Eurobank Research
ECONOMY & MARKETS
www.eurobank.gr/research
Issue 9, Volume 2, November 2007

Special Focus on Cyprus

Gikas Hardouvelis
Chief Economist &
Director of Research
ghardouvelis@eurobank.gr

E. Davradakis
Research Economist
edavradakis@eurobank.gr

E. Georgopoulos
Economic Analyst
egeorgopoulos@eurobank.gr

I. Gkionis
Research Economist
igkionis@eurobank.gr

T. Sampaniotis
Senior Economic Analyst
tsabaniotis@eurobank.gr

C. E. Vorlow
Research Economist
cvorlow@eurobank.gr

Research@eurobank.gr

Dear readers,

In the present special issue of our monthly research publication "Economy & Markets," we analyze the economy of Cyprus, an island in the South East Mediterranean, which boasts a high living standard, currently standing at 82% of the EU-15 average or 93% of the EU-27 average. Following its earlier entry into the European Union in May 2004, Cyprus is presently taking a major step in solidifying its European membership. In January 2008, it will become a full member of the European Monetary Union as well.

Two months before Cyprus' official EMU entry, Eurobank's Research Division celebrates the event by publishing a volume dedicated to the analysis of current Cypriot economic trends and future challenges. Cyprus is a country driven by the external sector, its liberal business environment and the domestic real estate market. Its EMU membership would provide monetary stability and fiscal discipline and would open up plenty of new business opportunities to its energetic entrepreneurs, which would help to further expand the country's export activity as well as turn it into a center for Euro-related transactions in the South East Mediterranean. At the same time, Cyprus also faces a savings-investment mismatch, evidenced by the widening current account deficit, which suggests that future policy ought to be focused on improving competitiveness.

In the first paper, entitled, "The Economy of Cyprus: An Overview," authors I. Gkionis and E. Georgopoulos provide a brief introduction to the economy of Cyprus. Cyprus is a services-oriented economy, which is very open to the external world, as exports of goods and services amount to 47.5% and imports to 51.7% of Gross Domestic Product. According to the authors, it is the rebound in the sectors of financial intermediation and tourism as well as the strength of real estate, which underpin the solid growth performance of the last two years. The banking sector is particularly strong and EMU entrance is bound to make it even stronger. Fiscal consolidation is on track, but the current account deficit raises a red flag.

Continues next page…

…Continues from previous page.

In the second paper, entitled: "Cyprus in EMU: A Macroeconomic Perspective," author M. Davradakis performs an extensive econometric analysis and argues that Cyprus fulfills the requirements of the theory of Optimum Currency Areas for joining EMU. Hence, the decision to join EMU turns out to be a prudent economic decision. Cyprus does not lose much by abandoning its monetary policy independence because, in the overwhelming majority of cases, the common monetary policy of EMU is going to be the appropriate policy for its economy as well. Davradakis also estimates that joining EMU is likely to increase Cypriot trade with the other EMU members by as much as 50%. This is an optimistic view for the economic future of Cyprus as a member of Europe.

In the third paper of the present volume, entitled: "Cyprus' Business Environment and Competitiveness," author T. Sampaniotis argues that Cyprus offers a favorable business environment in terms of low taxes, a low administrative burden and an educated work force. Yet, Cyprus does not score high in the international competitive rankings and its current account deficit has deteriorated. Given the constraints of rising unit labor costs, Sabaniotis argues that the road to improved competitiveness is through technological improvements and innovation.

Finally, in the fourth paper, entitled: "Cyprus' Tourism Industry: Trends and Challenges," author C. Vorlow gives a comprehensive description of the tourism industry, which has been a major engine of growth for the last decades. Vorlow points that the industry has matured and is now at a crossroad, as the "sea and sun" concept on which it was based faces tough competition. Cyprus is going to lose market share in the Mediterranean region, unless it diversifies its tourist portfolio, addresses more effectively the seasonality of tourist inflow and further promotes its infrastructure and the quality of its services.

Prof. Gikas A. Hardouvelis
Chief Economist &
Director of Research
Eurobank EFG

The Economy of Cyprus: An Overview

Gkionis Ioannis,
Research Economist
&
Georgopoulos Evangelos,
Economic Analyst

- **Euro area membership as of January 2008 is expected to promote Cyprus as an international business hub in the Eastern Mediterranean.**

- **The favorable macroeconomic environment, the continued rise in loan demand and the containment of operating costs contribute to strong bank profitability.**

- **The rebound in the sectors of financial intermediation and tourism together with the hot property market underpins the recent growth performance of 3.8%.**

- **Fiscal consolidation is on track with the general government deficit declining from 6.3% of GDP in 2003 to 1.5% in 2006, and the government debt from 69% of GDP in 2003 to 65% in 2006.**

- **The current account deficit deteriorated from 2.0% of GDP in 2003 to 5.9% in 2006, reflecting higher oil prices and strong domestic consumer demand.**

- **VAT harmonization is expected to add one percentage point to inflation in 2008-2009.**

1. Growth dynamics

1.1 Growth performance in recent years

Cyprus is a country with high income. It enjoys a higher living standard than all new EU member states with GDP per inhabitant at 93% of the EU-27 average in 2007. Since becoming a full European Union member in 2004, Cyprus set the ambitious target of joining the Eurozone, which is going to take place in January 2008. The prospective Eurozone membership was a catalyst in boosting its macroeconomic fundamentals. Compared to the weak average growth performance of 1.9% in 2002-2003, the GDP growth rate doubled to 3.8% in 2005-2006, a performance which stands above that of the EU-27 (Chart 1). The expectations for a sustained vibrant growth rate of 3.8% in 2007 are met in the first two quarters. Real GDP grew at 3.8% yoy in the first half of 2007.

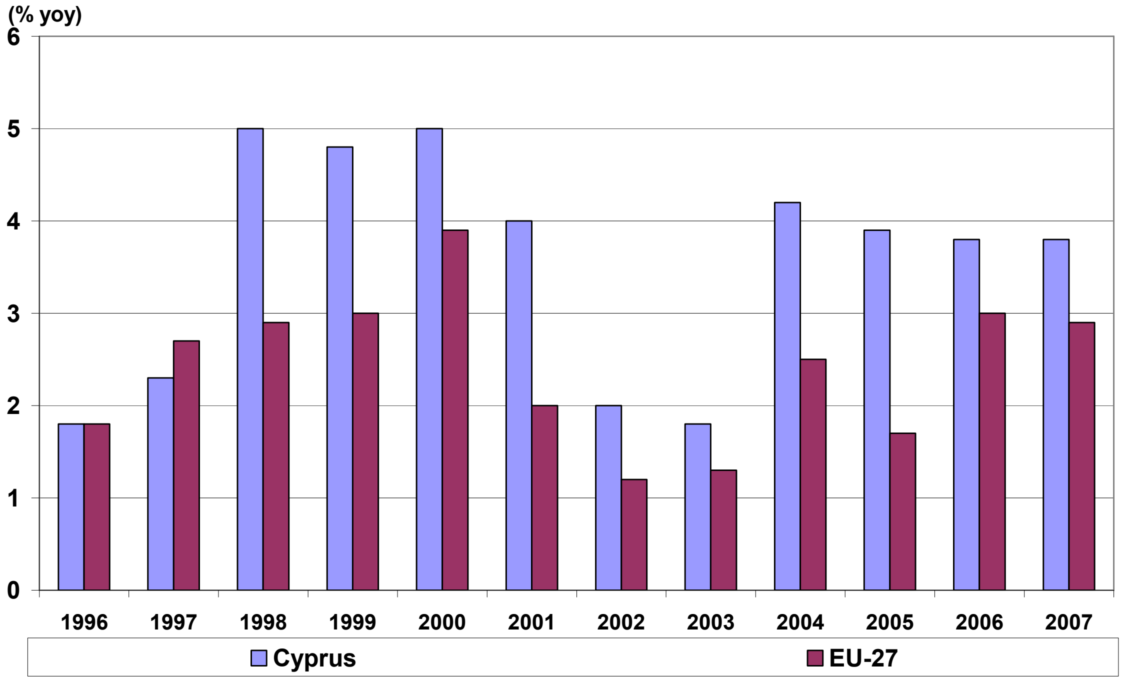
The Cypriot economy has been operating under almost full employment conditions. The buoyant economic activity has attracted an increasing share of foreign workers in the labor force, which has helped address the labor shortages. Foreigners stand for 13.1% of the total population. The unemployment rate is one of the lowest in the European Union, at 4.6% compared to 5.2% in 2005, against an EU average of 7.9%. Unemployment declined further in Q2-2007 to 3.4%, compared to 4.1% in Q1-2006 and against 4.8 in Q1-2007.

1.2 Composition of Output by Sectors

Over the years, the Cypriot economy shifted from agriculture and light manufacturing to an increasingly services-oriented economic structure. In 2006, services represented 78.1% of total gross value added, compared to 72.7% a decade ago. In terms of individual sectorial contribution to GDP, five business sectors have a total share of 63% in the total value produced. Those sectors are: Real estate and construction (19.4%), trade (13.9%), transportation and communications (10.1%), financial intermediation (7.2%) and tourism (7%).

Construction and real estate have shown dynamism in recent years, and are two of the most important growth engines in the Cypriot economy. Construction grew annually by 5% and real estate by 3.8% in 2004-2006, a

Chart 1
Growth performance in Cyprus and EU-27



Source: Eurostat

performance which stands above the growth rate of real GDP. Their high growth has resulted in an increase of their share of total output. Their total share in GDP increased to 19.4% in 2006 from 18.5% in 2002. This makes construction and real estate one of the most important growth engines in the Cypriot economy.

Tourism is considered to be one of the Cypriot economy's pillars. Total tourism revenues still represented a respectable 12.3% of GDP in 2006. The contribution of tourism to economic growth comprises not only of its direct share, as this is portrayed in accommodation and catering, but also of the indirect benefits accrued to the economy. Those indirect benefits accrue for sectors such as trade, transportation, construction and real estate. Part of non residents' consumption and investment expenditure is also related to tourism activity.

After the poor performance in 2002-2003, the tourism sector has slowly started to rebound in the last couple of years. Tourism revenues grew by 2.3% on average in 2005-2006. The rebound is expected to continue in the years to come. A first indication in that direction is that although tourist arrivals decline, tourism expenditure is going up. The tourism contribution to GDP growth has turned from negative 0.6 percentage points in 2002-2003, to positive 0.1 percentage points in 2005-2006.

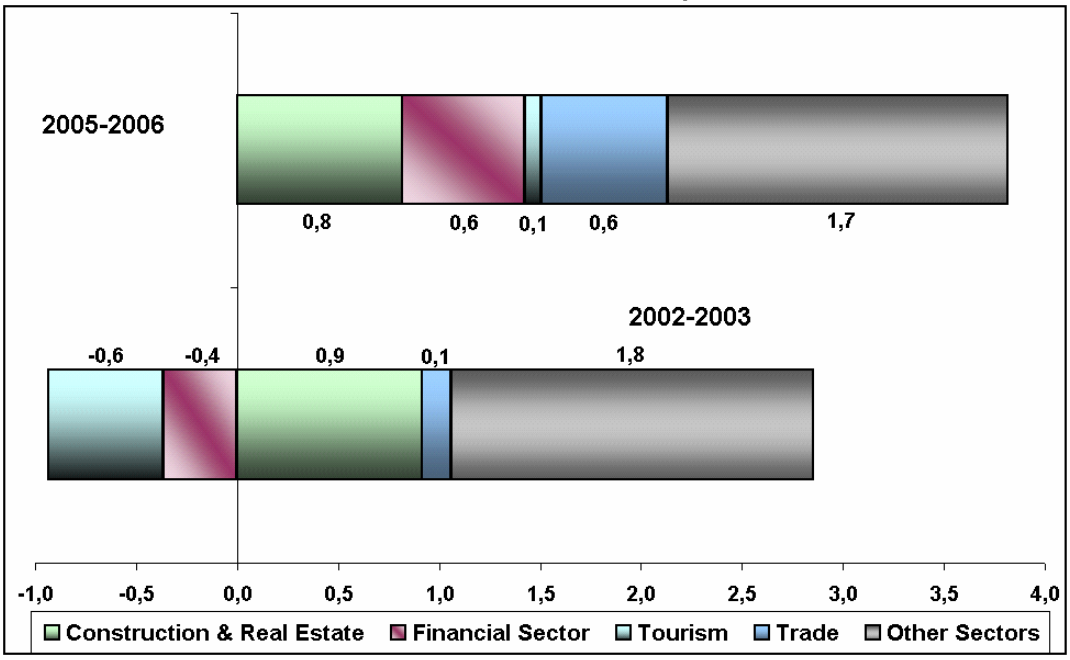
Financial intermediation contributes over 7% of GDP produced. From year to year its contribution to total GDP varies, hence the corresponding contribution to the GDP growth fluctuates. After a 5% decline in 2002-2003, the financial sector rebounded strongly by 9% in 2005-2006. Consequently, a negative contribution of 0.4 percentage points to GDP growth in 2002-2003, became 0.6 positive percentage points in 2005-2006.

Overall, much of the slowdown in 2002-2003 can be explained by the poor performance in the tourism and financial intermediation services at the time. The rebound in those sectors has helped boost the GDP growth rate from 1.9% in 2002-2003 to 3.8% in 2005-2006. The sustainable rebound in those sectors will help growth become more balanced (Chart 2).

1.3 Composition of GDP by Expenditure

From an expenditure point of view, the Cypriot economy is primarily domestic demand driven, a fact that was confirmed in 2006. Private consumption comprised two

Chart 2
Sectoral Contribution in GDP growth rate



Source: CYSTAT, Eurobank EFG Research

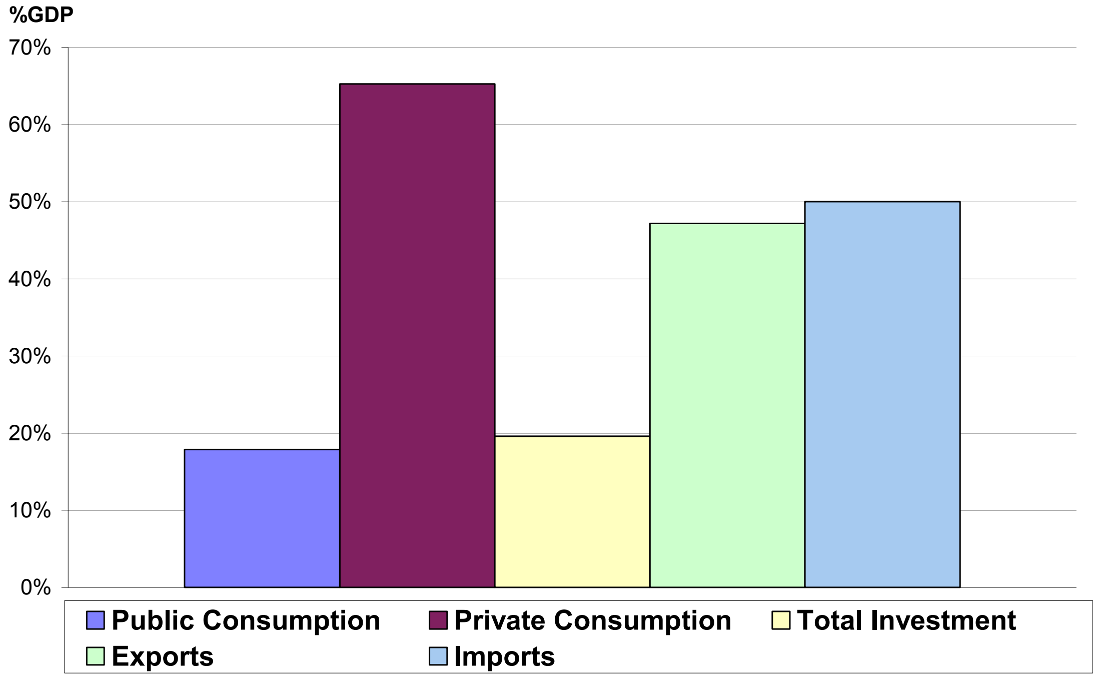
thirds of GDP. Private consumption combined with public consumption approximates 83% of GDP. Total investment represents 20%. Exports stand at 47% and imports at 50% of GDP respectively. Cyprus is indeed an open economy (Chart 3).

The GDP growth rate in 2006 was driven by domestic demand, which contributed 3.9 percentage points compared to 3.1 in 2005. Net exports had a slightly negative contribution of 0.1 percentage points in 2006 compared to a positive contribution of 0.7 percentage points in 2005. Increasing disposable income, supported by sustained real wage growth resulting from strong employment figures have kept private consumption growing at high rates. Consumption grew at 4.0% in 2006 compared to 4.7% in 2005, and contributed 2.8 percentage points to GDP growth. Government consumption growth decelerated from 3.4% to 2.4% yoy, and its growth rate contribution declined to 0.4 percentage points.

Interest rate convergence with Euro area and rapid credit expansion in the private sector have led to a robust investment activity. Credit expansion is strong. Total credit growth rate doubled to 15.0% in 2006, against 7.1% in 2005. Gross fixed capital formation grew at 5.2% yoy in 2006, compared to only 2.7% in 2005. The contribution of gross fixed capital formation to GDP growth doubled to 1.0 percentage point. Total investment rebounded by 4.3% yoy in 2006 against a decline of 2.6% in 2005 (on the background of a buoyant 10.2% yoy in 2004), contributing 0.8 percentage points to the GDP growth rate. The increase in investment is attributed mainly to construction, which is underpinned by the strong demand for housing, especially from non-residents. For this reason, real estate prices have risen substantially by 30% cumulatively in 2004-2007 (Chart 4). It is estimated that in 2006, 39% of the gross fixed capital formation came from investment in residential construction, compared to 31% in 2000.

Exports grew at 2.1% yoy in 2006 compared to 4.7% in 2005. The slowdown in goods and services exports can be explained by the poor performance of re-exports, although domestically produced exports have performed very well. In addition, imports grew at 2.2% yoy in 2006 compared to 3.1% yoy in 2005. The higher deceleration of

Chart 3
GDP 2006: Components decomposition



Source: CYSTAT, Eurobank EFG Research

exports, against that of imports, led to a marginally negative net exports contribution in the GDP growth rate.

2. Banking Sector: Strong Profitability

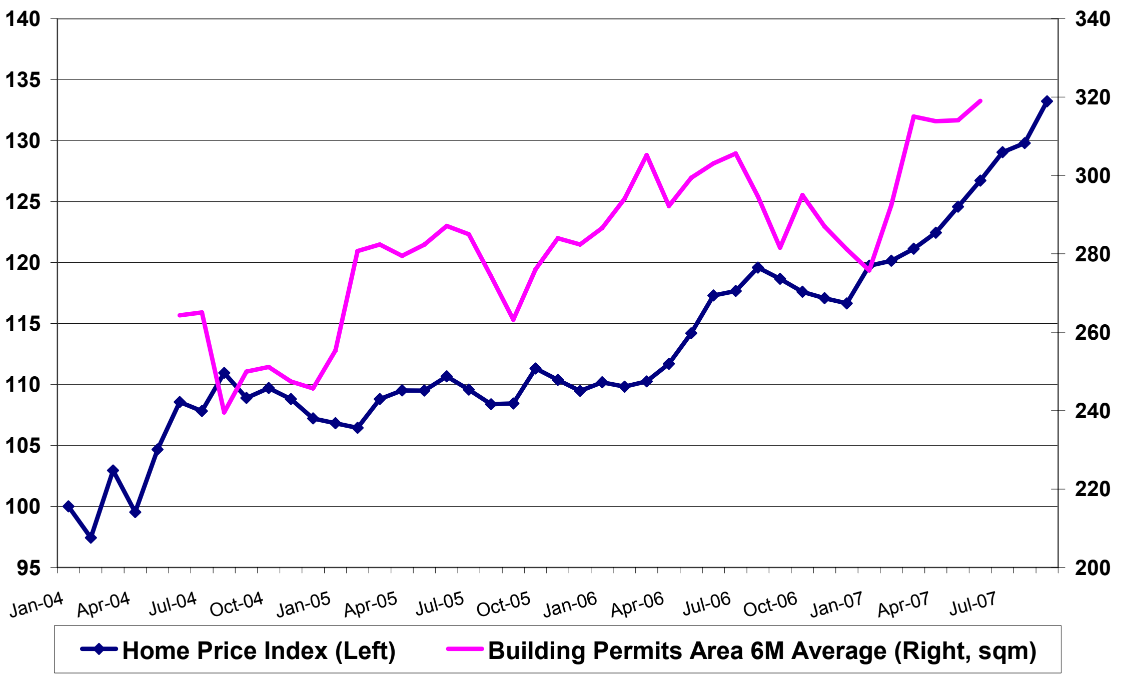
2.1. Structure of the Banking System

The financial sector is one of the Cypriot economy pillars. Financial intermediation services' contribution to GDP was 7.2% in 2006, up from 6.8% a year earlier. Total assets of the banking sector grew by 33.9% in July 2007, compared to 22.4% in July 2006. Consequently, the Cypriot banking sector is on a path of significant growth in the domestic as well as the markets overseas. Until the early 90s the Cypriot banks had only domestic presence. Since 2000 the largest ones have established a remarkable international activity, especially in Greece and the South-Eastern European countries. Moreover, banking business in Cyprus has a clientele base that is universal, not only domestic.

The banking sector in Cyprus has three components: Commercial banks, Cooperative Credit Institutions (CCIs) and the International Banking Units (IBUs). The EU entry in 2004 propelled major changes in the institutional and regulatory structure of the banking system. Furthermore, the Euro adoption on January 1st, 2008 is expected to further benefit the banking sector by reducing transaction costs and long-term interest rates.

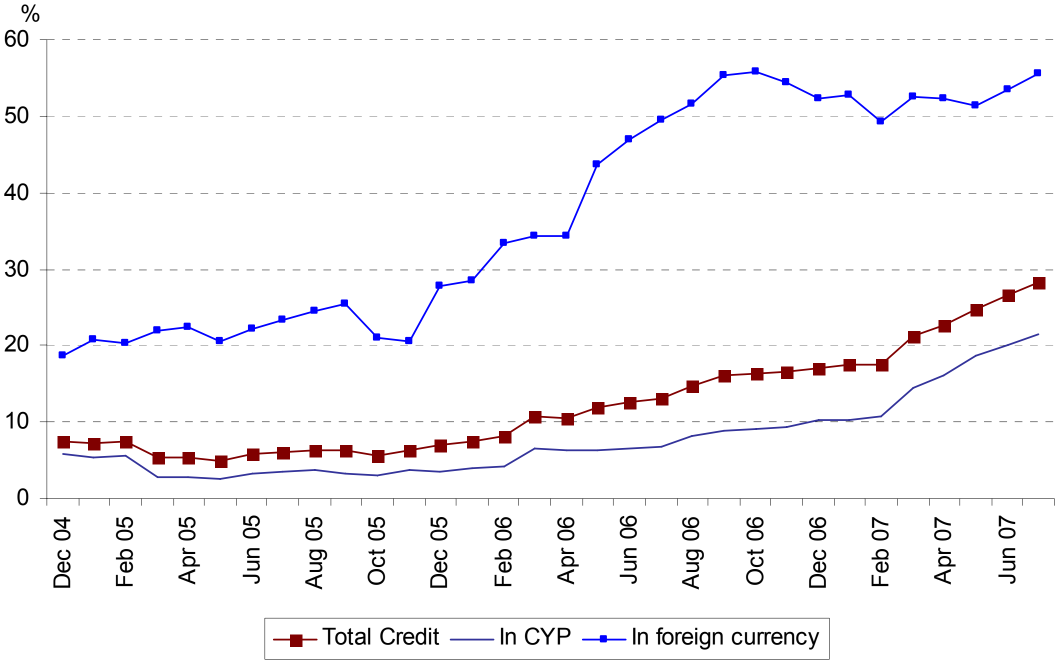
Three banks dominate domestic commercial banking, which hold together about 70% of the system assets. Until the end of 2006, IBUs were required to transact mostly with non-residents and in foreign currency. Since then, IBUs have expanded their operations in the domestic market. On the other hand, the cooperative banks play an important role in the banking sector, accounting for about 27% of total deposits in July 2007, compared to 38.5% at the end-2006. Cypriots prefer transacting with CCIs as they offer cheaper loans because of their non-profit orientation and lower operational costs. According to the Central Bank, it is anticipated that about half of the current

Chart 4
Home Price Index & Building Permits in Cyprus 2004-2007



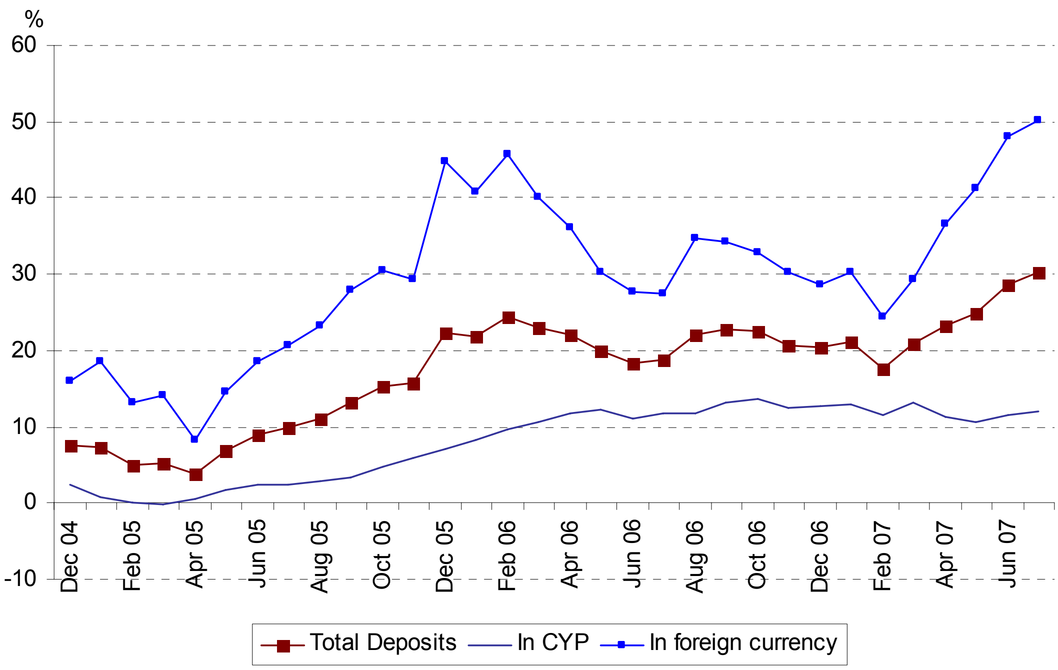
Source: CYSTAT, MFC Platis Research

Chart 5
Credit Expansion Growth



Source: Central Bank of Cyprus

Chart 6
Deposits Growth



Source: Central Bank of Cyprus

cooperative credit institutions (291 at the end of 2006) will merge by joining the Cooperative Central Bank. This development is attributed to the EU directives for capital requirements harmonization by end-2007.

2.2. Asset and Liabilities

The Cypriot banking sector is well developed. Total assets amounted to 359% of GDP in June 2007 compared to 235.6% in the Euro Area. In addition, the total assets growth rate reached 33.8% in July 2007, compared to 22.3% in July 2006.

Credit expansion has followed a rapid pace in the last two years, driven by the strong growth of credit in foreign currency. Thus, total credit rose by 28.2% in July 2007, up from 13.2% a year earlier (Chart 5). Total credit in Cyprus amounted to about 157% of GDP, against 111% in the Euro Area.
Household credit expanded by 34.4% in July 2007, up from 21.5% a year earlier. As a result, the household credit as a percentage of GDP stood at 81% in Q2 2007. Moreover, credit to enterprises has been growing at an accelerating pace in the last year. In July 2007, credit to enterprises amounted for 45% of total credit. As a result, the loans to assets for all banks stood at 77% of total assets in July 2007.

The decomposition of the banks' loan portfolio reveals a considerable exposure to the real estate market. In July 2007, personal/professional loans represented 52% of total lending. In addition, loans to the building and construction sector accounted for 20%. According to the Central Bank, about 50% of personal/professional loans were mortgage loans at the end of 2006. Thus, in our calculation, about 45% of total loans were channeled to the real estate market, signaling a considerable exposure of banks to these sectors. To this end, the Central Bank reduced the Loan to Value ratio for the purchase of a secondary residence from 70% to 60% in July 2007.

More than half of the total deposits (55.5% of total deposits) were in foreign currency in July 2007. The foreign currency deposits market has been growing by more than 20% over the last three years (Chart 6). This is owed to the large number of non residents' deposits.

2.3. Profitability and Capital Adequacy

According to the IMF, the performance of financial institutions has been affected by the volatility the stock market experienced at the end of the last decade. Banks expanded their investment business and lent for share purchases in the rising market. After the severe stock market decline, banks had to recognize losses and increase provisions, which impacted on their profits. Thus, in 2002 and 2003 the banking sector recorded losses. In 2004 profits recovered and have been growing at an accelerating pace ever since. According to the Central Bank of Cyprus, the main factors for this positive development were "the strong growth of the Cypriot economy, the continued rise in loans' demand and the containment of operating costs".

The banking sector is considered to be well capitalized. The Capital Adequacy ratio equals 13.1% at the end of 2006, up from 12% in 2005 and well above the 8% requirement. The improvement in the capital base of domestic banks is attributed to the significant profitability as well as the new capital raised from the markets.

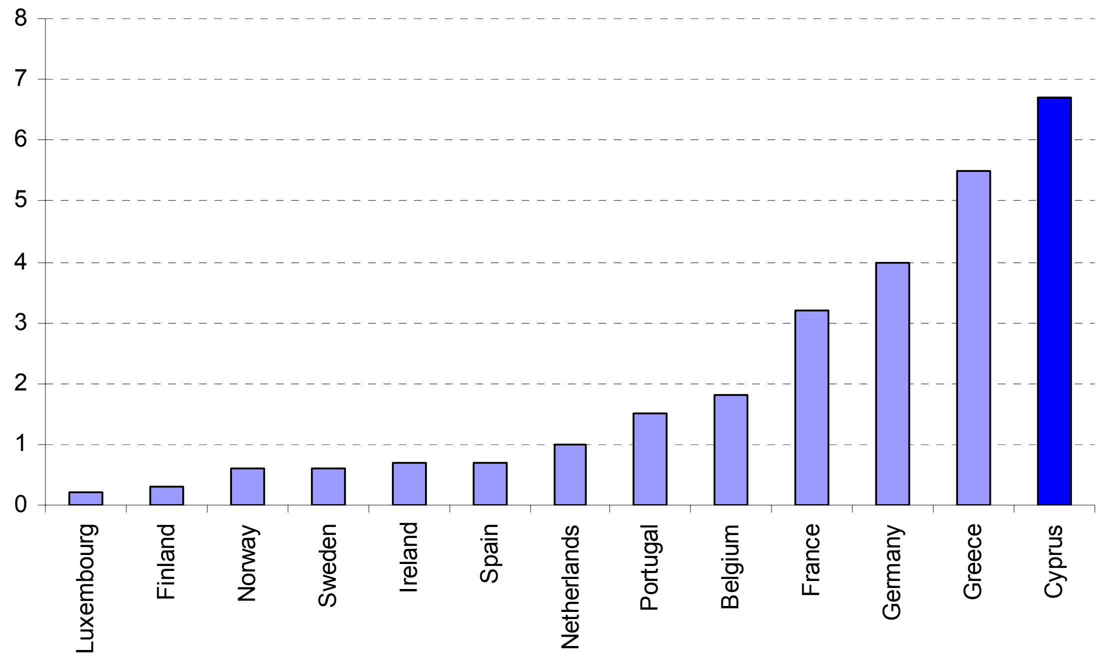
Another important issue is also the size of Non-Performing Loans (NPLs). The ratio of NPLs to Total Loans stood at 6.7% at the end-2006. The NPL ratio is declining, but is still high compared to other European countries (Chart 7). The high NPL ratio is attributed by the IMF to "the drawn-out legal foreclosure process". Thus, the improvement in the legal framework is expected to have a positive impact on this ratio.

3. Fiscal and Monetary Policy

3.1. Fiscal Policy: Consolidation Achieved

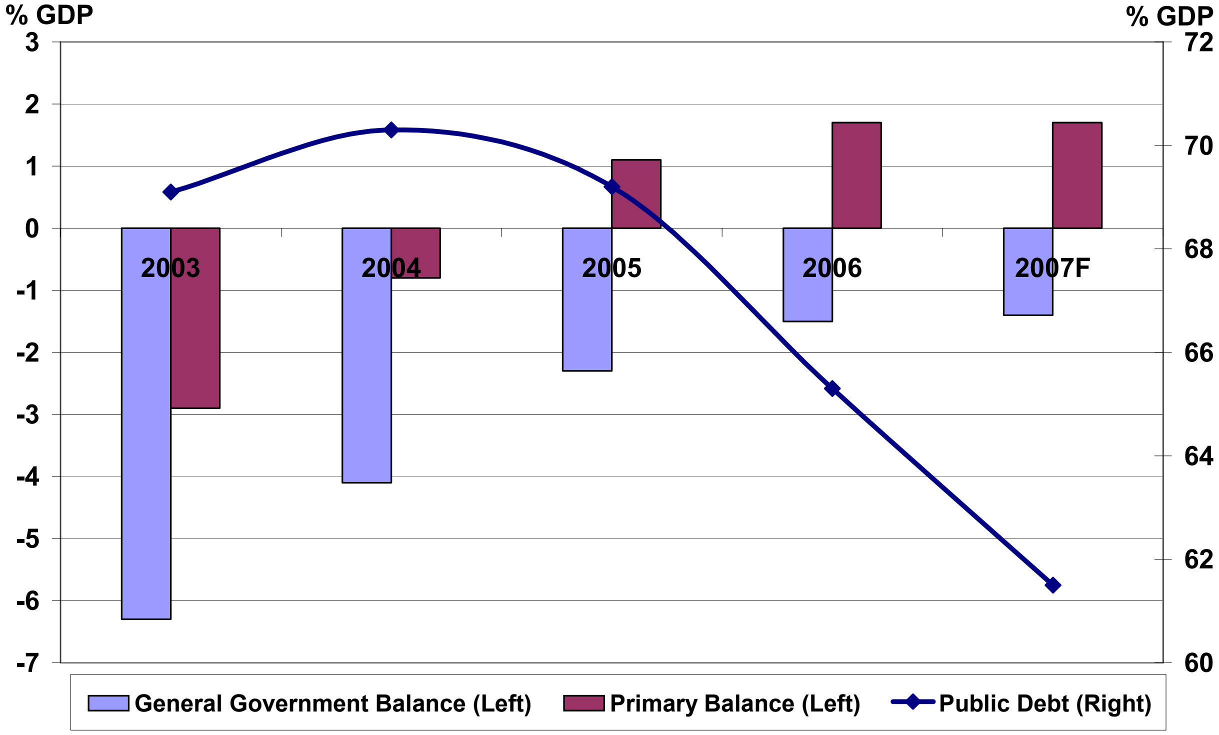
The prospective Euro Area membership underpinned the drive for fiscal discipline. After an expansionary fiscal policy in 2002-2003, with fiscal outcomes above official targets, fiscal policy was tightened. The improvement in fiscal performance led to a significant reduction in the

Chart 7
NPLs/Total Loans (2006)



Source: IMF

Chart 8
Fiscal Adjustment in Cyprus 2003-2007



Source: Eurostat

general government deficit (Chart 8). As a result, Cyprus was the first country amongst the new member states to have the excessive deficit procedure abrogated. In 2006, the general government deficit was narrowed down to 1.5% of GDP from 6.3% in 2003. Similarly, the primary surplus increased to 1.7% of GDP in 2006 from a primary deficit of 2.9% of GDP in 2003.

The fiscal consolidation came mainly as a result of strong total revenue performance. Total revenue increased by 7.7 percentage points to 42.4% of GDP in 2000-2006. The alignment of VAT tax rates with those of other states in the European Union coupled with measures to discourage tax evasion, contributed to this outcome. On the other side, a ceiling on current primary and capital expenditures, in line with inflation helped curb expenditure growth.

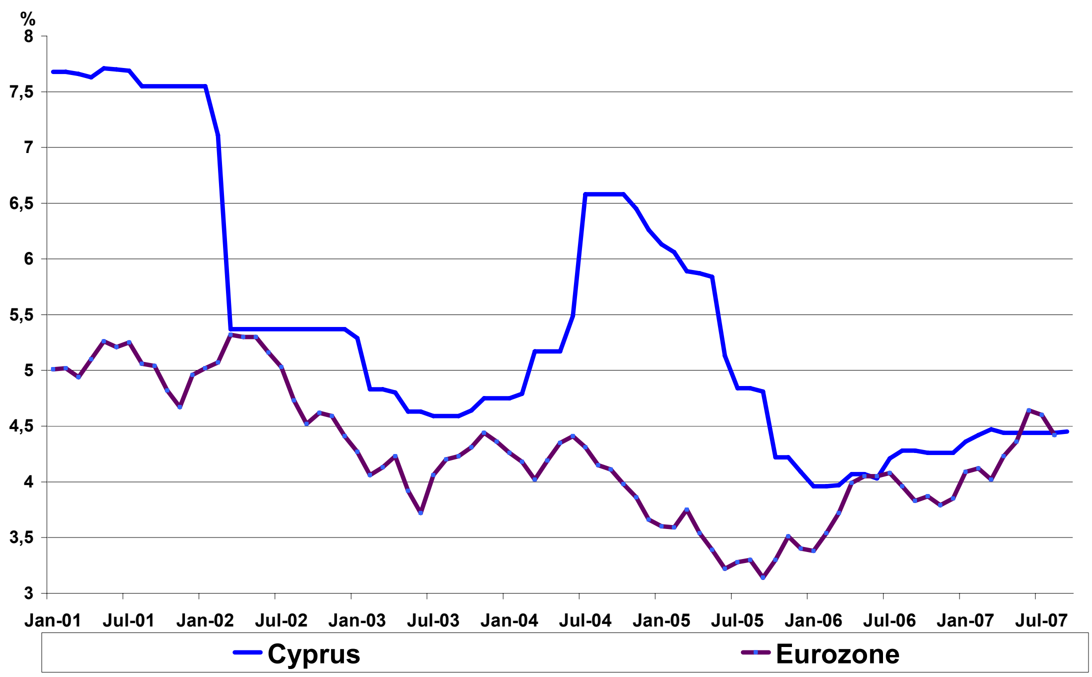
The 2007 budget foresees a deficit of 1.6% of GDP, which will be achieved easily, despite pre-election year considerations. The general government recorded a surplus of 0.9% of GDP in 1H-2007, compared to a 0.7% deficit in 1H-2006. This is a result of total revenues growing by 17.8% against total expenditures growing by 8.2%. Tax revenues, the most dynamic component of total revenues, rose by 50% in 1H-2007 driven by capital gains tax revenues, a reflection of the hot property market, and strong corporate income tax revenues. Revenue buoyancy is expected to continue as VAT rate harmonization is expected to take place and real estate sector activity remains hot.

Government debt declined to 65% of GDP in 2006, from 69% in 2005. This is a respectable drop towards the 60% threshold posed by the Maastricht Treaty. The government debt is expected to decline further to 54% in 2008. This is the outcome of a one-off measure, the abolishment of sinking funds which have accumulated cash as a debt-repayment mechanism.

3.2. Monetary Policy: Interest Rate Convergence on the way to Eurozone

Interest rates have converged to those in the Euro Area. Since 2001, long term interest rates are on a downward path, with the exception of the period Feb-Oct 2004. Then, sovereign spreads increased in that period as a side effect of the uncertainty concerning the UN Plan for the reunification of the island (Chart 9). The spread between

Chart 9
Long Term Interest Rates Convergence



Source: Eurostat

the long term interest rates in Cyprus and the Euro Area declined from 245 bps in May 2005, when Cyprus entered ERM II, to approximately zero basis points last May (or became even negative in July). In addition, the key monetary policy rate now stands at 4.5%, very close to the ECB interest rate. Within ERM II the Cyprus pound has traded close to, but above central parity on the back of strong capital inflows, caused by expectations of future Euro adoption and positive domestic real interest rates. The central parity of 1 £/€ 0.585 is the final exchange rate by which Cypriot pounds will be converted to Euros in January 2008.

4. External Sector Developments: Widening Current Account Deficit

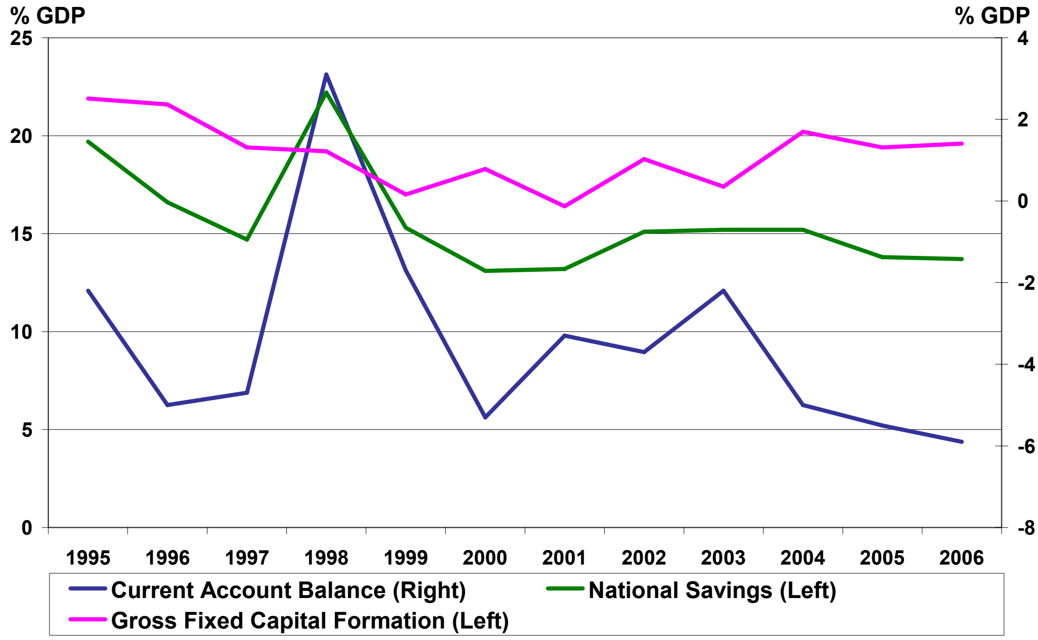
Cyprus, a small open economy, has been running current account deficits. The current account deficit has deteriorated from 2.0% of GDP in 2003 to 5.9% in 2006. This reflects two key factors: higher oil prices and strong domestic consumer demand. National savings as a percentage of GDP has declined to 13.7% from the level of 15.1% a few years ago, in order to finance increased consumption spending. In addition, investment has increased by 2% of GDP to 19.6% of GDP. Hence, the country needed to borrow from abroad in order to cover savings-investment gap, causing the overall current account deficit to deteriorate (Chart 10).

The trade deficit reached 27.5% of GDP in 2006 compared to 23.9% in 2003, a deterioration attributed to an increase in imports by 4 percentage points of GDP. On the other hand, the balance of services surplus remained unchanged at 23.4% of GDP. This comes as the result of two opposite trends: stronger exporting activity in business services and a decline in tourism revenues. On the financing side, about 70% of the current account deficit was financed by net FDI inflows. Net FDI inflows have displayed an upward trend from 2.4% of GDP to 4.2%.Those inflows are directed mainly to the real estate and trade sectors.

5. Inflation Outlook

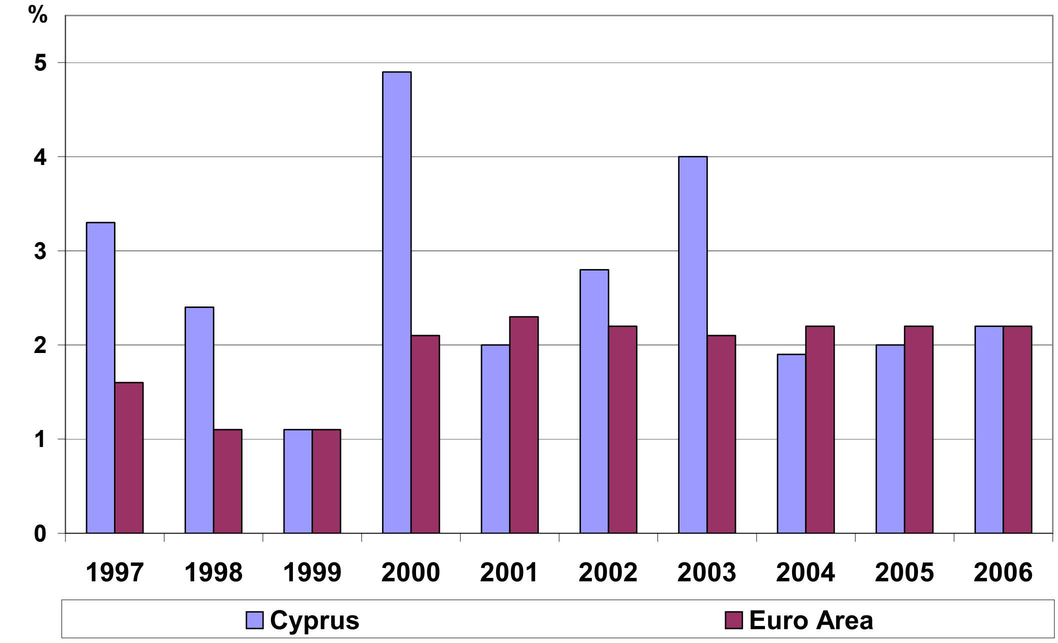
Cyprus has traditionally enjoyed a relatively low inflation rate. Nevertheless, inflation has been higher than that of the Euro Area and volatile at times (Chart 11). Harmonized inflation has been on a downward path in late 2006-early 2007. The twelve month harmonized CPI inflation averaged at 2.0% in March 2007, when the application for entry into EMU was assessed, which was 1 percentage

Chart 10
Gross Savings & Investment as a percentage of GDP



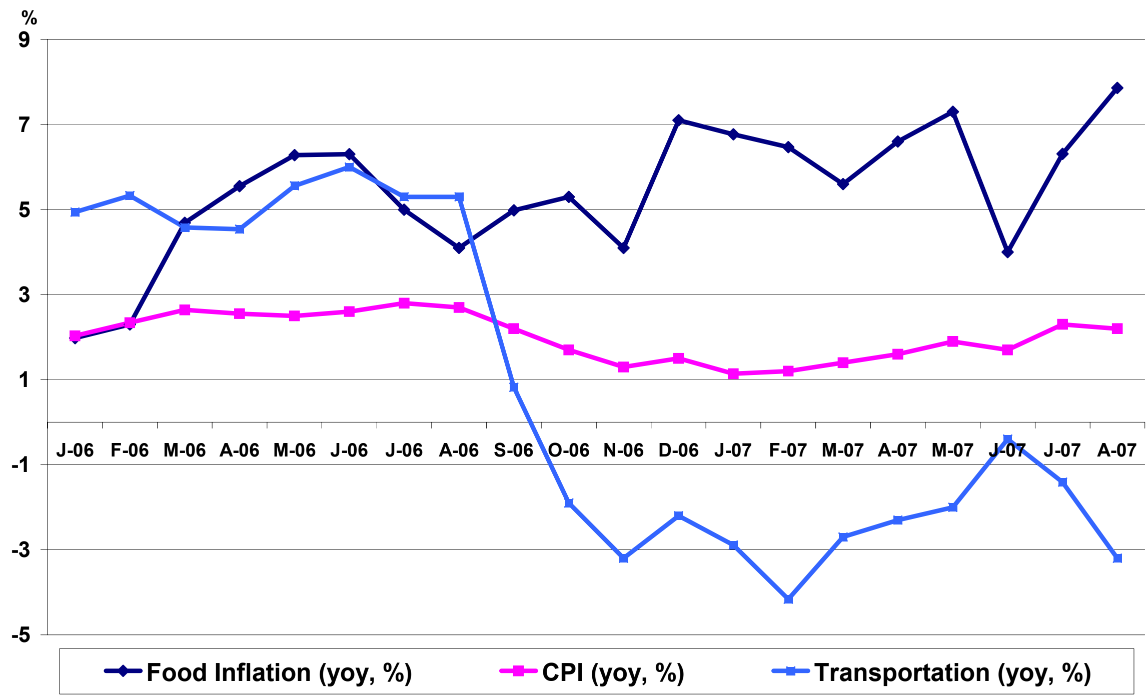
Source: European Commission

Chart 11
HICP-Harmonized Consumer Prices Index in Cyprus & Euro Area



Source: Eurostat

Chart 12
Inflation dynamics in Cyprus 2006-2007



Source: CYSTAT, Eurobank EFG Research

point lower than the average inflation rate of the three best performing states in terms of inflation. As a result, the inflation criterion, the last to be fulfilled for EMU entry, was satisfied. In the following months, HICP picked up. The HICP for September came out at 2.3% yoy compared to 1.4% yoy in the beginning of the year.

Headline inflation was 2.6% yoy in September, averaging 2.0% yoy for Jan-Sep 2007, against 2.8% yoy for the same period last year. Food prices, a significant component, have been rising quickly, at 6.4% yoy in Jan-Sep 2007. The price increases would have been higher, if it hadn't been for the decline by 2.2% in the transportation prices component. This has been the result of the cut in car excise duties, introduced in late 2006, which is expected to be phased out soon. Once phased out, inflation would go up to 2.5% yoy on average for the whole 2007 (Chart 12).

Looking ahead, the upward pressure on inflation is higher, given that the growth outlook next year is positive. In addition, the VAT rates for hotels-restaurants services, property and foodstuff are going to rise as a result of EU harmonization, which most probably will take place in June 2008. This is expected to add a total of one percentage point to inflation in 2008-09. Spikes in prices associated with the introduction of the Euro, a phenomenon occurred in other Euro Area countries, would be difficult to assess. Nevertheless, the authorities have been trying to minimize such an effect. The Ministry of Finance has reached a deal with major retailers to round converted prices down rather than up.

6. EMU: Opportunities and Challenges

Participation in the EMU can open up a new world of opportunities for the Cypriot economy. Cyprus' strategic location at the crossroads of three continents has been a major factor in shaping its history and its economic development. In that direction, Euro Area membership is expected to promote Cyprus as an international business hub in Eastern Mediterranean. The reduction in transaction costs and the upgrade in credit ratings, together with lower interest rates, will make Cyprus a more attractive place to do business. In turn, this will increase incoming investments, particularly from the Middle East and Gulf States. As a result, Cyprus could be transformed into a key outpost, serving as the springboard for investments from Europe, Africa and Asia.

On the other hand, Cyprus will also face an entire new set of challenges. Euro Area membership will exert more pressure on Cypriot policy makers to maintain fiscal discipline and accelerate the pace of structural reforms. In addition, the focus will shift to address the fiscal implications of the ageing population. According to European Commission projections, Cyprus is going to experience a substantial increase in age-related public expenditure, the highest among EU member states by 2050.

References

Central Bank of Cyprus, Monetary Policy Report, July-August-September 2007.

Central Bank of Cyprus, Annual Report 2006, page 44.

ECB, Convergence Report, May 2007.

European Commission, Convergence Report 2007 on Cyprus, May 2007.

European Commission, European Economy 2007, Spring 2007.

IMF, Country Report No. 06/347, October 2006, page 9.

Cyprus: Banking Indicators	2004	2005	2006	2006:Q2	2007:Q2
Percentage of GDP (%)					
Assets	240.2	279.7	324.9	285.7	359.0
Total Credit	126.2	126.8	139.7	132.6	157.3
Credit to Enterprises	64.9	62.5	63.6	64.8	71.1
Credit to Households	57.4	60.3	65.0	70.8	81.1
Deposits	177.3	203.8	230.6	204.8	247.1
Percentage Change (%, yoy)					
Assets	6.9	23.8	23.6	22.3	34.1
Total Credit	7.4	6.9	17.2	12.5	26.6
Credit to Enterprises	2.8	2.4	10.4	5.9	19.4
Credit to Households	13.4	11.8	24.8	20.3	33.1
Deposits	7.5	22.3	20.3	18.3	28.7
Percent (%)					
Capital Adequacy Ratio	11.4	12.4	13.1	-	-
Capital to Assets	5.5	5.4	-	-	-
NPLs to Total Loans	11.7	7.1	6.7	-	-
Provisions to NPLs	72.0	34.8	-	-	-
Return on Assets	0.2	0.8	-	-	-
Return on Equity	4.3	14.1	-	-	-

Sources: CBC, IMF

Cyprus: Macroeconomic Indicators	2002	2003	2004	2005	2006
Output and expenditure					
GDP (%)	2.0	1.8	4.2	3.9	3.8
Domestic Demand (%)	4.2	1.7	6.6	3.2	3.9
Net Exports (%)	-2.2	0.1	-2.4	0.7	-0.1
Labour Market					
Unemployment (in per cent of labor force)	3.2	3.5	3.6	5.2	4.9
Prices					
Consumer prices (annual average)	2.8	4.1	2.3	2.6	2.5
Harmonized Price Index (annual average)	2.8	4.0	1.9	2.1	2.2
Government sector					
General government balance	-4.4	-6.3	-4.1	-2.3	-1.5
General government debt	64.7	69.1	70.3	69.2	65.3
Monetary and Financial Indicators					
M2	10.3	4.0	5.6	10.2	14.8
Total credit	9.5	5.9	7.4	10.2	17.2
Reference Rate	3.8	3.5	4.5	3.25	4.5
Exchange rate USD/CYP (end-period)	0.57	0.48	0.43	0.48	0.44
Exchange rate EUR/CYP (end-period)	0.56	0.58	0.58	0.57	0.58
Real Effective Exhange Rate (Index)	104.1	111.0	113.0	112.9	112.3
International Position					
Current account balance (% of GDP)	-3.7	-2.2	-5.0	-5.6	-5.9
Trade balance (% of GDP)	-27.3	-23.9	-25.6	-25.0	-27.5
Foreign direct investment, net (% of GDP)	5.7	3.0	2.9	4.3	4.2
Tourism					
Arrival of Tourists (millions)	2.48	2.30	2.35	2.47	2.40
Total Income (million CYP)	1,132.0	1,015.0	982.3	1,005.7	1,027.3
Construction					
Total Construction Costs (Index)	105.2	110.0	119.1	125.5	131.8
Building Permits Value (000's CYP)	879,726	1,030,477	1,167,358	1,339,649	1,447,607
Number of Building Permits authorized	6,856	7,548	8,252	9,098	9,794
Dwelling Stock (Thousand)	299	305	314	325	341
New Dwellings completed	6,059	8,734	11,013	16,416	n/a
Memorandum items					
Population (end-year, million)	0.71	0.72	0.74	0.76	0.78
GDP per capita (in 000's USD)	17.4	18.5	21.4	22.4	23.7
GDP per capita (in 000's EUR)	15.6	15.4	17.2	17.9	18.6
GDP (in billions of EUR)	11.1	11.7	12.7	13.6	14.5
GDP (in billions of USD)	12.4	13.3	15.8	16.9	18.3

Source: National Statistics, IMF, World Bank, Bloomberg

Cyprus in EMU: A Macroeconomic Perspective

Manolis Davradakis
Research Economist

- **In January 2008, Cyprus will join the Euro Area, giving up its independent monetary policy.**

- **Entry to the Euro Area is a prudent economic decision, as Cyprus satisfies the criteria for entering and Optimum Currency Area. Specifically:**

  (a) Prices in Cyprus and the Euro Area co-move substantially, hence the common monetary policy will be able to correctly counter price shocks. In contrast, output does not co-move much with Euro Area output, but we expect the co-movement to increase following euro entry.

  (b) There is a significant negative relationship between unemployment and net migration within the Euro Area, suggesting that Cyprus will enter a labor mobile currency area. The likelihood of higher net migration into Cyprus is high.

- **We estimate that Cyprus' intra European Union (EU) trade will increase by approximately 50% due to the Euro Area membership.**

- **Population aging is a major challenge lying ahead. It is expected to increase age related public expenditure by 11.7 percentage points to 28.2% of the Gross Domestic Product (GDP) by 2050 – the highest in the EU. The current account deficit (2006: 5.9% of the GDP) is another challenge.**

- **Labor productivity, labor costs and inflation have already converged substantially to the corresponding Euro Area averages.**

1. Introduction

In January 2008, the Euro Area (Finland, Ireland, Germany, Italy, France, Belgium, Luxemburg, Spain, Portugal, Netherlands, Austria, Greece and Slovenia) will welcome two new countries, Cyprus and Malta, which will lose their independent monetary policy and adopt the euro. Euro Area membership is expected to increase trade integration and foster welfare for the society of both countries. The expected benefits include: reduced exchange rate uncertainty, lower transaction costs and increased competition through greater transparency and credibility, as well as immunity from speculative attacks that lead to currency devaluations.

In the present study we assess whether or not the entry to the Euro Area is a prudent decision for Cyprus. To that end, our study is different from studies by the European Central Bank (2007) and the European Commission (2007). We do not examine the convergence to the Maastricht criteria for membership to the European Monetary Union (EMU). Instead, we examine whether Cyprus is qualified to enter a currency area in the spirit of the Optimal Currency Area (OCA) theory put forth by Mundel (1961). Optimality in this setup refers to a set of conditions and criteria that when satisfied, the fiscal and the external side of the economy will be at a balance. This set of conditions includes similar co-movement of prices and output, labor mobility and fiscal discipline. All three conditions are necessary to establish that the common monetary policy will be sufficient to manage demand shocks in Cyprus and will compensate for the loss of the independent monetary policy.

Another novel aspect of the present study is its focus on the benefits to the bilateral trade between Cyprus and its Euro Area partners from the adoption of the common currency. We analyze whether EMU membership will benefit intra-Euro Area trade flows among the countries that joined the EMU since its beginning in 1999. We investigate the impact on intra-euro area trade of the Euro Area membership along the lines of a gravity model, in which the bilateral trade is determined by the level of real GDP, real GDP per capita and EMU membership.

Additionally, our study is a first attempt to identify the challenges that the Cypriot economy will face in the longer term, by looking at the experience of the countries that joined the euro after 1999. We consider three challenges: 1. The ageing of the population which can undermine fiscal consolidation; 2. The deterioration of the current account deficit, which represents a major external imbalance that is hard to contain in the absence of an independent monetary policy and a domestic currency that can be depreciated; and 3. The inflation pressures following the convergence process of wages and productivity to the Euro Area averages.

The remainder of the paper is organized as follows. In Section 2, we examine whether the entry to the Euro Area is a prudent decision for Cyprus. To that end, we asses the co-movement of prices and output of the Cypriot economy relative to the Euro Area average, the labor mobility within the future Euro Area and we discuss the fiscal consolidation of the Cypriot economy in relation to the fiscal re-distribution condition set by the OCA theory. In Section 3, we analyze the impact on trade flows, which the Euro Area membership had for the countries that adopted the euro after 1999. In Section 4, we highlight the challenges that the Cypriot economy will have to overcome in the medium and long run. These challenges include the ageing of the population, the deteriorating current account deficit and the pressures to inflation. Section 5 concludes.

2. Is the entry to the Euro Area a prudent decision for Cyprus?

2.1 Price and output co-movement in Cyprus

The decision of a country to join the EMU depends on the perceived costs and benefits from the membership. The Optimal Currency Area (OCA) theory proposed by Mundel (1961) provides the framework within which such an evaluation takes place. According to OCA[1], a group of countries will benefit from a currency area membership if three conditions are satisfied. First, member countries are hit by symmetric shocks. In other words, member

[1] See Horvath (2003) for a literature survey on the OCA theory.

countries should have business cycles moving in tandem. Second, there is a high degree of labor mobility and wage flexibility among the member countries. Third, there is a central fiscal budget that will transfer resources from countries within the currency area that are not hit by an economic shock to those suffering adverse economic shocks. The countries satisfying the above three criteria can define a currency area where optimally there is full employment, flexible prices and balanced external account.

Countries facing large asymmetric shocks should find it costly to abandon their monetary policy and join a currency area. The cost of foregoing an independent monetary policy becomes apparent through an example. Assume that all countries in the Euro Area are hit by a fall in demand for their goods by the rest of the world. This fall of external demand will decrease prices, while unemployment rate will rise for all countries in the Euro Area. The temporary improvement in the terms of trade with the rest of the world will not be sufficient to deter the rise in unemployment in the area. The European Central Bank can overcome high unemployment by easing monetary policy and returning output to its pre contraction level. Therefore, the common monetary policy is sufficient to control for symmetric demand shocks.

Next, suppose, that the external demand for goods produced by one country is reduced. This will reduce prices and increase unemployment within the country suffering the lower external demand. The rest of the Euro Area participants will experience higher prices for their goods relative to the former country. In this case, if the ECB were to ease monetary policy in order to boost aggregate demand and lower unemployment at the country hit by the negative demand shock, inflation at the other Euro Area countries would be higher. On the other hand, if the ECB were to restrain the common monetary policy in order to curb higher inflation at the other Euro Area countries not hit by the shock, it would worsen unemployment in the country hit by the recession. Thus, without an autonomous monetary policy at its disposal, the country hit by the recession will suffer under a monetary policy tightening by the ECB.

According to Alesina, Barro and Tenreyro (2002), economic shocks are symmetric if the levels of price and output per capita in each country of the currency area move along with the corresponding area average. To that end, we test the co-movement of prices and output for each country in the Euro Area - EMU (Greece-EL, Germany-DE, France-FR, Finland-FI, Italy-IT, Belgium-BE, Luxembourg-LU, Portugal-PT, Spain-ES, Slovenia-SI, Netherlands-NL, Ireland-IE), the 10 countries that joined the EU in May 2004 (Estonia-EE, Latvia-LV, Lithuania,-LT Slovak Republic-SK, Czech Republic-CZ, Malta-MT, Cyprus-CY, Poland-CY, Hungary-HU) and the two countries that joined the union in January 2007 (Bulgaria-BG, Romania-RO) relative to the EMU average. Each EMU member is compared to the average of the other 11 countries defining the currency area.

In order to compute the degree of co-movement in prices and output, we compute the logarithm of the ratio of prices for each country to the corresponding EMU average; run a second order autoregression and compute the standard error of the regression. The lower the standard error is, the higher the co-movement is. Higher co-movement implies symmetric shocks. The regression is estimated for annual data on prices and the real GDP per capita from 1960 to 2006 retrieved from the Penn World Table PWT6.2. In Table 1 we present the standard error from the regressions for prices and output.

With the exception of Malta, Cyprus has the lowest variability of prices among the countries that joined the EU after 2004. The variability of prices in Cyprus is lower compared to that of some existing EMU members (Finland and Slovenia), as well. Thus, price shocks in Cyprus are symmetric to those incurred in the Euro Area and a monetary policy decision by the ECB will have the same impact to inflation in Cyprus as to the overall Euro Area.

The real GDP per capita in Cyprus exhibits the highest variability among the countries considered relative to the Euro Area average. This finding implies that Cyprus experiences more asymmetric shocks relative to the Euro Area average and that the country cannot forego its monetary policy, since by doing so it will lose a device to

Table 1
The co-movement of prices and outputs in the Euro Area

	Country	VP	VY
AT	Austria	0.020	0.017
BE	Belgium	0.026	0.011
ES	Spain	0.038	0.013
FI	Finland	0.043	0.029
FR	France	0.025	0.011
DE	Germany	0.025	0.015
EL	Greece	0.040	0.031
IE	Ireland	0.032	0.029
IT	Italy	0.040	0.012
LU	Luxembourg	0.021	0.045
NL	Netherlands	0.021	0.012
PT	Portugal	0.038	0.023
MT	Malta	0.038	0.038
CY	**Cyprus**	**0.040**	**0.071**
HU	Hungary	0.069	0.044
PL	Poland	0.155	0.034
SK	Slovakia	0.117	0.055
CZ	Czech Republic	0.051	0.022
EE	Estonia	0.479	0.081
LV	Latvia	0.058	0.015
LT	Lithuania	0.042	0.040
SI	Slovenia	0.049	0.024
BG	Bulgaria	0.107	0.049
RO	Romania	0.252	0.058

Note: VP is the standard error from the regression $\ln\frac{P_{i,t}}{P_{EMU,t}} = \alpha_0 + \alpha_1 \ln\frac{P_{i,t-1}}{P_{EMU,t-1}} + \alpha_2 \ln\frac{P_{i,t-2}}{P_{EMU,t-2}} + \varepsilon_{i,t}$, where $t = 1960,...,2006$; $P_{i,t}$ is Consumer Price Index in country i at time t; $P_{EMU,t}$ is the average Consumer Price Index in the EMU excluding the country i if that country is an EMU member and $\varepsilon_{i,t}$ is the error term. VP is defined by $VP = \sqrt{\frac{1}{T-3}\sum_{t=1}^{T}\hat{\varepsilon}_{i,t}^2}$. Likewise, VY is the standard error from the regression $\ln\frac{Y_{i,t}}{Y_{EMU,t}} = \beta_0 + \beta_1 \ln\frac{Y_{i,t-1}}{Y_{EMU,t-1}} + \beta_2 \ln\frac{Y_{i,t-2}}{Y_{EMU,t-2}} + u_{i,t}$, where $t = 1960,...,2006$; $Y_{i,t}$ is the real per capita GDP in country i at time t; $Y_{EMU,t}$ is the average real per capita GDP in the EMU excluding the country i if that country is an EMU member and $u_{i,t}$ is the error term. VY is defined by $VY = \sqrt{\frac{1}{T-3}\sum_{t=1}^{T}\hat{u}_{i,t}^2}$.

control fluctuations to output. The argument holds in an environment of flexible exchange rates where the fiscal policy is inefficient as a demand management mechanism and the monetary policy is the only efficient economic policy. However, in an environment of fixed exchange rates, monetary policy is inefficient in controlling output, since monetary policy is used to either absorb excess liquidity or to provide the liquidity needed in order to maintain the peg through open market operations and sterilization policies.

The Cypriot Lira was always linked either to a single currency or to a basket of currencies after independence in 16 August 1960.[2] For a small open economy, that policy was deemed necessary in order to control for fluctuations of the external demand and to sustain economic development. Fixed exchange rates reduce the risk premium, the long term interest rate and boost investment. Over the period 1960-1972, the Cypriot Lira was pegged to the British Pound, while in 1972 it was pegged to the US Dollar. Over 1973-1984, the Lira was linked to an import-weighted currency basket and during 1984-1992 to a trade-weighted currency basket. In 1992 the Lira was pegged to the ECU until 1999 with a +/- 2.25% fluctuation band. Following the ECU peg, the Lira was pegged to the Euro with the same fluctuation band until August 2001 when the band widened to +/-15%. In May 2004 Cyprus joined the EU and on 2 May 2005 the Lira entered the European Exchange Rate Mechanism II (ERM II) at the existing fluctuation band. The long and successful track record of the Cypriot Lira peg implies that the peg was credible enough to sustain speculative attacks.

Under Euro Area membership Cyprus will forego a policy device – monetary policy – that was used to support its foreign exchange policy framework. Hence, management of demand shocks was efficient in Cyprus only through the fiscal policy for almost half a century. In fact, Otmar Issing (2001), the first Chief Economist of the ECB, has argued that one should expect that co-movement of prices and output increases within the Euro Area after the adoption of the Euro. Thus, we expect that even though the GDP in Cyprus does not co-move much with the Euro Area GDP, the co-movement will increase after the adoption of the common currency.

2.2. Cross-border labor mobility

Cross border labor mobility enables matching of vacancies with worker skills and up-skilling in the European workforce. According to the OCA theory, a country participating in a currency area will overcome an asymmetric economic shock if there is high degree of cross-border labor mobility among the countries defining the currency area. Labor mobility enables unemployed people from the country suffering the recession to move to other countries within the currency area and, thus, the adverse consequences are not felt as much. If labor mobility exists, then we ought to observe association between unemployment and net migration, the latter defined by the difference between the number of immigrants and emigrants. Low unemployment in country A will motivate workers from other countries to immigrate to country A, while residents of the low unemployment country A will be deterred from emigrating. Hence, net migration declines.

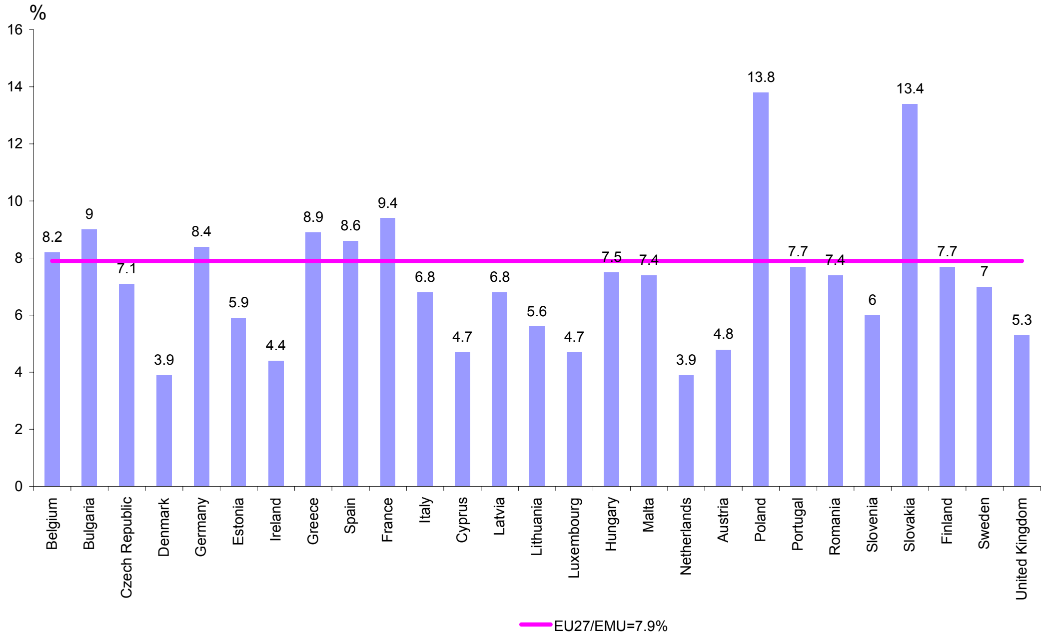
We examine the sign of the relationship between unemployment and net migration within a pool of countries that include the EMU countries, Cyprus and Malta. Following Fidrmuc (2004), we estimate the model:

$$m_{i,t} = \alpha_0 + \delta_i + \gamma_t + \alpha_1 un_{i,t-1} + e_{i,t} \,,$$

where t=2001,...,2005; $m_{i,t}$ is net migration for country i at time t as percentage of the population; δ_i is a cross section effect for cross section i (ie a dummy variable that is 1 if country i is considered); γ_t is a time specific effect (ie a dummy variable that is 1 if time t is considered); $un_{i,t-1}$ is unemployment at time t-1 for country i and $e_{i,t}$ is the error term for equation i at time t. Unemployment is taken with a one year lag, since the effect on net migration from growing unemployment materializes with a lag. We use annual data for unemployment and net migration retrieved from EUROSTAT. The estimation of the model by

[2] For the exchange rate policy framework of the Central Bank of Cyprus, see: http://www.centralbank.gov.cy/nqcontent.cfm?a_id=27.

Chart 1
The unemployment rate (number of unemployed as percentage of the labor force) in the EU, 2006



Source: Eurostat, EFG Eurobank Research

cross-section and period fixed effects pool least squares rendered

$$\hat{m}_{i,t} = 1.652^{*} - 0.161^{*} un_{i,t-1}$$
$$(0.307) \quad (0.045) \qquad\qquad \overline{R}^2 = 0.795$$

where, standard errors are reported in parentheses; asterisk denotes significance at the 5% significance level and $\overline{R}^2$ is the coefficient of determination adjusted for the degrees of freedom. The above relationship implies that when unemployment increases, in a year's time net migration will decrease due to decreasing immigration and increasing emigration. The estimated regression is highly significant according to the adjusted $\overline{R}^2$ which is equal to 0.795. Hence, Cyprus will enter an area where labor has the potential to be mobile as far as unemployment determines net migration.

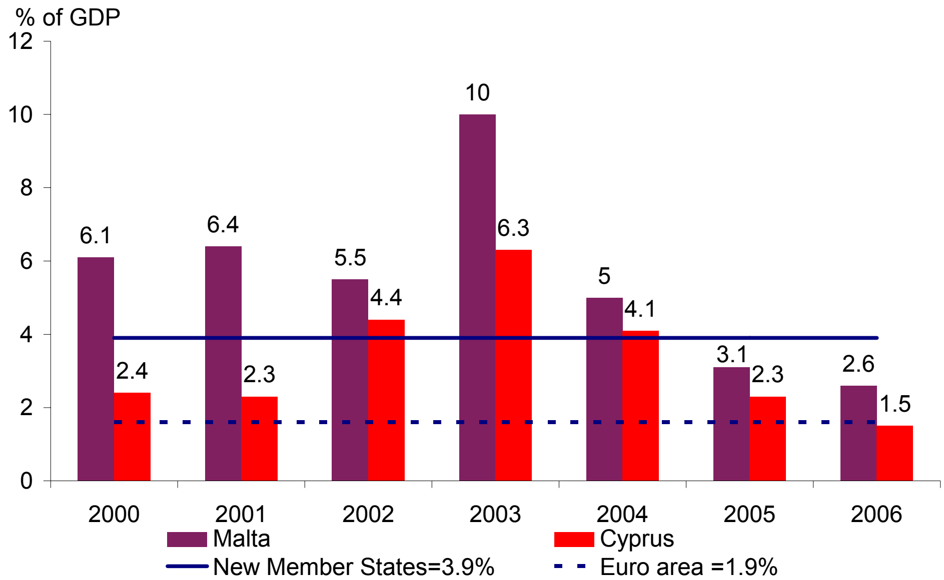
The lower the unemployment rate, net migration is more likely to increase. In Chart 1 we observe that unemployment rate in Cyprus is the third lowest in the EU, standing at 4.7% behind Denmark and Ireland. Thus, the likelihood of higher net migration to Cyprus is high in the event of a positive demand shock, which will increase output and decrease the unemployment rate further.

However, other empirical evidence suggests that cross border labor mobility is limited among the EU-15 countries.[3] According to Heinz and Ward-Warmedinger (2006), in 2000 only 0.1% of the total EU-15 population or equivalently 225,000 people changed prime residence between two member countries, while 0.4% of the EU-15 population commute across borders to work and half of this amount is to non EU-15 countries. On the other hand, 5.9% of the total US population changed residence between US counties in 1999.

Legal and administrative barriers, lack of familiarity of other European languages and cultures, the cost of moving, inefficient housing markets, the limited portability of pension rights, the lack of recognition of professional qualifications and the lack of transparency of job openings are just a few of the obstacles in labor mobility

[3] EU-15 includes to Greece, France, Germany, Italy, Belgium, Luxembourg, Portugal, Spain, Austria, Sweden, United Kingdom, Netherlands, Denmark, Finland and Ireland.

Chart 2
The General Government deficit as % of the GDP



Note: New member states refer to the countries that joined the EU in 2004 (Slovakia, Slovenia, Czech Republic, Hungary, Cyprus, Malta, Estonia, Latvia, Lithuania, Poland). Euro Area and new member states averages refer to 2006.
Source: Eurostat, EFG Eurobank Research

emphasized by the relevant literature. ECB's president Jean-Claude Trichet (2007) has recently highlighted that enhancing cross-border labor mobility will support a more competitive price setting within the EU that is necessary to boost potential output and growth in the Union.

2.3. Centralized fiscal policy for redistribution

The third condition advanced by the OCA theory for an advantageous currency area is that of a centralized fiscal policy for redistribution of tax revenues from countries that are doing well to the countries they are doing badly within the currency area. This condition is necessary in order to mitigate the adverse consequences of an asymmetric shock.

Is there a centralized fiscal policy for the redistribution of the primary surplus of currency area countries with booming economies to currency area countries in recession? It is difficult to imagine, for example, that the French government will raise its tax rate and redistribute its tax revenues to citizens of another country within the EMU that is hit by a recession. However, the third criterion set by the OCA theory is replaced within the EMU by a condition for fiscal discipline emphasized by the Growth and Stability Pact (SGP), put forth in 1997. All Euro Area members have to attain a General Government Deficit of below 3% of the GDP, otherwise the Excessive Deficit Procedure (EDP) will be put into effect. As we notice in Chart 2, the fiscal policy in Cyprus did not produce significant fiscal imbalances that could impede economic growth. In fact, the mix of fiscal policy has rendered the fiscal deficit in Cyprus at 1.5% of the GDP in 2006, well below the average fiscal deficit of the countries that joined the EU in 2004 (3.9% of the GDP), the Euro Area average (1.9% of the GDP) and Malta (2.6% of the GDP). At the same time, General Government debt in Cyprus was 65.3% of the GDP in 2006, close to the sustainable level of 60% of the GDP set by the Maastricht Treaty, when the corresponding Euro Area average was 69.1% of the GDP in 2006, while gross debt in Greece was 104.6% of the GDP.

3. Monetary union benefits to trade

The adoption of euro by Cyprus will eliminate foreign exchange risk and the costs of currency conversion.

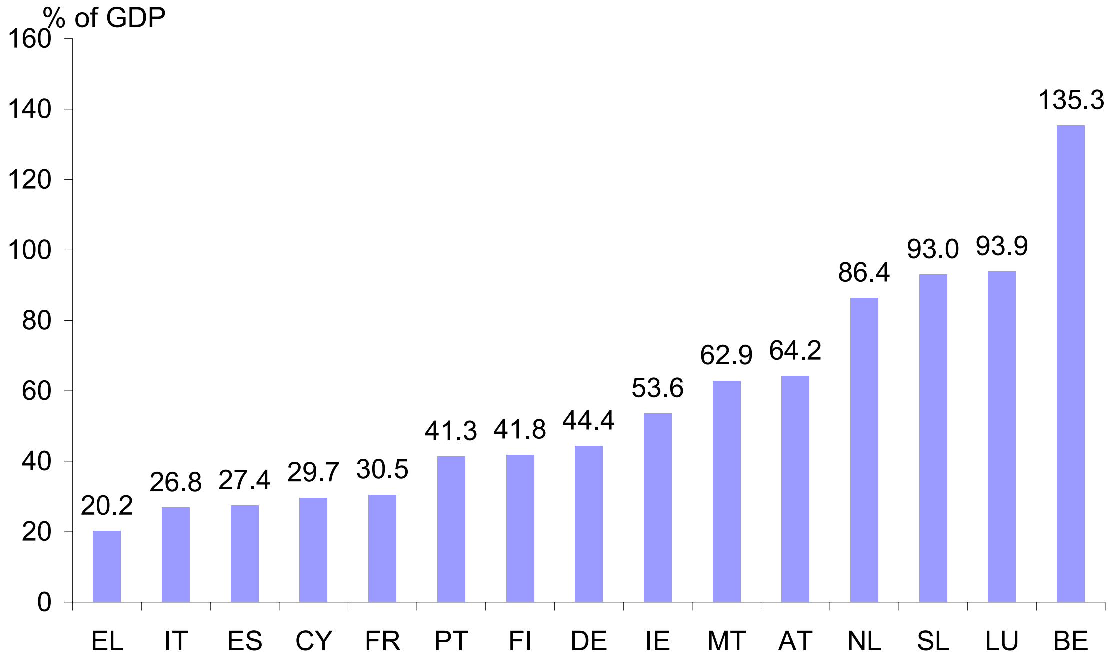
Under floating exchange rates, bilateral rates exhibit high variability that have an adverse effect to society's welfare. Obstfeld and Rogoff (2000) compute the implications of the reduction in foreign exchange variability following an exchange rate peg in the context of a stochastic new open-economy macroeconomics model. They conclude that the real GDP growth rate is one percent higher due to the exchange rate peg.

A significant strand of the economic literature argues that the presence of international borders reduces international trade substantially. The existence of international borders is associated with different currencies that create transaction or iceberg cost. Transaction costs include the currency conversion and the time it takes for the goods to be shipped from one country to another. Alesina and Barro (2002) report that the adoption of a common currency will decrease this transaction cost, while Anderson and van Wincoop (2001) estimate that the trade among industrialized countries could have been 30% larger without international borders.

The papers cited above imply that the adoption of a single currency among the countries that trade most will weaken transaction cost significantly and will contribute to international trade. Thus, the larger the trade among the countries forming the currency area the larger is the benefit for international trade, following the reduction of transaction costs. In Chart 3 we graph the value of exports plus imports between each country within the EMU, Cyprus and Malta and the EU. The value of the trade is expressed as percentage of the GDP and defines the trade openness of each country. According to the diagram, trade in Cyprus is almost 30% of its GDP, while the openness of Malta which will enter the Euro Area in 2008 is 62.9% of the GDP. A noticeable feature is that openness is larger in Cyprus relative to other larger countries within the EMU like Italy (third largest country behind Germany and France) and Spain (fourth largest country).

The emerging question concerns the potential benefit for Cyprus after its entry to the Euro Area. The existing work on the effects of currency unions on trade flows has been

Chart 3
The value of trade between each Euro Area country and the EU as percentage of the GDP, 2006



Source: ECOWIN, Eurobank EFG Research

framed in the context of the so called "Gravity Model".

According to this model, the bilateral trade between two trading partners is increasing in their real GDP and decreasing in their distance. The seminal paper in this area is that of Rose (2000) who reports that the bilateral trade between two countries within a currency area is three times larger relative to the bilateral trade between two countries not belonging to the currency area. At a more recent paper, Rose (2004) reports that the membership to a currency area will increase intra-area trade by 30-90%. Faruqee (2004) estimates a gravity model with annual data spanning 1992-2000 on bilateral trade for 22 industrialized countries in order to quantify the impact of the Euro Area membership on bilateral trade. He reports that the Euro Area membership has increased the intra-area trade by 10% during the euro's existence.

We estimate the impact on intra-area trade flows due to the Euro Area membership in the spirit of Faruqee (2004). Our approach is different on the basis that we construct a panel with countries that currently define the EU and we disregard other industrialized countries. We propose the following model

$$\ln(Trade_{ijt}) = \beta_0 + \beta_1 \ln(Y_{it}Y_{jt}) + \beta_2 \ln(y_{it}y_{jt}) + \lambda EMU_{ijt} + \varepsilon_{ijt}$$

where t=1999,...,2004; $Trade_{ijt}$ is the value of exports plus imports from country i to country j at time t; Y_{it} (Y_{jt}) is the level of the real GDP for country i (j); y_{it} (y_{jt}) is the real GDP per capita for country i (j); EMU_{ijt} is a dummy variable equal to one if countries i and j belong to the Euro Area and zero otherwise and ε_{ijt} is the error term. With the exception of EMU, all the variables are expressed in logarithms. We retrieved data on bilateral exports and imports for the countries which belong to the EU from the Direction of Trade Statistics of the IMF available at ECOWIN. Data on the real GDP per capita and in levels were retrieved from ECOWIN. Subsequently, we constructed a panel of country pairs from a sample of the 27 EU members. Hence, the total number of combinations of 27 by 2 countries and therefore, the total number of cross-sections is N=351[4], while the time series dimension of the panel is T=6 years. The time series dimension and the cross-section dimension render a total of NxT=2,106 observations to perform the cross-section least square estimation of our gravity model.

The estimation of the model resulted in the following equation:

$$\ln(\hat{T}rade_{ijt}) = -25.137^{*} + 0.950^{*}\ln(Y_{it}Y_{jt}) - 0.151^{*}\ln(y_{it}y_{jt}) + 0.420^{*}EMU_{ijt}$$
$$\quad (0.585) \qquad (0.012) \qquad (0.025) \qquad (0.075) \qquad \bar{R}^2 = 0.799$$

where, standard errors are reported in parentheses; asterisk denotes significance at the 5% significance level and $\bar{R}^2$ is the coefficient of determination adjusted for the degrees of freedom.

In order to compute the impact of EMU membership on trade we use the fact that the estimated coefficient of EMU gives the change of $\ln(Trade)$ due to the transition from no EMU membership to EMU membership. Specifically,

$$\frac{d(\ln(Trade_t))}{dEMU_t} = 0.42 \Rightarrow \ln(Trade_t) - \ln(Trade_{t-1}) = 0.42 \Rightarrow \frac{Trade_t}{Trade_{t-1}} = \exp(0.42) = 1.52$$

where $d(\ln(Trade_t))$ is the change in $\ln(Trade)$ from year t-1 to t and $dEMU_t$ denotes the transition from no EMU membership to EMU membership and equals 1. Thus, the percentage increase in intra-area trading flows due to the EMU membership is

$$100 \times \left(\frac{Trade_t}{Trade_{t-1}} - 1\right) = 100 \times (1.52 - 1) = 52\%$$

The increase we find is inside the 30-90% range that Rose (2004) reports after a meta-analysis that combines and evaluates the disperse estimates from various estimations of the gravity model.

[4] The number of combinations of 27 by 2 is equal to $\binom{27}{2} = \frac{27!}{2!(27-2)!} = \frac{25! \times 26 \times 27}{2!25!} = \frac{26 \times 27}{2} = 351$ combinations.

We infer from the above estimation that the bilateral trade between Cyprus and its Euro Area partners can improve by 52% due to EMU membership. More trade can thus contribute to GDP and welfare. Higher trade openness implies that a larger set of consumption choices is available to consumers, since they can buy more imported goods. Exports will be higher, too, and can contribute to economic growth. Using data on the bilateral trade among 63 countries, Frankel and Romer (1999) report that a rise of one percentage point in the ratio of trade to GDP increases income per person by at least one half percent.

4. Challenges ahead

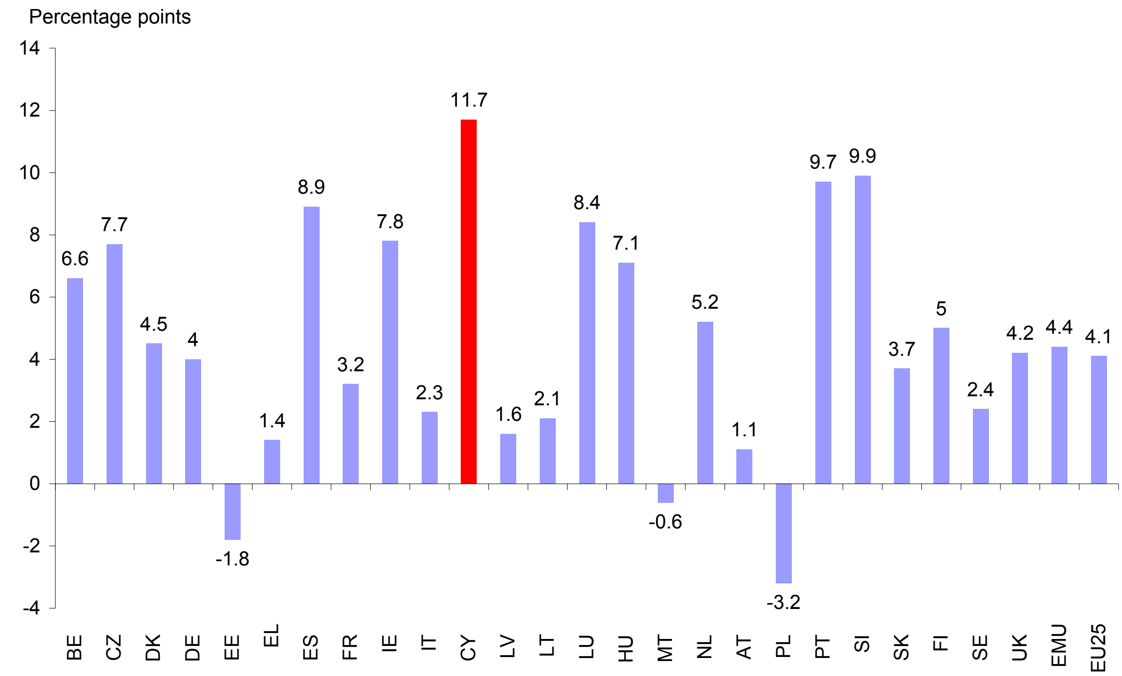
4.1 Ageing of the population

Ageing is the most important long term challenge the Cypriot economy faces. According to the European Commission (2006), Cyprus belongs to the group of high risk countries (Czech Republic, Cyprus, Greece, Hungary, Portugal and Slovenia). Among the countries considered in the report, Cyprus will experience the highest increase in age related expenditure - 11.7 percentage points (ppt) - from 2005 to 2050, while the increase in age-related expenditure in the EMU will be 4.4 ppt (Chart 4). The main driver behind the of age related expenditure is the expenditure for pensions that will increase from 6.9% of the GDP in 2004 to 19.8% of the GDP in 2050 rendering the total age related expenditure to 28.2% of the GDP in 2050. A study by the IMF (2007) argues that under no reforms of the Cypriot pension system, the pension expenditures will range from 8 to 10% of the GDP by 2050.

The increase in age-related expenditures will put pressure on the Gross Government Debt which is expected to increase by 78.9 ppt in less than half a century by 2050. It is sufficient to say that the corresponding increase for Malta is only 4.3 ppt. In Chart 5 a positive correlation is presented between Gross Government Debt and old-age dependency ratio, since as more elderly people have to be supported by working age population Gross Government debt will reach 249.2% of the GDP by 2050. Thus, despite the current sustainable level of the Gross Government Debt, there is a pressing need to proceed with structural reforms in public financing that will generate the necessary primary surpluses to finance the debt.

Chart 4

The projected change in the age-related expenditure from 2005 to 2050



Source: European Commission (2006)

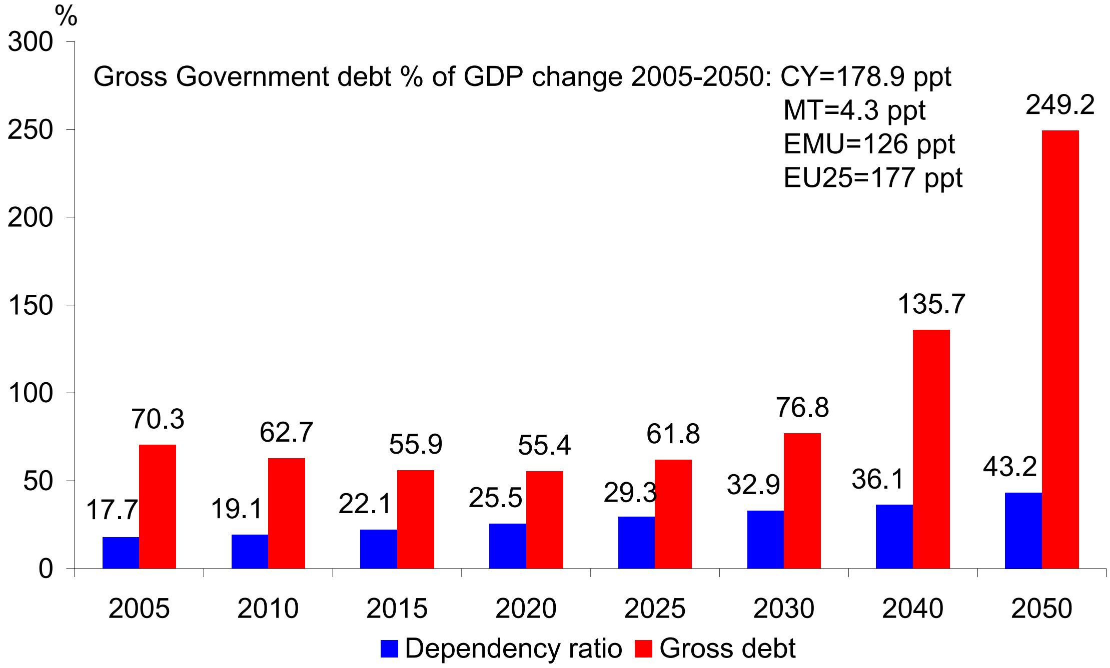
The Convergence Program 2006-10 of the Republic of Cyprus[5] considers reforms that aim to tighten eligibility for pension and early retirement; increase the age to retirement from 63 to 65 years and increase social security contributions. IMF (2007) argues for tighter measures that include a one year per decade increase in retiring age after 2028 that will render retirement year to 73 years by 2098; reduce the lump-sum payment by 4 months every five years until it drops to 4 months in 2028 and switch the indexation so that pension benefits to prices.

4.2 High current account deficit

Current account deficit in Cyprus is growing rapidly after the country entered the EU in 2004. In Chart 6, we graph the balance of the current account and its components as percentages of GDP from 2001 to 2006. Current account deficit is deteriorating continuously since 2001 reaching 5.9% of the GDP in 2006. By the end of 2004, the current account deficit was 5% of the GDP from 2.2% of the GDP the year before. The main contributors to the worsening of the current account deficit were the increasing deficit of the trade balance and the weaker positive contribution of the surplus in services.[6] We have to note that half of the current account deficit is attributed to the repatriated earnings of the foreign companies operating in Cyprus. However, that amount is reinvested almost entirely in Cyprus.

The growing current account deficit in Cyprus raises concerns about its sustainability in the light of the Euro Area membership. Bussiere, Fratzscher and Muller (2004) found that actual current account deficits in Cyprus, Estonia and Czech Republic are larger than the structural level implied by a standard inter-temporal model of the current account. The current account balance is determined in this setup by the fiscal surplus, the real income and the investment rate.

Chart 5
The projected Gross Government Debt as percentage of the GDP and old-age dependency ratio

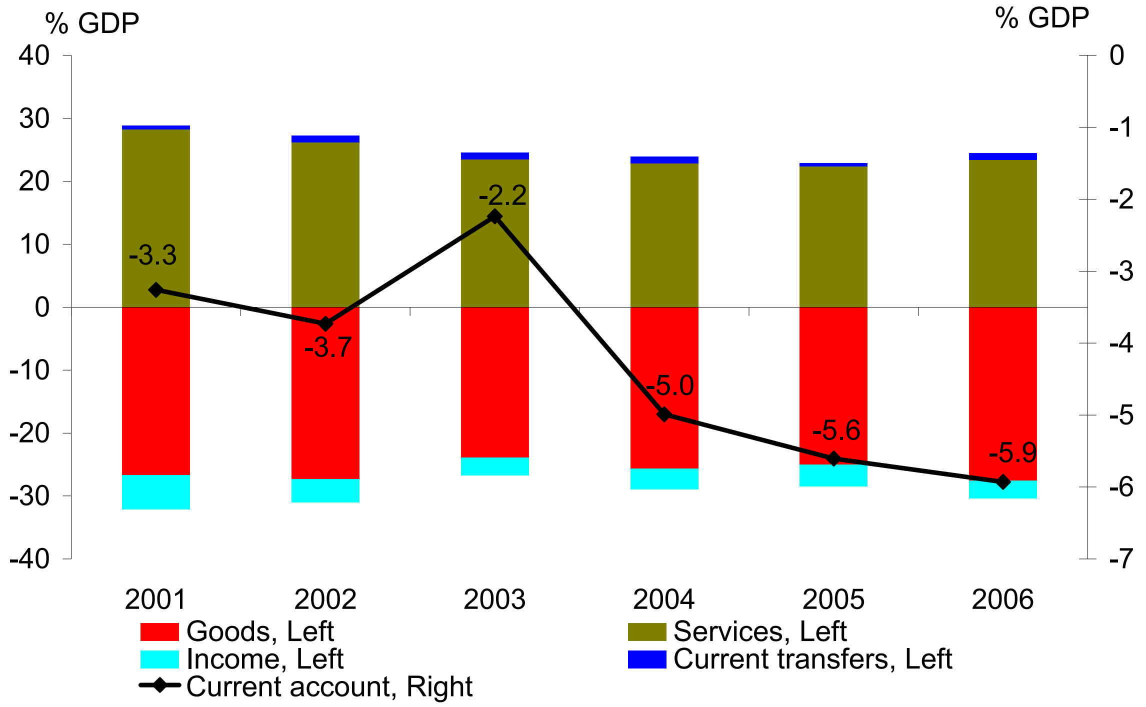


Source: European Commission (2006)

[5] See Ministry of Finance (2006).

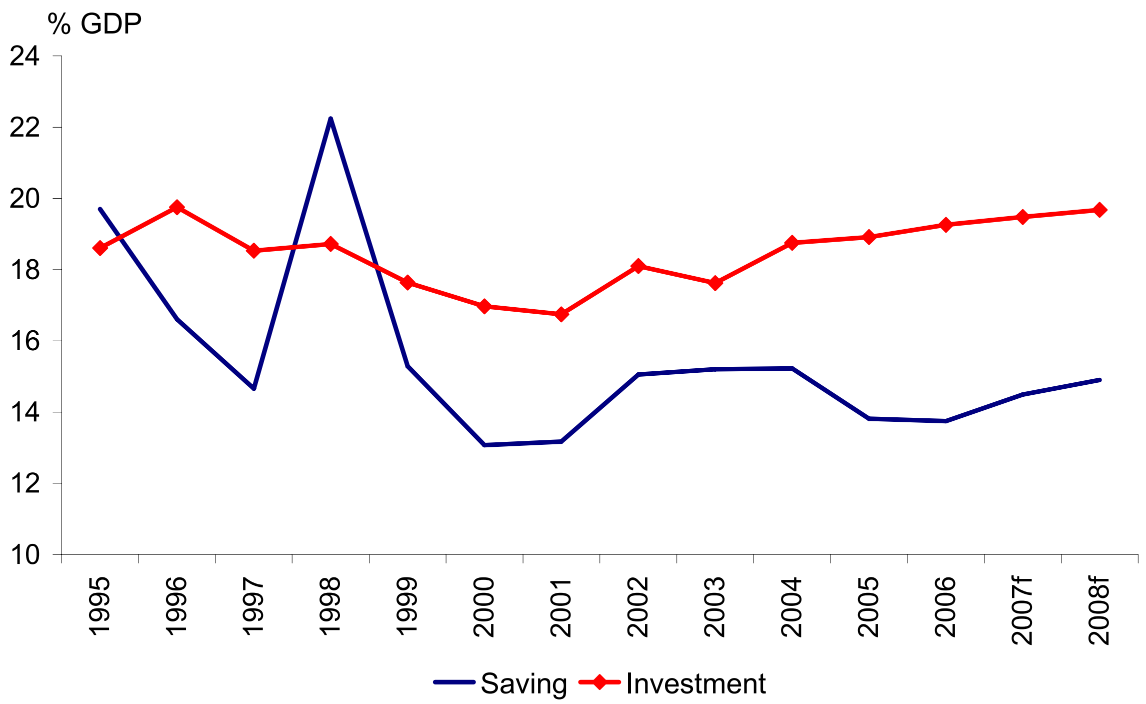
[6] For a review of the Cypriot tourist industry, see the study in the present report by Vorlow (2007).

Chart 6
The balance of the current account and its components in Cyprus as percentage of the GDP



Source: ECOWIN, Eurobank EFG Research

Chart 7
The saving and investment rate in Cyprus



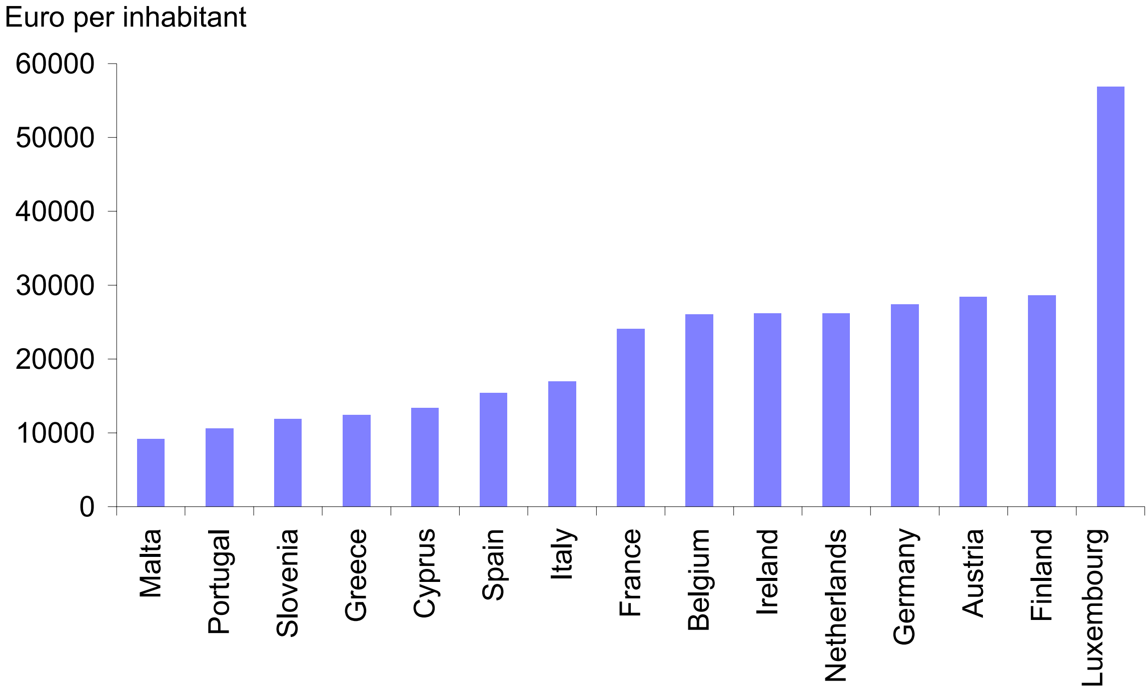
Note: f refers to the forecast for 2007 and 2008 by the European Commission.
Source: Eurostat, Eurobank EFG Research

The current account deficit in Cyprus is deteriorating as the investment rate becomes larger relative to the saving rate (Chart 7). After 1999, the investment rate defined by the Gross Fixed Capital formation as percentage of the GDP, grows at a faster pace relative to the saving rate, defined by the Gross National Saving as percentage of the GDP. Blanchard and Giavazzi (2002) argue that the increase in a discrepancy between investment and saving rates is inevitable for small economies with substantial growth prospects.

In Chart 8, Greece has the fourth lowest GDP per capita behind Malta, Portugal and Slovenia. As the country became more linked in goods and financial markets, the investment return increased encouraging higher investment rate. The favorable growth prospects in Greece reduced saving rate and the overall current account defined by the difference of saving and investment rate decreased. The same argument may apply for Cyprus, too, since the GDP per capita has the fifth lowest GDP per capita and the growth outlook of the country is favorable.

After the adoption of the common currency, the Central Bank of Cyprus will lose control of the domestic currency and the ability to depreciate the currency in order to balance the current account. The large share of foreign workers in the total number of employed people in Cyprus (2006: 16.8% of total employment)[7] poses an extra hurdle for the current account deficit. Foreigners working in Cyprus will transfer a fraction of what they earn in Cyprus to their home country as remittances. The remittances of foreign workers will weaken net transfers of the balance of the current account and the deficit will deteriorate more. Given that the economy operates almost at full employment, Cypriot employers will attempt to hire more foreign workers and the current account deficit will deteriorate further.

Chart 8
The GDP per capita, 2006



Source: Eurostat, Eurobank EFG Research

[7] See the study at the present report on the competitiveness of the Cypriot economy by Theodosios Sampaniotis (2007).

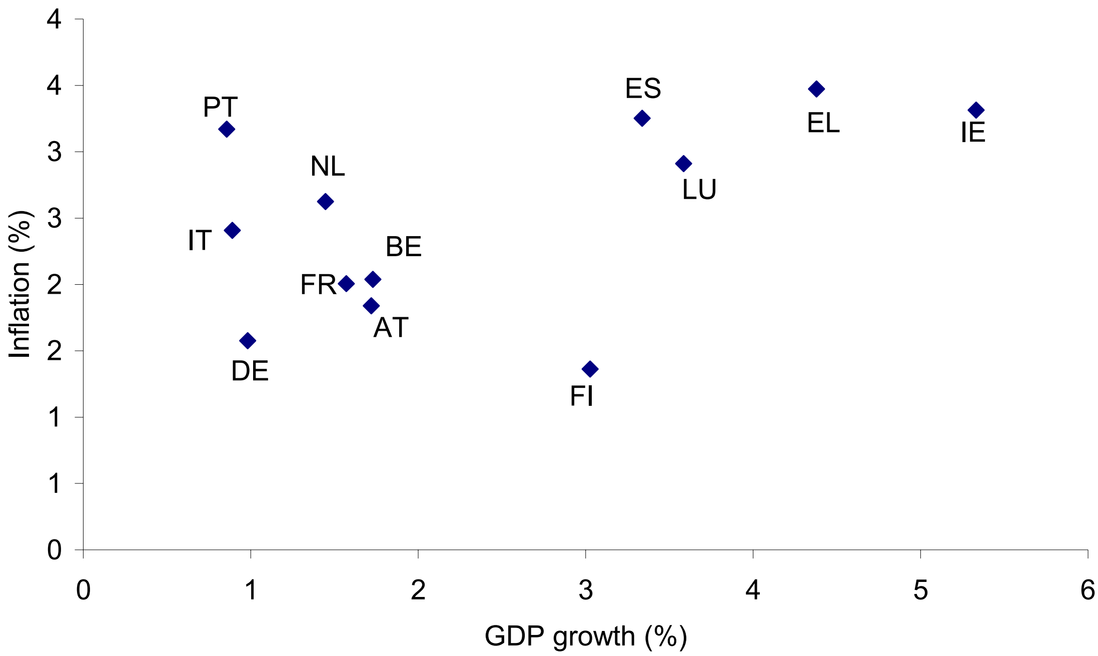
4.3 Higher inflation following euro entry

Inflation pressures might increase as a result of the convergence process in terms of productivity. Countries in a monetary union may share the same currency but they do not need to have the same price level. Inflation discrepancies can arise due to deviations from the law of one price for traded goods[8] as well as price discrepancies in the relative prices of non-traded goods across regions. The price level in a country is defined by the weighted average of the price level for traded and no-traded goods. Hence, the relative inflation between two countries in a currency area is defined by the weighted average of relative inflation for traded and non-traded goods. Relative inflation will be significant if relative inflation for either traded or non-traded goods is higher. If a country experiences an increase in labor productivity for traded goods, real wages will be higher in the sector of traded goods within the country. Labor mobility across sectors will motivate workers in the sector producing non-traded goods to demand higher wages. Given that the law of one price is assumed to hold only for traded goods and that the there is no increase in labor productivity of non-traded goods, the price of non-traded goods will increase. The aftermath will be a higher inflation in the country where labor productivity in the sector producing traded goods is higher. The inflation differential produced in this way is referred to as the Balassa-Samuelson effect.[9]

In the context of a currency area, economic integration will put pressure for the convergence in productivity levels. Poorer countries with low price levels have low productivity in the sector producing traded goods. Productivity in that sector is low since it is a more capital intensive sector that poorer countries lack. Due to convergence in productivity for the sector producing traded goods, inflation will rise and it will converge to inflation in wealthier countries within the area through the Balassa-Samuelson effect. [10]

In Chart 9, a positive relationship is documented between

Chart 9
The average real GDP growth and inflation in the Euro Area, 2001-2006



Source: Eurostat, Eurobank EFG Research

[8] The law of one price for traded goods stipulates that a traded good costs the same in two different countries within the currency area.
[9] See Obstfeld and Rogoff (1996), Ch. 4 for a rigorous exposition of the Balassa-Samuelson effect.
[10] See Duarte (2003).

the average real GDP growth and inflation from 2001 to 2006 for the countries that formed the EMU. The positive correlation indicates that convergence in productivity increased the GDP and rendered higher inflation in the context of the Balassa-Samuelson effect.

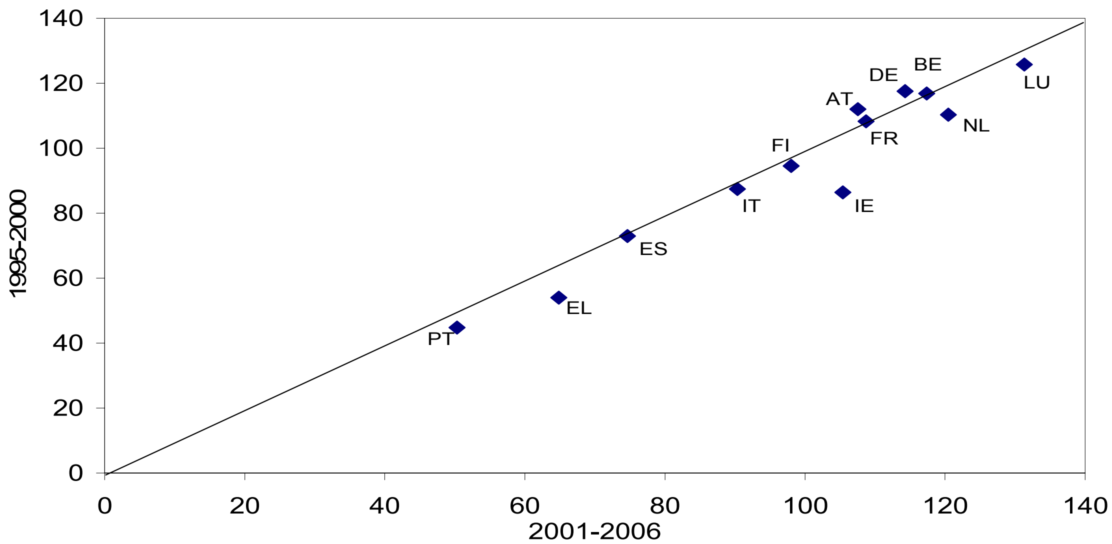
Higher convergence in productivity levels is confirmed by the higher convergence in nominal compensation per employee as percentage of the GDP. In Chart 10, we graph the average compensation per employee for each country within the EMU as percentage of the average EMU nominal compensation before the euro adoption and afterwards. We also include in the diagram the 45-degree diagonal. Points below the diagonal imply that after the euro adoption convergence of nominal compensation to the EMU average has increased. The opposite is true for points above the diagonal. We observe that most of the data points lie below the diagonal, especially for the small countries like Luxembourg, Greece and Portugal. Thus, convergence of nominal compensation of employees has increased after the adoption of the euro.

Convergence of nominal compensation resulted in higher inflation after the adoption of the euro due to the Balassa-Samuelson effect. In Chart 11, we graph average inflation pre and post the adoption of the common currency for the countries which joined the EMU. Also, we graph the 45-degree line. Data points above the line indicate that during 2001-2006 average inflation was lower compared to inflation during 1995-2000. Indeed, inflation for the majority of the countries which joined the EMU has increased after their EMU entry.

According to the Eurobarometer, a growing share of people in countries which adopted the euro consider that the common currency is disadvantageous. The share increased from 29% of the total number of respondents in September 2002 to 38% of the total respondents in September 2006 (Table 2).

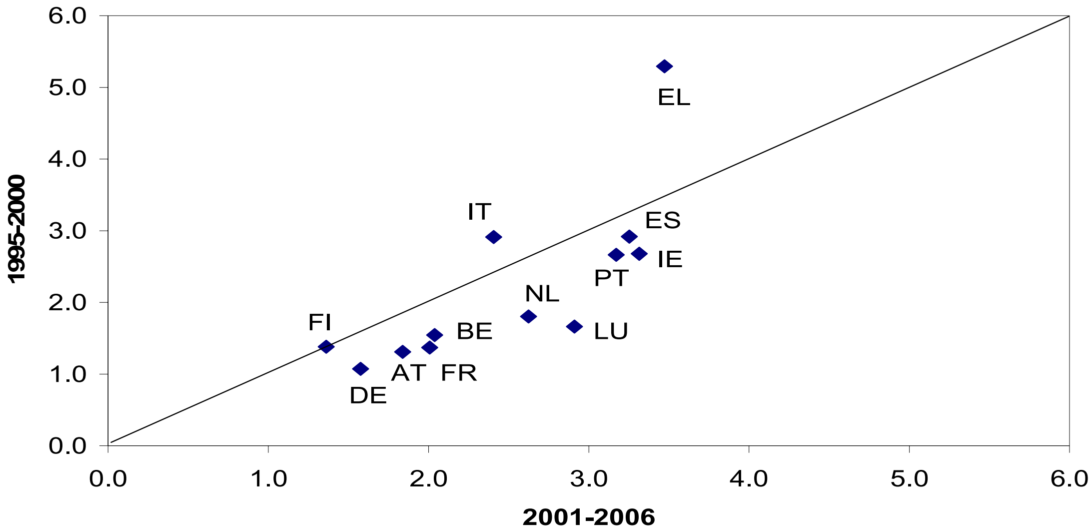
The ratio of respondents considering the introduction of the euro as disadvantageous is very high in Italy (48%), Greece (46%), Germany (44%) and the Netherlands (43%). The reason behind this negative attitude towards the euro is the increase in prices. In Chart 12, eight out of ten respondents believe that the adoption of the euro is disadvantageous due to price increases. The second most important reason for their dissatisfaction is far behind and refers to the complication that euro brought to their everyday life.

Chart 10
The average nominal compensation per employee as percentage of EMU in the Euro Area



Source: Eurostat, Eurobank EFG Research

Chart 11
Average inflation before and after joining the Euro Area,



Source: Eurostat, Eurobank EFG Research

Table 2
The perceived consequences of the euro's adoption

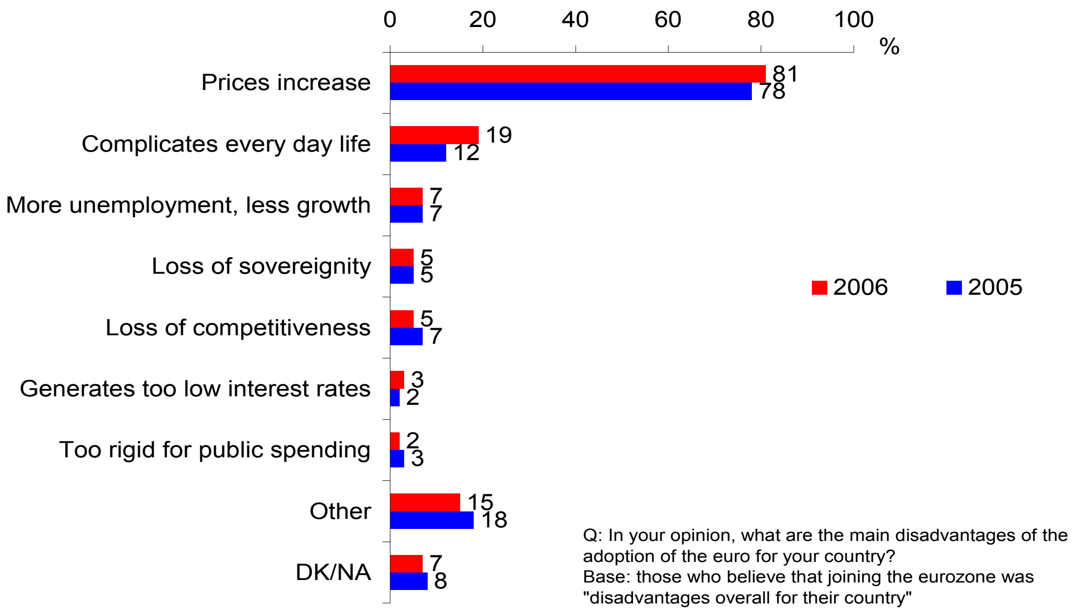
	Advantageous overall	Disadvantageous overall	No change	DK/NA
September 2002	59%	29%	8%	4%
November 2002	54%	32%	7%	7%
November 2003	52%	36%	5%	7%
November 2004	53%	36%	5%	6%
October 2005	51%	39%	6%	5%
September 2006	48%	38%	7%	7%

Source: Eurobarometer (2006)

On the positive side, in Cyprus the increase in the nominal compensation per employee required for convergence with the EMU average is the lowest among the 10 countries that joined the EU in May 2004. Specifically, nominal compensation per employee is 60% of the EMU average, when in Latvia it is 20% of the EMU average (Chart 13). Thus, inflation pressure in Cyprus due to convergence in wages will be weak.

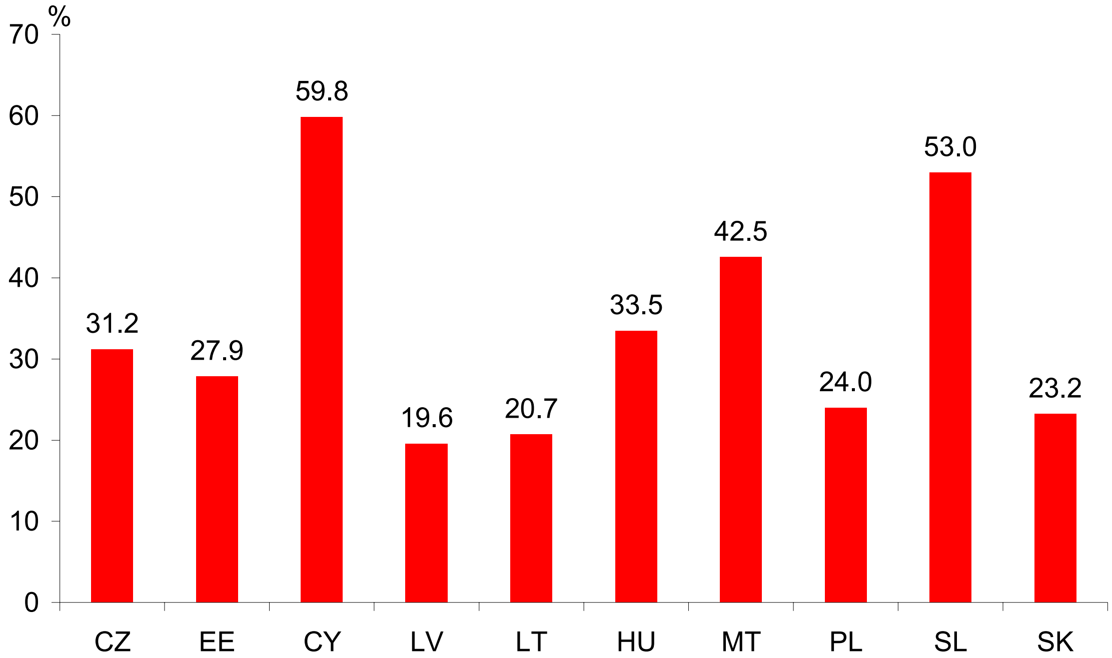
Convergence in labor productivity between Cyprus and the EMU is significant, as well. In Chart 14, we graph the labor productivity for each country considered relative to the EU25. Labor productivity is defined by the GDP in Purchasing Power Standards per person employed. The closer to 100 labor productivity in a country is the closer to the EU25 the country is in terms of labor productivity. The labor productivity for the countries which joined the EU in 2004 is in red color. We see that labor productivity in 2007 in Cyprus will be 84.5% of the EU25 average and it will be the second highest among the countries that joined EU in 2004. Therefore, convergence in labor productivity is substantial, although there is some room for further convergence.

Chart 12
The disadvantages of the Euro



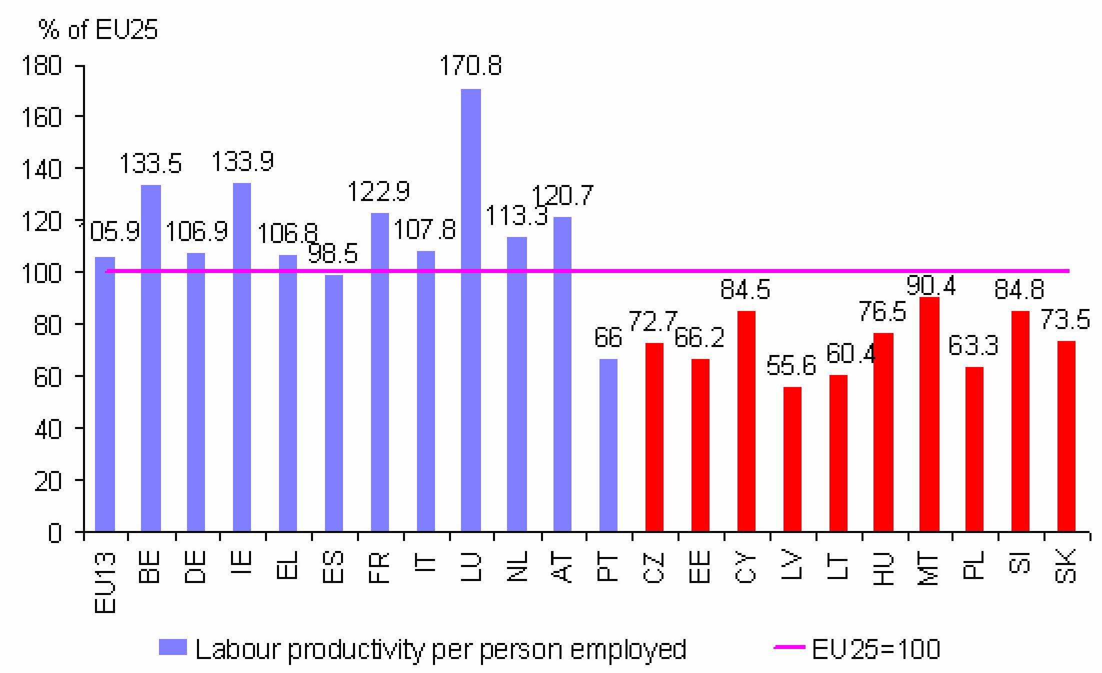
Source: Eurobarometer (2006)

Chart 13
The nominal compensation per employee as percent of the EMU average, 2006



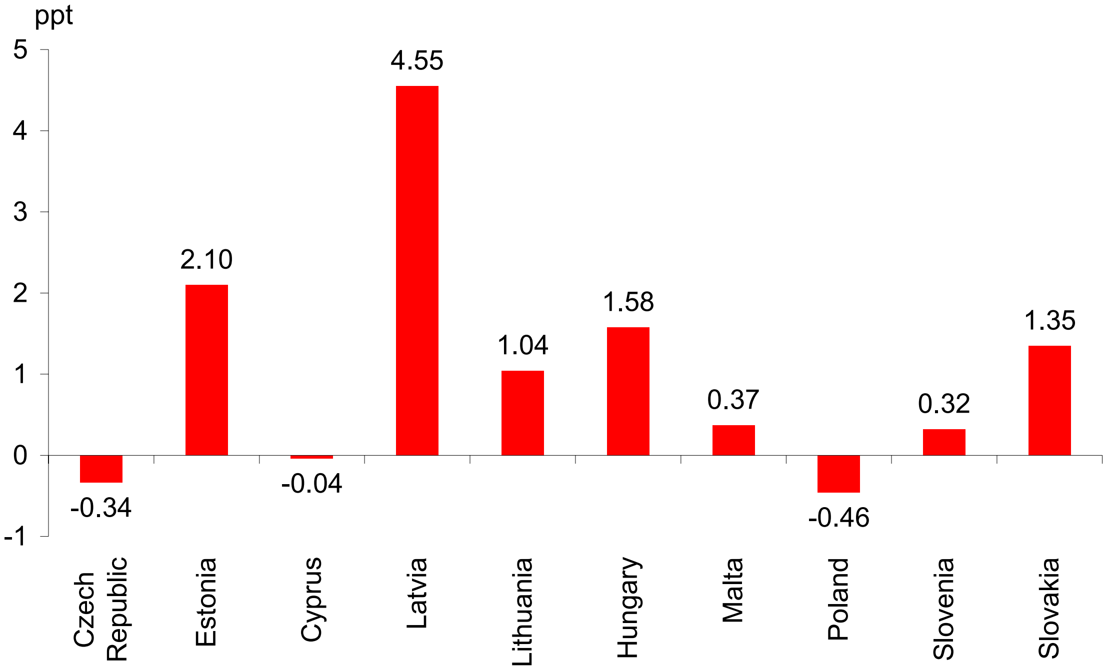
Source: Eurostat, Eurobank EFG Research

Chart 14
The GDP in Purchasing Power Standards per person employed relative to EU25 (EU25=100), 2007



Source: Eurostat, Eurobank EFG Research

Chart 15
The average inflation spread between each country and the EMU, 2005-2006



Source: Eurostat, Eurobank EFG Research

Another positive sign is that inflation in Cyprus is the closest to the average EMU inflation relative to the other countries that joined the EU in 2004. Hence, convergence in prices will not result in higher inflation as the price level in Cyprus is already very close to the EMU level. In Chart 15, we graph the average spread between inflation in each country which joined the EU in 2004 and the average EMU inflation for the period of two years after their entry (2005-2006). We observe that average inflation spread is negligible in Cyprus.

5. Conclusions

The present study used OCA theory to evaluate whether entry to the Euro Area was a prudent decision for Cyprus. OCA theory postulates that a membership to a currency area is a prudent decision if there is: (a) high degree of price and output co-movement that will not harm the ability of the country to respond to output and price shocks after giving up its independent monetary policy; (b) labor mobility that will increase the capacity of the economy to adjust to negative shocks in the event of weak output co-movement and (c) fiscal discipline.

The paper concludes that Cyprus fulfills all three criteria. Specifically, the price co-movement between Cyprus and the Euro Area is the largest relative to the other nine countries that joined the EU in 2004. The real GDP per capita does not co-move substantially with the Euro Area average. Thus, there is symmetry regarding price shocks, but there is no symmetry with regard to output. However, the demand management in Cyprus was assigned for almost a century to fiscal policy, the only independent policy available to Euro Area members. Hence, policymaking in Cyprus is already accustomed to demand management based solely on fiscal policy. Following Issing (2001), we foresee that the Cypriot output will co-move more with the Euro Area GDP after the euro entry.

The second criterion for a successful membership to an OCA is satisfied as well. Indeed, the unemployment rate in Cyprus is one of the lowest in the EU and can cause higher inward net migration. We report a significant negative relationship between unemployment and net migration within the Euro Area, suggesting that Cyprus will enter a labor mobile currency area. Also, the unemployment rate in Cyprus is the third lowest in the EU, implying that the likelihood of higher net migration in Cyprus is very high in the event of a positive demand shock that will help to overcome the low output co-movement.

The third criterion is satisfied, too. After registering a staggering General Government deficit of 6.3% of the GDP in 2003, fiscal consolidation has resumed steam over the last three years and the General Government deficit hovered at 1.5% of the GDP in 2006, well below the Maastricht criterion (3% of the GDP).

The study also highlighted that openness to intra EU trade will be further improved by the Euro Area membership. We find that entry to the Euro Area improves intra-area trade by 52% percent, an estimate inside the 30-90% band reported by Rose (2004).

The analysis also underlined a set of challenges that the Cypriot economy will have to overcome in the future. Among them, ageing of the population is the most important one. By 2050, age-related public expenditure is expected to increase by 11.7 percentage points to 28.2% of GDP. This increase is the highest in the EU and is expected to increase Gross Government Debt by 178.9 percentage points to 249.2% of the GDP in 2050. Hence, brave structural reforms are needed in order to overcome the risks to fiscal consolidation.

The second most important challenge refers to the increasing current account deficit, which is attributed to the deteriorating trade balance and the weaker positive contributions from the services' component. The adoption of the euro will terminate the ability of the Cypriot economy to balance the current account through a depreciation of the domestic currency, while the increasing share of foreign workers in total employment will decrease net transfers that up to now have contributed to the balance of the current account positively. We argued that the widening of the current account deficit is due to the rosy growth prospects of the Cypriot economy for Euro Area membership that increased the investment rate and decreased the savings rate.

The third challenge refers to the potential rise of inflation due to prospective increases in labor productivity and costs during the convergence process towards Euro Area averages, along the lines of the Balassa-Samuelson effect. Countries that joined the Euro Area after 1999 experienced higher inflation after their membership as a result of converging labor productivity and labor cost. We document that labor productivity and labor costs convergence to the Euro Area averages is more evident in Cyprus relative to the other countries that joined the EU in 2004, while price convergence was already quite substantial. Thus, inflation pressures will not be as strong as expected in the light of the experience of the other countries that previously joined the Euro Area.

References

Alesina A. and R. Barro (2002), "Currency Unions," Quarterly Journal of Economics, Vol. 107, pp. 409-436.

Alesina A., R. Barro and S. Tenreyro (2002), "Optimal currency areas," Harvard University mimeo.

Anderson, J. and E. van Wincoop (2001), "Borders, trade and welfare," National Bureau of Economic Research Working Paper 8515.

Blanchard O. and F. Giavazzi (2002), "Current account deficits in the Euro area: the end of the Feldstein-Horioka puzzle?" Brookings Papers on Economic Activity, Vol. 2002, pp. 147-186.

Bussiere M., M. Fratzscher and G.J. Muller (2004), "Current account dynamics in OECD and EU acceding countries - an intertemporal approach," European Central Bank Working Paper Series, No. 311.

Duarte, M. (2003), "The euro and inflation divergence in Europe," Federal Reserve Bank of Richmond Economic Quarterly, Vol. 89, pp. 53-70.

Eurobarometer (2006), "The eurozone, 5 years after the introduction of the euro coins and banknotes," The Gallup Organization, Flash Eurobarometer 193.

European Central Bank (2007), "Convergence Report," SEuropean Central Bank, May.

European Commission (2006), "The long-term sustainability of public finances in the European Union," Directorate General for Economic and Financial Affairs No. 4.

European Commission (2006), Convergence report 2007 on Cyprus, 16 May.

Faruqee, H. (2004), "Measuring the trade effects of EMU," International Monetary Fund Working Paper 154.

Fidrmuc, J. (2004), "Migration and regional adjustment to asymmetric shocks in transition economies," Journal of Comparative Economics, June.

Frankel A.J. and D. Romer (1999), "Does trade cause growth?" American Economic Review, Vol. 89, pp. 379-399.

Heinz F.F. and M. Ward-Warmedinger (2006), "Cross-border Labor mobility within an enlarged EU," European Central Bank Occasional Paper Series No. 52.

Horvath, J. (2003), "Optimal currency area theory: a selective review," Bank of Finland Institute for Economies in Transition Discussion Papers No. 15.

International Monetary Fund (2007), "Cyprus-Selected Issues: Pension reform: addressing the consequences of aging," International Monetary Fund Staff Country Report No. 07/71.

Issing, O. (2001), "The single monetary policy of The European Central Bank: one size fits all," International Finance, Vol. 4, pp. 441-462.

Ministry of Finance (2006), "Convergence program of the Republic of Cyprus 2006-2010," December.

Mundel, R.A. (1961), "A theory of Optimum Currency Areas," American Economic Review Vol 51, pp. 657-665.

Obstfeld M. and K. Rogoff (1996), Foundations of International Macroeconomics, Cambridge MA, MIT Press.

Obstfeld, M. and K. Rogoff (2000), "The six major puzzles in international Macroeconomics: is there a common cause," NBER Macroeconomics Annual, Cambridge MA, MIT Press.

Rose, A.K. (2000), "One money, one market: estimating the effect of common currencies on trade," Economic Policy, Vol. 30, pp. 7-45.

Rose, A.K. (2004), "A meta-analysis of the effect of common currencies on international trade," National Bureau of Economic Research Working Paper 10373.

Sampaniotis, T. (2007), "Cyprus' Business Environment & Competitiveness," Eurobank Research: Economy & Markets, Special Focus on Cyprus issue, 2(9).

Trichet, J.C. (2007), "How can we increase growth potential in Europe?" Speech delivered at the Suomi Areena, Pori, Finland, 20 July.

Vorlow, C.E. (2007), "Cyprus' Tourism Industry: Trends and Challenges," Eurobank Research: Economy & Markets, Special Focus on Cyprus issue, 2(9).

Cyprus' Business Environment and Competitiveness

Theodosios Sampaniotis
Senior Economic Analyst

- **Cyprus offers a favorable business environment, as proven by high FDI inflows and high business profitability, especially in the services sector, which exhibits high productivity.**

- **Cyprus' businesses enjoy the lowest corporate tax rate in EU-27, a low administrative burden and a highly educated labor force. The tax wedge in labor is also the lowest.**

- **Yet international competitiveness rankings are low for Cyprus and recently its current account deficit is deteriorating: A record high deficit in goods trade is only partly compensated by a surplus in services trade.**

- **Nominal Unit Labor Costs are growing faster than the EU-27 average. Wage pressures by tight labor market conditions are eased via an influx of foreign unskilled workers.**

- **Enhancing productivity through technological improvements and innovation is necessary in order to improve competitiveness and reduce the high current account deficit.**

1. Introduction

Cyprus is a small open economy, which went through a major transformation in the 80s and 90s. Agriculture and manufacturing were reduced in size and importance in favour of services, namely trade, tourism and financial intermediation.

Economies like Cyprus' face serious challenges due to their small size: Lack of economies of scale, significant infrastructure costs, resource constraints and an extreme dependence / vulnerability towards the external world. Globalization further highlights these features. Cyprus' response to these challenges was to promote openness. Efforts are continuous to build an economy that relies on greater international competitiveness. It is a long-term objective involving considerable risks and several stages of adjustment. It requires a stable international environment as well.

Accession to the EU and especially the adoption of the euro ensure Cyprus' course and determination to integrate into the world economy. It also provides secure and predictable market access. Openness under these conditions generates less volatility, more sustainable growth and allows overcoming market size limitations (Armstrong and Read (1995)*)*. Accession to the EU provided new challenges in the face of adopting EU market regulations and harmonization costs. The reform of the tax regime in order to conform to these regulations is an example of Cyprus' success.

Cyprus promotes its trade and investment openness by securing a favourable business environment. The paper reviews the features that make Cyprus business-friendly, giving emphasis on taxation and the quality of the labour force. The success so far is proven by high FDI inflows and higher than the EU average business profitability. A sectoral breakdown highlights the most successful industries.

Maintaining a favourable business environment is key in improving Cyprus' international competitiveness. A review of competitiveness rankings and Cyprus' Current Account balance point to a loss of competitiveness, especially in the traded goods producing industries. Developments in price and cost competitiveness give an explanation for this deterioration.

Emerging from the analysis is the importance of productivity in securing a competitive economy. Productivity in services and manufacturing is diverse. Enhancing productivity through the utilization of new technologies and promoting innovation-driven production can ensure Cyprus' businesses ability to compete in the common European market.

The paper is organised as follows: Section 2 provides a brief overview of Cyprus' businesses, highlighting the key features. Section 3 presents an analysis of FDI inflows and the profitability of Cyprus' businesses. It also reviews features that create a business-friendly environment, namely taxation, administrative procedures and human resources. Section 4 examines Cyprus' competitiveness rankings and the developments in the CA balance, as well as the price and cost competitiveness of Cyprus' economy and productivity developments. Section 5 presents the efforts of the Cyprus government to promote innovation and the use of ICT technologies. Section 6 concludes.

2. Cyprus' Businesses

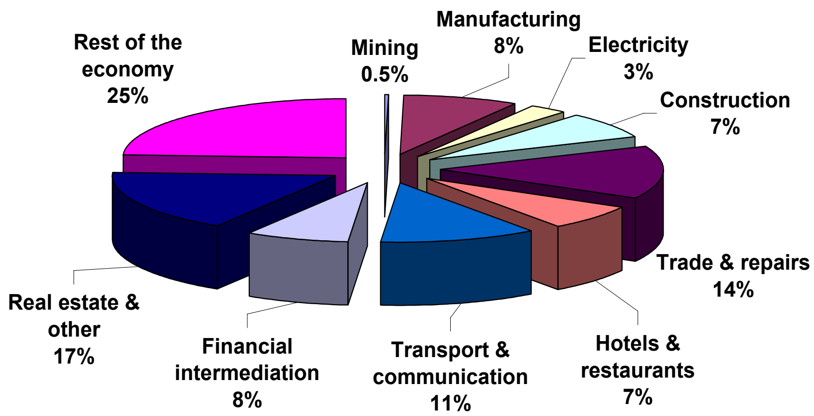
2.1 Business Sectors

Cyprus' economy is based on the services sector. During the 80s and the 90s services expanded their share of GDP (55.1% of GDP in 1980, 65.7% in 1990, 77.8% in 2006) and employment (45.8% in 1980, 57.2% in 1990, 73% in 2006) at the expense of both the primary and secondary sectors. In 2006, the primary sector produced 3.3% of GDP and the secondary sector 18.9%.

Real estate, trade & repairs, transport & communications are the most important business sectors, while manufacturing produces 8% of GDP (Chart 1). The competitive advantages that Cyprus possesses in these sectors have contributed to their strong growth performance in 2000 – 2006. Employment in the business sector is concentrated in trade, manufacturing and tourism (Chart 3). (For more details on Cyprus' economy see also Gkionis and Georgopoulos' (2007) analysis in this edition).

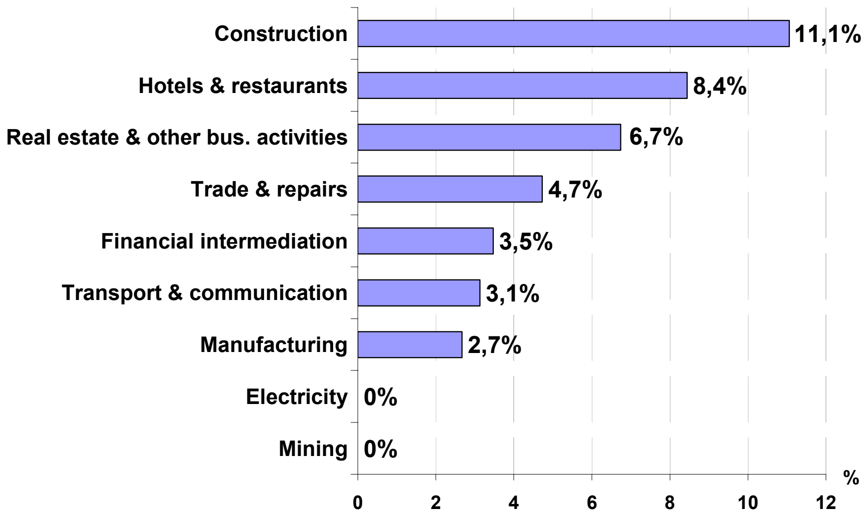
Chart 2 provides information on the birth rates of newly created enterprises in the business sectors of Cyprus' economy in 2004. The construction, tourism and real estate sectors exhibit high enterprise birth rates, being the most vibrant business sectors. In manufacturing the low birth rate reflects among other things the higher necessary initial investment. The zero percentages in electricity and mining are results of high entrance barriers and the small size of the sector respectively.

Chart 1
GDP per business sector, 2006



Source: Eurostat

Chart 2
Enterprise birth rate, 2004
(Number of enterprise births as a % of active enterprises)



Source: Eurostat

2.2 Small and Medium Enterprises (SMEs)

SMEs are of exceptional importance to Cyprus' economy. More than 98% of enterprises operating in the business sectors of the economy in 2005, were micro (1 – 9 persons employed) or small (10 – 49 persons employed) in size. Micro enterprises account for 39% of total employment, in the business sector, small enterprises for 24%, medium size enterprises (50 – 249 persons employed) for 20% and large enterprises (more than 250 persons employed) only for 17 %.

In the trade and construction sectors micro enterprises account for the largest share of employment, while in manufacturing and tourism the share of SMEs is larger. In transport & communications and the financial sector large enterprises have the largest share of employment (Chart 3).

2.3 Foreign Control

Despite the large inflows of Foreign Direct Investments (FDI) (see Section 3.1), less than 1% of Cyprus' enterprises were under foreign control in the business sectors in 2005, according to Eurostat data. These companies account for 3.3% of total employment in these sectors and produced 5.6% of value added in factor cost.

3. A Favourable Business Environment

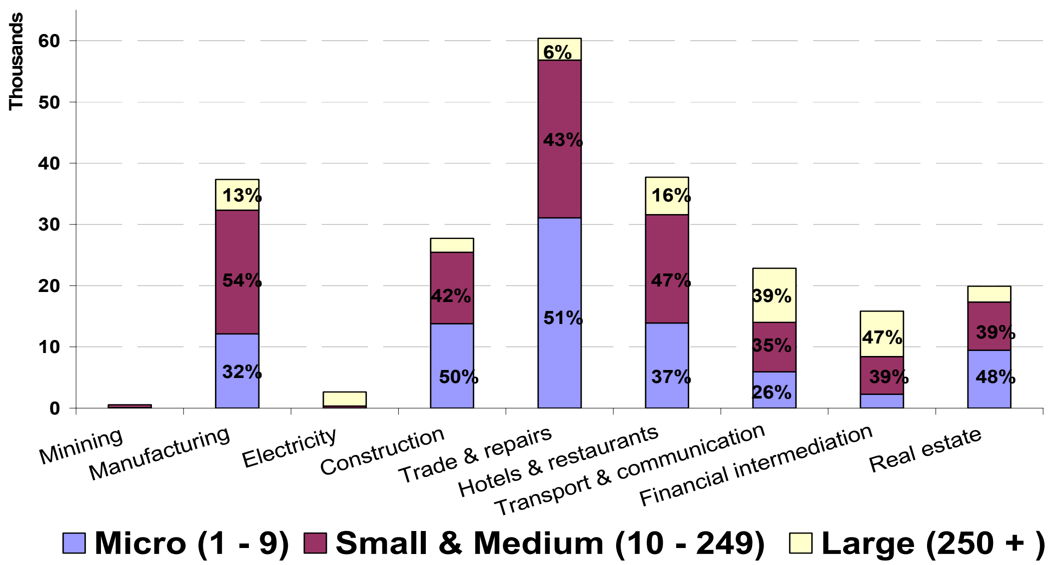
Cyprus provides a very favourable business environment as evidenced from FDI inflows and high profitability. Simplified procedures, low taxation and a high-skilled and educated labor force contribute to making Cyprus a business-friendly economy.

3.1 Foreign Direct Investments (FDIs)

A high Current Account (CA) deficit (see Section 4 on External Competitiveness) is financed by non-debt creating flows, in particular FDIs, proving that Cyprus provides a favourable business environment to foreign investors. Keeping in mind that more than half of FDI inflows are reinvested earnings, net FDI inflows covered more than 100% of the CA deficit in 2002 and 2003, only half of it in 2004 and more than 70% in 2005 and 2006 (Chart 4).

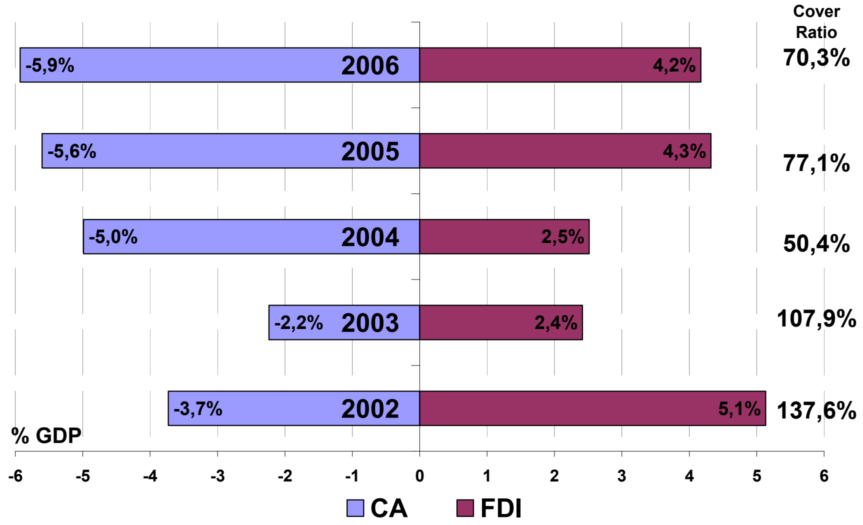
Based on Eurostat 2006 data, in 2004 Cyprus' FDI Intensity Ratio (the average value of inward and outward FDI flows divided by GDP) was 5.5%, while in the Euro area it was 1.4%. This is also a measure of Cyprus' integration intensity within the international economy. Cyprus' FDIs in 2005 originated mainly from EU-25 countries (59%).

Chart 3
Employment per business sector and enterprise size class, 2005



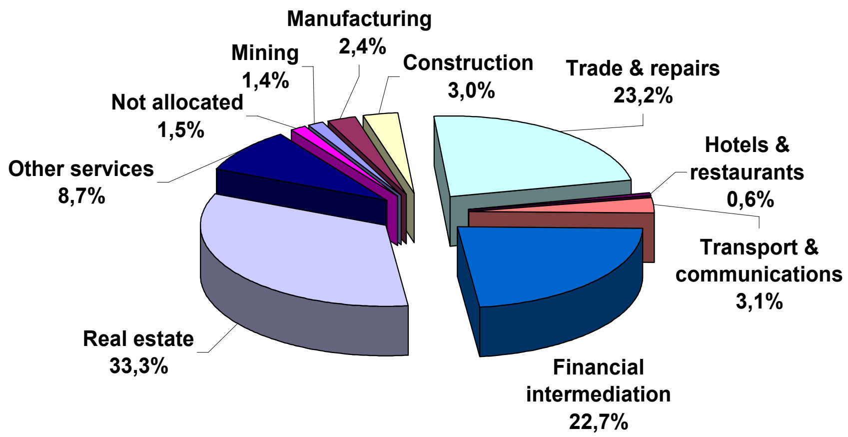
Source: CYSTAT, Census of establishments 2005

Chart 4
CA coverage by FDI, 2000 - 2005



Source: Central Bank of Cyprus

Chart 5
FDI by business sector, 2000 - 2005



Source: Central Bank of Cyprus

The sectoral breakdown of FDI inflows for 2000 – 2005 is presented in Chart 5. Real estate, trade and financial services attracted the majority of foreign investment in recent years.

3.2 Profitability

Cyprus' enterprises in the non-financial business sectors of the economy exhibit high profitability, outperforming the EU-25 average across all sectors. In order to measure profitability we use the gross operating rate (see Chart 6). According to Eurostat, this is calculated as the gross operating surplus relative to turnover, where the gross operating surplus is value added minus personnel costs.

As such the gross operating surplus is a measure of the operating revenue left to compensate the capital factor input. A comparison across sectors shows that electricity and mining exhibit high profitability, not forgetting their limited contribution to GDP. As for the more important sectors of the economy, transport and tourism perform well, while trade is last.

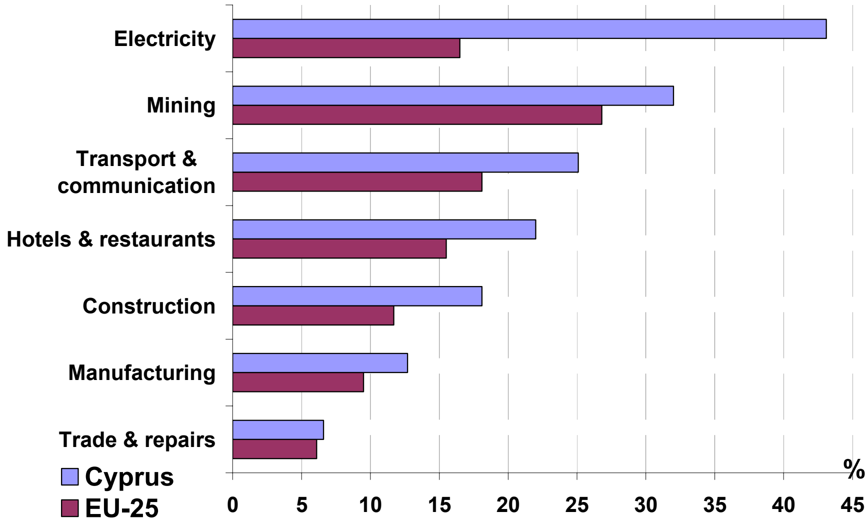
3.3 Procedures

The administrative burden on Cyprus' enterprises is low, with continuous efforts being made to speed up and simplify the administrative procedures to set up a new company. The procedures for market entry and exit of firms are relatively simple. The procedure for registering a new firm takes only a few days. Exit of companies from the market is also simplified by quite simple insolvency and liquidation procedures.

3.4 Taxation

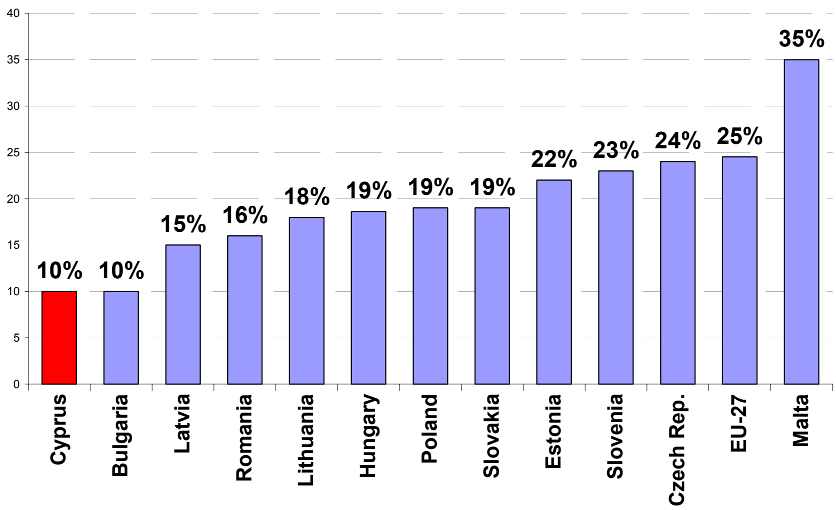
One of Cyprus' major advantages is the favourable taxation framework. Cyprus during the 80s and 90s was a major offshore financial centre thanks to a number of double taxation avoidance agreements – currently there are 40 such treaties in place – and low tax rates. The process of harmonization with the EU led to a restructuring of the tax regime in 2003, which now conforms to EU regulations and OECD requirements. This process however did not alter Cyprus' position as a low

Chart 6
Gross operating rate, 2004



Source: Eurostat

Chart 7
Effective top statutory tax rate on corporate income, 2007



Source: Eurostat

tax country.

Companies in Cyprus enjoy the lowest, together with Bulgaria, corporate tax rate in the EU-27 (Chart 7), being subject to a uniform tax rate of 10%. This low tax rate hasn't negatively affected corporate income tax revenues. On the contrary, as a % of GDP revenues are more than double the EU-25 average in 2005 (Cyprus: 5.4%, EU-25: 2.6%).

Apart from that, various tax exemptions apply to corporations, such as on dividends, interest income, capital gains from securities and profits from reorganisations. There is also favourable tax treatment of losses.

Cyprus' top statutory personal income tax rate is 30%, which is also one of the lowest in the EU-27. According to a study from the OECD (2007) on taxing wages, Cyprus' total tax wedge on labor is the lowest in the EU-27 (Chart 8). Tax wedge is an estimation of the gap between the cost of labor for employers and the net earnings received by the workers. The low tax wedge in Cyprus implies that it offers the most favourable tax environment not only to businesses, but to workers as well, since a much larger part of their gross salary ends up in their pockets than in the case of other EU workers.

The tax treatment of shipping, holding and trust companies is also one of the most favourable in the EU. Profits from the operation of Cypriot registered vessels, for example, or on dividends received from a ship-owning company are subject to zero corporation tax. As for holding companies, among other tax advantages, there is no withholding tax on dividend income received from subsidiary companies abroad.

3.5 Human Resources

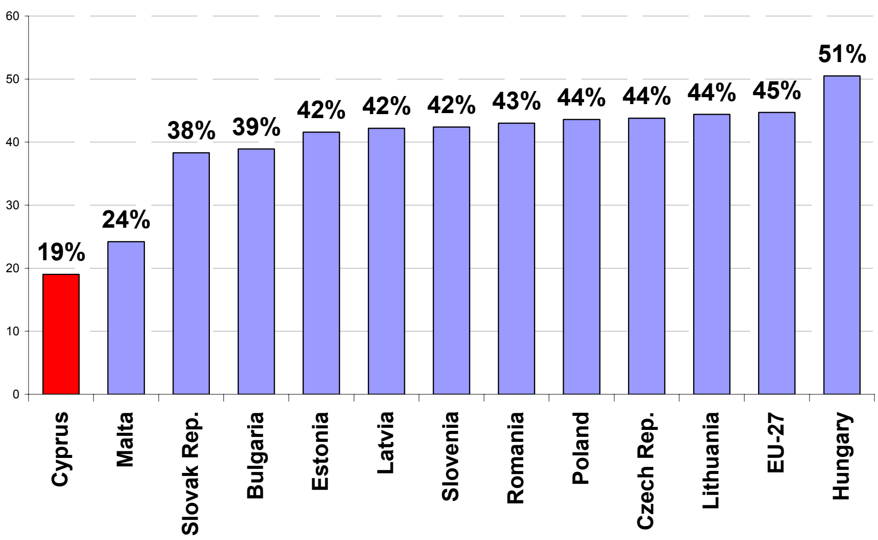
The presence of a highly skilled and educated labor force is one of the strong points of Cyprus' economy. The developments in the labor market are extremely important for the competitiveness of Cyprus' businesses as well.

3.5.1 Employment

The Cypriot labor market is characterised by conditions of near full employment, with the employment rate standing at 69.5% in 2006 (2000: 65.4%), outperforming the EU-25 average by 5 percentage points. Labor market conditions are tight, with the unemployment rate (based on the Labor Force Survey) being at 4.5% of the labor force in 2006.

Cyprus' labor market, much like the Greek one, is characterised by low utilisation of flexible forms of

Chart 8
Total tax wedge on labor, 2005
(including social security contributions – single person without children, 100% of average)

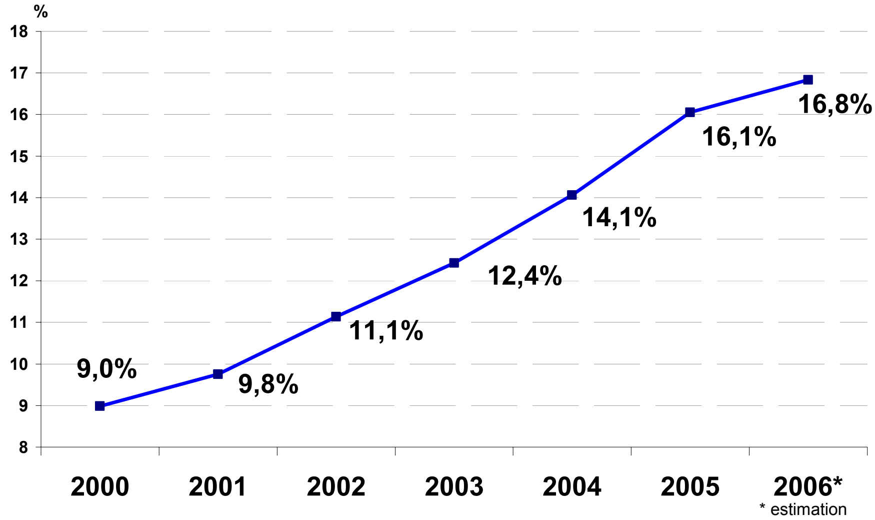


Source: OECD, Taxing wages report (2007).

employment, including part-time and fixed-term employment, which remain low despite an appropriate legal framework being in place. This implies there is room for a further increase in the already high employment rate. Only 14% of employment is part-time or temporary, in contrast with the 24.6% in EU-25 in 2005. Self-employment is also higher in Cyprus than the average in the EU-25 (Cyprus: 21%, EU-25 15%). The prevalence of these forms of employment increases the sense of job security and results in a much higher than in the EU Full Time Equivalent (FTE) employment rate (Cyprus: 67%, EU-25 58%), the gap being larger than between simple employment rates.

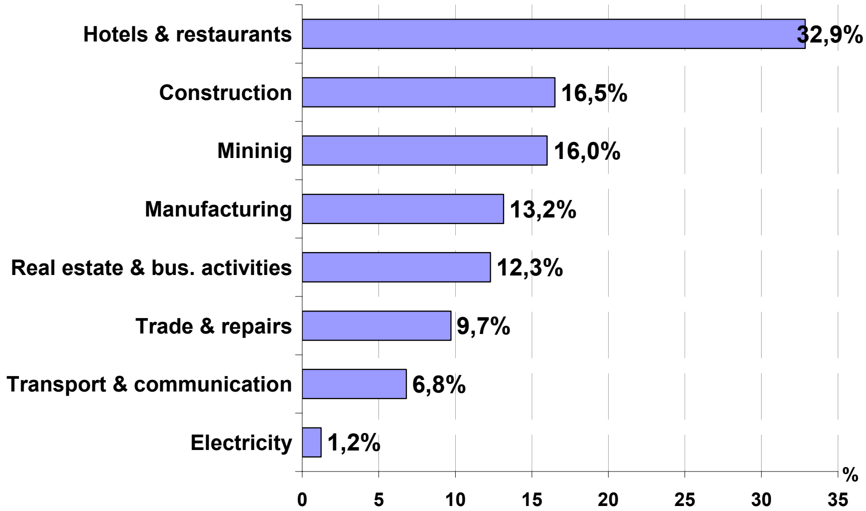
The Cyprus labor market has a tradition of social dialogue and a well-developed institution of free collective bargaining. Approximately 65% -70% of the labor force is unionised and/or is covered by collective agreements.

Chart 9
Foreign Labor
(% of total employment)



Source: CYSTAT, Labor statistics 2005, Convergence Program 2006 – 2010

Chart 10
Foreign Labor by business sector, 2005
(% of sector employment)



Source: CYSTAT, Labor statistics 2005

3.5.2 Foreign Labor

Another distinctive characteristic of the labor market is the employment of a large number of foreign workers, particularly in unskilled or low-skilled jobs. Tight labor market conditions and labor shortages led to an increase of foreign labor supply in recent years. In 2006, foreign workers represented 16.8% of total employment (Chart 9), almost doubling since 2000. According to official estimates, the number of foreign workers reached 60.000 in 2006. Approximately 43% of foreign workers come from other EU countries.

The importance of foreign labor and the openness of Cyprus' labor market are further highlighted by the non-placement of restrictions to Bulgarian and Romanian workers, in contrast to restrictions placed by other EU countries to workers coming from these two latest entries in the EU. According to Davradakis' analysis in this edition, the likelihood of higher net migration to Cyprus, as a result of EMU entrance, is very high.

The majority of foreign workers in 2005 are employed as household help and in tourism. As a percentage of sectoral employment, almost 1/3 of the employment in tourism was foreign workers (Chart 10). Trade and transport were the business sectors with the lowest employment rates of foreign workers.

This increase of foreign labor supply did not have unfavourable effects on the domestic labor force. Unemployment among the unskilled domestic labor force was not affected and Cypriot workers moved to higher skilled jobs. Recent empirical analysis (Michael et al. 2006) of the impact on wages has found a significant moderation effect on unskilled labor wages growth. In contrast, skilled workers have benefited from these structural changes.

3.5.3 Education

Cyprus has a comprehensive educational and training system. Public expenditure in education reaches over 6% of GDP and the enrolment rate of 20-24 year-olds in tertiary education is exhibiting a rising trend, reaching 63% in 2004-2005. As a result, Cyprus has a highly skilled, well-educated and multilingual labor force, with a higher than the EU-25 average percentage of people (25 – 64 years old) possessing tertiary education skills, 30.5% in Cyprus and 23.4% in the EU-25.

4. External Competitiveness

Cyprus' favourable business environment can help improve the external competitiveness of its economy. The latter being necessary in order to reduce the record high Current Account (CA) deficit. Enhancing productivity of key business sectors can compensate for the increase in labor costs and strengthen competitiveness.

Table 1
WEF Competitiveness Rankings

Index	Ranking (125 countr.)	Ranking (EU-27)
Global Competitiveness Index	46	23
Institutions	35	15
Infrastructure	34	19
Macroeconomy	72	19
Health & Primary Education	22	13
Higher Education & Training	41	23
Market Efficiency	55	21
Technological Readiness	38	21
Business Sophistication	50	22
Innovation	55	23
Business Competitiveness Index	45	21
Quality of the National Business Environment	43	20
Company Operations & Strategy	67	24

Source: WEF World Competitiveness Report 2006 – 2007

4.1 Competitiveness Rankings

The World Economic Forum (WEF) publishes a Global Competitiveness Report annually, which includes competitiveness rankings. These rankings are widely used to evaluate the competitive position of an economy in relation to its competitors. Cyprus, in 2006, ranks 46th in the Global Competitiveness Index, which is a measure of the total economy's growth potential, down from 41st last year. In the Business Competitiveness Index, Cyprus ranks 45th. Cyprus' rankings in all indices and sub-indices are presented in Table 1.

Cyprus does not compare favourably with EU-15 countries and stands in the middle of New Member States (NMS) in most sub-indices. It ranks especially low in the Company Operations & Strategy sub-index and in Innovation. It does better in the Institutions and the Health & Primary Education sub-indices.

4.2 Current Account

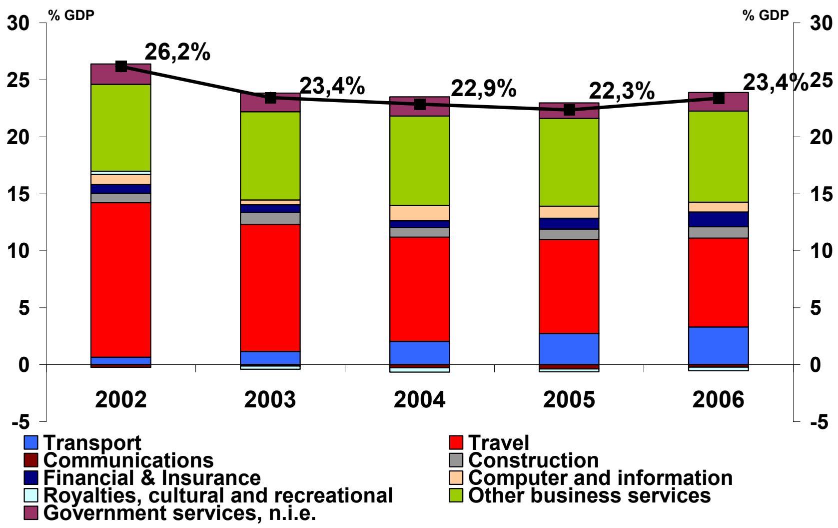
Cyprus' CA deficit reached a record high of 5.9% of GDP in 2006 up from 2.2% in 2003. In order to tackle this major imbalance, especially after the accession in the EMU and the abolition of the monetary policy instrument, the competitiveness of Cyprus' businesses has to improve. (See also Davradakis' analysis in this edition on the impact of EMU entrance on the CA balance).

A closer examination of Cyprus' CA balance reveals a divergence between net trade in goods and services. A huge negative trade balance in goods is only partly compensated for by a substantial surplus in services trade. The very high deficit in goods trade reflects the weak competitive position of goods producing industries in Cyprus. The manufacturing sector produces mainly low technology products and it suffers from increased competition from countries with lower wages. It should also be noted that exports of goods mainly consist of re-exports.

In Chart 11 we can see the evolution of the services surplus and its composition. There is no significant differentiation during the 2002–06 period, as a rather laggard travel sector was offset by the improvement in other business services and in transport (for a further discussion on Cyprus' tourism industry developments see also analysis by Vorlow (2007) in this edition). These developments reflect the competitive advantages Cyprus has in services sectors such as tourism, financial and business services. These sectors exhibit high profitability as well as large FDI inflows.

The competitive advantages Cyprus possesses in traded services have to be exploited and enhanced in order to maintain a sustainable CA balance. Lowering costs,

Chart 11
Services balance composition



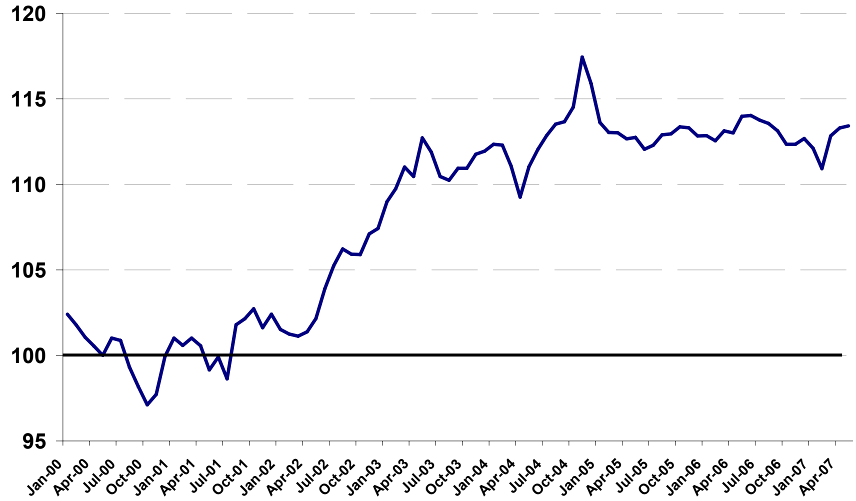
Source: Central Bank of Cyprus

raising productivity, utilizing new technologies and enhancing innovation are the usual strategies in the face of the challenge of improving competitiveness.

4.3 Price and Cost Competitiveness

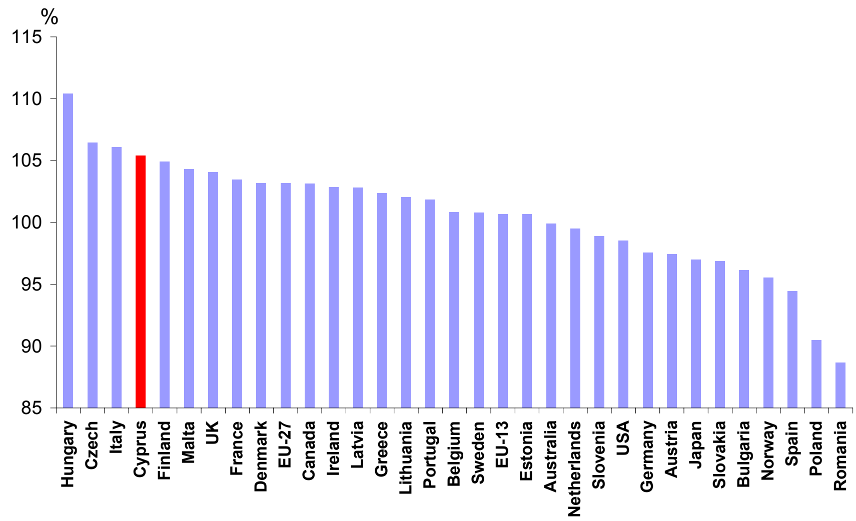
The reasons for the worsening of Cyprus' CA balance could be loss of price and cost competitiveness. Price competitiveness as measured by the Real Effective Exchange Rate (REER) based on the relative Consumer Price Index (Chart 12) shows a sharp deterioration since the middle of 2001. From the beginning of 2005 though, the REER has stabilized. According to the Convergence Programme 2006-2010, this large appreciation of the euro-linked Cyprus pound arises largely from nominal exchange rate movements. Relative prices have also had some, even though much smaller, effect on key bilateral

Chart 12
Price competitiveness
REER based on rel. CP Index, 2000=100, SA



Source: IMF

Chart 13
Unit labor cost relative to the average unit labor cost of 35 industrialized countries, 2006



Source: European Commission, Eurobank Research real exchange rates. (See also Davradakis' analysis in this edition on the co movement of prices between the Euro area and Cyprus).

As for cost competitiveness, the Nominal Unit Labor Cost (NULC), which represents how much labor costs in order to produce a unit of GDP, has expanded at an annual rate of 3.5% over the period 2001 – 2006, affecting competitiveness especially in labor intensive activities. Furthermore, the increase in NULC in Cyprus is larger than the increase of the average NULC in EU-27. Cyprus has the 4th largest NULC among EU-27 countries in 2006 (Chart 13).

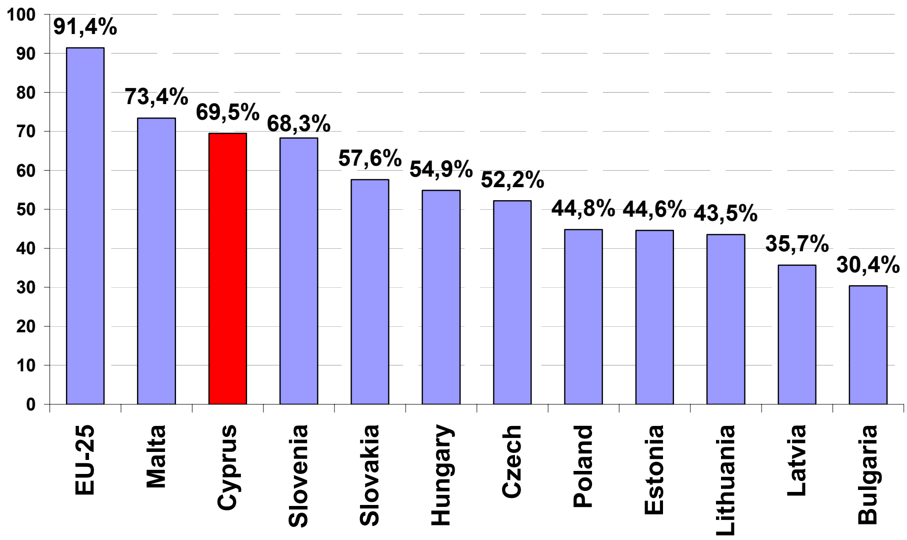
However, the rapidly rising number of foreign workers is exerting a moderating effect on wages (see Section 3.5 on Human Resources). Furthermore, the role of the government is critical because of its influence as a large employer. It has a policy of moderate salary increases in the public sector. The increases agreed upon with the Civil Servants´ Trade Union, were at 2% for 2006 and 1% in 2007, following a freeze in 2004 and 2005. During the last five years, wage setting in the public sector has acted as a guide for private sector wage negotiations, which contributed to the moderation in NULC increases after 2003.

4.4. Productivity

Underpinning Cyprus' economic growth and competitiveness are the developments in productivity. Cyprus ranks low in labor productivity per hour worked in 2005 (Chart 14) compared to the EU-25 average and the Euro area, but outperforms, with the exception of Malta, the rest of the NMS. Cyprus was experiencing gains in productivity until 2001, a trend that was reversed in 2002 – 2003. Since 2004 productivity has picked up again, helping among other things in moderating the impact of the increasing NULC. (See also Davradakis' analysis in this edition on labor productivity convergence with the EU average).

A comparison of apparent labor productivity (Eurostat's definition: value added per person employed) across the non-financial business sectors (Chart 15) shows a similar pattern with profitability. A notable exception is tourism where apparent labor productivity appears to be the lowest. The low performance, though, of the hotels & restaurants, and trade & repairs sectors could be misleading. Employment in these sectors is characterized by high percentages of part time employment and since in this case we don't have FTE employment rates, their productivity is underestimated.

Chart 14
Labor productivity per hour worked, 2005
GDP in PPS per hour worked relative to EU-15 (EU-15=100)



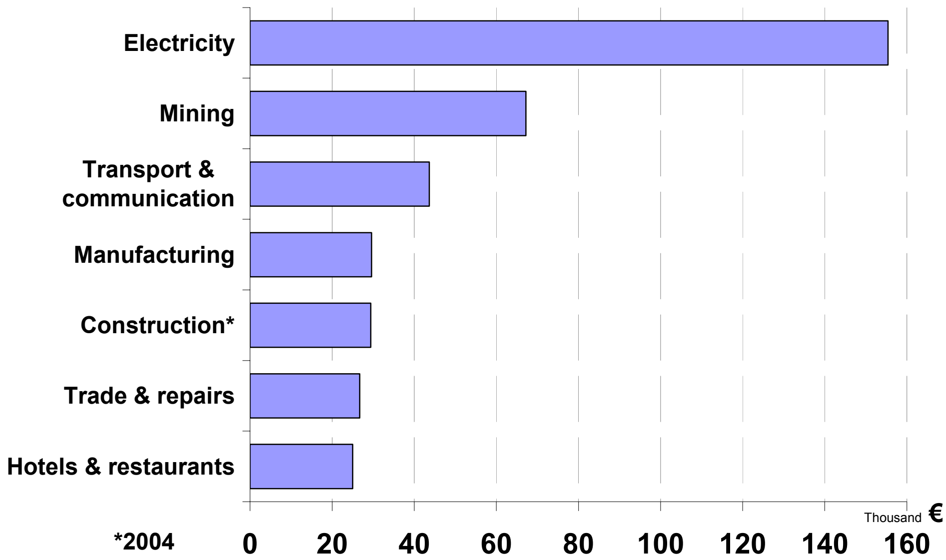
Source: Eurostat

In order to better evaluate Cyprus' competitive position relative to the NMS, we compare labor productivity in the most important sectors of Cyprus' economy with that in the NMS (Chart 16). Cyprus ranks in the middle in the manufacturing sector and outperforms the NMS in the services sectors, especially in the tourism and transports sectors.

5. Innovation

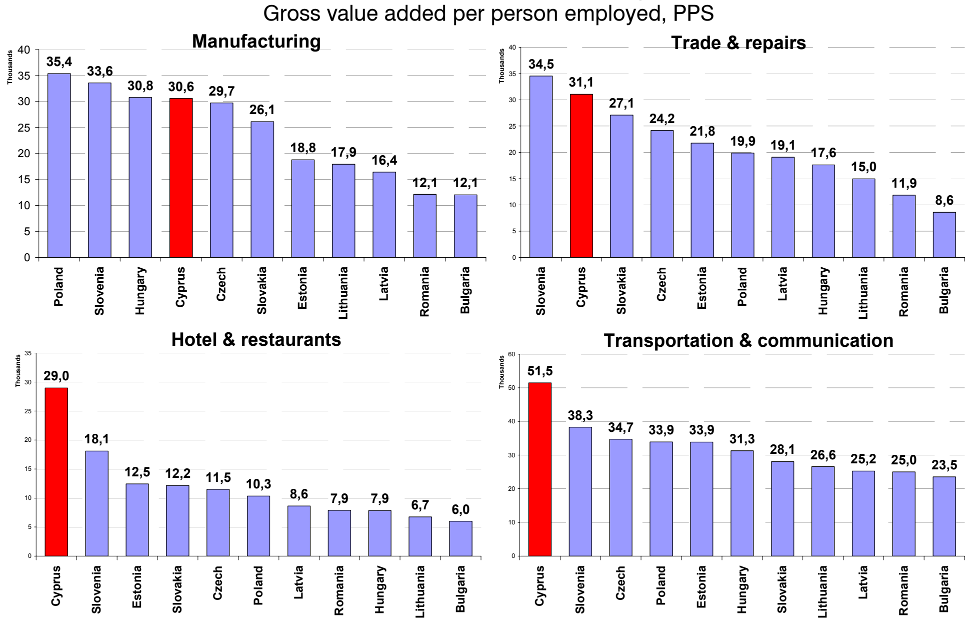
One of the challenges for the Cypriot economy is the promotion of innovation and the development of a knowledge-based society. The restructuring towards a more innovation-driven production is of great importance to increase productivity and competitiveness.

Chart 15
Apparent labor productivity per sector, 2005
Gross value added per person employed



Source: Eurostat

Chart 16
Apparent labor productivity, 2004
Gross value added per person employed, PPS



Source: Eurostat

Recognising this importance, an ambitious target of increasing R&D expenditure to 1% of GDP by 2010 (2005: 0.4%) was set by the Cyprus government. Cyprus ranks very low in terms of R&D expenditure compared to the EU-25 average, 0.4% and 1.85% respectively in 2004. An increasing trend though has been observed over the past years, the percentage almost doubling since 1998 (0.22%). On the other hand Cyprus' government is concerned not so much with the amount of R&D funding as with its effectiveness, namely the links between R&D activities and production.

Another important aspect concerning the new R&D spending target is the source of the funds. According to the target set at the Barcelona European Council in 2002, 2/3s of R&D expenditure should be privately funded. Today almost two thirds of R&D expenditure in Cyprus is state funded. The public 1/3 of the target should be comfortably achieved but the private sector input needs to be boosted. The government plans to increase funds to support private-public research projects and is contemplating the use of tax incentives.

The development of the ICT sector in Cyprus also underperforms the EU, though exhibiting signs of acceleration. Major areas of weaknesses include the innovation capacity of enterprises, the low level of commercial use of information technology and broadband penetration. On the other hand there is noteworthy performance in innovation among SMEs, an increase in internet access in households and enterprises and improvement of infrastructure in schools.

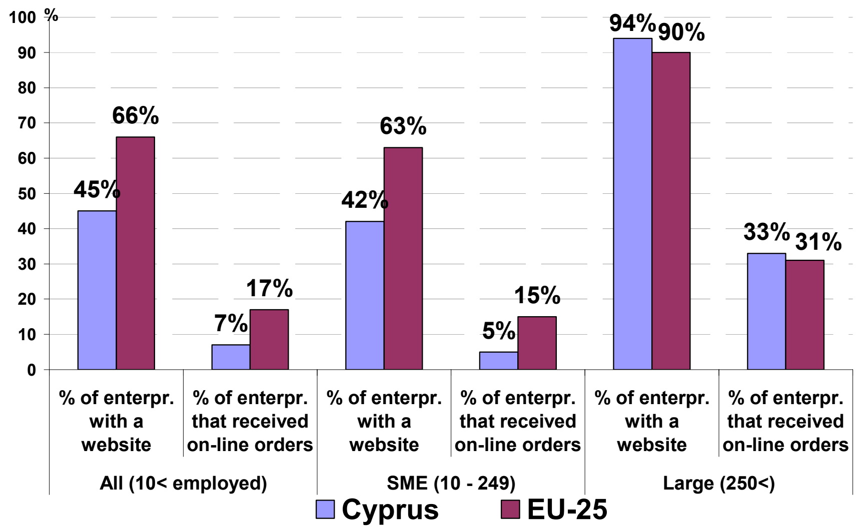
The low use of the internet for commercial activities is evident from the data (Chart 17) concerning the percentage of enterprises having a website/homepage and the percentage of enterprises having received orders on-line, over the last calendar year (at least 1%). The underperformance of Cyprus in relation to the EU-25 average is mostly the result of the underperformance of SMEs. Policy actions should therefore focus on SMEs.

6. Conclusions

Cyprus' economy evolved through the 80s and 90s to a services based economy, with tourism and trade being the most vibrant sectors. Cyprus offers a favourable business environment for enterprises, as proven by high FDI inflows and high business profitability, especially in the services sector.

FDI inflows cover the largest part of the record high CA deficit. Services attract the majority of FDI investments, with real estate, trade and financial intermediation

Chart 17
E-commerce, 2006



Source: Eurostat

accounting for almost 80% of FDI inflows in 2000 – 2006. The non-financial business sector of the economy exhibits high profitability. Cyprus' businesses outperform the EU-25 average in all sectors of the economy, with transport and tourism being the most profitable services sectors. Foreign investors are attracted by Cyprus' favourable business environment. Low taxation, easiness of doing business and a highly educated labor force are the contributing factors.

Cyprus' businesses and workers enjoy the lowest taxation in EU-27. After the reform of the taxation framework in 2003, in order to conform to EU regulations and OECD requirements, a uniform corporate tax rate of 10% was introduced. Even though this rate is the lowest in the EU-27, corporate tax revenues are more than double as a % of GDP than in the EU-25. Tax wedge on labor according to the OECD is also the lowest in EU-27. A much larger part of worker's gross salary ends up in their pockets than in the case of other EU workers.

Cyprus' labor force is highly educated. Labor market conditions are tight, with almost full employment and low unemployment. There is low utilization of flexible forms of employment leaving room for a further increase in employment. Foreign workers account for 16.8% of total employment in 2006, almost doubling since 2000. This development did not negatively affect domestic workers, according to recent empirical evidence.

Despite the favourable business environment, competitiveness appears to be low, as evidenced by low WEF rankings and a deteriorating Current Account deficit, caused mainly by a deficit in the goods trade. A compensating factor is the surplus in services trade, which reflects Cyprus' businesses competitive advantages. Tourism, transportation and other business activities account for the largest shares in the services trade surplus.

Price competitiveness losses are attributed to nominal exchange rate movements and not so much to prices. Cost competitiveness is deteriorating though, as Nominal Unit Labor Costs grow faster than productivity and the EU-27 average NULC. Cyprus has the 4th largest NULC among EU-27 countries in 2006. The inflow of foreign workers and the role of the government as an employer had a moderating effect in wage increases since 2003.

In face of the challenges presented, efforts to enhance the business climate and competitiveness must focus on boosting productivity through innovation and the further use of information technologies. Productivity is high compared to other New Member States but lower than the EU-25 average. Services sectors, especially tourism, trade and transportation exhibit the highest productivity compared with the rest of the NMS. The Cyprus government plans to promote innovation through boosting R&D funding but is correctly concerned with linking R&D and production. In order to enhance the use of information technologies by Cyprus' businesses, policies should focus on SMEs.

References

Armstrong H. W. and R. Read (1995), "Western European Micro-states and EU Autonomous Regions: The Advantages of Size and Sovereignty,» World Development, 23, 8, 1229-45.

CYSTAT (2007), "Labour Force Survey, 2006,» July 2007.

CYSTAT (2007), "Labour Statistics, 2005,» May 2007.

Davradakis M. (2007), "Greek Current Account and Credit Expansion to the Private Sector", Eurobank Research, Economy & Markets, Issue 5, Vol. 2, July 2007.

European Commission (2007), "Convergence Report 2007 on Cyprus,» Report from the Commission, COM(2007) 255 final, Brussels 16 May 2007.

European Commission (2007), "Economic Assessment of the convergence programme of Cyprus (update of December 2006)", Brussels, 27/2/2007.

European Commission (2007), "Implementing the renewed Lisbon strategy for growth and jobs. A year of delivery", Communication from the Commission to the Spring European Council.

European Commission (2007), "Internal Market Scoreboard No 16", July 2007.

European Commission (2007), "Labour market and wage developments in 2006, with special focus on relative unit labour cost developments in the Euro area".

Eurostat (2006), "Key figures on European business, with a special feature section on SMEs,» Pocketbooks, Theme Industry, Trade and Services, Luxemburg.

Eurostat (2007), "Taxation trends in the European Union, Data for the EU Member States and Norway,» Eurostat statistical books, 2007 edition.

Gkionis, I. and G. Georgopoulos (2007), "The Economy of Cyprus: An Overview," Eurobank Research: Economy & Markets, Special Focus on Cyprus issue, 2(9).

International Monetary Fund (2007), "Cyprus: 2006 Article IV Consultation—Staff Report,» IMF Country Report No. 07/76, February 2007.

Kontolemis, Zenon G. (1994), "The Labor Market in Cyprus: Institutional Characteristics and Empirical Evidence", Cyprus Journal of Economics, Vol. 7, No. 2, pp. 144–84.

Michael M., L. Christofides, C. Hadjiyiannis, S. Clerides, M. Stephanides and M. Michalopoulou (2006), "The effect of immigration on the wages of Cypriot workers,» University of Cyprus Economics Research Centre, Economic Policy Paper 11-06, October 2006.

Ministry of Finance (2006), "National reform programme of Cyprus, Progress report", October 2006.

Ministry of Finance (2006), "Republic of Cyprus: Convergence Programme 2006-2010,» 12/2006.

OECD (2007), "Taxing wages 2005/2006: 2006 edition", 2/2007.

Vorlow, C.E. (2007), "Cyprus' Tourism Industry: Trends and Challenges," Eurobank Research: Economy & Markets, Special Focus on Cyprus issue, 2(9).

World Economic Forum (2006), "The Global Competitiveness Report, 2006 – 2007, Creating an Improved Business Environment", Geneva, Switzerland.

Cyprus' Tourism Industry: Trends and Challenges

Costas Vorlow
Research Economist

- **Cyprus is a mature tourist destination that has enjoyed very strong growth during the last decades, banking on the "sea and sun" concept.**

- **The recent weakness in arrivals data, while being a wider Mediterranean and mature tourist destination phenomenon, reveals the need for revamping and diversifying the tourism product and increasing the industry's competitiveness.**

- **High per tourist receipts reveal the ability of attracting richer clientele. However, Cyprus has to tap into new markets and diversify its tourist portfolio. Increased arrivals from Greece and Russia are a positive sign.**

- **Cyprus Tourism Organisation's strategic plan is a move in the right direction. Policies should be chosen carefully so as to boost the accommodation's sector performance and revenues, while increasing competitiveness.**

1. Introduction

Cyprus is the 3rd largest island destination (after Sicily and Sardinia) in the Mediterranean, strategically placed in the east basin. The island enjoys excellent climatic conditions for most of the year, ideal for prolonged summer tourism, and constitutes a highly developed and "mature" tourist destination. Cyprus has successfully managed to reinvent herself as a tourist destination after the catastrophe of the Turkish invasion in 1974, which resulted in an instant loss of a staggering 70% of the industry's bed capacity and 55% of the coastline. The success of the Cypriot tourism industry can be attributed to several factors, such as its idyllic environment, the warm climate and the love of British people that forms the bulk (more than 50%) of its tourist inflow, among others.

Despite the strong growth momentum the island has seen during the 80's and 90's, the tourism sector's development appears recently to be progressing at a decelerating pace. This has raised several important issues on the sustainability of the tourism industry in Cyprus. Many are those who fear a serious loss of competitiveness and tourist revenues within an enlarged European Union. This brief report aims to:

(i) address the important issues related to the island's tourism industry,
(ii) assess the current trends and prospects and,
(iii) provide a framework for constructive debate on the policy choices lying ahead.

The structure of this article is as follows: Section 2 deals with the implications of the rapid tourism industry development in Cyprus and the dynamics that are now threatening the sector's high performance sustainability. In Section 3 we briefly discuss the recent performance and seasonality of the tourism industry of Cyprus and provide a comparison to the worldwide and South Mediterranean industry trends. Section 4 discusses the challenges ahead and Section 5 concludes.

2. The tourism industry over the decades

In most developed countries, tourism's share of the economy is diminishing, as other industries, fuelled by the growth brought by increased tourism revenues, grow faster (Keller, 2006). This is true for Cyprus.[11] The main implication of the rapid development of the tourism industry in Cyprus is that, eventually, the drivers of economic growth will be not only the tourism and leisure sector but others as well, such as services (IT, banking etc. etc.), the biomedical sector and education to name but a few. This will become more evident, the more the country's portfolio of economic sectors becomes diversified (Keller, 2006). Another important implication is that the rapid and uncontrollable growth of the tourism sector may create obstacles to the very future of its sustainable development. In the current section, we discuss briefly Cyprus' tourism industry, its development and progress over the recent decades and examine the problems created by growth.

Cyprus, originally an agricultural economy, turned to tourism in the 60's. Despite some setbacks, such as the Turkish invasion of 1974 and the problems created in the area by the 1st Gulf War in the early 90's, the tourism industry has grown rapidly to become the cornerstone of the economy. It has accounted for roughly 10%-15% of the country's Gross Domestic Product over the recent decades, for about 40% of export earnings and has been providing work to 12% of the working population.[12] The Tourist Industry has been a major factor in the maintenance of low unemployment levels. According to the World Bank (World Development Indicators, 2005), Cyprus enjoys one of the highest per capita tourism receipts worldwide, being ranked 4th after Luxembourg, The Bahamas and Palau. The Travel & tourism Competitiveness Index (by the World Economic Forum) ranks Cyprus 20th , above competitors such as Greece (24th), Malta (26th) and Portugal (22nd) and well above neighbouring Turkey (52nd) and Egypt (58th), which also constitute popular destinations in the East Mediterranean

[11] Refer to Gkionis and Georgopoulos (2007) and Sampaniotis (2007) in the current edition.
[12] Including restaurants, the share of total employment becomes almost 30%.

basin.[13] The gains from the tourism industry have helped Cyprus attain increased prosperity and high standards of living, which further fuelled the island's rapid economic growth. On top, Cyprus has several other key advantages. It is a mature destination with good infrastructure and a physical environment of high diversity and beauty. It has many loyal tourists that keep coming back every year (repeaters). The booming in its real estate market is also partially attributed to foreign demand sparked by tourism. Numerous buyers are from Europe (especially the UK), seeking a second home on the island becoming thus "residential tourists". The island also enjoys social and political stability, in an area which is known for its turbulence. Despite, though, this apparently healthy picture, a number of tourism related factors pose several important challenges to the future of the sector and the island's economy as a whole.

The Cyprus tourism industry model was originally focused on the idea of a massive "sea and sun" tourism, spurring rapid growth. The countries providing demand have been traditionally the UK (accounting for more than 50% of tourist arrivals), Germany and the Scandinavian countries. Recently, Greece and Russia have also emerged as strong sources of tourism demand. The previous decade's rapid growth of the sector was mainly attributed to the swift expansion of bed places in specific locations and not necessarily to the attraction of high-spending clientele. It was mainly a "quantity" effect, based on excessive -sometimes inappropriate- development, without effective planning or coordination, of the accommodation sector (see also Sharpley 2000; Louca 2006 and Oreja Rodriguez *et al*., forthcoming).

What could be –potentially- a serious problem stems from the fact that the tourist portfolio is not well diversified (see Box 1). As mentioned in the previous paragraph, UK tourists have the lion's share of the arrivals on the island. One out of two tourists are from the UK. This is due to historical factors (Cyprus being an ex-colony with infrastructure and environment that makes UK tourists "feel at home") and the dominance of a few large UK tour operators. However, the large concentration of the main sources of tourism demand in a few countries, renders Cyprus susceptible to any financial limitations consumers in those countries face (see also discussions in Louca 2006 and Sharpley 2000). In the case of UK, increased airfares due to higher oil prices, higher interest rates and falling house prices can destabilize the consumption patterns of many lower to middle socio-economic groups. This has been also recognised by large organisations such as the UNWTO and has been identified as a serious risk factor that the tourism industry is facing worldwide. Given that British tend to pay their holidays on credit, outbound travel from the UK may suffer in the near future. This can be further intensified by factors such as reductions in airline capacity, the weakening of the sterling against the euro, increased inflation in Cyprus and other idiosyncratic factors.

The island's positioning (far from its key markets) and the high standards of living, render Cyprus as an "expensive" destination among its competitors, as travel costs alone may be higher by more than 10%. Moreover, the recent economic growth led to higher earnings, which in turn elevated unit labor costs. The result was lower profitability, especially in the hotel sector, which in turn can lead to decreased competitiveness. This is especially the case for the accommodation sector, though it may be generalised to the services sector as well. Eventually, distance, costs, increasing supply of accommodation, decreasing profit margins and high competition, combined with seasonality and a poorly diversified tourist portfolio, rendered the industry highly dependent on a few large tour operators. This dependence resulted in a loss of bargaining power, as tour operators, such as Airtours, Thomas Cook, TUI and others, can now dictate prices and channel tourism according to their long-term planning. The dominance of a few tour operators poses significant obstacles to central planning organisations, such as the Cyprus Tourism Organization (CTO), which aim to transform the services offered, break seasonality, attract more quality tourism and downplay the island's mass-market image (Sharpley, 2000; Louca, 2006).

[13] Cyprus is also ranked 3rd in Human and Cultural Resources after Austria and Switzerland.

Box 1
Arrivals of non-residents to hotels and similar establishments from "major partner" countries

The annual totals of non-residents' arrivals to hotels in Cyprus are included in Table 1. Table 1 (a) shows that the arrival numbers of UK, German and Swedish tourists are lower than their 2000 levels. Although there is some volatility in the data, UK arrivals are mostly dropping in numbers and, especially, as a percentage share of total arrivals of foreign tourists (see Table 1(b)). The same can be said for German and Swedish arrivals. There was a slight increase in years 2005 and 2006 for UK and Swedish arrivals and in 2005 for German ones. This upward "kink" in arrival numbers may be temporary and can be attributed to the ongoing political uncertainty in the region (terrorism, war in Iraq). Specifically in Turkey, the 2006 terrorist attacks have led to a series of cancellations and the redirection by tour-operators of a significant portion of tourists to other destinations in the area such as Greece and Cyprus. A similar "redirection" of tourists may have benefited the island, from destinations in the Middle East and Egypt, over the recent years, following the political crisis and terrorist attacks in those areas.

Arrivals from Greece and Russia are increasing, since data are available. Especially Russian tourists have been growing in numbers and recently have surpassed the Swedish, becoming the third most important source of demand for hotel services in Cyprus, after UK and Germany (according to Eurostat numbers). However, it is still of concern that the share of UK tourists is slowly but constantly diminishing since 2000, a trend that appears to be followed by Swedish and (less clearly) by German tourist inflow. Given the fact that these countries are traditionally the main sources of tourism for the island, and that UK accounts for more than 50% of foreign tourism, the trends described above may be a harbinger of a more acute drop in tourism receipts in the very near future. Table 1 (b) provides a clearer view of the downward trends of international tourism on the island. UK visitors' share to hotels and similar establishments is diminishing steadily since 2002 (down to 50.5% in 2006 from 51.1% in 2002) while the Greek and Russian shares are increasing steadily. The Greek tourists' share is up to 3.5% from 2.4% in five years time while the Russian share in 2006 has gained a %1 increase within a year's time (Eurostat data for Russian visitors are not available before 2005).

Table 1
Arrivals of non-residents to hotels and similar establishments from "major partner countries" as: (a) yearly totals, and (b) a percentage of total arrivals

(a)

	World	UK	Germany	Sweden	Greece	Russia
2000		1,102,617	243,889	120,311	52,451	
2001		1,151,244	232,265	117,082	51,265	
2002	2,034,398	1,039,278	178,932	102,990	49,831	
2003	1,817,936	931,300	120,345	104,675	48,372	
2004	1,725,070	875,870	149,074	75,718	64,736	
2005	1,750,168	885,657	167,212	76,243	64,668	86,457
2006	1,761,316	889,402	143,655	83,110	61,982	103,961

(b)

	UK	Germany	Sweden	Greece	Russia
2002	51.1%	8.8%	5.1%	2.4%	
2003	51.2%	6.6%	5.8%	2.7%	
2004	50.8%	8.6%	4.4%	3.8%	
2005	50.6%	9.6%	4.4%	3.7%	4.9%
2006	50.5%	8.2%	4.7%	3.5%	5.9%

Source: Eurostat

In general, tourism industry development in Cyprus followed a path no different to that of many competitors in the Mediterranean, such as Greece, Spain and Malta. Rapid and localized (uneven) development has resulted into a variety of social, environmental and financial consequences, hindering the sustainability of the industry. Unregulated oversupply of accommodation implies heavy pressure on natural and human resources. Moreover, it leads to tourist crowding, noise pollution, the construction of infrastructure that damages the scenery or misuses of natural resources. These, in turn, seriously hinder the growth sustainability of the whole tourism industry (Oreja Rodriguez *et al.*, forthcoming). The negative results of this excessiveness are even more severe in small island economies, due to their geographic limitations and tourist inflow seasonality. Eventually, some saturation is reached, and island destinations such as Cyprus, need to reinvent or remarket themselves as a more up-market tourism destination, increasing competitiveness through added value in order to maintain their revenue levels (Sharpley 2000; Keller 2006; Aguilo Perez 2006).

On top of the general problems described above, Cyprus is also facing some more specific obstacles to its tourism industry's performance sustainability. The occupied territories on the north of the island have not posed any significant threat till today and thus have not been regarded as a serious competitor. Nowadays though, they are more accessible and bed capacity is rising swiftly. It is estimated that soon this capacity will be at 30% of the southern part's and this sparkles serious concerns in the accommodation sector. It is likely that the northern part will be able in the coming years to offer similar services at very competitive prices, while there are fears that a significant number of tourists seeking cheaper prices, will be channelled there through tour operators. The island is also currently facing fierce competition from tourist destinations in North Africa (Tunisia, Morocco, Egypt, Libya), Turkey, Greece and recently, a number of Balkan destinations (Croatia and Montenegro). This competition is especially felt by the numerous small privately owned businesses in the accommodation sector, which also have to compete against each other.

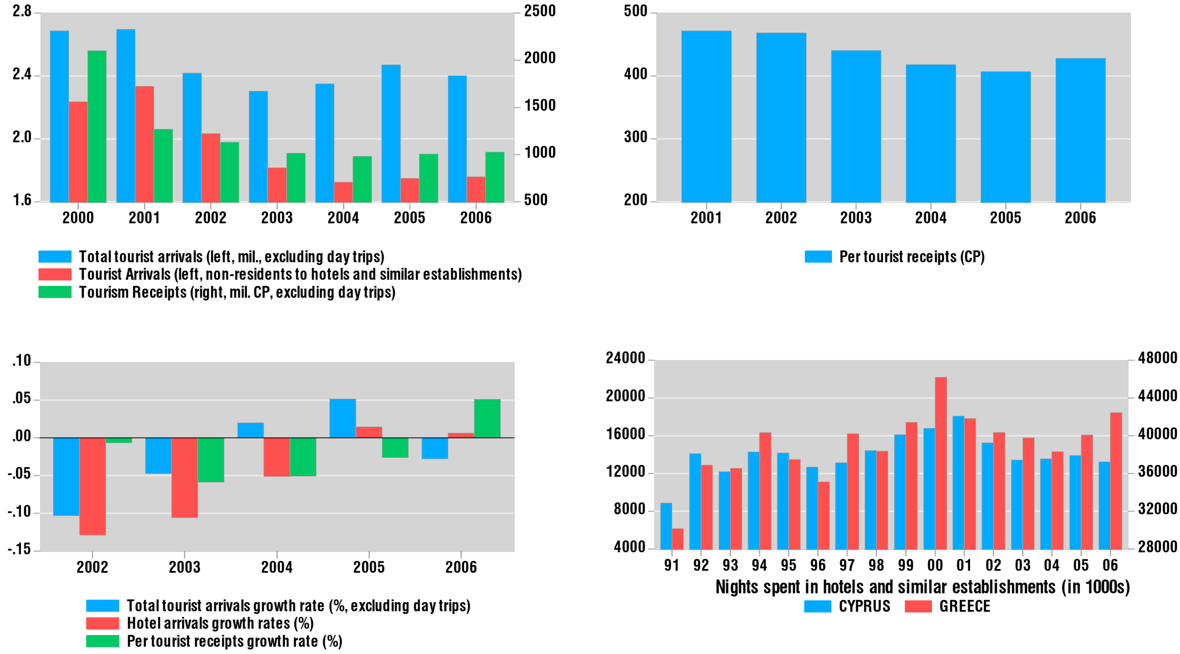
3. Recent tourism industry performance

The "Strategic Plan for Tourism Development 2003-2010" by Cyprus tourism Organisation (CTO) clearly recognises the island as "an established and mature tourist destination in a highly competitive environment". Indeed, the tourism industry has seen a strong growth in the past and the economy has reaped the benefits of such a growth. However, the probability of the sector facing increased competition from other developed or developing markets, is heightened recently, as is often the case with developed tourist destinations (Keller, 2006).

In the last 30 years, the Cypriot tourism industry has witnessed both spectacular growth and some setbacks (Louca, 2006). Most of the latter have been attributed to the lack of spending on infrastructure (transport, communication, accommodation, restaurants) and appropriate advertising and promotion campaigns, actions crucial to a sector seeking sustainable development in an ever increasingly competitive globalized market. However, despite the setbacks, growth had been impressive. From 1985 to 2001, income from the tourism industry as a percentage on GDP, grew from 15.8% to 21.7% (Louca, 2006), with an average annual rate of expansion at 9.6%. This is close to the 9.1% average growth rate of tourist arrivals for the same period. However, despite its high past performance, the weakness of the tourism sector in Cyprus was underscored in the 2006 CYSTAT's[14] report on tourism statistics. Tourist arrivals to the island dropped (Chart 1) to 2.4 mil., by 2.8% from the previous year. This was by far less than the 2002 (-10.3%) and 2003 (-4.8%) major collapse of tourist arrivals[15] but came after two years of positive tourist arrival growth rates. Focusing on the accommodation sector, arrivals to hotels and similar establishments also reveal a mixed, if not disturbing, picture, underlying further the concern for the industry's future. According to official Eurostat data, total annual arrivals to hotels were down in 2002, 2003 and 2004 by 12%, 10% and 5% respectively.

[14] The Statistical Service of The Republic of Cyprus.
[15] The negative growth of arrivals for 2002 and 2003 can be attributed to the problems created by the Sept. 11th 2001 events.

Chart 1
Cyprus Tourism Statistics



Sources: CYSTAT, Central Bank of Cyprus, UNWTO and author's calculations.

Year 2005 witnessed a slight increase from the previous year's levels by a meagre 1.4%. Last year's arrivals to hotels grew even slower, by only 0.6%, reaching a total number of 1.76 mil. Other disturbing statistics are the overnight stays and the average length of stay. Both have been exhibiting an overall downward trend recently. More specifically, in 2006 tourists remained on average on the island 10.4 days, 2 days down from the 1992 levels, and less than the 11 days, which were the level of 2000. Total overnight stays in 2006 were also down by 23% from their record highs of 2001 and more than 4% down from 2005.

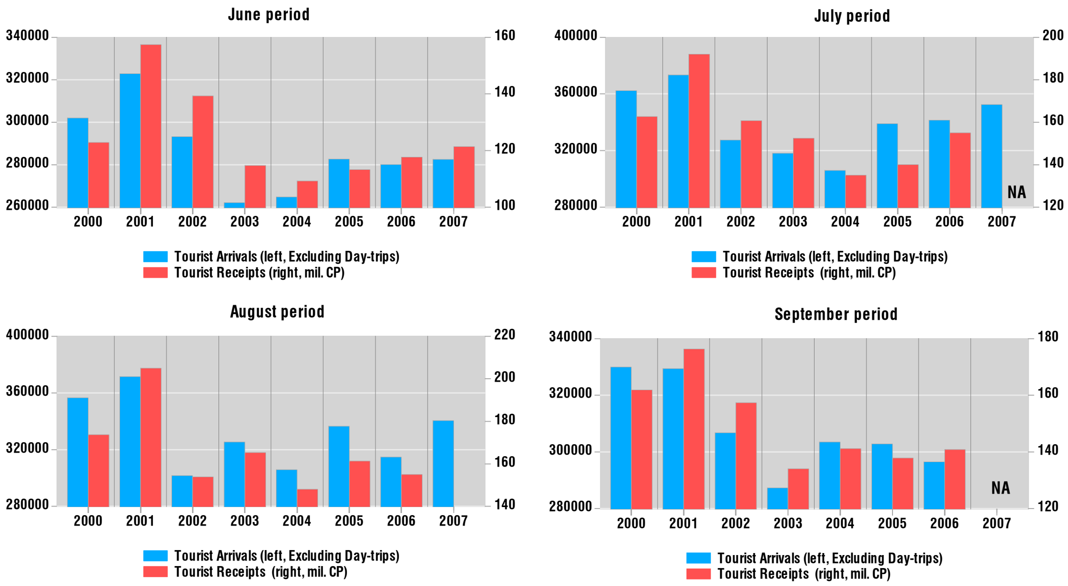
Yet, despite the recent downward trend in tourist arrivals and overnight stays, tourism receipts appear to be elevated. Total receipts were just above 1 bn CP in 2006, 2.2% up from the previous year. Per tourist receipts have increased by 5.1% and their growth rates is increasing since 2003. This shows that the island can maintain its tourist revenues despite the drop in arrivals. It may also imply that it attracts more affluent tourists that are able to spend more, even when staying less.

Contrary to the somewhat poor performance since 2002, the current year seems promising. After a weak start, 2007 tourist arrivals and receipts picked up. June, July and August arrivals were elevated, with August registering the largest increase compared to the same month in 2006 (8.1%). The average stay time appears to have slightly decreased, though spending is still increasing.[16] Overall, the 2007 results seem -so far- positive. Although cumulatively, arrivals are at the same levels of the previous year, receipts appear to be higher, before inflation adjustment.[17]

[16] The average stay time was slightly lower than the previous year (9.5 days in contrast to 9.9 in 2006, June 2007 data). Average per day spending per tourist was up by 6% in June. Tourists spent 429.8 CP in June (€734.4) which translates to 45.1 CP per day (i.e., €77 or €4.5 more compared to June 2006). Moreover, UK and German tourists which form the bulk of foreign demand, remained (on average) a bit less than the year before, spending though slightly more than the previous year. UK tourists spent on average 4% more during their holidays on the island (4.6% on a daily basis, i.e. 43.2 CP or €72.7). German tourists increased their spending by 1.4% spending more by just below 2 CP per day.

[17] According to CYSTAT, 2005 and 2006, annual tourism receipts growth rates were 2.4 and 2.2 respectively, just a notch below inflation figures which were 2.6 and 2.5 respectively.

Chart 2
Total tourist arrivals and receipts by month (during peak period)



Source: CYSTAT

Analysis of higher frequency arrivals and receipts data provides some interesting results as well. Examining the peak months (June-Sept.) in more detail, we observe some important patterns. June and July arrivals and receipts exhibit a steady increase since 2004, which is a positive sign. However, August and September data are quite volatile and are not characterized by a clear-cut pattern.

In general, the data reveal a mixed picture. The tourism industry in Cyprus appears to have recently regained its momentum. However, receipts and arrivals are still lower than their record 2001 levels, by 21% and 11% respectively. Receipts and arrivals though have never been as high as the 2000-2001 period for many destinations in the Mediterranean. Those years have been characterized as a record-performance for the world industry (see also night spent in hotels in Chart1, bottom right diagram: both Greece and Cyprus exhibit all time highs by the end of 2000 and 2001 respectively). Despite these trends, comparative analysis of the 2006 World Tourism Organization's (UNWTO) Tourism Market Trend data, reveals a much more optimistic picture for quite a few destinations in the area, including Cyprus.

As Table 2 shows, Southern & Mediterranean Europe's market share (tourism receipts), as a percentage of European tourism (receipts), has grown since the 90's from 36% to just above 40%. According to UNWTO, international tourism receipts have been growing steadily from €40 bn in the 90's to €112 in 2005 (in current prices). Cyprus has been following this trend, roughly doubling tourism receipts in the same period. This is also the case for all other countries examined (Greece, Turkey, Malta, Portugal and Spain) that offer a similar product and for which comparative data are readily available.

What is also evident from Table 2 is that Cyprus appears to be loosing slowly, albeit steadily, market share in the Southern European tourism market, which has slightly dropped from 2.4% to 1.7%. This is though not unique to Cyprus' case but is true for other countries in the area as well. Malta has been also loosing market share . Portugal and Spain exhibit a similar picture, though the latter seems to have regained some lost ground in terms of market share recently.

The comparison of Cyprus to other countries in the area that lost market share, shows that, actually, this country is not underperforming. Both Spain and Portugal have lost significantly more market share than Cyprus. Finally,

Table 2
International Tourism Receipts by Country of Destination

	Market share in the region (%)			Receipts (€, 2005)		annual change (%)	
	1990	2000	2005	per arrival	per capita	04/03	05/04
Southern/Mediter. Europe (*)	36.0	40.2	40.3	715	479	5.2	5.4
Cyprus	2.4	2.1	1.7	770	2,334	1.6	3.4
Greece	5.0	9.9	9.8	775	972	9.0	6.7
Turkey	6.3	8.2	12.9	760	185	9.4	14.2
Malta	1.0	0.7	0.6	550	1,600	2.8	-1.9
Portugal	6.9	5.6	5.7	545	599	7.8	1.1
Spain	36.0	32.1	34.2	695	903	3.8	5.8

(*) As % of total Europe
Market shares for individual countries are reported as % of Southern/Mediter. Europe.

Source: World Tourism Organization (UNWTO), Tourism Market Trends, 2006 and author's calculations. Receipts data include expenditure from overnight as well as same-day trips. Data are collected by the International Monetary Fund (IMF). See the Balance of Payments Statistics Yearbook, Part 2 and Part 3 of the IMF for further details on methodologies, compilation practices and data sources.

Greece and Turkey have been gaining market share since the 90's, roughly doubling it till 2005. Hence, with the exception of these last two countries, diminishing market shares since the 90' are not something that characterizes per se the tourism industry in Cyprus only, as it is a wider phenomenon that applies to other mature destinations as well in the area. However, some of the other countries appear to be regaining share since 2000.

Receipts for the 2003-2005 period are on the increase. Cyprus has managed to double the growth rates of tourism receipts during that period, while countries that enjoy increased market shares, have actually lost ground (e.g. Greece exhibits diminishing growth rates). Malta also appears to be performing very poorly, while Portugal is witnessing a dramatic deceleration of tourism receipts. If this momentum continues, Cyprus will be -eventually- able to increase its market share to old levels. Apparently, only Cyprus, Turkey and Spain have enjoyed increasing tourism receipts growth rates in those three years. Moreover, receipts per arrival are very high compared to other Mediterranean destinations. Greece and Cyprus enjoy the highest (€775 and €700 respectively, above Europe's average of €715), followed closely by Turkey (€760). The gap between these three countries and the rest is significant.[18]

Last but not least, Cyprus appears to enjoy a steady market share in terms of arrivals over the last 15 years. According to the UNWTO, international tourist arrivals in Europe grew from 265 mil. to 441 (between 1990 and 2005).[19] In the same period of 15 years, Cyprus has been enjoying a steady European market share in terms of arrivals of about 0.6%, which translates to a 1.7% market share in Southern/Mediterranean Europe. Hence, despite the fluctuations in arrivals numbers over the years and their recent volatility, Cyprus has managed to increase the inflow of tourists alongside the rest of Europe, keeping a steady share, which is not the case for other countries in the area (eg. Italy, has seen a 2 percentage points drop of arrivals market share within the same period).

Overall, some of the recent past's data on Cyprus' tourism industry appear to reveal a certain weakness of the sector. However, comparing Cyprus to other south

[18] While this implies that tourists spend more at these destinations, which is positive in terms of tourism receipts, it can also be reflecting the higher spending for tickets, accommodation and restaurants compared to other destinations.
[19] In Southern Mediterranean Europe, international arrivals grew to 158 mil. from 94 in 1990.

European destinations reveals that the island's industry is still strong and maintains a healthy momentum since the 90's, despite some recent setbacks.

4. The challenges ahead

The recent weak performance of the tourism industry in Cyprus demands attention. While it is not in peril, there are numerous challenges to be met, given the importance of the sector for the island's economy. More specifically, the industry must:

- Increase its competitiveness by investing heavily on infrastructure and human capital, which in turn will allow to...
- Pursue both spatial and temporal diversification, breaking seasonal patterns and to engage in alternative types of tourism services.
- Boost the accommodation sector's performance by adopting beneficial to the sector strategies and policies.

Both the government and the CTO, as well as the private sector with foremost the Cyprus Hotel Association, have realised that the island's tourism industry competitiveness needs a boost. The two major paths to be followed are those of cost reduction and the diversification of the tourism product offered. The first path, if not followed correctly, may lead to loss of competitiveness. Already, roughly half of the people employed in the accommodation sector are foreigners. Special caution is needed so that skilful workers are employed to ensure high standards of services which increase added value.

The second path is strongly related to increasing competitiveness through diversification. CTO is promoting a 7-year strategic plan, ending in 2010, for the development of the tourism industry aiming at increasing tourism receipts, tackling seasonality, and increasing arrivals, length of stay and "repeaters". The government recognises the need for an improved strategy on tourism services and a diversification of product, ensuring at the same time the protection of Cypriot culture and the environment, as well as the sustainability of the industry's growth. Thus, the aim is for a temporal and spatial diversification (Oreja Rodriguez *et al.,* forthcoming and Aguilo Perez 2006), moving gradually away from the "sun and sea" concept and improving infrastructure that will invite different kinds of tourism. In the spirit of the plan, several new developments are being scheduled or are already under construction, such as marinas, golf courses, new convention centres, parks, footpaths for ramblers. Several other initiatives need also to be implemented to boost competitiveness. The skills of hotel and restaurant staff need to be upgraded by retraining. Constructions such as casinos and airport improvements-expansions need to be undertaken swiftly. Several theme parks are also planned. All the above aim not only to improve the quality of services offered, but also to tackle seasonality, by developing different kinds of tourism such as religious tourism, rural tourism, conference tourism, sports tourism, medical tourism, health and beauty tourism.

The CTO's strategic plan has been endorsed widely and after a somewhat slow start, it has now gained momentum, boosting the industry's confidence that the most important targets will be met by 2010. The Cyprus Hotel Association though, in its latest Annual Report (May 2007) identifies five key endogenous factors that, in the meantime, can affect severely the accommodation industry's performance, which is of crucial importance to the whole scheme:

- Package holidays are still by 30-35% more expensive than those of other competitors.
- Productivity needs to be boosted in the hotel sector.
- Seasonality will remain a problem in the short term and needs to be addressed urgently.
- Operative costs are high in comparison to other competitors, which leads to diminished profits and limited ability to invest on improvements and expansions of the hotel units.
- The existing tax framework further burdens an industry, which exhibits high volatility in its performance and revenues.

In addition to these, we identify two more risk factors. The first is the existence of several small enterprises in both the accommodation and services sector (see also discussion in Sharpley, 2000 and Louca 2006). Their survival in an increasingly competitive environment may imply that short term financial considerations may overshadow long term national planning, imposing serious obstacles to the strategic plan. Secondly, the dominance of a few strong tour operators means that lower prices can be imposed, specific packages can be promoted and clientele of a specific financial status may be supplied exclusively to the island. Hence, the high quality hotels (4 and 5 stars) may be occupied by tourists which are not necessarily "high-spenders" from various different countries instead of one source. Moreover, seasonality may be very difficult to break under this scenario.

5. Conclusions

Cyprus is a strong participant in the Mediterranean tourism market. It has enjoyed spectacular growth rates in the past and has rightfully attained the status of a developed and mature destination with a stable market share. However, this very same growth has planted the seeds of what is viewed as a current weakness of the tourism sector. Till recently, arrivals have been dropping, while there is strong seasonality and concentration of demand in a few European countries, which leads to increased dependence on tour operators. Despite some setbacks, the industry is still performing strongly. Yet, to ensure its sustainable development, there is a need to rapidly increase its competitiveness and invest in infrastructure. Both government and the private sector are taking steps towards the right direction. The weak spots of the industry have been identified and are being dealt with. Effective policy reactions from the central planners will ensure that this small island economy's tourism sector will continue to flourish and contribute significantly to its growth process.

References

Aguilo Perez, E. (2006), "Restructuring of an established tourism destination: The case of Balearic Islands," presented at EFG Eurobank's Conference "Competitiveness and Innovation in the International Tourism Industry: Shaping the Greek Priorities", Nov. 2006, Athens, Greece.

Cyprus Hotel Association, May 29th 2007 Annual Report.

Cyprus Tourism Organisation (CTO), "Strategic Plan for tourism Development 2003-2010".

Gkionis, I. and G. Georgopoulos (2007), "The Economy of Cyprus: An Overview," Eurobank Research: Economy & Markets, Special Focus on Cyprus issue, 2(9).

Keller, P. (2006), "A new look on global tourism", presented at EFG Eurobank's Conference "Competitiveness and Innovation in the International Tourism Industry: Shaping the Greek Priorities," Nov. 2006, Athens, Greece.

Louca, C. (2006), "Income and expenditure in the tourism industry: time series evidence from Cyprus," Tourism Economics 12(4), 603-617.

Oreja Rodriguez, J.M., Perra-Lopez, E. and V. Yanes-Estevez, "The sustainability of island destinations: Tourism area life cycle and teleological perspectives. The case of Tenerife," Tourism Management, forthcoming.

Sampaniotis, T. (2007), "Cyprus' Business Environment & Competitiveness," Eurobank Research: Economy & Markets, Special Focus on Cyprus issue, 2(9).

Sharpley, R. (2000), "The influence of the accommodation sector on tourism development: lessons from Cyprus," International Journal of Hospitality Management, 275-293.

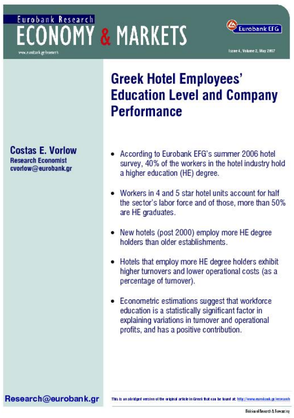
Further Data Sources & Reports:

- Central Bank of Cyprus, July 2007 Monetary Policy Report.
- CYSTAT, various reports.
- Cyprus Hotel Association, Annual Report (May 29th, 2007).
- Eurostat, various reports.
- UNWTO, (June 2007), World Tourism Barometer, Vol 5(2).
- UNWTO, Tourism Highlights, 2007 Edition.
- UNWTO, Tourism Market Trends, 2006 Edition.
- World Bank, World Development Indicators, 2005.

On-line Sources:

- CHO: http://www.cyprushotelassociation.org/
- CTO: http://www.kypros.org/CTO/cyprus.html , also:
- CTO: http://www.visitcyprus.org.cy/
- CYSTAT: http://www.pio.gov.cy/mof/cystat/statistics.nsf/
- Central Bank of Cyprus: http://www.centralbank.gov.cy
- UNWTO: http://www.unwto.org
- Eurostat: http://ec.europa.eu/eurostat
- European Travel Commission: http://www.etc-corpotate.org


Eurobank Research
New Europe
Commentary


Eurobank Research
ECONOMY & MARKETS
Greek Hotel Employees' Education Level and Company Performance
Costas E. Vorlow
- According to Eurobank EFG's summer 2006 hotel survey, 40% of the workers in the hotel industry hold a higher education (HE) degree.
- Workers in 4 and 5 star hotel units account for half the sector's labor force and of those, more than 50% are HE graduates.
- New hotels (post 2000) employ more HE degree holders than older establishments.
- Hotels that employ more HE degree holders exhibit higher turnovers and lower operational costs (as a percentage of turnover).
- Econometric estimations suggest that workforce education is a statistically significant factor in explaining variations in turnover and operational profits, and has a positive contribution.

Research@eurobank.gr


Eurobank Research
GLOBAL ECONOMIC & MARKET OUTLOOK
Main Views and Market Strategy:

More research editions available from http://www.eurobank.gr/research

- ✓ **New Europe:**
  Quarterly edition on New Europe countries and their markets
- ✓ **Economy & Markets:**
  Monthly economic research edition
- ✓ **Global Economic & Market Outlook:**
  Quarterly review of the international economy and financial markets

Subscribe electronically at http://www.eurobank.gr/research

Eurobank Research: Economy & Markets
ISSN: 1790-6881

Eurobank EFG, Division of Economic Research & Forecasting
Research Team

Editor:Prof. Gikas Hardouvelis,
Chief Economist & Director of Research

Dimitris Malliaropulos: Economic Research Advisor
Ioannis Gkionis: Research Economist
Emmanuel Davradakis: Research Economist
Olga Kosma: Economic Analyst
Costas E. Vorlow: Research Economist
Theodosios Sambaniotis: Senior Economic Analyst
Evangelos Georgopoulos: Economic Analyst
Maria Prandeka: Economic Analyst

Eurobank EFG, Othonos 6, 10557 Athens, tel: +30.210.333.7365, Fax: +30.210.333.7687,
web: http://www.eurobank.gr/research , Contact email: Research@eurobank.gr