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Interest Rates in Cyprus and Comparisons with other EU Countries

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Louis N. Christofides, Andros Kourtellos and Kostantinos Vrachimis

Abstract

The objective of this study is to assess the evolution of interest rates in Cyprus, before Cyprus became a full member of the Economic and Monetary Union. Interest rates in Cyprus are compared to interest rates in the euro area and to the interest rates prevailing in the other new EU member states. The data used are gathered from the European Statistical Service and the Cyprus Central Bank. The interest rates studied are divided into four groups: Central Bank rates, Money Market rates, Long Term Government Bond rates and Retail Bank rates.

The comparison reveals that Cyprus rates converged toward the euro area rates by mid-2006 for all interest rate groups. The convergence process was disturbed by exogenous shocks that occurred in 2004 and delayed convergence. Interest rates in Malta, a country that joined the euro area on the same date as Cyprus, also converged to the euro area rates during the same period. Interest rates in the remaining eight countries that joined the EU at the same time as Cyprus and Malta, but did not enter the euro area at the same time, also declined significantly but these rates did not converge fully to the rates in the euro area over the period studied.

CONTENTS

ΠΕΡΙΛΗΨΗ	VII
I. INTRODUCTION.....	1
II. INSTITUTIONAL BACKGROUND.....	1
III CENTRAL BANK INTEREST RATES	2
IV. MONEY MARKET INTEREST RATES.....	8
V. RETAIL BANK INTEREST RATES.....	12
VI. LONG TERM INTEREST RATES.....	14
VII. CONCLUSIONS	18
REFERENCES.....	19
APPENDIX A: TIMELINE OF SIGNIFICANT EVENTS	20
APPENDIX B: HCPI INFLATION.....	21

ΠΕΡΙΛΗΨΗ

Σκοπός της μελέτης αυτής είναι να αξιολογήσει τη συμπεριφορά των επιτοκίων στην Κύπρο πριν και μετά την ένταξή της ως πλήρες μέλος στην Οικονομική και Νομισματική Ένωση. Τα Κυπριακά επιτόκια συγκρίνονται με αυτά που επικρατούν στις χώρες της Ευρωζώνης, καθώς και με αυτά των υπόλοιπων νέων χωρών που εντάχθηκαν στην Ευρωπαϊκή Ένωση. Τα στοιχεία που χρησιμοποιούνται προέρχονται από την Ευρωπαϊκή Στατιστική Υπηρεσία και την Κεντρική Τράπεζα της Κύπρου. Τα επιτόκια που χρησιμοποιούνται χωρίζονται σε τέσσερις κατηγορίες: τα επιτόκια που καθορίζονται από τις Κεντρικές Τράπεζες, αυτά της Χρηματαγοράς, τα Μακροπρόθεσμα Κυβερνητικά επιτόκια και τα επιτόκια των εμπορικών τραπεζών.

Η σύγκριση δείχνει ότι τα Κυπριακά επιτόκια συγκλίνουν προς αυτά της Ευρωζώνης από το μέσο του 2006. Η ομαλή σύγκλιση διαταράχθηκε από τα εξωγενή γεγονότα που συνέβησαν το 2004. Τα επιτόκια της Μάλτας, μιας χώρας που εντάχθηκε στην Ευρωζώνη την ίδια στιγμή με την Κύπρο, συνέκλιναν το ίδιο διάστημα προς αυτά της Ευρωζώνης με τα Κυπριακά επιτόκια. Τα επιτόκια των χωρών που εντάχθηκαν την ίδια στιγμή με την Κύπρο στην Ευρωπαϊκή Ένωση αλλά όχι στην Ευρωζώνη, έχουν σημειώσει μεγάλη μείωση αλλά εξακολουθούν να είναι σε ψηλότερο επίπεδο από αυτά της Ευρωζώνης.

I. INTRODUCTION

On May 1st 2004, Cyprus joined the European Union (EU) and, from January 1st 2008, Cyprus adopted the euro as its national currency. Among the conditions needed to join the Economic and Monetary Union is convergence with the economies of the other EU states that have joined the EMU. A significant part of this process involves achieving moderate inflation rates through the monetary policy followed by the Cyprus Central Bank (CCB). The major monetary policy tool in the hands of the CCB prior to entry into the euro area was the ability to determine interest rates in Cyprus. This study examines how interest rates in Cyprus converged to the interest rates prevailing in the remaining EU countries.

The study also examines the evolution of interest rates in Cyprus relative to those in Malta. The two countries share many common characteristics: They are islands and small countries that entered the EU and the euro area at precisely the same time. The experience of these two countries is contrasted to that of the other eight member states that joined the EU with Cyprus and Malta on May 1, 2004 but did not enter the euro area in 2008.

II. INSTITUTIONAL BACKGROUND

The European Central Bank (ECB) was established on June 1, 1998 and has conducted the monetary policy of the euro area since January 1, 1999. It was created under the Maastricht Treaty, which entered into force in 1993. The fundamental objectives of the ECB are to maintain harmonious, balanced and sustainable economic development, a high level of employment, sustainable and non inflationary growth and a high degree of competitiveness and convergence of economic performance. The specific tasks of the ECB are, through monetary policy, to effect decisions on key ECB interest rates, to conduct foreign exchange operations and to hold and manage the official reserves of the euro area. In addition, the ECB promotes the smooth operation of payment systems.

Two recent studies examine the economic integration of the economy of Cyprus with those of other European economies. Hassapis (2007a and 2007b) investigate the degree of economic integration of Cyprus with members of the European Monetary Union (EMU). Using time series analyses and Vector Auto Regression models, he

indicates that a substantial amount of convergence has been achieved and that the Maastricht convergence criteria¹ have generally been met.

III CENTRAL BANK INTEREST RATES

The key rates set by the ECB are applied to the banking sectors of all countries in the euro area, the ECB having the sole power to determine these rates. The CCB determined the rates for Cyprus prior to accession to the euro area. The ECB sets the level of three rates: The marginal lending facility, the marginal deposit facility, and the minimum bid rate on the main refinancing operations (repo rate). The marginal lending rate is the rate that banks are charged in order to obtain overnight liquidity against eligible assets. The marginal deposit rate is used by banks to make overnight deposits to the Eurosystem². The main refinancing operation rate is the one used as the intervention rate. This rate also serves as the basis for calculating the remuneration of minimum reserves. The refinancing operations rate generally lies between the marginal lending and deposit rates.

Figure 1 shows the evolution of the deposit rate of the CCB compared to the euro area rate from 1999 to 2007. The Cyprus rate was generally greater than the Euro rate throughout this period. It is characterized by several important shocks. To begin with, and in reaction to the September 11, 2001 attacks³ and the subsequent fear of a global economic slowdown, the deposit rate was reduced on several occasions. It should be noted that, from the beginning of 2001, the CCB changed its interest rate determination policy and abandoned the restrictions on medium and long term foreign borrowing by Cypriots; a new process for determining daily bilateral exchange rates was also introduced. Nevertheless, the deposit rate remained unchanged until 2004. A combination of events caused the deposit rate to increase during 2004. On April 24, 2004 the referendum on the Annan plan for the reunification of the island took place and on May 1, 2004 Cyprus became a member of the EU. On the one hand the referendum caused political uncertainty and on the other hand, after the accession of

¹ One of the Maastricht criteria is that countries that adopt the euro need to have an inflation rate no greater than 1.5 percentage points higher than the average inflation rates prevailing in the three member states with the lowest inflation rates. Also, the nominal long-term interest rate must be no more than 2 percentage points higher than the average rate in the three member states with the lowest inflation rates.

² The Eurosystem consists of the ECB plus the National Central Banks of the euro area member states.

³ A timeline of the significant events that occurred in Cyprus and across the world economy since 1999 is given in Appendix A

Cyprus to the EU, the capital account was fully liberalized. These events generated rumors about a possible devaluation of the Cyprus pound and a limited amount of capital outflows occurred. The CCB reacted by increasing the deposit rate by 100 basis points. After the strengthening of the economy during the last half of 2004, the CCB reduced interest rates by 25 basis points in January 2005. The Cyprus pound entered the ERM mechanism on May 2005 and as a result the CCB twice reduced the interest rate by 50 basis points once in May and again in June. The Cyprus and EU deposit rates converged after the gradual increase of the euro rate that started from the beginning of 2006. Between 2000 and 2004, Malta experienced a lower deposit rate than the euro area; thereafter, its deposit rate increased until it reached the Cyprus and euro area rates by 2007. The average rate of the other eight new member states declined considerably from its 2002 level and converged to the euro area rate around 2007.

Figure 1: Central Bank Deposit Rates

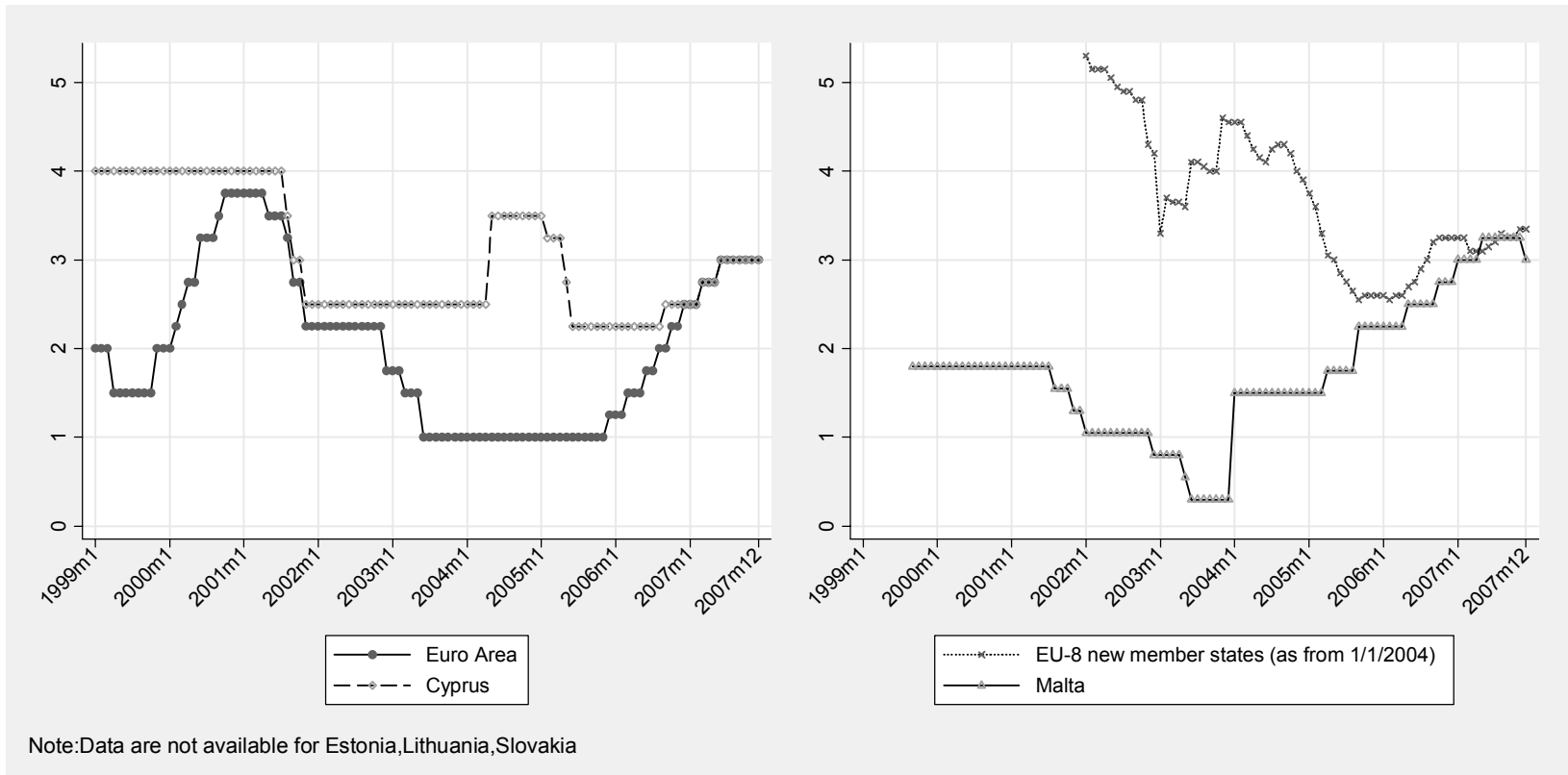


Figure 2: Central Bank Lending Rates

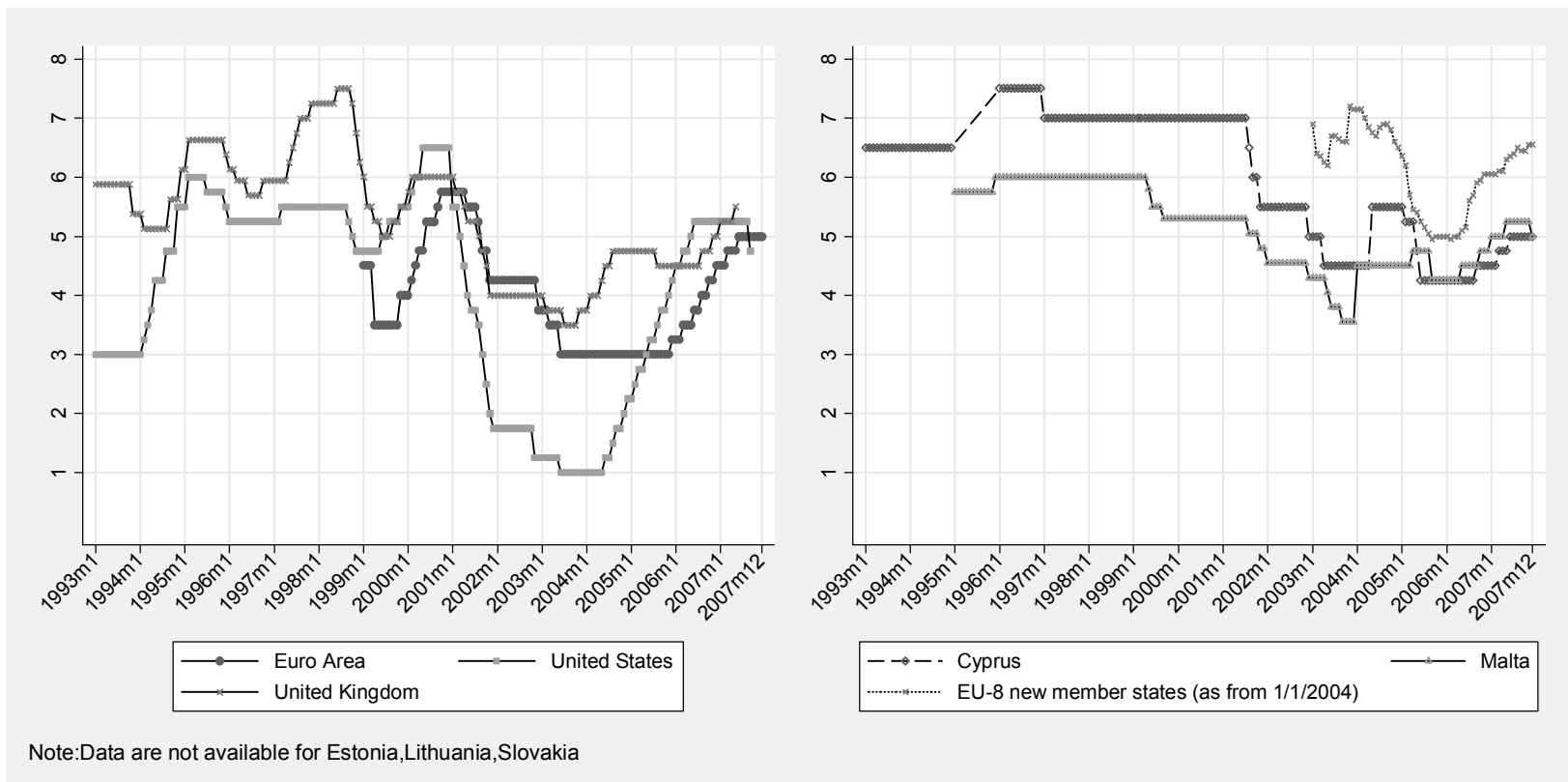


Figure 3: Central Bank Reverse Repo Rates

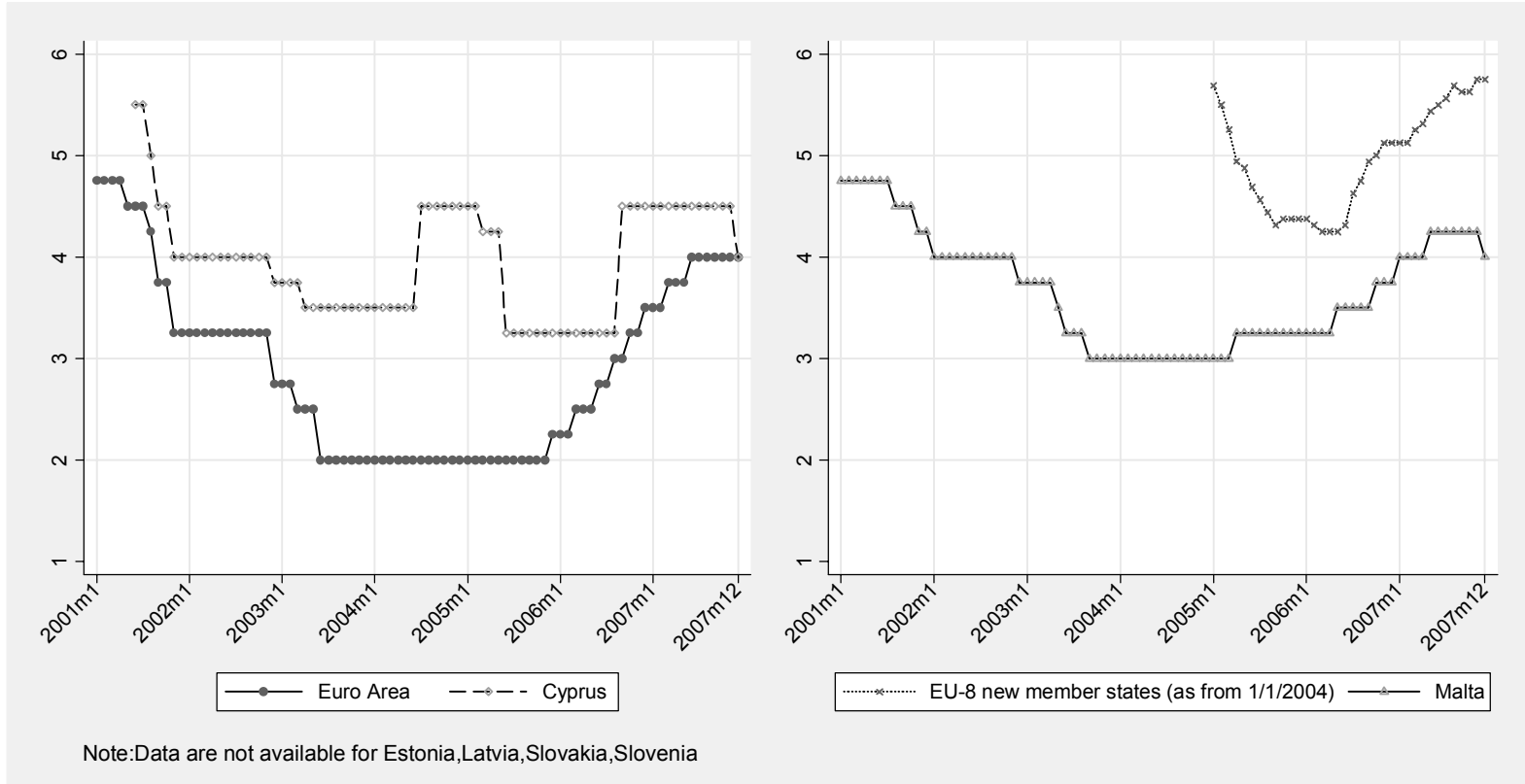


Figure 2 shows central bank lending rates. The CCB lending rate was greater than the euro area rate and converged to the euro rate after 2006. The shocks described previously that caused the deposit rate to change had the same effects on the lending rate (as well as the reverse repo rate described below). The Maltese rate followed a parallel path with the Cyprus rate and converged to the EU rate during the same period. Also, the other eight new member states experienced declines in their lending rates from 2000 until 2006⁴ and increased slightly afterwards, reaching the level of 6.5% by the end of 2007. The United States Federal Funds rate remained stable between 1996 and 2000 around 5.5%. After a short term increase at the beginning of 2000 to 6.5%, it declined, dropping below 2% by 2002. After 2004, it steadily increased and it overtook the euro rate after 2005. The average value between 1999 and 2007 for the US rate was 3.6%. The United Kingdom rate was also lower than the lending Cyprus rate; it moved with the euro area rate between 2001 and 2003 and increased afterward, exceeding the Cyprus rate after 2005⁵. The average value between 1999 and 2007 for the Japanese rate was 0.3%. The Japanese rate (not shown), remained closed to zero (around 0.5%), during the whole period under study.

From 2002 to 2004, the Cyprus reverse repo rate fluctuated around 4%. As shown in Figure 3, a large increase in the rate occurred in 2004 and a large decrease took place in mid 2005. For the whole period between 2000 and 2007 it fluctuated between the CCB lending and deposit rates Cyprus and its mean value was 3.98%. The euro area rate dropped from 3.25% in December 2002 to 2% in 2003. It remained stable at 2% until October 2005. It gradually increased to 4% by June 2007. Malta's rate decreased from its January 2001 value of 4.75% to 3% in September 2003 and remained unchanged at this level until April 2005. Then it followed the upward path of the ECB rate and converged to the euro area rate. The average reverse repo rate for the other eight new member states declined considerably from its January 1998 level of 16.9% to 5.7% in January 2005. It continued its downward path during the first half of 2005. It

⁴ Figure 2 presents the available data for the eight new member states from 2002 onwards because the rates prior to this date were considerably higher and their inclusion in the graph would distract from the clarity of the graph. The average lending rate for this group of countries in February 2000 was 12.5% until January 2001, when it dropped to 11.75% and was further reduced to 9.2% in January 2002. All the following graphs of this group of countries are truncated in order to maintain the clarity of the graphs.

⁵ The UK rates are provided because of the influence that the UK economy has on the Cyprus economy. Cyprus depends heavily on tourism and a large percentage of tourists arriving in Cyprus each year originate from the UK (in 2007 53% of the tourists arrivals were from the UK). Also, the housing market depends partly on demand from British retirees.

remained more or less stable for a year but increased for the rest of the period, reaching the level of 5.75% by the end of 2007.

The Cyprus Central Bank lending and deposit interest rates and the equivalent European Central Bank rates converged by the beginning of 2007. The refinancing operations rate converged only at the end of 2007. Malta's rates also converged to the European Central Bank during 2007. The remaining eight new member states' rates declined considerably from the levels prevailing before 2002 but they are still higher than the rates in the euro area.

IV. MONEY MARKET INTEREST RATES

The rates which banks use in operations between them are referred to as money market rates. In the money market, banks are able to exchange base money surpluses or deficits. Money market rates are influenced by the level of ECB key interest rates and particularly the repo rate.

The money market interest rates are summarized by two main indicators. The first is the Euro Overnight Index (EONIA) and the second is the Euro Interbank Offered Rate (EURIBOR). The EURIBOR rate is the benchmark at which a top bank is prepared to lend euro-denominated funds to another bank via the interbank market with a maturity of between one week and twelve months. The three month EURIBOR rate is the most cited among the EURIBOR rates. This rate was first published in January 1999 after the emergence of the euro area. The contributors to the EURIBOR indicator are large banks from EU countries and large international banks from non-EU countries with important euro area operations. Because the banks involved with EURIBOR are the largest participants in the EU money market, this rate has become the benchmark for short-term interest rates. National EURIBOR series are available and are compared with the EURIBOR rate for the euro area.

The EONIA is calculated as a weighted average of the interest rates on unsecured overnight lending transactions denominated in euro, as reported by a panel of contributing banks. The weight used for each bank is based on its country's GDP. This rate is computed with the help of the ECB. The EONIA rate evolves between the marginal deposit rate and marginal lending rate.

The EURIBOR three month maturity rate is given in Figure 4. The euro area EURIBOR rate remained stable at 2% between the second half of 2003 and the middle of 2005.

After 2005, it followed the increase in the interest rates set by the ECB. The Cyprus rate remained stable around 4% until May 2004 when it sharply increased by 1% after the events, described earlier, in Cyprus during that year. Then it returned to its previous level by mid 2005. It fell to just over 3% by mid 2006 when it started an upward path and converged to the corresponding euro area index. The UK EURIBOR rate increased from about 4% in 2003 to over 6% by the end of 2007 (with mean value of 4.8% between 2003 and 2007). Malta's EURIBOR rate showed considerable stability for a long period and fluctuated around 3% until 2006 when it began to follow the upward path of the euro area rates. The rate for the eight new member states converged after 2005 to the euro area rate. The rate for the two newest member states (Bulgaria and Romania) dropped considerably from its high 2004 level of close to 13% (not shown) to just over 7% by the end of 2007; it is still higher than the rates prevailing in other EU countries.

The evolution of the EONIA index and the EURIBOR index is quite similar for all countries. For each country the correlation coefficient between the two rates exceeds 85%. The most important difference between the two rates is noted in the series for the two newest EU members where the EONIA series exhibits a greater amount of volatility than that for the EURIBOR rate.

The money market interest rates reveal that the cost of borrowing in the euro banking sector increased since 2006, after a long period of low interest rates. These rates also increased in the UK, although the UK rate was substantially higher than the euro area rate throughout this period. Rates in Cyprus and Malta converged to the euro area rate from the middle of 2006. The rates for the other eight new member states were higher than the euro area rate and more volatile, especially during 2007. The rates of the new EU member states also increased after 2006.

Figure 4: Money Market Rates - EURIBOR Rates

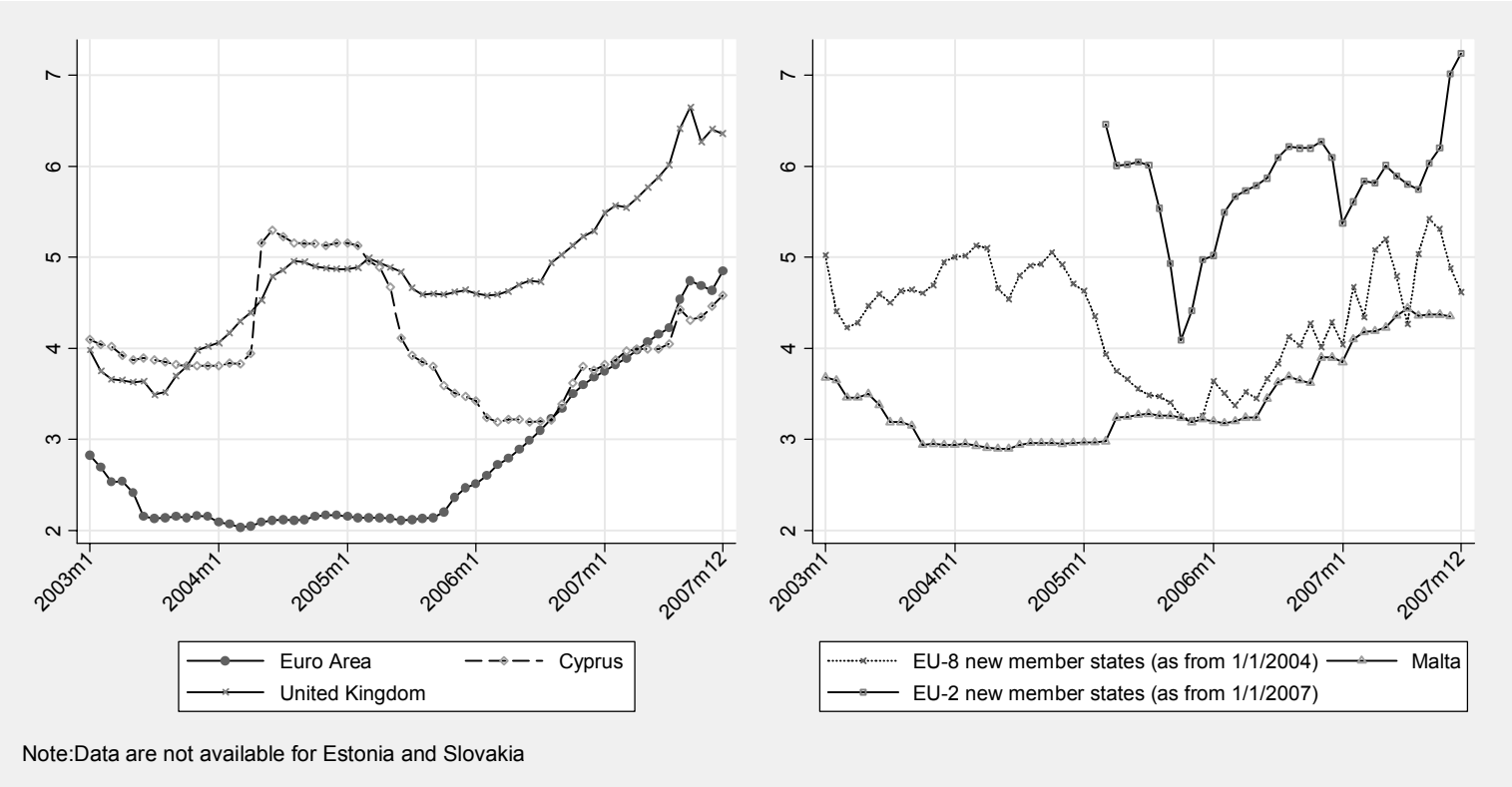
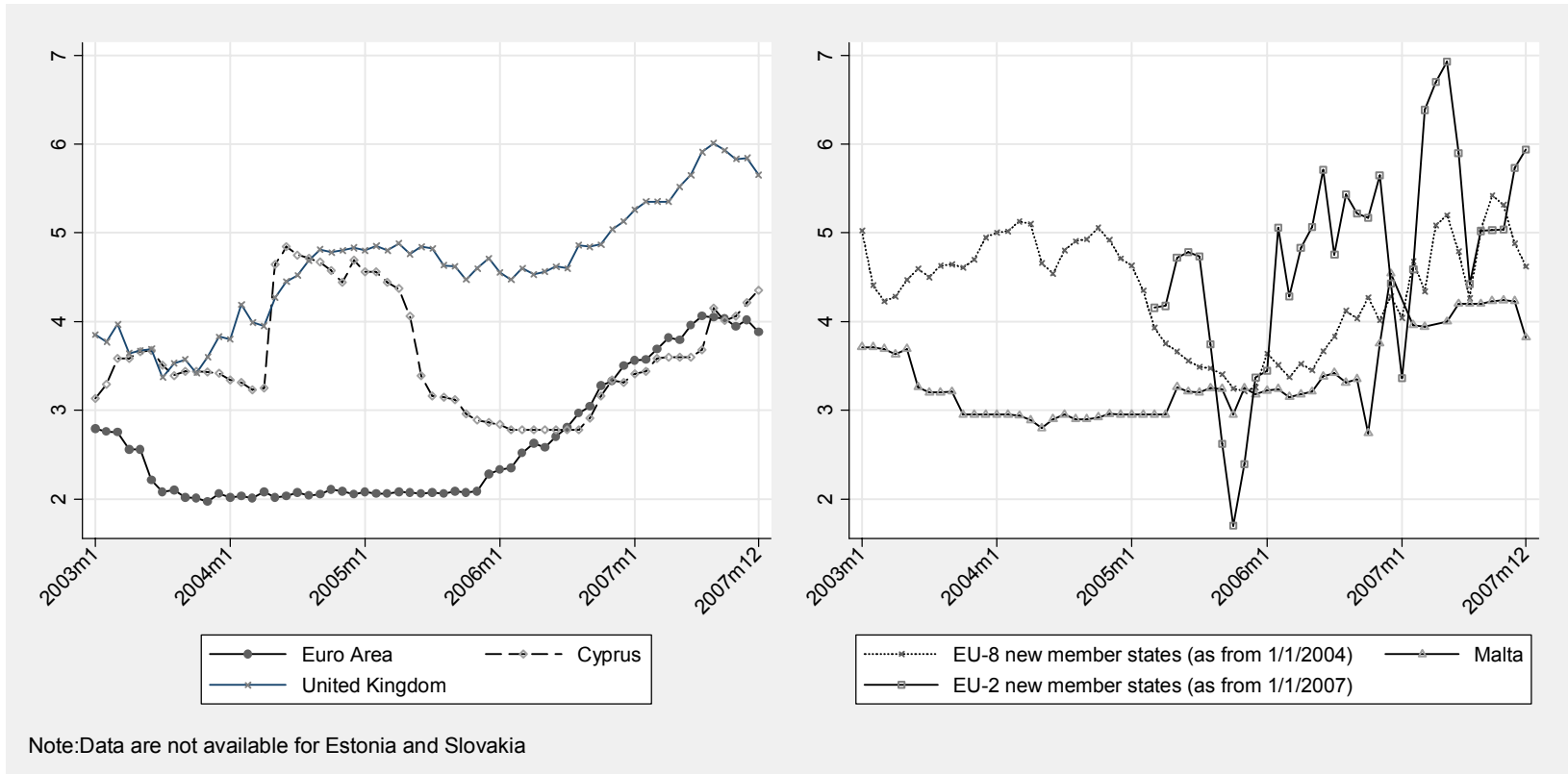


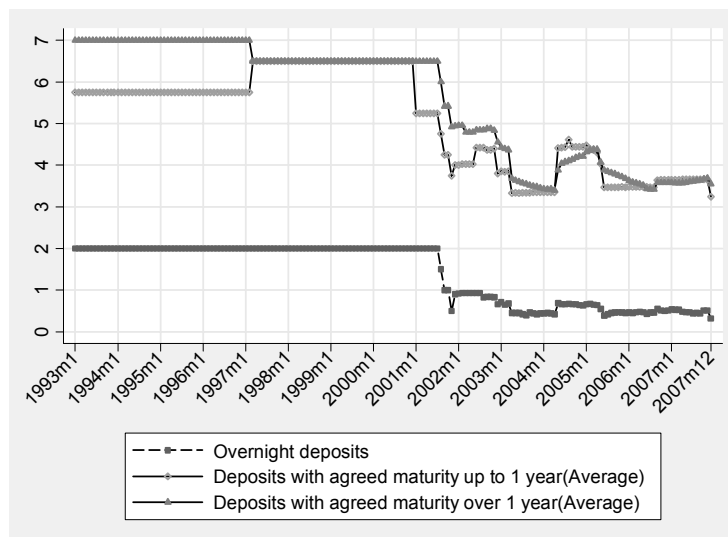
Figure 5: Money Market Rates - EONIA Rates



V. RETAIL BANK INTEREST RATES

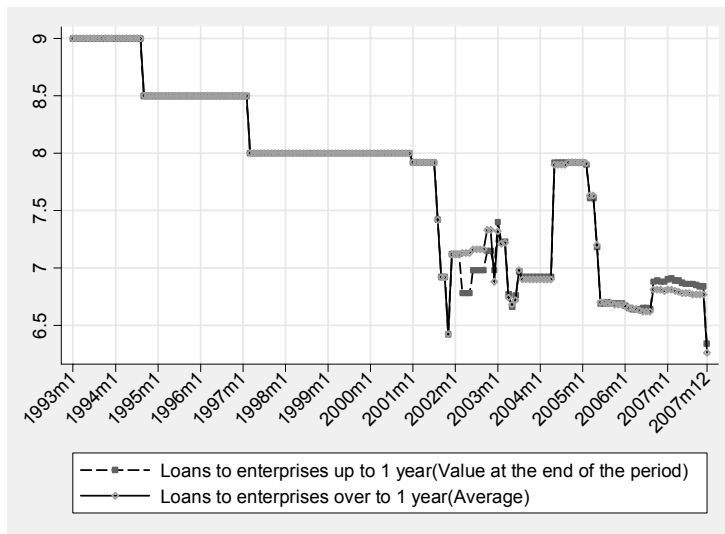
Eurostat reports harmonised retail bank interest rates for the member states of the euro area. Harmonised data are not yet available for Cyprus so we use the data reported by the CCB. Data are available from 1993 and the average of the rates offered by the three largest banks in the island is reported. The interest rates reported are divided into four categories: (i) Interest rates for overnight deposits, deposits with an agreed maturity of up to one year and of over one year, (ii) rates for loans to enterprises (up to one year and over one year), (ii) rates for loans to households (both housing and consumer loans), and (iv) credit card interest rates. All measures reveal that interest rates had been fixed until 2001. After the statutory ceiling on interest rates was removed, interest rates began showing some variability.

Figure 6: Retail Bank Deposit Interest Rates



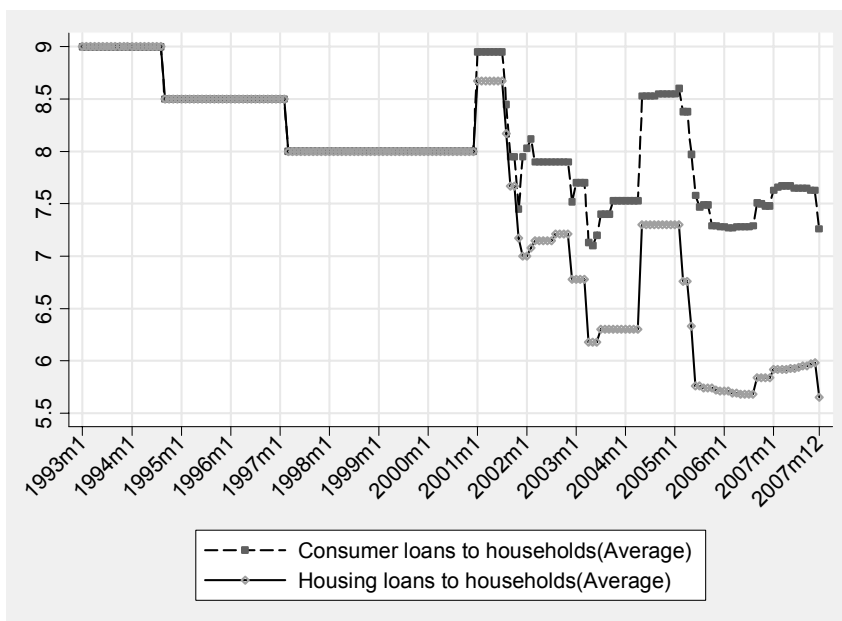
After 2001, deposit rates decreased for all three of the measures reported in Figure 6. The overnight rate was halved during 2001, falling to a quarter of its pre-2001 value. The agreed maturity deposit rates fell from the region of 6%-7.5% before 2001 to under 4% by the end of 2007.

Figure 7: Retail Bank Loans to Enterprises Interest Rates



Interest rates on loans to enterprises followed a downward trend after 1993. As can be seen in Figure 7, they declined from 9% in 1993 to 8% in 2001 and remained below 7%, with the notable exception of the 2004 period when rates increased to around 8%.

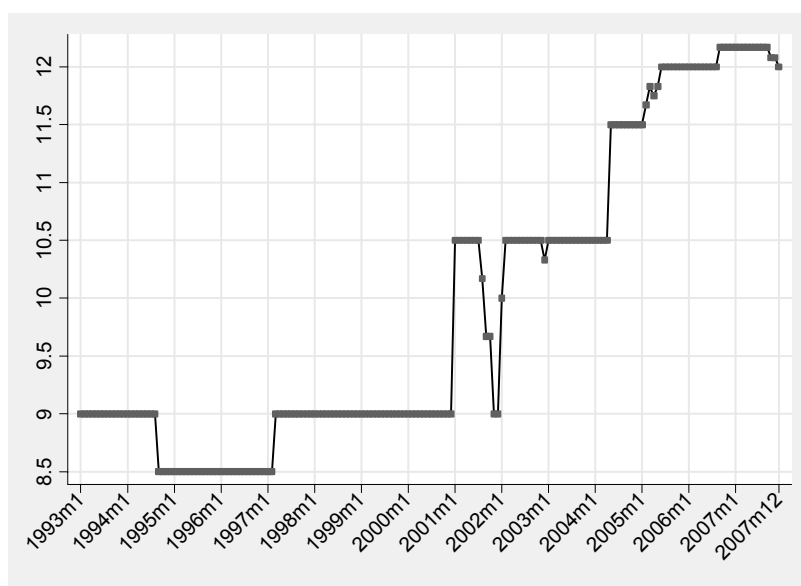
Figure 8: Retail Bank Household Loan Interest Rates



As shown in Figure 8, a significant drop occurred in housing loan rates from 8% in 2001 to just over 6% in 2003. After a sharp increase during 2004, housing loan rates declined to 5.7% during the first half of 2005. They remained at this level until the second half of 2006. Housing loan rates showed a tendency to increase during 2007,

approaching 6% but, in December 2007, housing interest rates declined again to 5.7%. This may reflect growing fears of softening of the property market which had been very active since the collapse of the stock market in 2001. A contributing factor is the collapse in the American house market; this caused fears of a recession in the American economy which might spread to the world economy. The other category available, interest rates on loans to consumers for general purposes, fell by a small margin from 8% in 2001 to 7.5% at the end of 2007. This rate also was affected by the events of 2004 when it increased to 8.5% for about a year. The credit card interest rate increased continuously from 9% in 2001 to over 12% during 2007, as can be seen in Figure 9.

Figure 9: Retail Bank Credit Card Interest Rates



In general retail bank interest rates have been affected by the decision in 2001 to remove the statutory ceiling on interest rates. With the exception of credit card interest rates, they gradually fell to lower levels with a temporary break during 2004. At the end of 2007 a marked decrease in lending rates can be noticed which may be the result of increased competition in the banking sector.

VI. LONG TERM INTEREST RATES

The long term interest rate is the 10 year government bond yield. Data are provided by EUROSTAT for European countries and aggregated series are provided for the euro area. Nominal long term bond rates are shown in Figure 10. The Cyprus rate increased

from 7% in 1998 to almost 8% in 2001. It dropped sharply to just over 5% in 2002. In 2003 it fell further to 4.5% and it increased considerably by 2% points in mid 2004. Then it followed a downward trend until 2006, reaching the rate of 4% and increased slightly to 4.5% in 2007⁶. The Cyprus long-term bond rate was higher than in the euro area throughout this period. The two rates converged during 2007⁷. The Cyprus rate remained higher than the US government bond rate until mid 2005, when the US rate showed signs of increase. At the end of 2007, the Cyprus rate rose above the US rate. The UK government bond rate fluctuated around 5%. The Cyprus rate has a surprisingly loose association with the UK rate, given the trading ties between the two countries, with a correlation coefficient for the period under study of 56%. The Maltese government bond rate converged towards the EU rate. It started decreasing from 2002 and it showed signs of divergence only during the last stages of 2007. Long term bond rates for the eight new member states remained considerably higher than those prevailing in the euro area. They fell from 5.5% in 2004 to 4% at the end of 2004 but increased to levels around 5.5% by the end of 2007.

Real rates of interest are constructed using the Fisher formula: $1+r = \frac{1+R}{1+i}$, where r is the real interest rate, R is the nominal interest rate and i is the inflation rate. The inflation rate is based on the Harmonised Consumer Price Index (HCPI) in order to maintain comparability between the interest rate measures across the EU countries. A detailed description of the evolution of the Cyprus HCPI inflation rate relative to that in other EU countries is provided in Appendix B.

⁶ Data on 5-year government bond yields are available from CCB and are highly correlated with the 10-year government bond yields. The mean value between 1998 and 2007 of these yields is 6,10% and 6,27% for the 5-year maturity and 10-year maturity respectively.

⁷ The correlation coefficient between the euro area government bond rate on the one hand and the Cyprus and UK rates on the other is 74% and 78% respectively.

Figure 10: Long Term Bond Rates

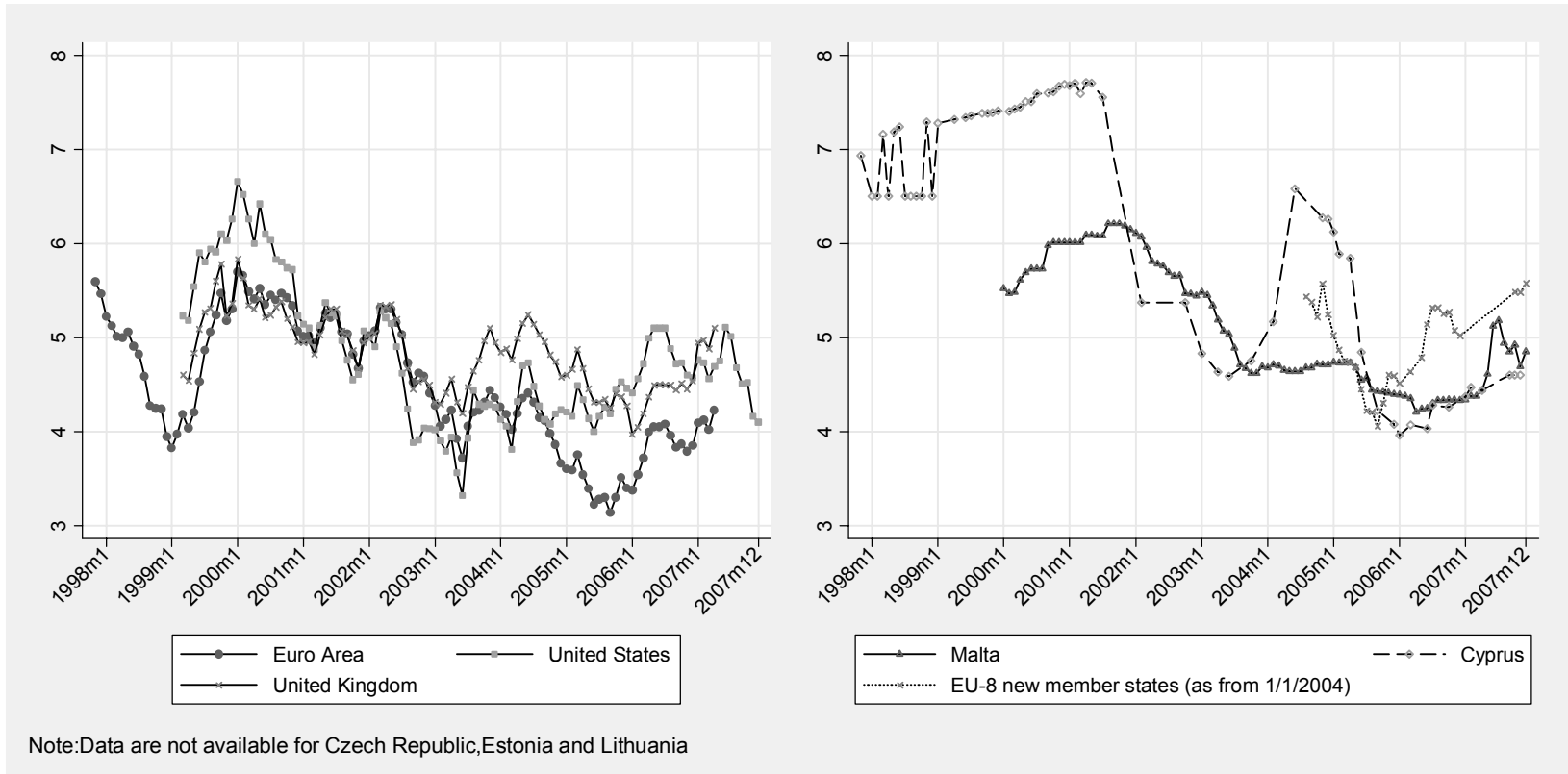
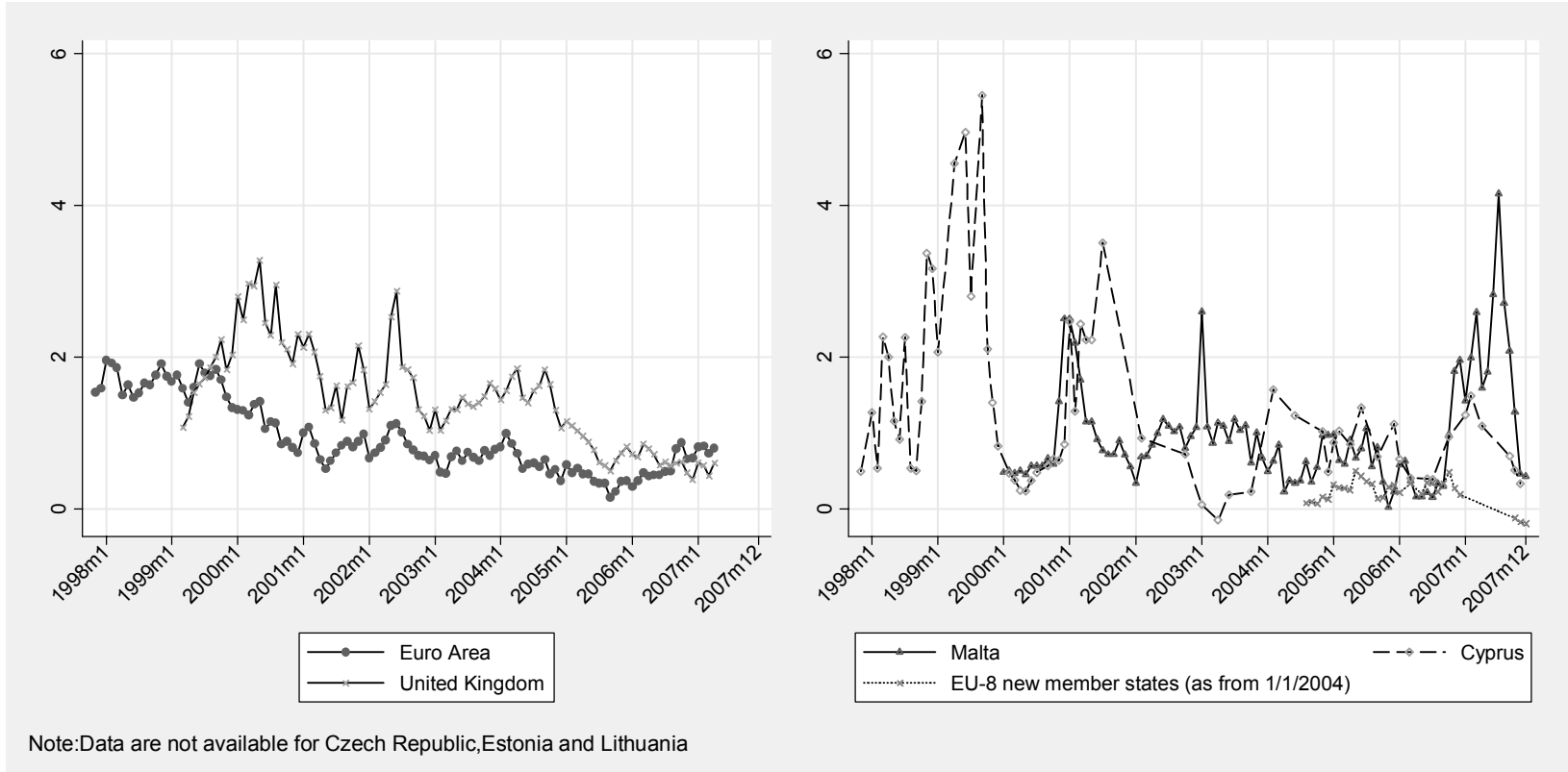


Figure 11: Real Long Term Bond Rates



When the real government bond rate is estimated (Figure 11), we find that the euro area figure remains stable below 2%, with a mean value of 0.94% over this period. This shows that long term interest rates are stable and the policy to keep interest rates at low levels has been quite successful. The UK rate was initially higher than the euro area rate but, after 2002, it followed a downward path and generally fluctuated at levels below the 2% threshold. The Cyprus real interest rate showed extensive fluctuations, mainly because of the inflation volatility during this period. The mean value of the real rate in Cyprus between 1998 and 2007 was 1.30%. Malta's real long term rate also showed strong fluctuations. The mean value for Malta between 2000 and 2007 was 0.96%.

VII. CONCLUSIONS

The purpose of this study was to examine the evolution of interest rates in Cyprus during recent years, when important events affecting the economy occurred. In 2004, Cyprus became a member of the EU and, since January 1, 2008, the euro has been its national currency. All publicly available data are gathered from two different sources. The first is Eurostat which, in collaboration with the European Central Bank, provides data for all EU countries. The second source is the Cyprus Central Bank which provides data for the commercial banks in Cyprus.

The interest rates studied fall into four broad categories. These are Central Bank rates, money market rates, long term government bond yields, and retail bank rates. Central Bank rates in Cyprus remained higher than euro area interest rates until 2007. Since then, these rates have converged to the same level. Events in 2001 and 2004 (see Appendix A) have had a significant impact on the evolution of interest rates in Cyprus. Money market interest rates, the Euro Overnight Index (EONIA) and the Euro Interbank Offered rate (EURIBOR), showed signs of convergence as early as 2006 and prior to Central Bank rates. Money market rates were also affected by the 2004 events. Government bond yields in Cyprus dropped substantially after 2001 and, following a temporary increase in 2004, they converged to those prevailing in the euro area. Retail bank short term interest rates were fixed until 2001 and only after that point did they start moving freely. Interest rates on deposits, loans to enterprises and households decreased through time, whereas credit card interest rates increased.

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APPENDIX A: TIMELINE OF SIGNIFICANT EVENTS

Date	Event
January 1, 1999	Cyprus Pound was pegged to the euro, with central rate 1CY£=€1.7086 and fluctuation margins of ±2.5%
January 1, 2001	The statutory interest rate ceiling was abolished Restrictions on medium and long term foreign borrowing by Cypriots were abolished. New process of determining daily bilateral exchange rates. Fluctuation margins of Cyprus pound against euro increased to ±15%
April 24, 2004	Referendum on the Annan plan
May 1, 2004	Cyprus became a full member of European Union along with Malta and eight Eastern European countries (Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia and Slovenia)
May 2, 2005	Cyprus pound entered ERM II, with central rate of 1CY£=€1.7086 and fluctuation margins of ±15%
January 1, 2007	Two eastern European countries, Bulgaria and Romania, join the European Union
During 2007	American housing market and sub-prime mortgage industry collapse
July 10, 2007	The conversion rate was fixed at 1€= CY£ 0.585274
Second half of 2007-onwards	Increased competition in the Cyprus banking sector
January 1, 2008	Cyprus joined the euro area

APPENDIX B: HCPI INFLATION

The average rate of increase in the Harmonised Consumer Price Index from 1997 until the end of 2007 was 2.6%⁸. Several reforms and external shocks created significant fluctuations in the HCPI inflation rate. During the first half of 2000 it rose substantially due to the rise in oil prices, the strengthening of domestic demand, and the depreciation of the Cyprus pound against the U.S. dollar and United Kingdom sterling. The increase in mid 2002 was related to the increase in the VAT standard rate and an increase in excise duties from 10% to 13%. A further increase in the VAT rate occurred in January 2003, when the rate was further increased to 15%. The deceleration that occurred in mid 2004 was due to the diminishing effect from the earlier increase in the standard rate of VAT. During 2007 the Cyprus HCPI rate of inflation followed an upward trend created by the continuing increase in oil and other commodity prices.

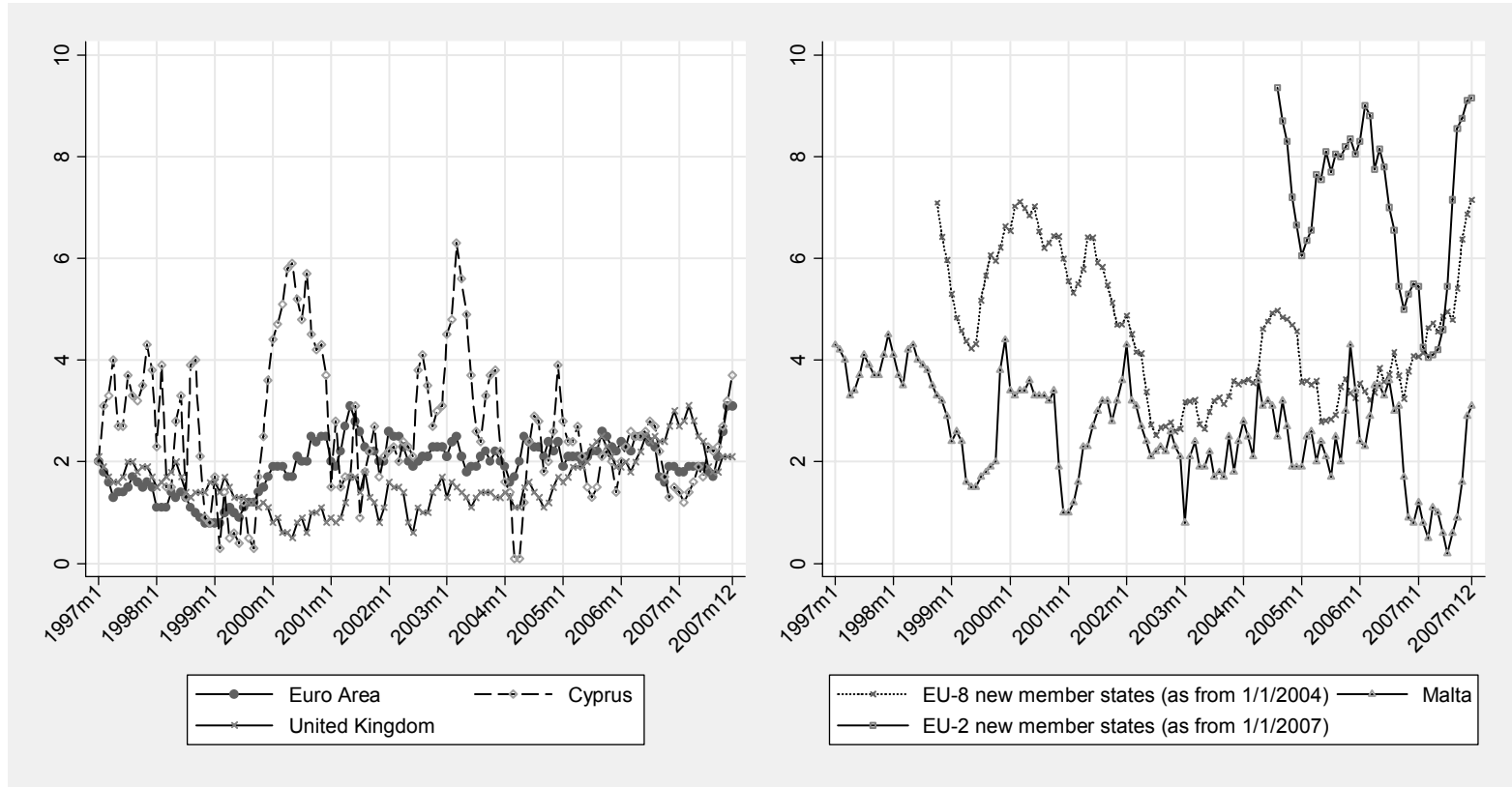
The HCPI rate of inflation in the euro area and the EU 27 member states remained stable around 2% during this period⁹. At the end of 2007 the rate of change in the HCPI index for these two areas increased from just below 2% at the beginning of the year to just over 3%, also driven by oil price increases. The mean value of the HCPI inflation rate in the UK during this period remained below the 2% threshold, at 1.58%; only after 2005 did it start increasing.

The HCPI inflation rate for Malta showed great variability during this period. Its mean value was 2.65%. The mean value for the other eight new member states, 4.78%, was substantially greater than that for the euro area. The correlation coefficient between the euro area HCPI inflation rate and that for Cyprus, Malta and the EU-8 group was 21.8%, -10.3% and -38% respectively.

⁸ The minimum value 0.1% occurred in 2006m3 and the maximum value of 6.3% occurred in 2003m3. The standard deviation was 1.31%

⁹ The average value was 1.93% and 1.92% for the Euro area and the EU 27 group respectively.

Figure A1: Harmonised Consumer Price Index Rate of Change (%)



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