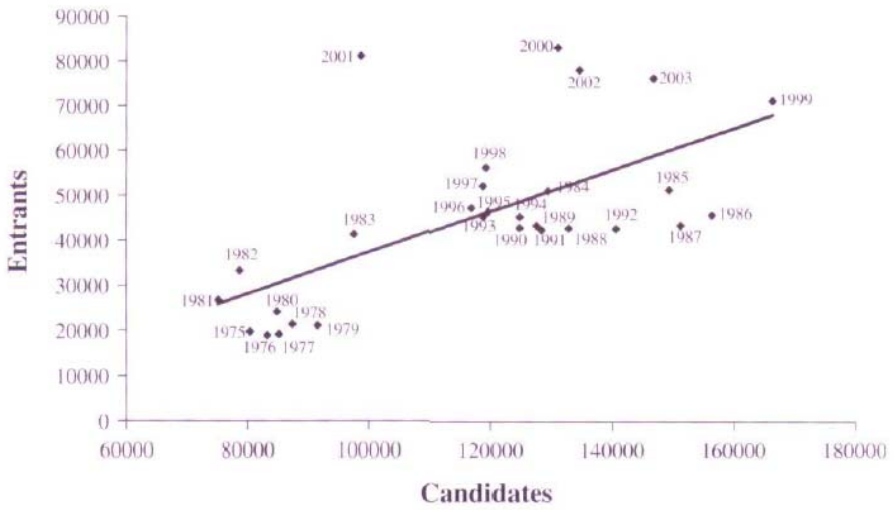

Figure 4. Candidates and entrants in the public tertiary education in Greece (1975-2003)
(Source: Gerassimou, G., (2005) Price substitutes, the case of entrance to Greek Universities. *Applied Economics Letters* (12), p. 723-728)

In the next figure, it is presented the number of candidates and entrants for the years 2003 to 2010.

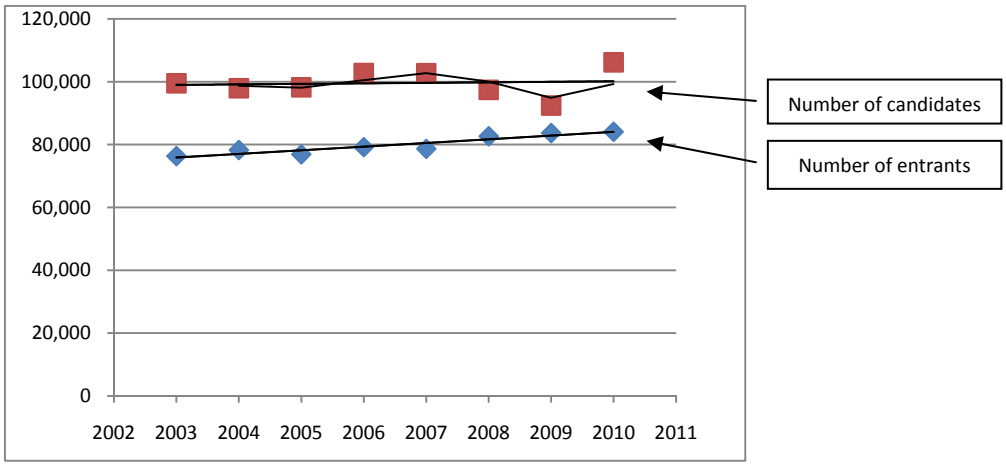

Figure 5. Candidates and entrants in the public tertiary education in Greece (2003-2010), only AEI-TEI places are included

Although there is no, so far, a credible research regarding the private tertiary education, this is an attempt to present some data based mostly in dispread sources.
In the figure below is given the demand curve in terms of students that have selected private tertiary education and the range of tuition fees for each year accordingly.

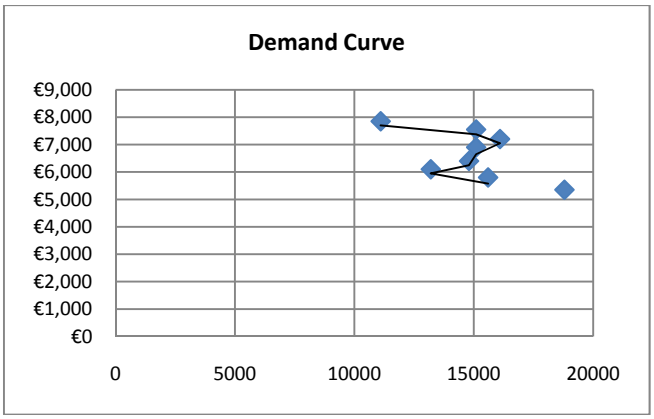

Figure 6. Demand Curve for the years 2003 to 2010 in private tertiary education

It is considered necessary to give as well, two more figures where is better illustrated separately the quantity (number of students) and the price (range of tuition fees throughout the years) for the years 2003-2010. Data have been recovered from different sources as there is no prior research in private tertiary education in Greece.

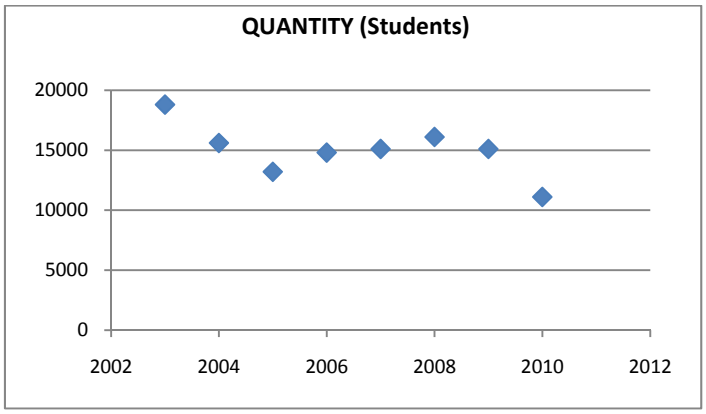

Figure 7. Quantity (students) for the years 2003 to 2010 in private tertiary education

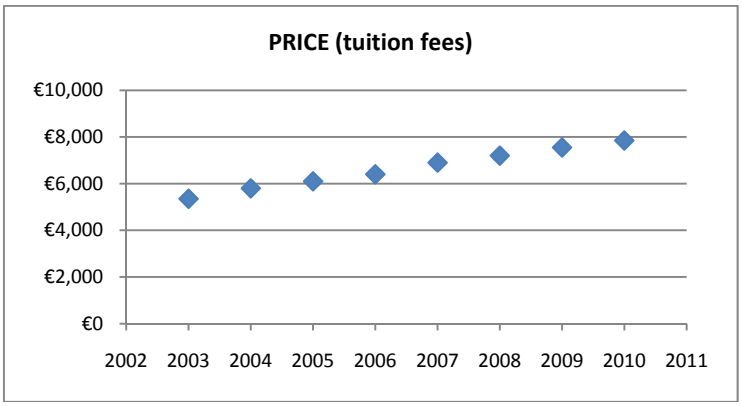

Figure 8. Price (range of tuition fees) for the years 2003 to 2010 in private tertiary education

There is an attempt to capture some statistical data presented in the next figure:

YEAR	QUANTITY (Students)	PRICE (tuition fees) an average of the sector	Difference in price (%)	Difference in quantity (%)
2003	18800	€5,350		
2004	15500	€5,800	8.41	-17.55
2005	13200	€6,100	5.17	-14.84
2006	14800	€6,400	4.92	12.12
2007	15100	€6,900	7.81	2.03
2008	16100	€7,200	4.35	6.62
2009	15100	€7,550	4.86	-6.21
2010	11100	€7,850	3.97	-26.49

Figure 9. Students per year in private tertiary education, and range of tuition fees

Price elasticity

Based on the data of figure 9, it is concluded that price elasticity (E) in private education is greater than 1. That means that students seem to be responsive to price changes.
For example for the academic year 2005:

$$E = \frac{(\%)\ change\ in\ quantity\ demanded}{(\%)\ change\ in\ price} = \frac{14{,}84}{5{,}17} = 2{,}87$$

A detailed table counting *E* for the last seven years is given below:

YEAR	PRICE ELASTICITY *(E)*
2003	
2004	2.09
2005	2.87
2006	2.46
2007	0.26
2008	1.52
2009	1.28
2010	6.67

Basically the demand for a necessity such as education is relatively inelastic, but this is bended to the framework and how the education operates in the market. In other words, which are the options for students-customers to be educated, implying the cost and the benefit. On the other side, currently, private tertiary education appears to have an elastic demand. In case the education framework changes in Greece, it is expected to make it even more elastic.

Regarding the availability of substitutes since there will be an expansion in the sector, it is expected to create a higher price elasticity of demand. As derived from the table given above the price elasticity in the sector remains >1 in general.
Another factor is the relative price to income. Recent findings have experienced that if prices of tuition fees exceed a specific range then the price elasticity increases as well.

In 2010, there was a decrease in income in Greece of approximately 20%. Although tuition fees remained in the same level, in a range of 7,000-8,000 Euro, for the year, the change in quantity demanded (students registrations) had an analogous impact.

$$Income\ elasticity\ of\ demand = \frac{(\%)\ change\ in\ quantity\ demanded}{(\%)\ change\ in\ income} = \frac{26}{20} = 1{,}30$$

There is an issue though in education, which has to do with the economic cost. According to Schiller *(2010),* economic cost= [explicit costs + implicit costs]. In the process of education is difficult but not impossible to calculate how many resources are used in this process. Economies of scale exist and their adoption contributes in the reduction of minimum average costs. Nevertheless, larger or bigger isn't always better, especially when involved with educating people and building personalities. As Schiller *(2010)* stated, efficiency and size does not necessarily go hand in hand.

Monopolistic competition exists when a market has many firms (approximately 30 in private tertiary education), which produce similar goods or services but each maintains some independent control of its own price *(Schiller, 2010).* In addition there is a low concentration ration where the top 5 institutions acquire the 20-50 percent of the combined market. Furthermore, private institutes have shown a distinct identity and a different brand image trying to acquire a service differentiation. Each institute has a monopoly only in its brand image but remains in the market competition offering a substitute.

Although the sector as a whole registers an increased price elasticity of demand, the more an institute develops its brand loyalty the lower is its cross price elasticity of demand. Brand loyalty makes the demand curve which faces the institute less price elastic *(Schiller, 2010).*
As a result modest changes in the output or price will have no perceptible influence on the sales of any other institute-competitor. Also the institute has the power to increase price unilaterally.

4. GOVERNMENT POLICY

The recent economic turbulence has proved that Greek economy is still suffers of structural problems and weak fundamentals *(Monastiriotis, 2009)*.

Public debt, lack of international competitiveness, unemployment, eroding public finances and a credibility gap stemming from inaccurate and misreported statistics are forming current Greek mix which directed to economic instability *(CIA, 2010)*. The falling state revenues and the increased government expenditures are two more ingredients of this unstable mix which moreover accommodates: tax evasion, inelastic government expenditures, an ageing population and an unsustainable pension system. Structural problems driving to low export penetration, unemployment and inactivity, low labour mobility and wage flexibility, low technological absorption, low educational performance *(Monastiriotis, 2009)*.

Above all there is an economic duality which creates a framework; a given status-quo consisted of (a) a large shadow economy and (b) a disproportionately protected public sector *(Monastiriotis, 2009)*.

The imbalances of the Greek public sector are driven by multiple structural factors. The dramatic rise of public expenditure and the inadequate control of government spending were the main cause of the widening fiscal deficit *(OECD, 2010)*.

Greece's economy has been and continues to be subject to intense governmental regulation *(Political Risk Yearbook, 2009)*. Greek labour laws are restrictive in terms of working hours' limits, flexible employment (part-time, on demand etc., as well as hiring and dismissal of personnel *(Political Risk Services, 2009)*. The tax regime lacks stability, predictability and transparency. The government often makes small adjustments to tax levels and imposes retroactive taxation.

The fiscal position will be further challenged from (a) the programmed reduction of European Union structural funds in 2013 and (b) the cost pressures from rapid ageing. The consistent underperformance on applying the necessary structural reforms throughout previous years, led to low productivity while wage and price inflation has remained constantly above the euro area average. Meanwhile, structural unemployment remains high, at approximately 10% *(OECD, 2010)*.

It is imperative practice to proceed with reforms in all referenced sectors but is questionable which will be the sequencing and requirements for such reforms to be successful.

Cut entities, reduce staffing and limit political appointees are the basic introduced reforms for the public administration. Moreover, it is requested to accelerate full privatisation of public enterprises and place greater trust in the public by publishing more information *(IMF Country Report, 2009)*. The reduced-size of the public sector will minimise government costs including administrative costs. For the remaining entities it is requested rationalisation and limitation of the wage bill and tight control over spending. The adoption of a performance-reward scheme and

budget control is almost obligatory to act over control. Reform is necessary in loss-making state enterprises enabling the option of their privatization. Military expenditures should be controlled and rationalised. The reforms should include the health-care and the pension system. Any administrative burdens and red tapes in goods and services markets should be cut. Electricity and gas industries should be reformed. Structural reforms to the labour market should be made through promotion of social contracts focused on employment growth. Expansion of part-time work opportunities and reduction of employment protection could be implemented in combination with strong wage moderation *(IMF Country Report, 2009)*. The increased employment participation rate is a necessity for the country. Productivity gain and wage restraint are necessary to recoup international competitiveness, sustain growth and reduce the sizeable external deficit; further liberalization is requested; aligning product market regulations with best practices would increase labour productivity around 20% *(OECD, 2010)*. Current downturn is an opportunity to adopt more flexible institutions in both labour and product markets; such a change could improve labour market outcomes and reduce the risk of a further rise in the level of structural unemployment.

Rationalisation of the education system may act as a lever for future growth preparing the next generation professionals. Interventions to attract domestic and foreign investment and the increase of export penetration could be supported by raised innovation and productivity in order to upgrade the position of the economy in the value-added chain. It is questionable though whether social partners in the country will agree and cooperate.

5. IMPACT ON PLANNING

According to Mitsopoulos and Pelagidis *(2008),* the challenge of providing a competitive higher education comes through a reformation in Greek education system. Limited availability of public funds has directed other European countries to grant more freedom and independence in their educational institutes. The same authors have identified the necessity for changing behaviour and prepare the grounds for radical changes in terms of administrative and financial autonomy. In the next figure are given the results of their survey in terms of research and autonomy of institutions in 7 European countries *(Mitsopoulos and Pelagidis, 2007).*

Table A1. Research performance and autonomy of academic institutions

Countries	External financial auditing, or dependent on evaluation	High discretion to allocate lump sum state money	Freedom to decide student intake	Freedom to hire faculty	Professor salary compensation competitive	Freedom to determine academic program offered	External academic review process or external board members	Highly cited publications per million population (as described in text)	Scientific publications per million population (2000)
United Kingdom	Yes	Yes	Yes	Yes	Yes	Yes	Yes	31	1171
Belgium	Yes	Yes	No	Yes	Yes	Yes	Yes	25	833
France	Yes	Limited	Yes	Yes	No	Some	Yes	19	774
Germany	Yes	Yes	Limited	Some	No	Yes	Yes	19	771
Spain	Yes	No	No	Some	No	Some	Some	6	579
Italy	No	Yes	No	No	No	Some	Limited	10	541
Greece	No	No	No	Limited	No	Limited	No	3	435

Source: OECD and ISI, Philadelphia and the treatment as well as calculations, are from CWTS, Leiden.

Figure 10. Research Performance and autonomy of academic institutions in 7 OECD countries
(Source: Mitsopoulos, M., Pelagidis, T., (2007) Rent-Seeking and Ex Post Acceptance of Reforms in Higher Education. *Journal of Economic Policy Reform* 10(3), p. 177-192)

The impact of crisis imposes for fast changes to take place. Since the availability of public funds is limited, broader administrative and financial autonomy is an attempt to improve results.

In addition Angelopoulos et al. *(2008)* in a recent study have clearly identified that although public education spending might raise growth, such increase is not necessarily welfare promoting for the society while on the other side creates governmental distorting taxes.

For private tertiary education, the deregulation of the sector is expected to create more opportunities in combination with the radical changes in public education. In short-term the internal reforms will restrain the market and affect the potential students to join the sector due to mostly income restrictions. In the medium-term though, private institutes with quality and policy is expected to lead in the sector and get advantage of the structural changes in total.

CONCLUSIONS

According to Woessmann *(2009),* there is a positive association between the share of privately operated schools and equality of opportunity in a society. He raised also the contradiction between the role of a conservative government and a society with conservative values. Public values are strictly related to the students' performance. On the other side the institution's characteristics might be a success factor. Efficiency and equity are complementary in an education system rather than a trade-off.

Greece is in a transition period where starts to enhance the competition mentality in higher education. Reforms are introduced to improve the way the education system will be financed, looking at different options that emphasise the focus on diversification of resources and equity issues.

Based on feedback and recommendations already placed in previous sections, there is no doubt that a structural reform strategy is taking place. Economic instability and loss of respect are expected to be recovered through an action plan. Markets depend on psychology and expectations. It is a challenge which could be best applied under current crisis, since this gives a unique opportunity. It is a question though, if social partners will agree to involve in the plan or oppose.

Country has the option of aligning to the requested changes and staying on the safe side remaining a member of the global game. To restore competitiveness and remove the imbalances, government decided to apply: first, a multi-year program of fiscal consolidation, which can reduce risk premia and crowd-in private investment, raising the growing potential of the economy; second, bold and wide-ranging institutional reforms in the public sector and structural reforms in product and labour markets, which can enhance productivity and raise the employment rate. Only by undertaking these reforms will the Greek economy be able to become more competitive and increase its growth potential and the prosperity for citizens *(Provopoulos, October 2009)*.

Such changes re-evaluate the education system and liberate new powers that stayed hidden during the previous years.

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APPENDIX A

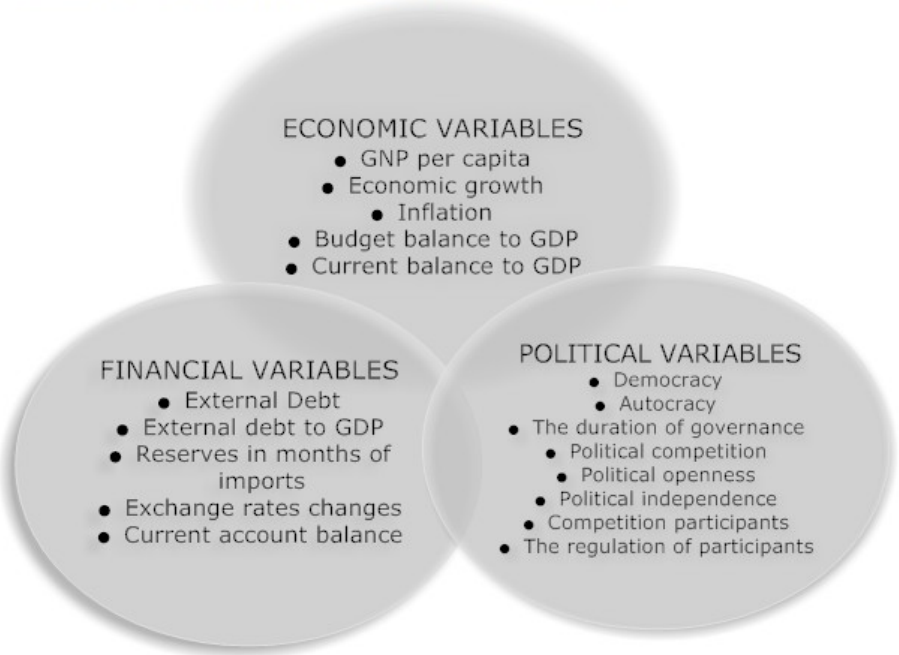
The country risk

(Source: Danu, M.C. (2009) The World Economic Crisis reflected in the Country Risk, *The Journal of the Faculty of Economics-Economic, University of Oradea, 2(1)*, p. 282.)

What is the country risk?
It is the expression of a cumulation of the economic indicators:

- *GDP developments*
- *The balance of foreign trade*
- *The external debt levels*
- *The unemployment rate*
- *The foreign exchange reserves*
- *The inflation index*
- *The index of social and political climate*

THE VARIABLES OF COUNTRY RISK TO BE USED IN THE DISCRIMINATED ANALYSIS OR IN THE PROBABILISTIC MODELS



The Country risk and its components for an economy

APPENDIX B

GDP GROWTH (ANNUAL %) IN WORLD

1990 2.93	**1994** 3.33	**1998** 2.31	**2002** 1.89	**2006** 3.96
1991 1.59	**1995** 2.91	**1999** 3.18	**2003** 2.68	**2007** 3.84
1992 2.13	**1996** 3.39	**2000** 4.13	**2004** 4.09	**2008** 1.7
1993 1.74	**1997** 3.71	**2001** 1.5	**2005** 3.48	

(Source: http://www.tradingeconomics.com/world/gdp-growth-annual-percent-wb-data.html , 13/12/2010)

APPENDIX C

APPENDIX C1
Euro area GDP annual growth rate

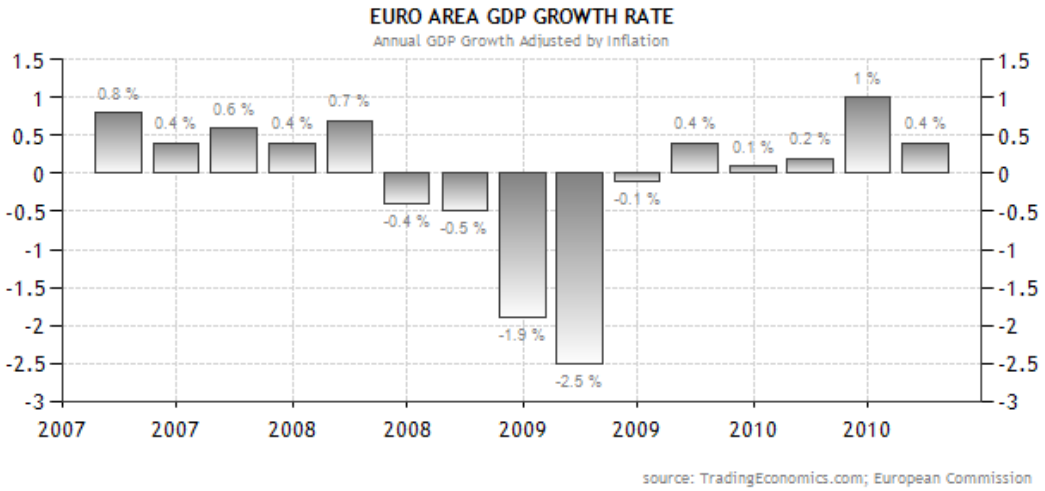
(Source: http://www.tradingeconomics.com/economics/gdp-growth-annual.aspx?symbol=eur , 12/12/2010)

USA GDP annual growth rate

(Source: http://www.tradingeconomics.com/economics/gdp-growth-annual.aspx?symbol=usd , 12/12/2010)

APPENDIX C

APPENDIX C2
Euro area GDP Growth Rate



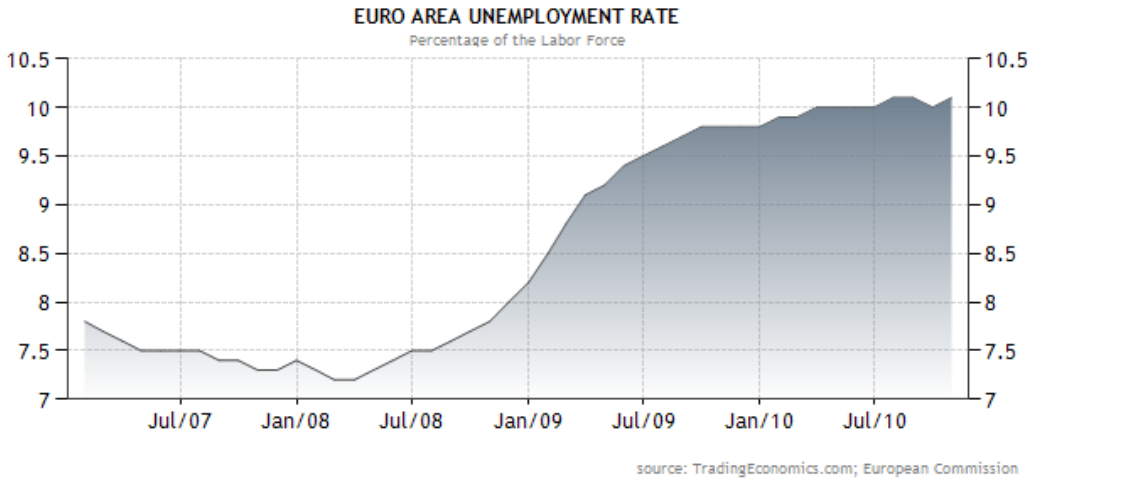
(Source: http://www.tradingeconomics.com/Economics/GDP-Growth.aspx?Symbol=EUR , 12/12/2010)

USA GDP Growth rate

(Source: http://www.tradingeconomics.com/economics/gdp-growth.aspx?symbol=usd , 12/12/2010)

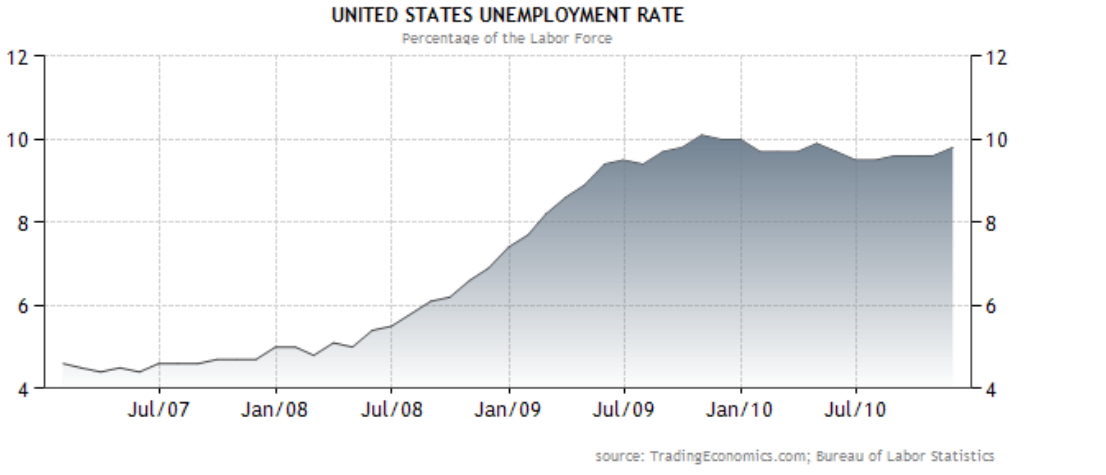
APPENDIX D

Euro area unemployment rate



(Source: http://www.tradingeconomics.com/Economics/Unemployment-rate.aspx?Symbol=EUR , 12/12/2010)

USA unemployment rate



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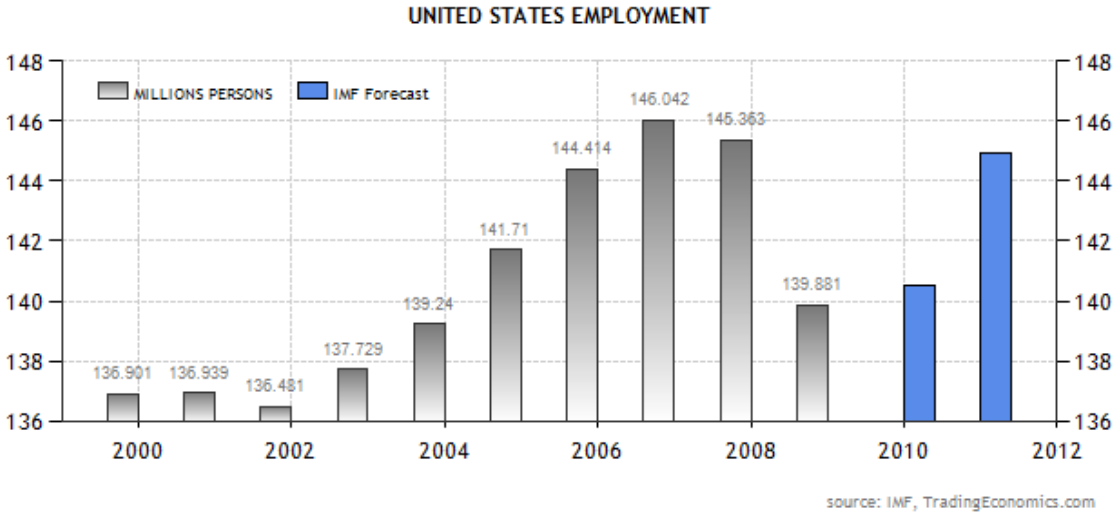
APPENDIX D1
USA Employment

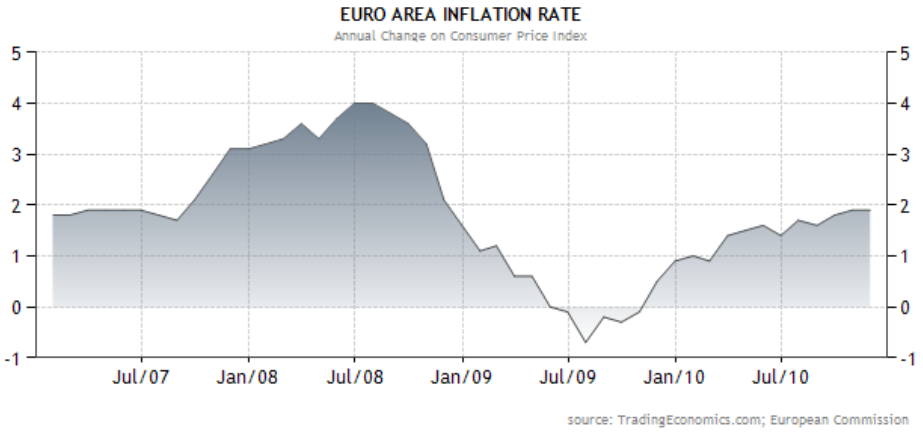


2000 136.901	**2003** 137.729	**2006** 144.414	**2008** 145.363	**2010** 140.537
2001 136.939	**2004** 139.24	**2007** 146.042	**2009** 139.881	**2011** 144.933
2002 136.481	**2005** 141.71			

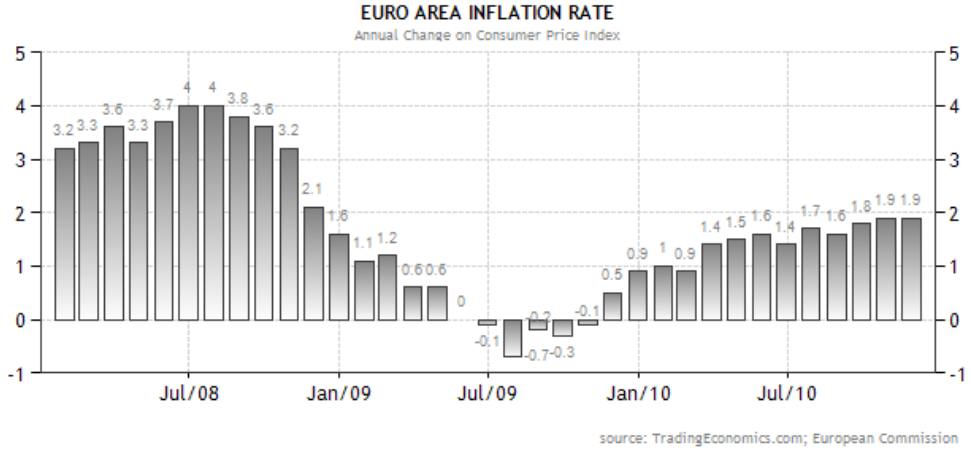
(Source: http://www.tradingeconomics.com/united-states/employment-imf-data.html , 13/12/2010)

APPENDIX E

Euro area inflation rate

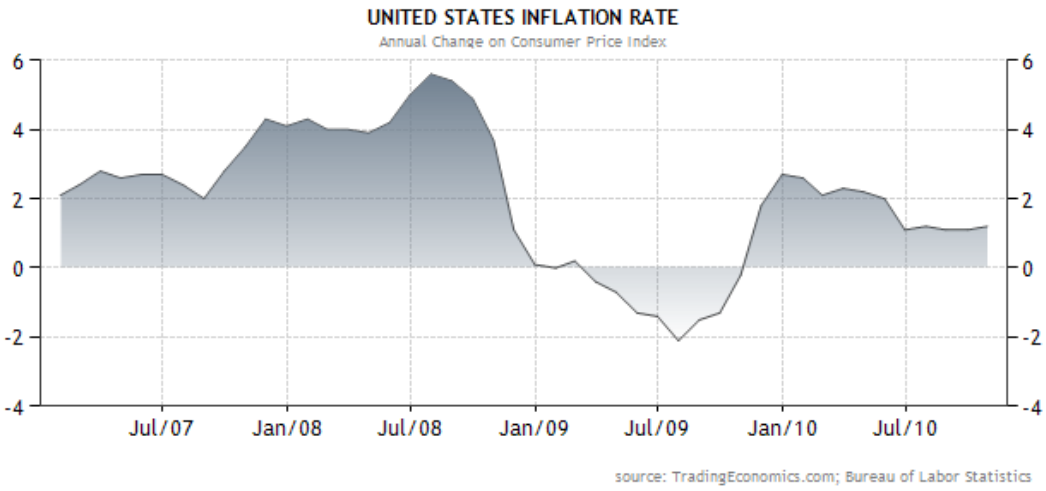


* The table above displays the monthly average.



(Source: http://www.tradingeconomics.com/Economics/Inflation-CPI.aspx?Symbol=EUR , 12/12/2010)

USA Inflation rate



(Source: http://www.tradingeconomics.com/economics/inflation-cpi.aspx?symbol=usd , 12/12/2010)

APPENDIX E1

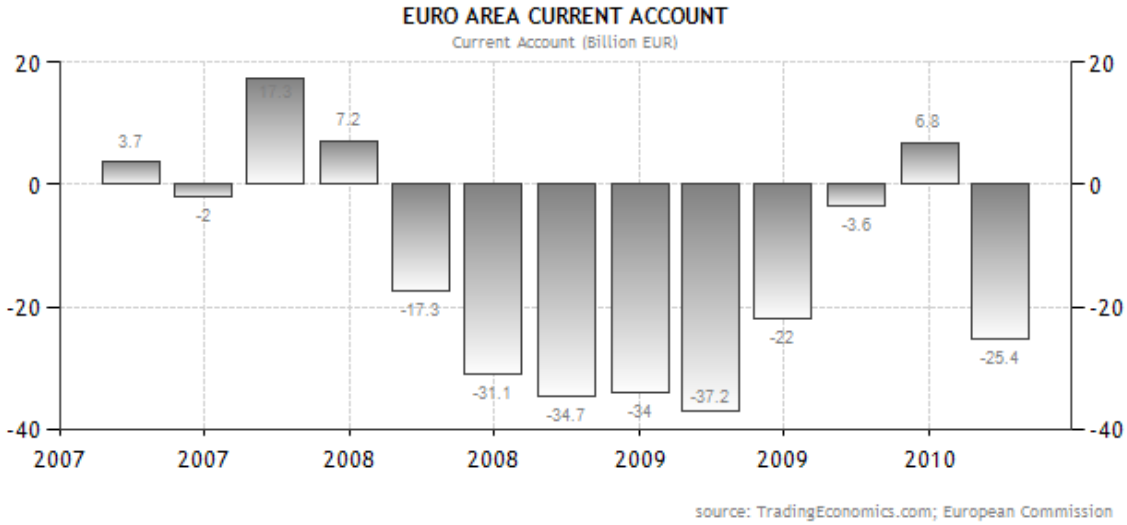
China Inflation rate

* The table above displays the monthly average.

(Source: http://www.tradingeconomics.com/Economics/Inflation-CPI.aspx?Symbol=CNY , 13/12/2010)

APPENDIX F

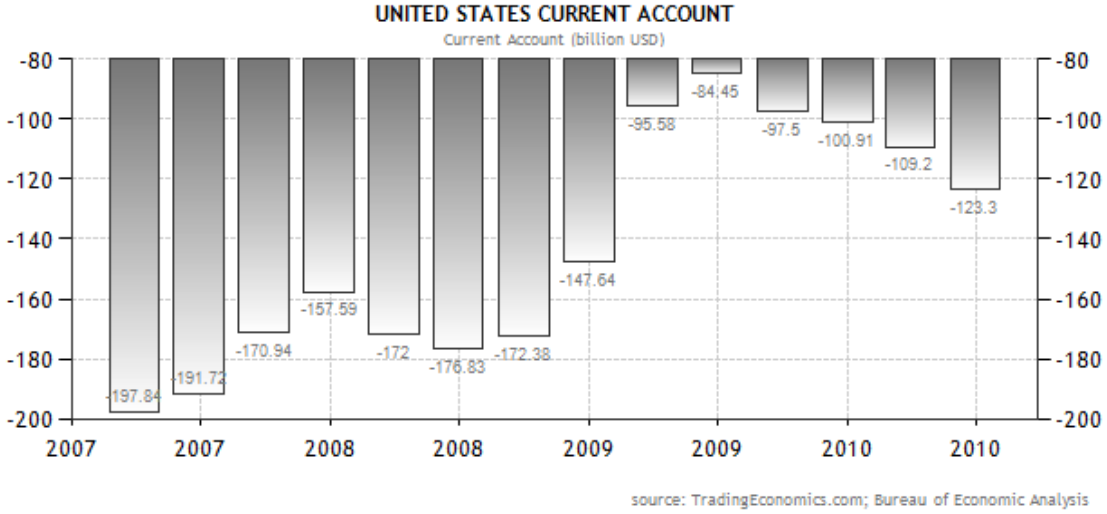
Euro area current account



Year	Mar	Jun	Sep	Dec
2010	-25.4			
2009	-37.2	-22.0	-3.6	6.8
2008	-17.3	-31.1	-34.7	-34.0

(Source: http://www.tradingeconomics.com/Economics/Current-Account.aspx?Symbol=EUR , 12/12/2010)

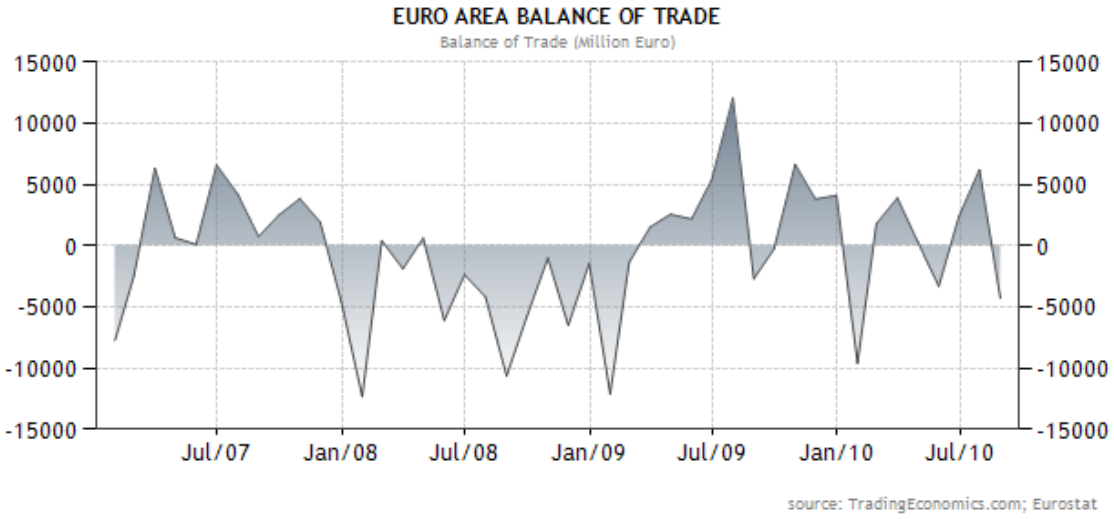
USA Current Account



Year	Mar	Jun	Sep	Dec
2010	-109.2	-123.3		
2009	-95.6	-84.5	-97.5	-100.9
2008	-172.0	-176.8	-172.4	-147.6

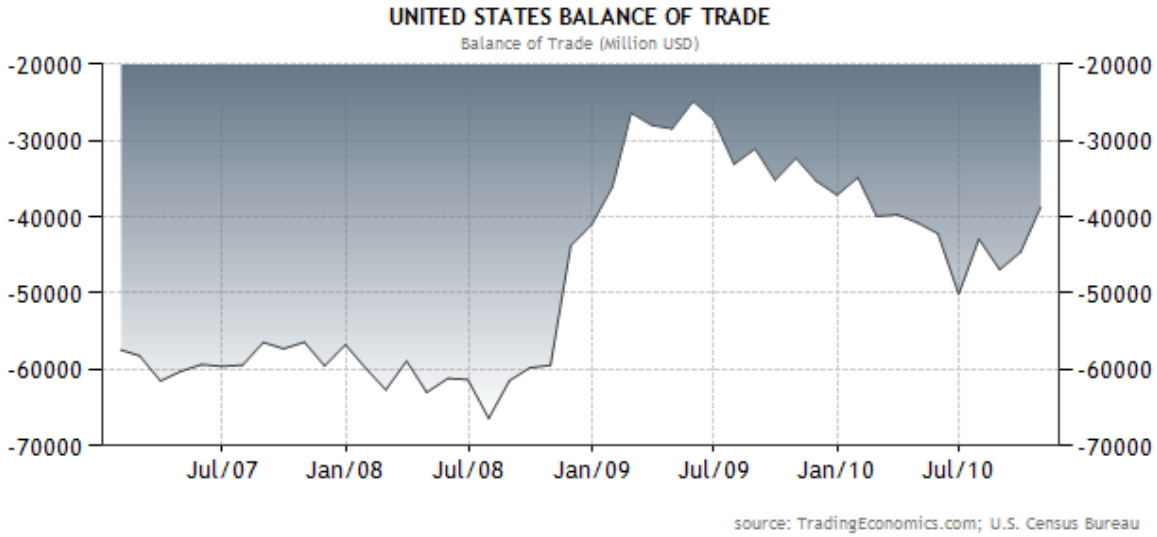
(Source: http://www.tradingeconomics.com/economics/current-account.aspx?symbol=usd , 13/12/2010)

APPENDIX G
Euro area balance of trade



(Source: http://www.tradingeconomics.com/Economics/Balance-Of-Trade.aspx?Symbol=EUR , 12/12/2010)

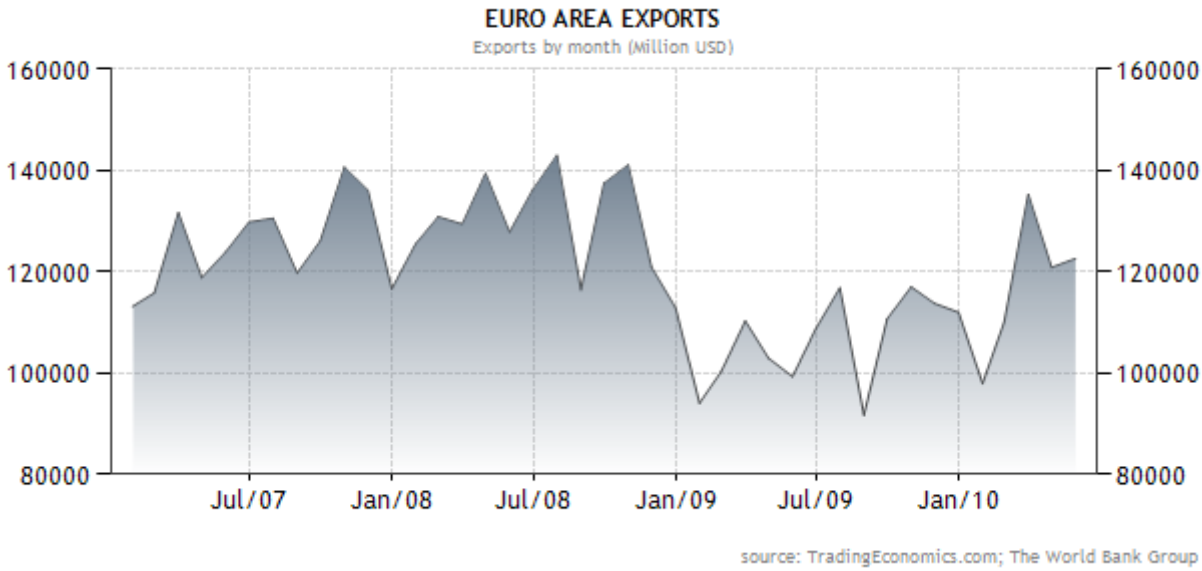
USA Balance of Trade



(Source: http://www.tradingeconomics.com/economics/balance-of-trade.aspx?symbol=usd , 13/12/2010)

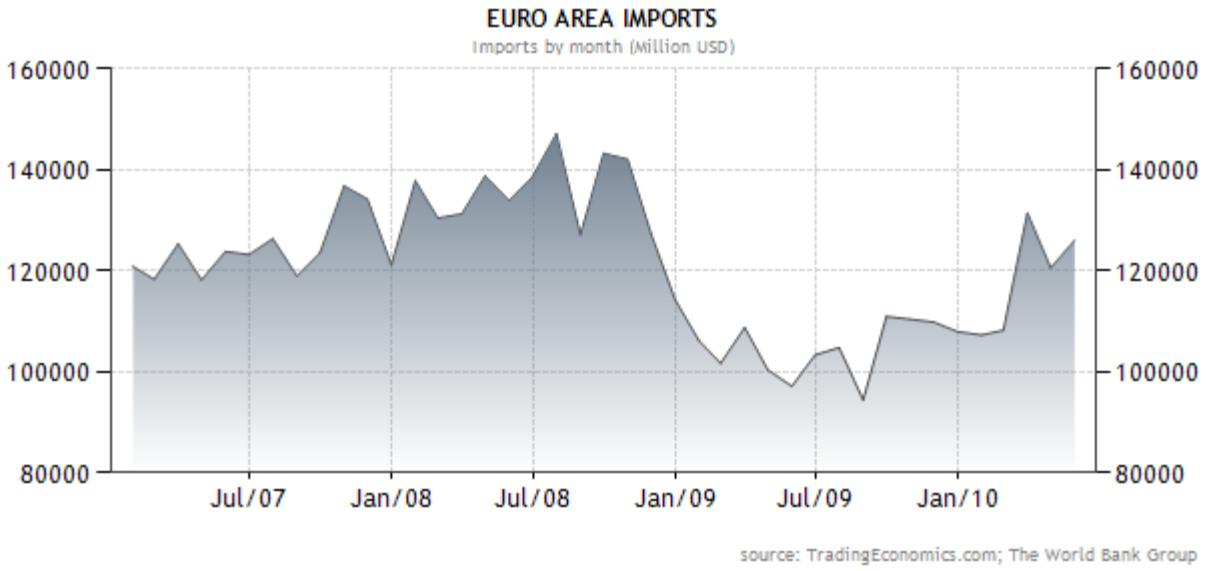
APPENDIX H

Euro area exports



(Source: http://www.tradingeconomics.com/Economics/Exports.aspx?Symbol=EUR , 12/12/2010)

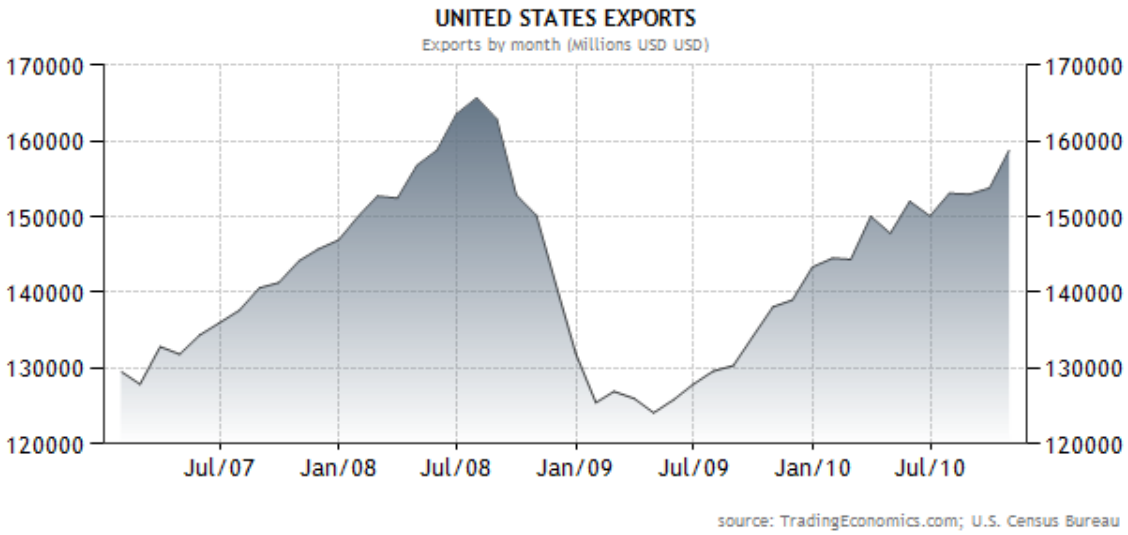
Euro area imports



(Source: http://www.tradingeconomics.com/Economics/Imports.aspx?Symbol=EUR , 12/12/2010)

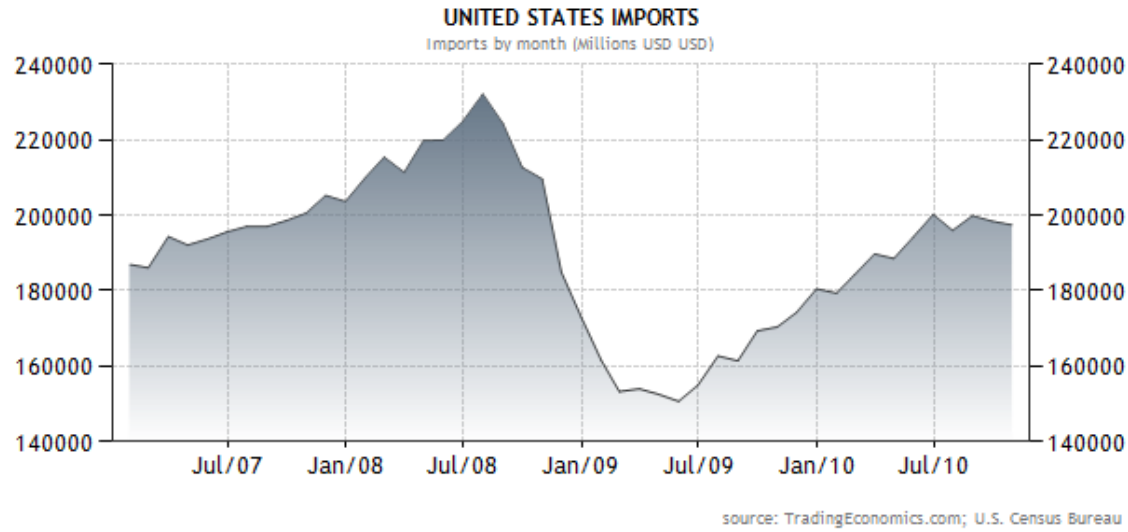
APPENDIX I

USA Exports



(Source: http://www.tradingeconomics.com/economics/exports.aspx?symbol=usd , 13/12/2010)

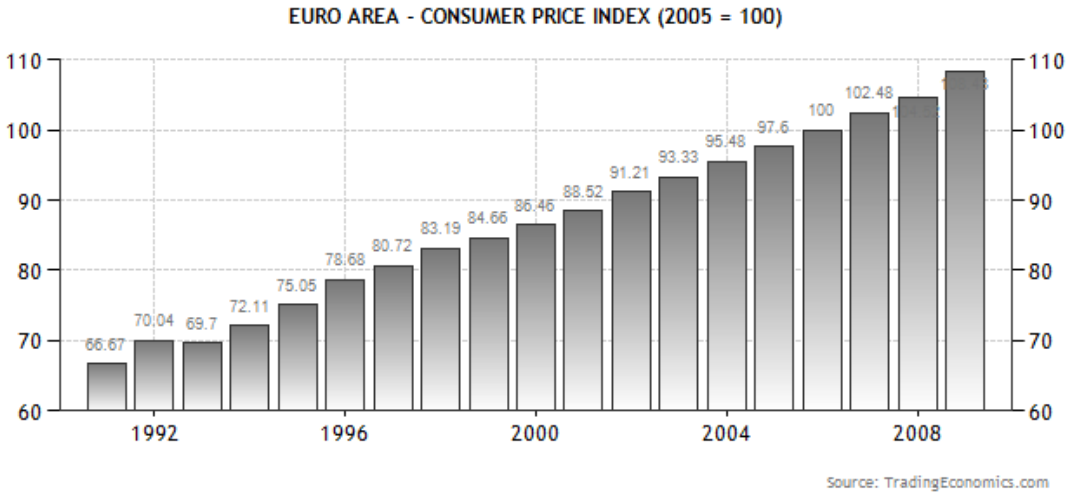
USA Imports



(Source: http://www.tradingeconomics.com/economics/imports.aspx?symbol=usd , 13/12/2010)

APPENDIX J

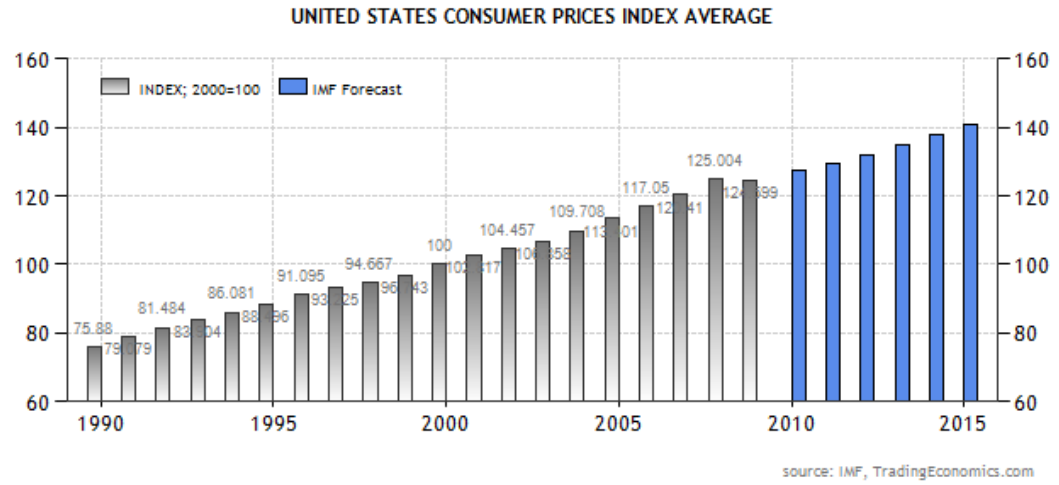
Euro Area Consumer price index



1990 66.67	**1994** 75.05	**1998** 84.66	**2002** 93.33	**2006** 102.48
1991 70.04	**1995** 78.68	**1999** 86.46	**2003** 95.48	**2007** 104.52
1992 69.7	**1996** 80.72	**2000** 88.52	**2004** 97.6	**2008** 108.43
1993 72.11	**1997** 83.19	**2001** 91.21	**2005** 100	

(Source: http://www.tradingeconomics.com/euro-area/consumer-price-index-2005--100-wb-data.html , 13/12/2010

USA Consumer Price Index



1990 75.88	**1996** 91.095	**2001** 102.817	**2006** 117.05	**2011** 129.47
1991 79.079	**1997** 93.225	**2002** 104.457	**2007** 120.41	**2012** 132.05
1992 81.484	**1998** 94.667	**2003** 106.858	**2008** 125.004	**2013** 134.886
1993 83.904	**1999** 96.743	**2004** 109.708	**2009** 124.599	**2014** 137.816
1994 86.081	**2000** 100	**2005** 113.401	**2010** 127.26	**2015** 140.781
1995 88.496				

(Source: http://www.tradingeconomics.com/united-states/consumer-prices-index-average-imf-data.html , 13/12/2010)

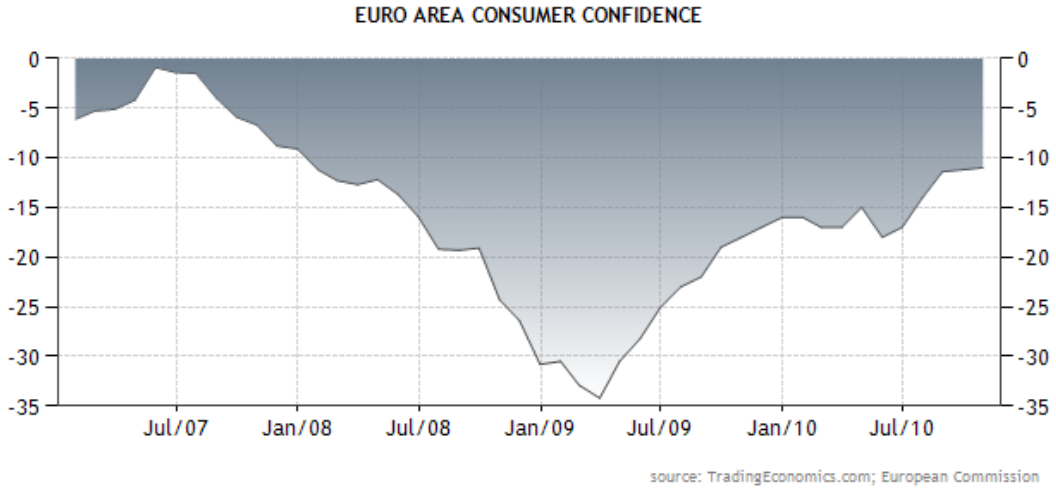
APPENDIX K

Euro area Business Confidence

* The table above displays the monthly average.

(Source: http://www.tradingeconomics.com/Economics/Business-Confidence.aspx?Symbol=EUR , 12/12/2010)

Euro Area Consumer Confidence



* The table above displays the monthly average.

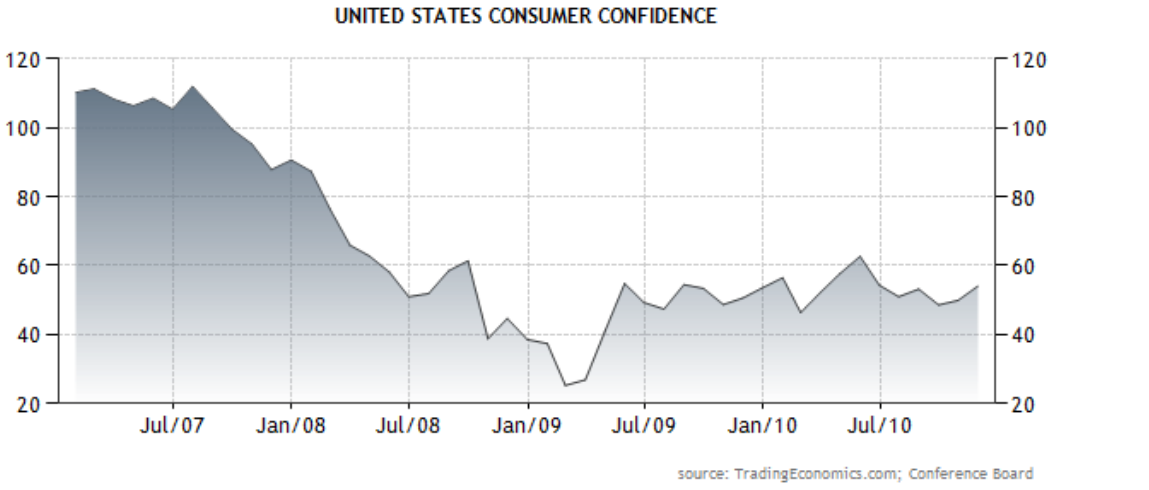
(Source: http://www.tradingeconomics.com/Economics/Consumer-Confidence.aspx?Symbol=EUR , 12/12/2010)

APPENDIX L

USA Business Confidence

(Source: http://www.tradingeconomics.com/economics/business-confidence.aspx?symbol=usd , 13/12/2010)

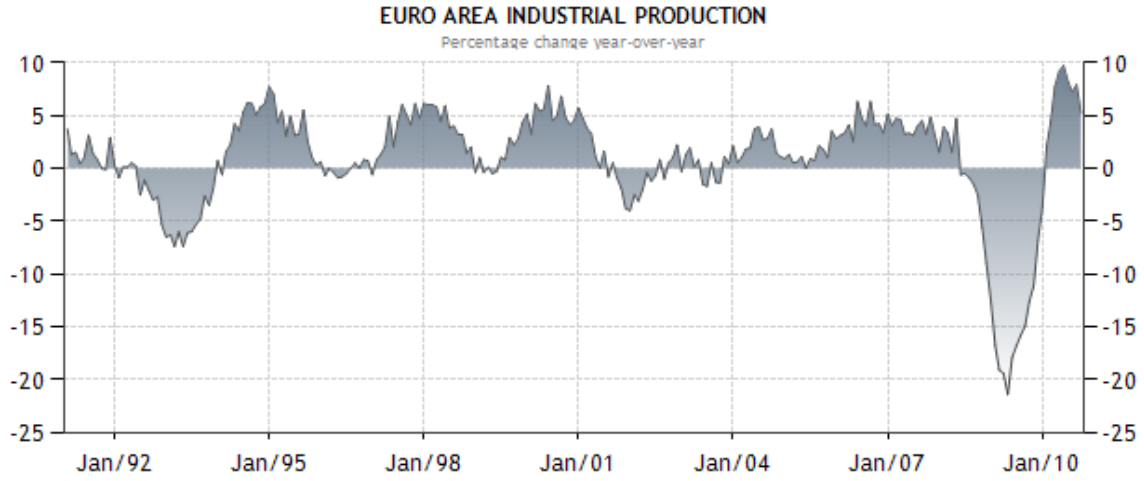
USA Consumer Confidence



(Source: http://www.tradingeconomics.com/economics/consumer-confidence.aspx?symbol=usd , 13/12/2010)

APPENDIX M

Euro area Industrial Production

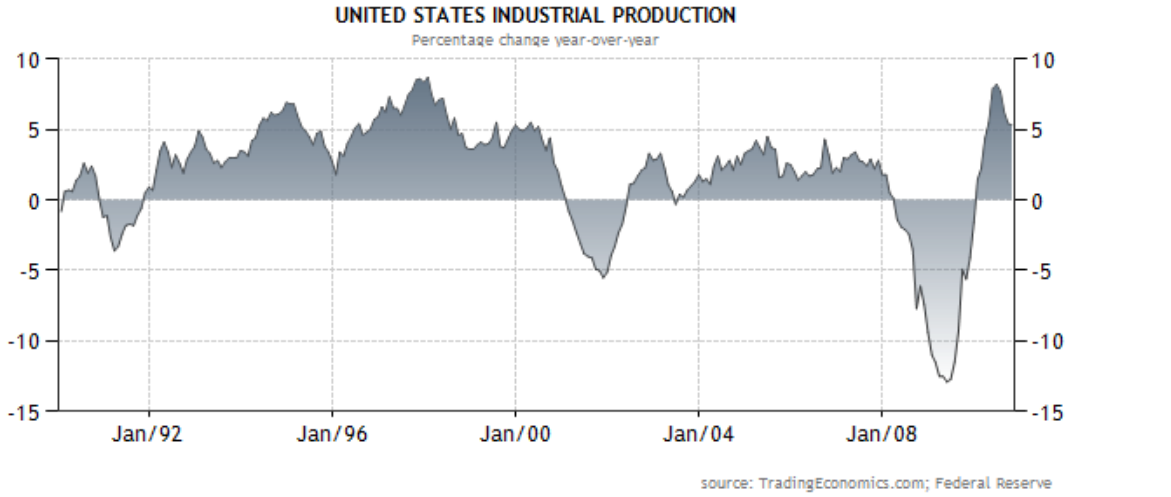


Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2010	2.10	4.40	7.70	9.20	9.70	8.20	7.20	7.90	5.20			
2009	-16.80	-19.10	-19.40	-21.40	-17.90	-16.80	-15.80	-14.90	-12.60	-11.10	-6.80	-3.70
2008	3.90	3.30	1.50	4.70	-0.60	-0.50	-0.90	-1.50	-2.50	-5.60	-9.00	-12.50

* The table above displays the monthly average.

(Source: http://www.tradingeconomics.com/Economics/Industrial-Production.aspx?Symbol=EUR , 12/12/2010)

USA Industrial Production



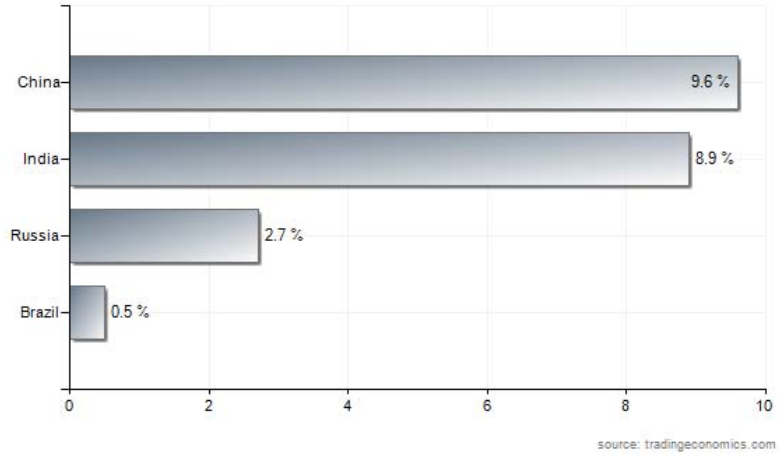
* The table above displays the monthly average.

(Source: http://www.tradingeconomics.com/economics/industrial-production.aspx?symbol=usd , 13/12/2010)

APPENDIX N

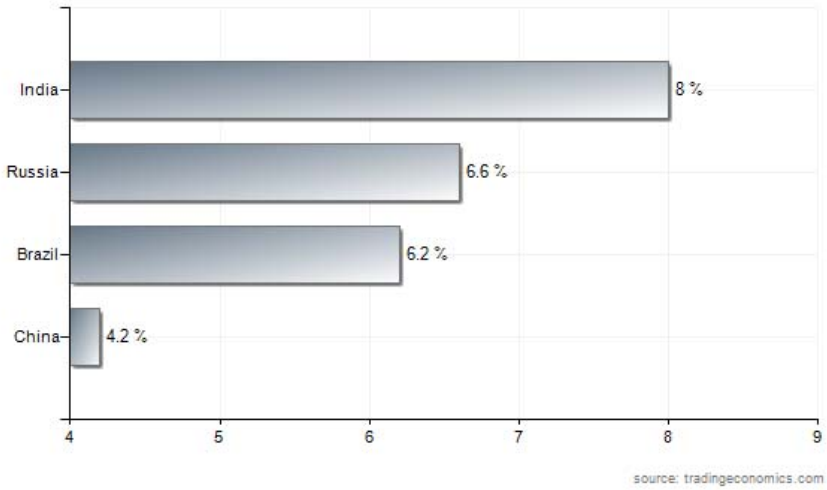
BRIC

GDP Growth rates



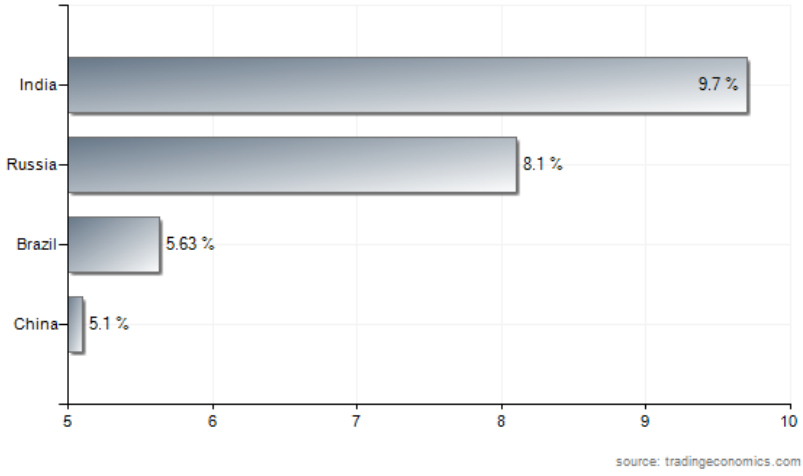
(Source: http://www.tradingeconomics.com/World-Economy/GDP-Growth-Rates.aspx , 13/12/2010)

Unemployment rates



(Source: http://www.tradingeconomics.com/World-Economy/Unemployment-Rates.aspx , 13/12/2010)

Inflation



(Source: http://www.tradingeconomics.com/World-Economy/Inflation-Rates.aspx , 13/12/2010)

APPENDIX O

TABLE 1. Unemployment rates adjusted to U.S. concepts, 10 countries, seasonally adjusted, 2008-2010 (in percent)

	United States	Canada	Australia	Japan	France (1)	Germany (1)	Italy (1)	Nether-lands (1)	Sweden	United Kingdom
2008	5.8	5.3	4.2	3.7	7.4	7.5	6.8	2.8	6.0	5.7
2009	9.3	7.3	5.6	4.8	9.1	7.8	7.9	3.4	8.2	7.7
Qtr 1 2008	5.0	5.2	4.1	3.6	7.2	7.8	6.6	3.1	5.7	5.2
Qtr 2 2008	5.3	5.3	4.2	3.7	7.2	7.6	6.9	3.1	5.7	5.4
Qtr 3 2008	6.0	5.2	4.2	3.7	7.4	7.4	6.8	3.0	6.0	5.9
Qtr 4 2008	6.9	5.7	4.5	3.8	7.7	7.4	7.0	3.1	6.6	6.4
Qtr 1 2009	8.2	6.9	5.3	4.2	8.6	7.5	7.4	3.2	7.4	7.1
Qtr 2 2009	9.3	7.5	5.7	4.8	9.1	7.9	7.6	3.6	8.3	7.8
Qtr 3 2009	9.7	7.6	r 5.8	5.1	9.1	7.9	8.1	3.9	8.5	7.9
Qtr 4 2009	10.0	7.5	r 5.6	4.9	9.5	7.8	8.4	4.3	r 8.7	7.8
Qtr 1 2010	9.7	7.4	5.3	4.6	9.5	7.7	8.5	4.5	8.6	8.0
Qtr 2 2010	9.7	7.1	5.2	4.9	9.2	7.4	8.5	4.5	8.5	7.8
Qtr 3 2010	9.6	7.1	5.2	4.8	9.3	7.2	8.3	4.5	8.2	
May 2009	9.4	7.7	5.8	4.8	r 9.1	7.8	7.6	3.6	8.8	7.8
Jun 2009	9.5	7.6	5.8	5.0	r 9.1	7.9	7.9	3.6	8.3	7.9
Jul 2009	9.4	7.7	5.7	5.3	9.0	7.9	8.0	3.8	8.3	7.9
Aug 2009	9.7	7.8	5.8	5.1	9.1	7.9	8.0	3.9	8.6	7.9
Sep 2009	9.8	7.5	r 5.8	5.0	9.2	7.9	8.3	4.1	8.6	7.9
Oct 2009	10.1	7.5	r 5.7	4.9	9.5	7.8	r 8.3	4.1	8.6	7.9
Nov 2009	10.0	7.5	r 5.6	5.0	9.6	7.8	8.4	4.3	8.5	7.8
Dec 2009	10.0	7.5	5.5	4.9	r 9.5	7.7	8.5	4.4	8.8	7.8
Jan	9.7	7.4	5.3	4.6	9.5	7.7	8.4	4.6	8.7	8.0

TABLE 1. Unemployment rates adjusted to U.S. concepts, 10 countries, seasonally adjusted, 2008-2010 (in percent)

	United States	Canada	Australia	Japan	France (1)	Germany (1)	Italy (1)	Nether-lands (1)	Sweden	United Kingdom
2010										
Feb 2010	9.7	7.4	5.3	4.6	9.5	7.7	8.5	4.5	8.6	8.0
Mar 2010	9.7	7.3	5.4	4.7	9.4	7.6	8.6	4.5	8.5	7.9
Apr 2010	9.9	7.2	5.4	4.8	9.2	7.4	8.6	4.5	8.8	7.9
May 2010	9.7	7.2	5.2	4.9	r 9.2	7.4	8.6	4.5	8.6	7.8
Jun 2010	9.5	7.1	5.1	5.0	r 9.2	7.3	8.4	4.5	8.1	7.8
Jul 2010	9.5	7.1	5.3	4.9	r 9.2	7.3	8.4	4.6	8.3	7.8
Aug 2010	9.6	7.1	5.1	4.8	r 9.3	7.2	8.2	4.5	8.1	7.8
Sep 2010	9.6	7.0	5.1	4.7	r 9.3	7.1	8.4	4.4	8.1	
Oct 2010	9.6	7.0	5.4	4.8	9.2	7.1	8.7	4.4	7.9	

Footnotes:

(1) Quarterly and monthly data are calculated by applying annual adjustment factors to current published data and therefore should be viewed as less precise indicators of unemployment under U.S. concepts than the annual figures.

r=revised

NOTE: Data are on a civilian labor force basis. Foreign country data are adjusted to U.S. concepts. Although the U.S. lower age limit is 16 years, the age limit for other countries varies from 15 to 16 years. No adjustment is made for the treatment of layoffs. For some countries, no adjustment is made for the treatment of unpaid family workers, persons waiting to start a new job, and passive job seekers (for example, persons only reading newspaper ads as their method of job search). In the United States, job search must be "active," such as placing or answering advertisements, and simply reading ads is not enough to qualify as active search. These unadjusted differences have a negligible effect on the comparisons. For further information on comparability issues, see Constance Sorrentino, "International unemployment rates: how comparable are they?" Monthly Labor Review, June 2000, pp. 3-20, at www.bls.gov/opub/mlr/2000/06/art1full.pdf.

For further qualifications and historical data, see "International Comparisons of Annual Labor Force Statistics, Adjusted to U.S. Concepts, 10 countries, 1970-2009," June 2, 2010, at www.bls.gov/ilc/flscomparelf.htm.

Data used to calculate unemployment rates come mainly from national statistical sources but also from the Organization for Economic Cooperation and Development (OECD) and the Statistical Office of the European Communities (EUROSTAT).

TABLE 2. Unemployment rates unadjusted by BLS, 10 European Union countries or areas, seasonally adjusted, 2008-2010 (in percent)

	EU-27 (1)	Euro Area (2)	Austria	Belgium	Denmark	Finland	Greece	Ireland	Portugal	Spain
2008	7.0	7.5	3.8	7.0	3.3	6.4	7.7	6.3	7.7	11.3
2009	8.9	9.4	4.8	7.9	6.0	8.2	9.5	11.9	9.6	18.0
Qtr 1 2008	6.7	7.2	4.0	6.9	3.2	6.3	7.8	4.9	7.5	9.2
Qtr 2 2008	6.9	7.4	3.6	6.8	3.1	6.3	7.5	5.5	7.7	10.5
Qtr 3 2008	7.1	7.6	r 3.8	7.2	3.3	6.4	7.5	6.9	7.9	11.8
Qtr 4 2008	7.5	8.0	4.0	7.2	r 3.7	6.7	7.9	8.0	7.9	14.0
Qtr 1 2009	8.2	8.8	r 4.4	7.6	4.8	7.4	8.8	10.2	8.8	16.6
Qtr 2 2009	8.8	9.4	4.8	7.7	6.0	8.2	9.2	11.8	r 9.5	17.9
Qtr 3 2009	9.2	9.7	r 5.2	r 8.0	r 6.2	8.6	9.7	12.5	r 10.1	r 18.6
Qtr 4 2009	9.4	9.9	4.8	8.1	7.1	8.7	10.2	13.0	10.2	19.0
Qtr 1 2010	9.6	9.9	4.5	8.4	7.2	8.7	11.1	r 12.9	10.5	19.3
Qtr 2 2010	9.6	10.0	4.5	8.5	r 7.4	8.5	12.2	13.5	11.0	20.0
Qtr 3 2010	9.6	10.0	4.4	8.6	7.2	8.2		13.9	11.1	20.5
May 2009	r 8.9	9.4	4.8	7.7	6.0	8.2	(3)	11.9	9.4	17.9
Jun 2009	9.0	9.5	5.0	7.8	6.2	8.4	(3)	12.1	9.7	18.1
Jul 2009	9.1	9.6	r 5.2	8.0	6.1	8.5	(3)	r 12.2	10.0	18.4
Aug 2009	9.2	9.7	5.2	8.1	6.1	8.6	(3)	12.5	10.2	r 18.6
Sep 2009	9.3	9.8	5.1	8.1	6.5	8.6	(3)	12.9	10.2	r 18.9
Oct 2009	9.4	9.9	4.9	8.0	6.9	8.7	(3)	13.0	10.2	19.0
Nov 2009	9.4	9.9	4.8	8.1	7.2	r 8.8	(3)	r 13.1	10.2	19.0
Dec 2009	r 9.5	9.9	r 4.6	8.2	7.2	8.8	(3)	12.9	10.2	19.0
Jan 2010	9.5	9.9	r 4.5	8.3	7.1	8.8	(3)	12.8	10.4	19.1
Feb	9.6	9.9	4.5	8.4	7.1	8.7	(3)	12.8	10.4	19.3

TABLE 2. Unemployment rates unadjusted by BLS, 10 European Union countries or areas, seasonally adjusted, 2008-2010 (in percent)

	EU-27 (1)	Euro Area (2)	Austria	Belgium	Denmark	Finland	Greece	Ireland	Portugal	Spain
2010										
Mar 2010	9.6	r 9.9	4.5	8.4	7.3	8.7	(3)	13.0	10.7	19.5
Apr 2010	9.6	10.0	4.6	r 8.4	r 7.5	8.6	(3)	13.2	10.9	19.8
May 2010	9.6	10.0	4.6	8.5	r 7.4	8.5	(3)	13.6	r 11.1	20.0
Jun 2010	9.6	10.0	4.5	r 8.5	r 7.4	r 8.4	(3)	13.7	r 11.1	20.2
Jul 2010	9.6	10.0	4.3	r 8.6	r 7.2	8.4	(3)	13.8	r 11.1	20.4
Aug 2010	r 9.5	10.0	r 4.4	r 8.6	r 7.1	8.3	(3)	13.9	r 11.1	r 20.5
Sep 2010	9.6	r 10.0	4.5	r 8.5	r 7.3	r 8.1	(3)	14.1	r 11.1	r 20.7
Oct 2010	9.6	10.1	4.8	8.5		8.0	(3)	14.1	11.0	20.7

Footnotes:

(1) European Union-27 (EU-27) refers to European Union member countries as of January 1, 2007. The EU-27 rate is the population-weighted average for the following 27 countries: Austria, Belgium, Bulgaria, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, and the United Kingdom.

(2) Euro area refers to European Union member countries that adopted the euro as a common currency. The composition of the euro area changes over time. As the euro area expands, data for new member countries are linked into this moving coverage series. Thus, the euro area rate changes its geographical coverage according to the composition of the euro area during the period to which the data refer. For January 2009 onward, the euro area rate is the population-weighted average for the following 16 countries: Austria, Belgium, Cyprus, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Malta, the Netherlands, Portugal, Slovakia, Slovenia, and Spain.

(3) Data are not published on a monthly basis.

r=revised

NOTE: Data exclude conscripts but include career military living in private households. BLS does not adjust these data to reflect U.S. concepts. These data are prepared by the Statistical Office of the European Communities (EUROSTAT) according to the International Labor Office (ILO) definitions and are called harmonized unemployment rates. For details on methods and concepts, see "European Union labor force survey, methods and concepts, 2001," at http://epp.eurostat.ec.europa.eu/cache/ITY_OFFPUB/KS-BF-03-002/EN/KS-BF-03-002-EN.PDF. Data are reproduced with permission from EUROSTAT.

TABLE 3. Employment indexes adjusted to U.S. concepts, 10 countries, seasonally adjusted, 2008-2010

	United States	Canada	Australia	Japan	France	Germany	Italy	Nether-lands	Sweden	United Kingdom
Index	4th Quarter 2009 = 100									
Qtr 1 2008	105.9	101.2	97.9	102.4	101.2	100.0	102.4	100.1	102.5	102.2
Qtr 2 2008	105.7	101.4	98.6	102.4	101.2	100.2	102.5	100.7	102.7	102.2
Qtr 3 2008	105.1	101.5	99.0	101.9	101.2	100.4	102.2	101.0	102.5	101.8
Qtr 4 2008	104.2	101.4	99.1	101.9	101.3	100.5	101.8	101.3	102.1	101.6
Qtr 1 2009	102.5	100.0	99.1	101.6	100.8	100.3	101.1	101.7	101.2	101.0
Qtr 2 2009	101.7	99.8	99.2	100.3	100.8	100.0	100.8	101.2	100.4	100.1
Qtr 3 2009	100.9	99.8	99.3	100.2	100.3	100.0	100.3	100.5	99.6	100.1
Qtr 4 2009	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Qtr 1 2010	100.4	100.5	100.9	100.6	100.5	100.1	100.0	99.6	100.5	99.9
Qtr 2 2010	100.9	101.5	101.5	99.7	100.7	100.5	100.0	99.8	101.1	100.6
Qtr 3 2010	100.8	102.0	102.4	100.2	100.6	100.7	99.9	99.8	101.4	
Index	Oct 2009 = 100									
May 2009	101.6	99.9	99.6	100.2	(1)	100.1	101.0	101.1	100.8	100.1
Jun 2009	101.3	100.0	99.3	99.8	(1)	100.0	100.4	100.8	100.8	99.8
Jul 2009	101.1	99.8	99.7	99.8	(1)	100.0	100.5	100.5	99.5	100.0
Aug 2009	100.9	100.0	99.5	100.2	(1)	100.1	100.4	100.4	99.7	100.0
Sep 2009	100.4	100.2	99.9	100.3	(1)	100.1	100.0	100.2	100.5	100.0
Oct 2009	100.0	100.0	100.0	100.0	(1)	100.0	100.0	100.0	100.0	100.0
Nov 2009	100.1	100.4	100.4	99.8	(1)	100.0	99.8	99.7	100.5	100.0
Dec 2009	99.7	100.2	100.7	99.9	(1)	100.1	100.1	99.7	100.7	99.8
Jan 2010	100.1	100.6	101.2	100.8	(1)	100.1	100.2	99.6	100.6	99.8
Feb 2010	100.3	100.7	101.1	100.4	(1)	100.1	100.0	99.5	100.9	99.8

TABLE 3. Employment indexes adjusted to U.S. concepts, 10 countries, seasonally adjusted, 2008-2010

	United States	Canada	Australia	Japan	France	Germany	Italy	Nether-lands	Sweden	United Kingdom
Mar 2010	100.5	100.8	101.4	100.4	(1)	100.2	99.9	99.3	101.1	99.9
Apr 2010	100.9	101.4	101.6	99.8	(1)	100.4	100.1	99.5	101.3	100.3
May 2010	100.9	101.5	101.8	99.5	(1)	100.5	99.9	99.7	101.2	100.4
Jun 2010	100.6	102.1	102.2	99.6	(1)	100.6	99.9	99.6	101.9	100.9
Jul 2010	100.5	102.1	102.4	99.9	(1)	100.7	99.9	99.6	101.7	100.9
Aug 2010	100.7	102.3	102.7	99.9	(1)	100.8	99.8	99.6	101.4	101.0
Sep 2010	100.8	102.3	103.1	100.6	(1)	100.9	99.9	99.7	102.3	
Oct 2010	100.6	102.3	103.4	100.3	(1)	101.0	99.9	99.8	102.5	

Footnotes:

(1) Data are not published on a monthly basis.

NOTE: Indexes are calculated using employment levels underlying the unemployment rates adjusted to U.S. concepts in Table 1 (see Table 1 notes). Data are on a civilian labor force basis and mainly from household surveys. Household surveys provide greater comparability of labor market trends across countries than establishment surveys, although both types of surveys are used to measure employment. In the United States, the establishment survey provides a highly reliable gauge of monthly change in nonfarm payroll employment while the household survey provides a broader picture of employment including agriculture and the self-employed. For details on the differences between the two U.S. surveys, see www.bls.gov/web/ces_cps_trends.pdf. Note that trends shown in this table are for the number of persons in employment and not the number of jobs.

(Source: United States Department of Labour, Bureau of Labour Statistics,
http://stats.bls.gov/fls/intl_unemployment_rates_monthly.htm
International unemployment rates and employment indexes, 02/12/2010)

APPENDIX P

GREECE, National Data

GREECE - NATIONAL STATISTICAL DATA

	Latest Value	Scale	Units
Greece Balance of Trade	-2247.23	Million	EUR
Greece Current Account	249.50	Million	EUR
Greece Exports	1361.05	Million	EUR
Greece Gross Domestic Product (GDP)	329.92	Billion	USD
Greece GDP Annual Growth Rate	-3.50	%	
Greece GDP Growth Rate	-1.50	%	
Greece GDP per capita (Constant Prices Since 2000)	15361.00		USD
Greece GDP per capita (Purchasing Power Parity PPP)	29356.00		USD
Greece Government Bond 10 Year Yield	11.77		
Greece Government Budget	-3.72	%	
Greece Imports	3608.29	Million	EUR
Greece Industrial Production	-4.50	%	
Greece Inflation Rate	5.50	%	
Greece Stock Market Index	1436.66		EUR
Greece Unemployment Rate	11.00	Eurostat	EUR

(Source: http://www.tradingeconomics.com/greece/indicators/ , 13/12/2010)

APPENDIX Q

GREECE, International Monetary Fund Data & Forecasts

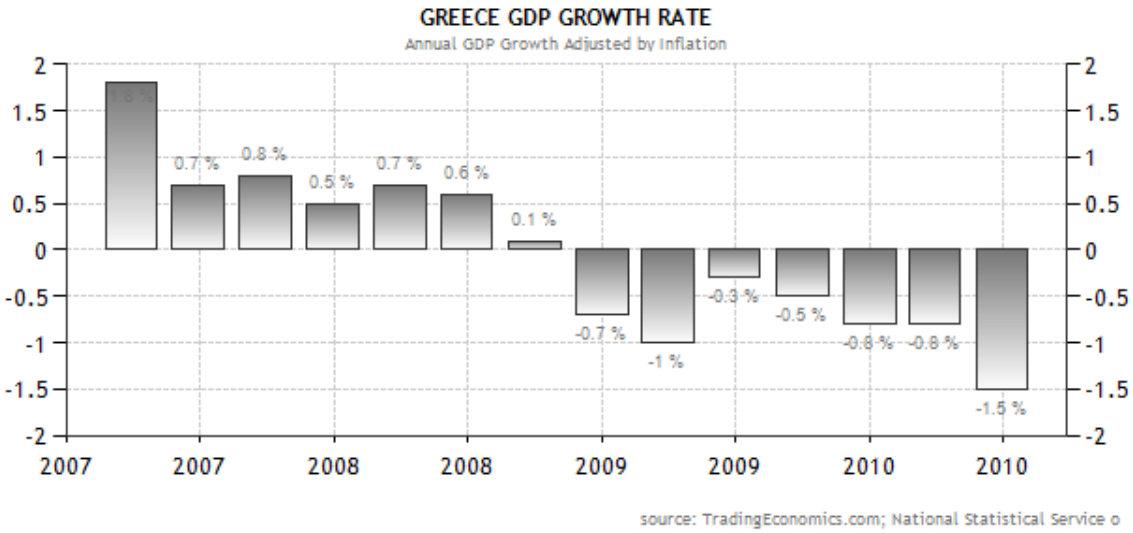
GREECE - IMF DATA & FORECASTS

	2010	2015	Scale	Units
Greece GDP at constant prices	178.15	181.57	Billions	Euro
Greece percent change in GDP at constant prices	-2.00	1.40		Percent change
Greece GDP at current prices	238.33	258.84	Billions	Euro
Greece GDP at current prices in US dollars	325.08	341.97	Billions	U.S. dollars
Greece GDP deflator	133.78	142.56		Index
Greece GDP per Capita at constant prices	15925.35	16160.04	Units	Euro
Greece GDP per Capita at current prices	21304.64	23037.70	Units	Euro
Greece GDP per Capita at current prices in US dollars	29059.65	30435.92	Units	U.S. dollars
Greece Output gap in percent of potential GDP	-0.62			Percent of potential GDP
Greece GDP based on Purchasing Power Parity (PPP) valuation of country GDP	329.11	366.52	Billions	Current international dollar
Greece GDP based on Purchasing Power Parity (PPP) per capita GDP	29419.92	32621.16	Units	Current international dollar
Greece GDP based on Purchasing Power Parity (PPP) share of world total	0.48	0.41		Percent
Greece Implied Purchasing Power Parity (PPP) conversion rate	0.72	0.71		National currency per current international dollar
Greece Consumer Prices Index average	136.05	145.70		Index; 2000=100
Greece Inflation average	1.90	1.70		Percent change
Greece Consumer Prices Index end-of-period	134.00	143.64		Index; 2000=100
Greece Inflation end-of-period	0.90	1.70		Percent change
Greece Unemployment rate	12.00			Percent of total labor force
Greece Employment	4.37		Millions	Persons
Greece Population	11.19	11.24	Millions	Persons
Greece Government Net Lending and Borrowing	-20.77		Billions	Euro
Greece Government Net Lending and Borrowing in percent of GDP	-8.72			Percent of GDP
Greece General government structural balance	-21.31		Billions	Euro
Greece General government structural balance in percent of potential GDP	-8.89			Percent of potential GDP
Greece GDP Fiscal Year Current Prices	238.33		Billions	Euro
Greece Current account balance in US dollars	-31.49	-24.93	Billions	U.S. dollars
Greece Current account balance in percent of GDP	-9.69	-7.29		Percent of GDP

(Source: http://www.tradingeconomics.com/greece/indicators/ , 13/12/2010)

APPENDIX R

Greece, GDP Growth rate

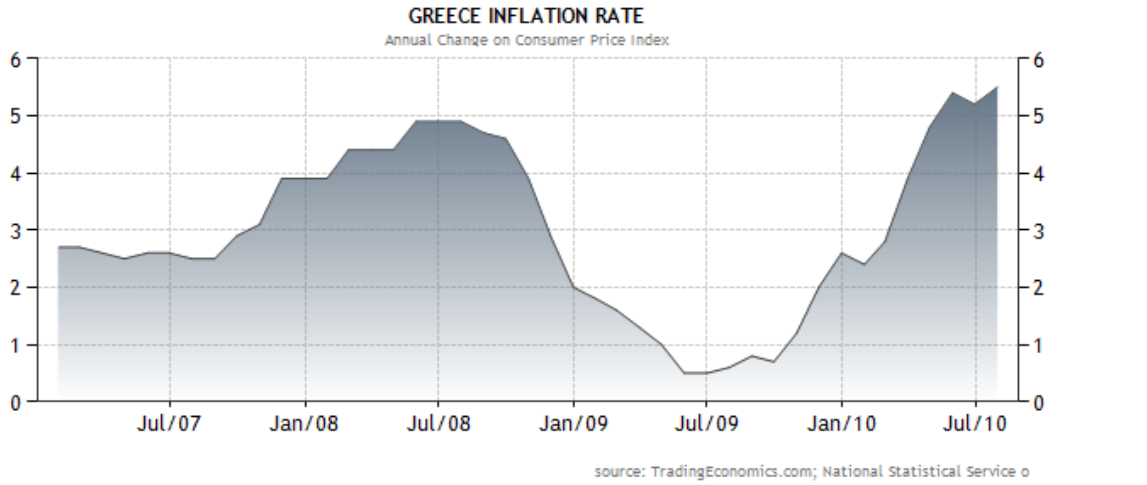


Year	Mar	Jun	Sep	Dec
2010	-0.80	-1.50		
2009	-1.00	-0.30	-0.50	-0.80
2008	0.70	0.60	0.10	-0.70

(Source: http://www.tradingeconomics.com/economics/gdp-growth.aspx?symbol=grd , 13/12/2010)

APPENDIX S

Inflation rate

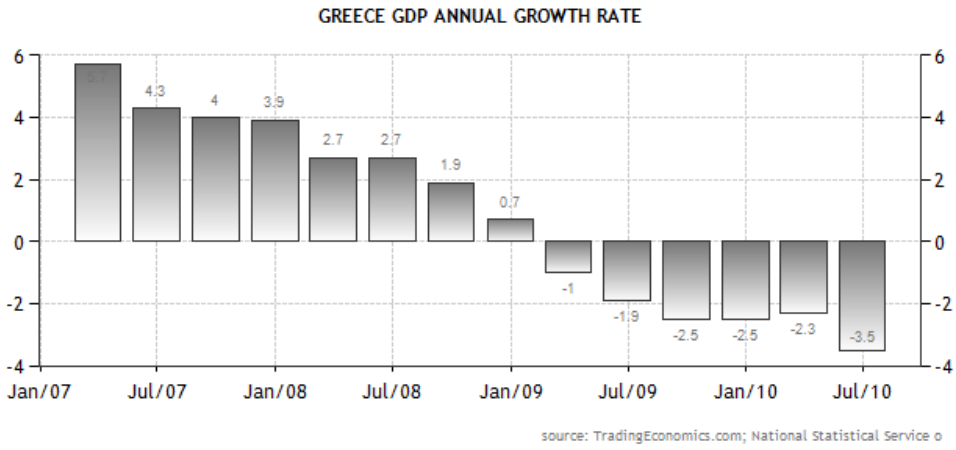


* The table above displays the monthly average.

(Source: http://www.tradingeconomics.com/economics/inflation-cpi.aspx?symbol=grd , 13/12/2010)

APPENDIX T

GDP annual growth rate

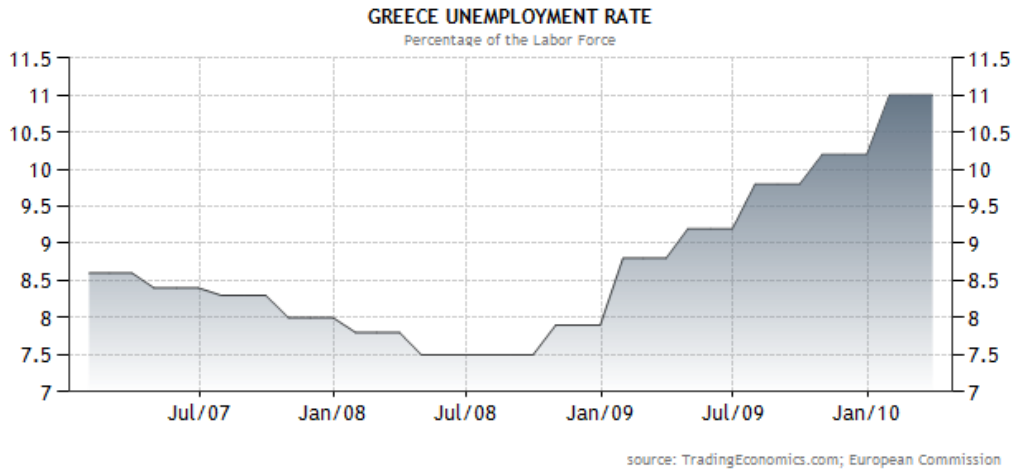


Year	Mar	Jun	Sep	Dec
2010	-2.30	-3.50		
2009	-1.00	-1.90	-2.50	-2.50
2008	2.70	2.70	1.90	0.70

(Source: http://www.tradingeconomics.com/economics/gdp-growth-annual.aspx?symbol=grd , 13/12/2010)

APPENDIX U

Unemployment rate



* The table above displays the monthly average.

(Source: http://www.tradingeconomics.com/economics/unemployment-rate.aspx?symbol=grd , 13/12/2010)

Employment

1980 3.88	**1987** 3.744	**1994** 3.944	**2000** 4.088	**2006** 4.452
1981 3.825	**1988** 3.806	**1995** 4.062	**2001** 4.086	**2007** 4.51
1982 3.757	**1989** 3.821	**1996** 4.114	**2002** 4.176	**2008** 4.559
1983 3.705	**1990** 3.871	**1997** 3.788	**2003** 4.275	**2009** 4.495
1984 3.698	**1991** 3.78	**1998** 4.018	**2004** 4.313	**2010** 4.37
1985 3.735	**1992** 3.835	**1999** 4.031	**2005** 4.369	**2011** 4.317
1986 3.748	**1993** 3.872			

(Source: http://www.tradingeconomics.com/greece/employment-imf-data.html , 13/12/2010)

APPENDIX V

Balance of trade

(Source: http://www.tradingeconomics.com/economics/balance-of-trade.aspx?symbol=grd , 13/12/2010)

APPENDIX W

Current Account

(Source: http://www.tradingeconomics.com/economics/current-account.aspx?symbol=grd , 13/12/2010)

APPENDIX X

Imports

(Source: http://www.tradingeconomics.com/economics/imports.aspx?symbol=grd , 13/12/2010)

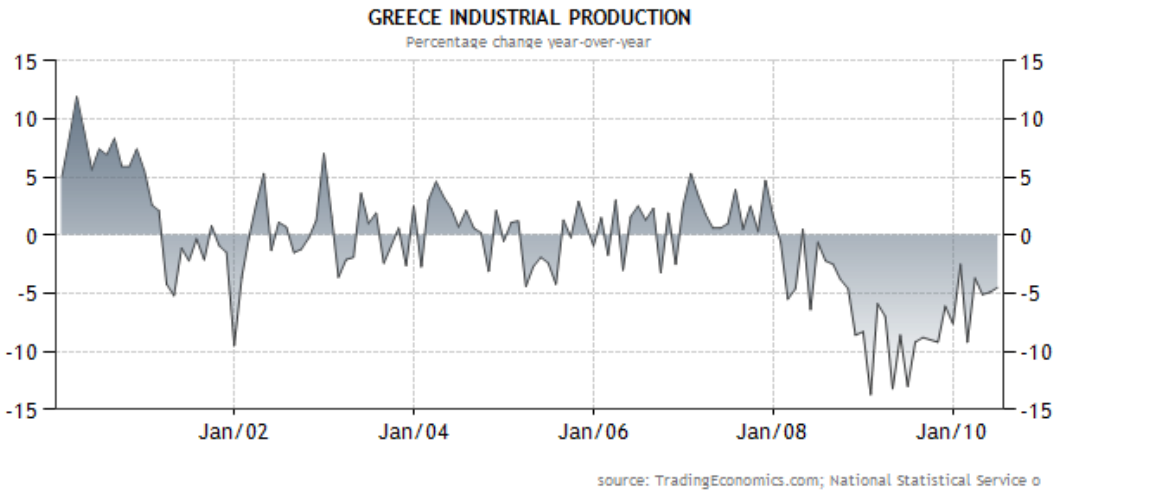
APPENDIX Y

Exports

(Source: http://www.tradingeconomics.com/economics/exports.aspx?symbol=grd , 13/12/2010)

APPENDIX Z

Industrial production

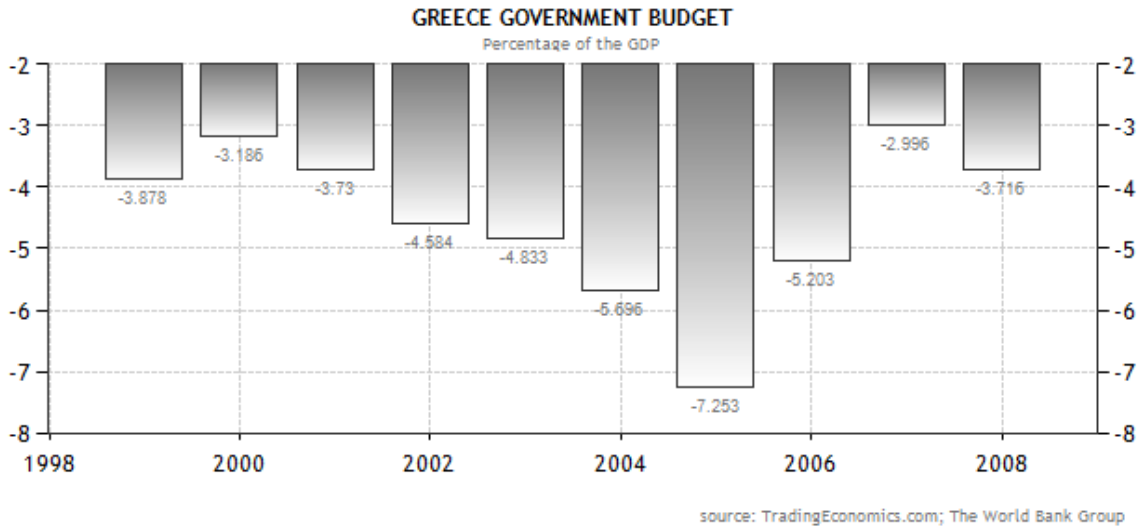


* The table above displays the monthly average.

(Source: http://www.tradingeconomics.com/economics/industrial-production.aspx?symbol=grd , 13/12/2010)

APPENDIX Z1

Government budget



(Source: http://www.tradingeconomics.com/economics/government-budget.aspx?symbol=grd, 13/12/2010)

APPENDIX Z2

World Economic Indicators as of 12 December 2010

Country	GDP Billions US$	GDP Growth	Interest Rate	Inflation Rate	Jobless Rate	Current Account	Exchange Rate
United States	14256	2.50%	0.25%	1.20%	9.80%	-123	80.3820
Euro Area	12456	0.40%	1.00%	1.90%	10.10%	-25	1.3242
Japan	5068	1.10%	0.00%	0.20%	5.10%	1436	84.1045
China	4909	9.60%	5.56%	5.10%	4.20%	70500	6.6686
Germany	3347	0.70%	1.00%	1.50%	7.00%	14	1.3242
France	2649	0.40%	1.00%	1.60%	10.00%	-2	1.3242
United Kingdom	2175	0.80%	0.50%	3.20%	7.70%	-10	1.5592
Italy	2113	0.20%	1.00%	1.80%	8.20%	-8229	1.3242
Brazil	1572	0.50%	10.75%	5.63%	6.20%	-4799	1.7279
Spain	1460	0.20%	1.00%	2.30%	20.80%	-3	1.3242
Canada	1336	0.30%	1.00%	2.40%	7.60%	-18	1.0213
India	1296	8.90%	5.25%	9.70%	8.00%	-14	45.8550
Russia	1231	2.70%	7.75%	8.10%	6.60%	8700	31.3986
South Korea	929	0.70%	2.50%	3.30%	3.70%	4056	1159.6250
Australia	925	0.20%	4.75%	2.80%	5.20%	-5640	0.9645
Mexico	875	0.50%	4.50%	4.32%	5.70%	-2	12.4888
Netherlands	792	-0.10%	1.00%	1.60%	5.00%	4636	1.3242
Turkey	617	1.10%	6.50%	7.29%	11.40%	-3438	1.4877
Indonesia	540	3.45%	6.50%	6.33%	7.41%	1834	8992.5000
Switzerland	500	0.70%	0.25%	0.20%	3.60%	20	1.0036
Belgium	469	0.70%	1.00%	2.57%	8.60%	-1	1.3242
Poland	430	1.30%	3.50%	2.80%	11.50%	-1064	3.0480
Sweden	406	2.10%	1.00%	1.80%	8.10%	64	7.0044
Austria	385	0.90%	1.00%	1.80%	3.90%	1073	1.3242
Norway	382	0.10%	2.00%	1.90%	2.70%	97648	6.1550
Saudi Arabia	369	0.60%	2.00%	5.51%	10.50%	22765	3.7400
Greece	330	-1.50%	1.00%	5.50%	11.00%	250	1.3242
Venezuela	314	1.90%	17.98%	30.90%	8.40%	7181	4294.6500
Denmark	310	0.50%	0.75%	2.30%	4.20%	8	5.6294
Argentina	309	3.00%	9.93%	11.10%	7.90%	3100	3.9781
South Africa	286	2.60%	5.50%	3.40%	25.30%	-116132	7.1530
Thailand	264	-0.20%	2.00%	3.40%	1.54%	681	30.2700
United Arab Emirates	261	-2.10%	1.80%	11.10%	20.60%	82	3.6730
Finland	238	-0.40%	1.00%	1.10%	8.50%	1	1.3242
Colombia	231	1.00%	3.00%	2.62%	12.80%	-1396	1908.4500
Portugal	228	0.30%	1.00%	2.30%	10.90%	-775	1.3242
Ireland	227	-1.81%	1.00%	0.70%	13.60%	-1142	1.3242
Ireland	227	-1.21%	1.00%	0.70%	13.60%	-1142	1.3242
Hong Kong	215	0.70%	0.50%	2.60%	4.20%	26	7.7633
Israel	195	0.90%	2.00%	2.50%	6.60%	1584	3.6777
Malaysia	192	2.40%	2.75%	1.90%	3.70%	19907	3.1495
Czech Republic	190	1.00%	0.75%	2.00%	8.60%	-3116	18.6860
Singapore	182	-18.70%	0.03%	3.10%	2.30%	14942	1.3194
Pakistan	167	2.00%	13.00%	12.69%	5.50%	-1548	85.7550
Chile	164	4.30%	3.00%	2.50%	7.60%	-416	482.9500
Hungary	129	0.80%	5.50%	4.20%	10.90%	344	211.4900
Peru	127	9.20%	3.00%	2.47%	7.60%	267	2.8170
New Zealand	125	0.20%	3.00%	1.50%	6.40%	-1	0.7499
Luxembourg	52	-2.60%	1.00%	2.47%	5.30%	1858	1.3242
Slovenia	48	-0.50%	1.00%	2.10%	10.50%	-79	1.3242
Iceland	12	0.60%	7.00%	4.80%	7.60%	-27	115.6200

(Source: http://www.tradingeconomics.com/ , (12December2010)

APPENDIX Z3
European Central Bank, Main recent economic developments

1.2 Main recent economic developments
(annual percentage changes, unless otherwise indicated)

	Real GDP (s.a.)	GDP deflator	Con-sumer prices [1]	Broad money [2]	3-month interbank deposit rate (% per annum)	10-year gov. bond yield (% per annum)	Unit labour costs (s.a.) [3]	Unemploy-ment (% of labour force; s.a.)	Labour product-ivity (s.a.) [4]
					Euro area				
2008	0.4	2.0	3.3	9.7	4.64	4.36	3.5	7.6	-0.3
2009	-4.1	0.9	0.3	3.3	1.22	4.03	3.9	9.4	-2.3
2010 Q1	0.8	0.4	1.1	-0.2	0.66	4.06	-0.5	9.9	2.1
Q2	2.0	0.8	1.5	-0.1	0.69	3.85	-0.6	10.0	2.7
Q3	1.9	1.0	1.7	0.7	0.87	3.52	.	10.0	.
2010 Sep.	-	-	1.8	1.1	0.88	3.50	-	10.1	-
Oct.	-	-	1.9	1.0	1.00	3.34	-	10.1	-
Nov.	-	-	1.9	.	1.04	3.73	-	.	-
					European Union				
2008	0.5	2.5	3.7	-	-	4.54	3.4	7.0	-0.2
2009	-4.2	1.3	1.0	-	-	4.13	4.0	8.9	-2.4
2010 Q1	0.7	0.9	1.7	-	-	4.02	-0.2	9.6	2.2
Q2	2.0	1.3	2.0	-	-	3.83	-0.7	9.6	2.6
Q3	2.2	1.3	2.1	-	-	3.59	.	9.6	.
2010 Aug.	-	-	2.0	-	-	3.49	-	9.6	-
Sep.	-	-	2.2	-	-	3.54	-	9.6	-
Oct.	-	-	2.3	-	-	3.51	-	9.6	-
					United States				
2008	0.0	2.2	3.8	7.1	2.93	3.65	2.2	5.8	1.0
2009	-2.6	0.9	-0.4	7.9	0.69	3.25	-1.6	9.3	3.5
2010 Q1	2.4	0.4	2.4	1.9	0.26	3.70	-2.9	9.7	6.3
Q2	3.0	0.8	1.8	1.6	0.44	3.47	-2.7	9.7	3.7
Q3	3.2	1.2	1.2	2.5	0.39	2.77	-2.0	9.6	2.5
2010 Sep.	-	-	1.1	3.0	0.29	2.64	-	9.6	-
Oct.	-	-	1.2	3.2	0.29	2.52	-	9.6	-
Nov.	-	-	.	.	0.29	2.74	-	.	-
					Japan				
2008	-1.2	-0.8	1.4	2.1	0.93	1.49	1.7	4.0	-0.9
2009	-5.3	-1.0	-1.4	2.7	0.47	1.35	0.4	5.1	-3.7
2010 Q1	4.7	-2.5	-1.2	2.8	0.25	1.34	-3.7	4.9	-
Q2	2.7	-1.6	-0.9	3.0	0.24	1.28	-1.2	5.2	-
Q3	4.1	.	-0.8	2.8	0.24	1.05	.	5.1	-
2010 Sep.	-	-	-0.6	2.8	0.22	1.07	-	5.0	-
Oct.	-	-	0.2	2.7	0.20	0.89	-	.	-
Nov.	-	-	.	.	0.19	1.05	-	.	-

Sources: Eurostat, OECD, national data and ECB calculations.

(Source: ECB main recent economic developments / 12-12-2010, http://sdw.ecb.europa.eu/reports.do?node=100000242)

APPENDIX Z4
European Central Bank, Structural Indicators

1 Overview of major economic areas

1.1 Structural indicators

2009	Unit	Euro area	EU	United States	Japan
Population, GDP and labour					
Total population [1]	millions	329.1	500.4	307.5	127.7
Labour force participation rate [2]	%	71.5	71.1	74.6	74.0
Age dependency ratio [3]	%	50.1	48.8	49.4	56.4
GDP (PPP)	EUR trillions	9.0	12.6	11.3	3.3
GDP per capita (PPP)	EUR thousands	27.2	25.1	36.9	26.0
Labour productivity (PPP) [4]	(euro area = 100)	100.0	91.7	129.1	85.2
Labour income share [5]	%	68.6	66.8*)	68.3*)	72.8**)
Value added by economic activity					
Agriculture, fishing and forestry	% of total	1.6	1.6	1.1*)	1.6*)
Industry (incl. construction)	% of total	24.1	24.3	21.0*)	27.3*)
Services (incl. non-market services)	% of total	74.2	74.1	77.9*)	71.1*)
Saving and investment					
Gross saving	% of GDP	18.2	17.7	14.5**)	27.0**)
Gross fixed capital formation	% of GDP	19.6	19.1	17.7*)	23.1*)
Households					
Gross disposable income (HGDI) per capita (PPP)	EUR thousands	18.4	16.8	28.8	18.5*)
Gross saving	% of HGDI	15.4	13.9	8.7	9.0*)
Financial assets held [6]	% of HGDI	299.6	.	401.1	459.5*)
Gross debt outstanding [6]	% of HGDI	97.4	.	123.3	104.3*)
Non-financial corporations [7]					
Gross fixed capital formation	% of GDP	10.4	10.5	8.2	15.6*)
Financial assets held [6]	% of GDP	184.2	.	124.3	172.9
Gross debt outstanding [6]	% of GDP	106.4	.	77.0	99.1
Government					
Expenditure [8]	% of GDP	50.8	50.7	37.9	35.8*)
Surplus (+) or deficit (-)	% of GDP	-6.3	-6.8	-11.3	-2.1*)
Gross debt outstanding [6],[9]	% of GDP	79.2	74.2	68.6	162.2*)
External [10]					
Exports of goods and services	% of GDP	19.7	13.4	11.1	13.3
Imports of goods and services	% of GDP	18.9	13.6	13.8	12.8
Current account balance	% of GDP	-0.6	-1.0	-2.7	2.8
Net b.o.p. direct and portfolio investm.	% of GDP	2.1	2.8	1.0	-5.6
Net international investment position [6],[11]	% of GDP	-16.2	-15.0	-19.4	57.1
Gross external debt [6]	% of GDP	116.4	.	95.3	40.2
Monetary and financial indicators					
Credit [6],[12]	EUR trillions	16.0	21.7	10.8*)	8.5
Outstanding debt securities [6],[13]	EUR trillions	15.3	20.3	21.5	8.1
Stock market capitalisation [6],[14]	EUR trillions	4.4	6.8	11.4	2.4

*Sources: For the euro area and EU: ECB, Eurostat, national data and ECB calculations; for the United States and Japan: national sources. *) 2008 **) 2007 figures.*

(Source: ECB structural indicators / 12-12-2010,
http://sdw.ecb.europa.eu/reports.do?node=100000240)

APPENDIX Z5
European Central Bank, Macro Indicators 1

3 Macroeconomic indicators

3.1 GDP and expenditure components in the euro area
(annual percentage changes in volume, unless otherwise indicated; seasonally and partly working day-adjusted)

	GDP (market prices)						
	Total (quarter on quarter)	Total	Private consumption	Government consumption	Gross fixed capital formation	Exports [1]	Imports [1]
1971-80	-	3.4	3.7	4.4	2.1	5.9	5.5
1981-90	-	2.4	2.3	2.2	2.4	4.8	4.6
1991-00	-	2.2	2.1	1.7	2.2	6.9	6.4
2001-05	-	1.5	1.5	1.9	1.1	3.8	3.7
2007	-	2.8	1.7	2.3	4.7	6.3	5.8
2008	-	0.4	0.4	2.3	-0.7	1.0	0.7
2009	-	-4.1	-1.1	2.3	-11.3	-13.2	-11.9
2009 Q4	0.2	-2.0	-0.4	1.6	-9.6	-5.2	-7.1
2010 Q1	0.4	0.8	0.4	1.1	-4.9	5.8	4.9
Q2	1.0	2.0	0.6	0.6	-0.9	11.8	12.3
Q3	0.4	1.9	1.0	0.5	0.3	11.3	11.9
Level data (EUR billions at current prices) and percentages of GDP							
2009	-	8,952.0	5,166.4	1,978.7	1,757.9	3,249.7	3,131.6
2009	-	100.0	57.7	22.1	19.6	-	-

Source: European Commission (Eurostat and DG-ECFIN).

3.2 Value added by economic activity in the euro area
(annual percentage changes in volume, unless otherwise indicated; seasonally and partly working day-adjusted)

	Gross value added (basic prices)						
	Total	Agriculture, hunting, forestry and fishing activities	Manu-facturing, energy and mining	Con-struction	Trade, repairs, hotels and restaurants, transport and communicat.	Financial, real estate, renting and business activities	Public admi-nistration, education, health and other services
1996-00	2.7	2.5	2.8	0.3	3.4	3.6	1.7
2001-05	1.5	-0.7	1.1	0.8	1.9	2.1	1.3
2007	3.1	1.4	3.2	2.4	3.6	4.0	1.7
2008	0.7	0.9	-2.2	-1.2	1.3	1.7	1.9
2009	-4.2	2.1	-13.3	-5.9	-5.0	-1.6	1.1
2009 Q4	-2.3	1.6	-6.8	-5.8	-3.2	-0.8	1.2
2010 Q1	0.9	0.8	3.8	-6.7	0.3	0.9	1.3
Q2	1.9	0.6	7.1	-4.3	1.3	1.4	1.1
Q3	1.9	0.1	5.1	-3.2	1.7	1.9	1.1
Level data (EUR billions at current prices) and percentages of gross value added							
2009	8,059.9	132.0	1,436.2	507.4	1,666.0	2,361.5	1,956.9
2009	100.0	1.6	17.8	6.3	20.7	29.3	24.3

Source: Eurostat.

(Source: ECB macro indicators 1 / 12-12-2010,
http://sdw.ecb.europa.eu/reports.do?node=100000246)

APPENDIX Z6
European Central Bank, Macro Indicators 2

3.3 Short-term business indicators in the euro area
(annual percentage changes, unless otherwise indicated)

	Industrial production				Manu-facturing new orders (nominal)	Manu-facturing turnover (nominal)	Retail trade turnover (constant prices)	New passenger car registrations
	Total excl. construction	Period on period (s.a.)	Con-struction	Manu-facturing				
1986-90	3.1	-	.	-	-	-	-	-
1991-95	0.6	-	1.9	0.4	-	-	-	-2.7
1996-00	2.8	-	1.4	3.0	4.9	4.7	1.8	4.5
2001-05	0.7	-	0.7	0.5	1.6	2.0	1.4	-0.6
2007	3.7	-	1.3	4.2	8.6	6.4	1.8	-0.6
2008	-1.8	-	-5.3	-1.9	-5.4	1.8	-0.8	-7.0
2009	-14.9	-	-8.3	-15.9	-22.7	-18.5	-1.8	3.2
2010 Q1	4.7	2.3	-9.7	4.9	13.8	6.3	0.9	7.5
Q2	9.0	2.3	-3.7	9.2	22.6	12.3	0.9	-10.6
Q3	6.9	0.8	-7.8	7.4	15.9	10.1	1.7	-16.6
2010 Aug.	8.4	1.1	-8.2	9.4	24.7	14.9	1.8	-10.6
Sep.	5.4	-0.8	-7.8	5.9	13.3	9.0	1.8	-12.0
Oct.	.	.	.	.	.	.	2.1	-22.2

Sources: Eurostat, ACEA (European Automobile Manufacturers' Association) and ECB calculations.

3.4 Opinion surveys (excluding price-related developments) in the euro area
(seasonally adjusted)

	European Commission Business [1] and Consumer Surveys (percentage balances [2])							Purchasing Managers' Surveys (diffusion index [3])	
	Economic sentiment indicator (long-term average =100) [4]	Manufacturing industry			Services confi-dence indicator	Retail trade confi-dence indicator	Consumer confi-dence indicator	Purchasing Managers' Index (PMI) for manu-facturing [5]	Business activity for services
		Industrial confi-dence indicator	Order books	Capacity utilisa-tion (%) [6]					
1986-90	106.6	-2	-8	83.2	.	0	-9	.	.
1991-95	95.2	-12	-27	80.7	.	-10	-17	.	.
1996-00	105.7	-5	-13	82.2	25	-6	-7	.	.
2001-05	98.9	-8	-19	81.4	9	-9	-12	50.2	52.6
2007	109.2	5	5	84.2	20	1	-5	54.3	56.6
2008	93.5	-9	-15	81.8	2	-7	-18	46.5	48.5
2009	80.8	-28	-56	71.1	-16	-15	-25	43.3	46.8
2010 Q1	96.6	-12	-41	73.9	0	-7	-17	54.4	52.8
Q2	99.4	-6	-28	76.3	4	-4	-17	56.4	55.8
Q3	102.2	-3	-19	77.4	7	-3	-12	55.2	55.3
2010 Sep.	103.3	-2	-16	-	8	-1	-11	53.7	54.1
Oct.	103.8	0	-13	77.6	8	-1	-11	54.6	53.4
Nov.	105.3	1	-13	-	10	-2	-9	55.3	55.4

Sources: European Commission Business and Consumer Surveys and Markit.

(Source: ECB macro indicators 2 / 12-12-2010,
http://sdw.ecb.europa.eu/reports.do?node=100000248)

APPENDIX Z7
European Central Bank, Population and the Labour Market

2 Population and the labour market

2.1 Population and the labour market in the euro area

	Population [1] (millions)	Labour force participation rate [1] (%)	Employment rate (% of labour force; s.a.)	Unemployment (% of labour force; s.a.)	Labour productivity [1] (annual percentage changes)	Hourly Labour productivity [1] (annual percentage changes)
1971-80	287.0	-	-	4.0	2.9	-
1981-90	297.3	-	-	9.3	1.7	-
1991-00	309.1	-	-	9.7	1.5	-
2001-05	318.6	68.8	62.7	8.7	0.6	1.0
2006	324.2	70.6	64.6	8.4	1.4	1.7
2007	326.1	71.0	65.6	7.5	1.0	1.1
2008	327.9	71.4	66.0	7.6	-0.3	-0.2
2009	329.1	71.5	64.7	9.4	-2.3	-0.8
2009 Q2	.	71.6	64.9	9.4	-3.1	-1.3
Q3	.	71.6	64.8	9.7	-1.8	-0.4
Q4	.	71.6	64.5	9.9	0.0	0.7
2010 Q1	.	71.3	63.8	9.9	2.1	1.4
Q2	.	71.5	64.4	10.0	2.7	1.8
Q3	.	.	.	10.0	.	.

2.2 Employment in terms of persons employed and hours worked

	Persons employed (s.a.)				Hours worked (s.a.)			
	Millions	Annual percentage changes			Annual percentage changes			
		Total	Employees	Self-employed	Per person employed	Total	Employees	Self-employed
1971-80	116.0	0.4	0.9	-1.5	-	-	-	-
1981-90	120.1	0.7	0.9	-0.2	-	-	-	-
1991-00	128.6	0.6	0.8	-0.1	-	-	-	-
2001-05	139.7	0.9	0.9	0.7	-0.4	0.5	0.6	0.0
2006	144.2	1.7	1.8	0.9	-0.3	1.3	1.6	0.4
2007	146.8	1.8	2.0	0.6	-0.1	1.7	2.0	0.6
2008	148.0	0.8	1.0	-0.4	-0.1	0.7	1.0	-0.7
2009	145.2	-1.9	-1.8	-2.2	-1.5	-3.3	-3.4	-2.9
2009 Q1	146.3	-1.3	-1.1	-2.3	-1.9	-3.2	-3.0	-3.9
Q2	145.4	-1.9	-1.8	-2.3	-1.8	-3.7	-3.8	-3.0
Q3	144.7	-2.2	-2.2	-2.4	-1.4	-3.6	-3.8	-2.9
Q4	144.4	-2.1	-2.1	-2.0	-0.7	-2.7	-2.9	-2.0
2010 Q1	144.5	-1.2	-1.3	-0.5	0.7	-0.6	-0.7	0.0
Q2	144.5	-0.7	-0.7	-0.8	0.8	0.2	0.2	-0.1

Sources: European Commission (Eurostat and DG-ECFIN), national data and ECB calculations.

(Source: ECB population and the labour market / 12-12-2010,
http://sdw.ecb.europa.eu/reports.do?node=100000244)

APPENDIX Z8
European Central Bank, Government Revenue & Debt

7 Government finance

7.1 Government revenue, expenditure, deficit/surplus and borrowing requirement

(as a percentage of GDP; four-quarter moving sums for quarterly data [1])

	Total revenue				Total expenditure		Deficit(-)/ surplus(+)	Borrowing requirement
		Direct taxes	Indirect taxes	Social contributions		Interest		
2004	44.5	11.3	13.2	15.5	47.5	3.1	-3.0	3.2
2005	44.8	11.5	13.4	15.4	47.3	3.0	-2.6	3.0
2006	45.3	12.1	13.5	15.3	46.7	2.9	-1.4	1.5
2007	45.3	12.4	13.5	15.1	46.0	3.0	-0.7	1.1
2008	44.9	12.2	13.0	15.3	46.9	3.0	-2.0	5.1
2009 Q1	44.9	12.1	12.9	15.4	47.8	3.0	-3.0	6.7
Q2	44.7	11.8	12.8	15.6	49.1	3.0	-4.3	8.1
Q3	44.6	11.6	12.8	15.7	50.0	2.9	-5.4	8.8
Q4	44.5	11.4	12.8	15.7	50.8	2.8	-6.3	7.3
2010 Q1	44.4	11.3	12.7	15.7	51.0	2.8	-6.7	6.2
Q2	44.2	11.3	12.7	15.7	50.7	2.8	-6.5	6.0

Sources: ESCB, Eurostat, national data and ECB calculations.

7.2 Euro area government debt

(as a percentage of GDP; four-quarter moving sums for quarterly data [1])

	Government debt				
	Total	Currency and deposits	Loans	Short-term securities	Long-term securities
2004	69.5	2.2	12.0	5.0	50.3
2005	70.3	2.4	12.1	4.7	51.1
2006	68.4	2.4	11.7	4.1	50.2
2007	66.1	2.2	11.1	4.2	48.7
2008	69.8	2.3	11.3	6.7	49.5
2009 Q1	73.2	2.3	11.6	7.9	51.5
Q2	76.5	2.4	11.9	8.4	53.8
Q3	78.3	2.3	12.1	9.2	54.7
Q4	79.2	2.4	12.3	8.6	55.9
2010 Q1	81.0	2.4	12.5	8.4	57.6
Q2	82.4	2.4	13.2	8.0	58.8

Sources: ESCB, Eurostat, national data and ECB calculations.

(Source: ECB government revenue and debt / 12-12-2010, http://sdw.ecb.europa.eu/reports.do?node=100000268)

APPENDIX Z9
European Central Bank, Non-Financial Accounts

6 Euro area accounts

6.1 Euro area
Non-financial accounts

	Gross domestic product	Consumption of fixed capital	Primary income receivable	Primary income payable	Net national income	Current transfers receivable	Current transfers payable	Net disposable income
	Annual percentage changes [1]							
2006	5.1	4.9	9.3	9.7	4.8	4.9	5.0	4.7
2007	4.9	5.2	9.4	9.7	4.5	5.0	5.1	4.5
2008	0.1	4.0	-0.2	0.4	-1.3	2.1	2.3	-1.5
2009 Q2	-4.3	1.1	-10.7	-10.5	-5.6	0.2	0.3	-5.8
Q3	-2.8	0.4	-12.8	-13.0	-3.2	0.9	1.1	-3.3
Q4	-1.4	0.3	-9.9	-10.4	-1.1	0.9	0.9	-1.1
2010 Q1	1.0	-0.5	-5.7	-6.1	1.9	2.2	2.4	1.7
Q2	3.0	0.3	-1.7	-2.3	4.4	2.4	2.4	4.4
	As a percentage of gross domestic product							
2008	100.0	15.0	104.2	104.7	84.5	69.3	70.4	83.4
2009	100.0	15.6	96.5	96.9	83.9	72.0	73.3	82.7
2010 Q2	100.0	15.5	93.8	94.0	84.4	72.1	73.4	83.1

	Net disposable income	Final consumption expenditure	Net saving	Net capital transfers	Net acquisition of non-financial assets	Gross fixed capital formation	Net lending/ borrowing
	Annual percentage changes [1]						
2006	4.7	4.0	11.7	40.2	6.4	8.8	
2007	4.5	4.5	4.0	-9.9	6.9	5.5	
2008	-1.5	2.0	-34.4	-33.7	-3.9	-4.3	
2009 Q2	-5.8	-0.3	-74.4	18.1	-19.6	-14.0	
Q3	-3.3	-0.3	-46.1	28.6	-16.1	-12.7	
Q4	-1.1	0.9	-30.3	-17.5	-14.1	-9.2	
2010 Q1	1.7	1.8	-2.7	66.0	-3.8	-5.5	
Q2	4.4	2.4	102.3	-14.8	7.4	0.7	
	As a percentage of gross domestic product						
2008	83.4	77.7	5.7	0.1	22.1	21.9	-1.3
2009	82.7	80.1	2.6	0.1	19.1	19.9	-0.9
2010 Q2	83.1	80.2	3.0	0.1	19.1	19.5	-0.6

Sources: ECB and Eurostat.

(Source: ECB Euro area Non-financial accounts / 12-12-2010,
http://sdw.ecb.europa.eu/reports.do?node=100000266)