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Determinants of Emigrant Deposits in Cape Verde

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Abstract

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In the last decade Cape Verde has experienced a strong accumulation of emigrant deposits. These deposits have provided much-needed foreign exchange to the country, adding support to the exchange rate peg. This paper studies the long-run determinants of emigrant deposits with respect to risk, wealth, and return variables, isolating speculative and altruistic motives underlying the accumulation of flows. The study suggests that the temporary character of recent emigration is responsible for the rise in the share of flows driven by altruism. Finally, the paper discusses policy implications in light of the empirical findings and the recent literature on this topic.

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Contents	Page
I. INTRODUCTION	3
II. EVIDENCE ON EMIGRANT DEPOSITS	4
A. Evolution and Structure of Emigrant Deposits	4
B. Determinants of Emigrant Deposits	7
C. Impact of Migration on Emigrant Deposits.....	9
III. DATA AND METHODOLOGY.....	10
IV. EMPIRICAL FINDINGS	12
V. CONCLUSIONS AND POLICY IMPLICATIONS	13
VI. REFERENCES	15
APPENDIX	17
A. Charts	17
1. Evolution of ED, 1995-2005.....	17
2. Mean Monthly ED Net Flows and Interest Rates, 1996-2005.....	18
3. Emigrant Deposits Indicators, 1995-2005.....	19
4. Determinants of Emigrant Deposits, 1995-2005.....	20
B. Tables	21
1. Emigrant Deposits Indicators, 1995-2005.....	5
2. Data Sources and Description of Variables	21
3. Monthly Average Net ED Flows During Specific Events.....	22
4. ADF Statistics Unit Root Test.....	22
5. Misspecification Tests.....	23
6. Test Statistics for the Cointegrating Rank.....	24
7. Selected Results of the VECM – Euro Area.....	25
8. Selected Results of the VECM – United States.....	26

I. INTRODUCTION

Over the last decade, emigrant deposits (ED) have provided a substantial source of foreign exchange to the Cape Verdean economy and have been vital in maintaining the fixed exchange rate. In light of the difficulties in accumulating reserves, stemming from a high dependency on imports and a narrow export base, understanding the long-run determinants of ED is essential to reserve sustainability and is a prerequisite for efficient reserve management.

Along with a number of countries with fixed exchange rate systems and massive development needs, Cape Verde today faces an important policy dilemma: while fostering private initiative to spur growth implies the need for significantly lower interest rates, reserve accumulation essential to maintaining investors' confidence in the peg requires keeping interest rates high and credit growth strictly in check.

In this already fragile framework, the need to increase fiscal expenditure to meet Millennium Development Goals exacerbates the "impossible trinity," leading to higher dependency on foreign aid. However, with the anticipated graduation of Cape Verde from the least developed countries group, the country may experience increasing difficulty over time in obtaining international aid at concessional terms.

Since the sustained suppression of demand to address balance of payments needs is not a long-term policy option, and the domestic resources necessary to spur growth are not sufficient, further accumulation of reserves will continue to rely on emigrants' savings. How these savings are to be channeled into the country will depend on the understanding of the forces that have driven ED in the past.

The paper studies the long-run determinants of ED with respect to risk, wealth and return variables using different approaches, including review of related studies, statistical and econometric analyses, as well as qualitative assessment. It draws partly on previous research on remittances published in the 1996 IMF Recent Economic Developments (RED) paper (see International Monetary Fund, 1996), but focuses on the subsequent decade and partly on the research on nonresident deposits (Gordon and Gupta, 2004). In addition to the variables treated in the RED, this study encompasses risk indicators for domestic institutional events (such as change in the government and introduction of the foreign exchange law) and major economic episodes at home (devaluation fears, slippages in the fiscal policy) as well as events in the host countries (introduction of the euro, September 11). Return variables considered include interest rates in the host and the home country. The wealth effect on ED is assessed by looking at developments in wages and GDP per capita, which capture the altruistic assumption underlying the change in flows.

The empirical evidence suggests that the long-run determinants of ED in Cape Verde are country-specific, reflecting the different rationale of flows generated by temporary versus permanent migrants.

The paper is organized as follows: Section II describes the evolution of ED, from the reform introduced in 1995 until recently; Section III presents the data set and the methodological approach to the estimation of determinants of ED; Section IV reports results from the econometric estimation; and Section V concludes.

II. EVIDENCE ON EMIGRANT DEPOSITS

A. Evolution and Structure of Emigrant Deposits

While a great deal of literature has focused on short-term capital flows and on remittances, very few studies have concentrated specifically on determinants of ED and their impact on recipient countries. This topic is of extreme importance in Cape Verde, where deposit flows not only provide a large source of foreign currency and potential investment capital, but also, being partly co-owned by residents, represent a domestic liability. As such, ED represent a double vulnerability for the country, having the potential to influence banking system stability as well as the exchange rate policy.

A large part of remittances arrives in the country through the banking system, a result in part of the preferential treatment and tax incentives granted to these deposits until recently, and also reflecting the fact that Cape Verde has a healthy banking system that is free of political interference.² The stock of ED represents that part of remittance inflows arriving through the banking system that are kept in special deposits regulated by the law. With gross remittance flows accounting for 20 percent of GDP in 2004, the net accumulation of ED was almost 4 percent of GDP.

As a result of the cumulative buildup of ED in Cape Verde, these deposits represent a considerable share of banking system liabilities, accounting for almost 40 percent of broad money in 2005. Their contribution to M2 growth increased from slightly over 2

² Flows to rural areas with limited access to banks are not captured by ED. Their size is not known but it is likely to be rather small. This is quite an unfortunate circumstance, common to poor areas of those developing countries that are recipients of large remittance flows. While poverty is the major driving force of migration, which is a prerequisite for remitting, extreme poverty is also the greatest deterrent. In fact, the poorest strata of the society are most often cut out of remittance flows due to the fact that they do not dispose of the minimal financial wealth that would allow them or their relatives to emigrate. Moreover, where initial wealth is not a problem, the tightening of opportunities for migration (in particular in the United States and the European Union countries in the last quarter of the century) usually is. A recent paper on migration in Cape Verde (Carling, 2004) describes the Schengen visitors' visa application process. Visas are issued restrictively with the aim of identifying potential overstayers. Carling shows that the socio-professional situation criteria for obtaining a visa brings about a social stratification of migration where the profile of a migrant worker tends to be that of an individual who disposes of some initial wealth, a permanent occupation, some education and most likely relatives abroad. Thus, although more than half of the population in Cape Verde receives some kind of remittances, only a small minority of transfers reaches the poor. (World Bank, 2004, Ch. 4).

percent in 1996 to over 7 percent in 2002 but has been somewhat lower since then (see Table 1).³

The level of ED decreased substantially only in the period that preceded the introduction of the peg to the Portuguese escudo in June 1998, which fueled fears of devaluation for several months.⁴ The annual growth rate since then has averaged over 20 percent, reaching a peak in June 2003 and accounting for US\$73 million or 5 percent of GDP. Since then the accumulation of ED has slowed down to 13 percent in 2005 with the stock at end-2005 at 30 percent of GDP.

Regarding the composition of ED, the share of time deposits in the total has averaged over 80 percent throughout the 1990s, while demand and foreign exchange deposits constituted less than 20 percent of the total, with the latter amounting to less than 4 percent of the total at end-2005 (see Figure 1 and Table 1).

Table 1. Emigrant Deposits Indicators, 1995-2005

Year 1/	Composition of ED			Share of ED in M2		Contribution to M2 growth		Interest rate spread on deposits 3/		Volatility of ED flows 4/	
	Demand	Time	Forex	Total	Escudo 2/	M2	ED	EU	US	Mean	Stdev
1995	6.1	77.3	16.6	21.0	17.6	n.a.	n.a.	4.1	3.4	n.a.	n.a.
1996	5.6	81.7	12.7	23.3	20.3	12.3	5.0	5.4	3.6	105.0	401.2
1997	9.9	90.1	0.0	23.5	23.5	10.3	2.6	5.5	3.1	61.7	130.3
1998	9.3	79.3	11.4	25.1	22.2	2.5	2.2	6.0	3.8	57.0	95.0
1999	10.5	79.5	10.0	27.2	24.5	15.4	6.4	6.1	2.7	170.3	104.0
2000	11.1	80.3	8.6	29.9	27.3	12.9	6.5	3.7	1.1	201.4	85.5
2001	11.3	81.3	7.4	34.0	31.5	9.8	7.5	6.4	7.3	259.0	110.8
2002	11.2	83.1	5.7	36.4	34.3	14.3	7.5	5.7	6.9	288.1	113.7
2003	9.9	85.4	4.7	38.9	37.1	8.6	5.9	4.8	5.6	259.3	128.2
2004	10.3	85.8	3.9	39.9	38.4	10.5	5.2	4.7	4.2	244.9	109.5
2005	11.5	84.5	4.0	39.4	37.9	16.0	5.3	3.0	0.6	265.3	74.2

1/ End of year data, except for 2005 end of November.

2/ Demand and time deposits.

3/ Nominal interest rates, EU deposit rate and US CD (3 and 6 months average).

4/ Annual net flows in millions of escudos.

Source: Banco de Cabo Verde, and IMF, International Financial Statistics.

The reason for such a structure, as well as the stability of domestic ED flows, can be traced back to the preferential treatment of time deposits conferred by the decree-law of September 1995 (Law). The Law reformed the existing special emigrants' deposits established by the Decree No. 51/84 of June 9, 1984 with the purpose of attracting additional emigrants' savings and channeling them into investments. In view of that,

³ As a share of imports of goods and services, ED have grown from 20 percent to over 40 percent over the last decade and have been consistently above 200 percent of gross international reserves (Figure 3). The sharp decrease in the ratio of ED to gross reserves in December 1999 stems from a significant inflow of foreign direct investment related to privatization and large disbursement of bilateral and multilateral credits that led to strong accumulation of reserves of more than 2 months of imports of goods and services.

⁴ Devaluation fears spread from the last quarter of 1997 throughout the first half of 1998. The currency of Cape Verde, the Cape Verde escudo, was pegged to the Portuguese escudo from mid-1998 to end-1998. From January 4, 1999 it has been pegged to the euro at a rate of CVEsc 110.27 per EUR 1.

three types of deposits were established: “emigrant deposits in foreign currency,” “emigrant savings deposits,” and “emigrant deposits in escudos.”

The first type of deposits could be denominated in any of the four currencies specified in a notice issued by the Banco de Cabo Verde (BCV).⁵ The interest rate applied to these deposits is only slightly above the market rate. Thus the share of foreign currency deposits in total ED has been small since their inception, and has declined over the years to account for less than 4 percent in 2005.

Emigrant savings deposits are intended to finance investment in industry, tourism, transportation, agriculture and fisheries, as well the construction, acquisition and improvement of residential or rural property. These deposits, with maturities of six months and one year, are denominated in escudos and allow owners to borrow up to twice the amount of the deposit. The Law grants tax incentives to their holders.

The third type of deposits, the emigrant deposits in escudos, focus on attracting foreign currency, which accrues to the central bank after conversion into escudos.⁶ They can be co-owned by residents and have been particularly attractive due to the high interest rate spread with deposits in the euro area and in the United States. In the past, the government offered a 1 percent interest rate subsidy on these deposits. Due to its excessive fiscal cost, however, which reached 0.2 percent of GDP, this subsidy was eliminated in November 2003.⁷

Hence, while foreign exchange deposits do not bear an implicit exchange rate risk, deposits in escudos have proved more attractive to emigrants—reflecting their relatively high return (with the implied exchange rate risk) compared with U.S. dollar or euro deposits.⁸ Nominal and real interest rate spreads with euro area deposit rates, which have helped sustain ED flows, have been stable throughout 1995-2005, apart from some fluctuation in 2000 (Table 1 and Figure 4). Interest rate differentials with U.S. certificates of deposit (CDs) have been more volatile, reflecting in particular a decrease in U.S. interest rates in recent years.

The growth of ED net flows in escudo terms has been stable over the period under consideration. Time deposits are the most volatile in terms of standard deviation.

⁵ U.S. dollar, French franc, German mark, and Dutch guilder. These deposits are now held in euros and U.S. dollars.

⁶ The foreign exchange accrues to the commercial bank that holds the account. However, due to domestic liquidity requirements, the local commercial bank often sells the foreign exchange to the BCV.

⁷ Decree Law 45/2003 repealed Ministerial Order 63/95, which granted 1 percent annual bonus to ED. Commercial banks withdrew the bonus as from the renewal date of domestic currency ED. However, they continued to pay higher interest on ED than on residents’ deposits.

⁸ Convertibility of time and demand deposits back into foreign currency is not guaranteed and has to be approved by the BCV. However, the few attempted conversions in the past were all approved.

However, their mean is also the largest and thus the coefficient of variation is the smallest. The coefficient of variation for total deposits has been consistently around 0.5 percent from 1999 until recently.

ED net flows display some seasonality which seems to be significant only for the months of January, July, and August once values for the period with devaluation fears are excluded. This may be symptomatic of a “vacation effect”, which sees large movements in ED associated with periods of high tourist season.⁹

At first glance, political and economic events in the country and abroad seem to have very little impact on ED flows. Table 3 shows average net flows in the periods when deposits are expected to be under stress. Apart from the period characterized by devaluation fears that preceded the change in the exchange rate peg, average monthly flows have been quite stable in spite of the introduction of the euro, September 11, and the slippage in fiscal policy.¹⁰

B. Determinants of Emigrant Deposits¹¹

There are reasons to believe that ED and their uses are comparable in some respects both to short-term capital flows, which are typically speculative in nature, and to remittances based on altruistic considerations. If the rationale behind ED is closer to the one of speculation, then ED would be expected to increase with the widening of real interest rate differentials between the home and the migrants’ host countries, and decrease in case of economic or political instability at home. To the extent that ED are driven by altruistic considerations, one would expect them to increase when the economic situation in the home country worsens and/or the economic situation in the host country improves.

The distinction between the underlying motivations for saving and remitting is essential since the effect the flows have on capital accumulation may differ accordingly. Generally, flows motivated by altruism are more likely to be spent on consumption whereas flows supported by speculation are converted by the banking system into investment credit.

The use of ED is not tracked, but evidence from recent studies on remittances (Bourdet and Falck, 2003; World Bank, 2004; Carling, 2004) suggests that these flows are mostly used for residential construction and for education.¹² Given the incentives to ED granted

⁹ Casual investigation in commercial banks supports this result according to which emigrants returning home on vacation withdraw significant amounts of the accumulated interest on ED accounts, which they spend during their stay in Cape Verde.

¹⁰ The outflow in the month corresponding to the introduction of the new foreign exchange law overlaps with devaluation fears.

¹¹ Potential, long-run determinants of ED are depicted in Figure 4.

¹² In particular Bourdet and Falck (2003) report that half of the credits is granted to individuals for residential construction and thus has limited impact on financial capital accumulation.

by law, as mentioned above, it is likely that ED are used in the same way (which makes it difficult to separate the forces behind them).

Altruism seems to have driven remittances in the period following the independence of Cape Verde in 1975 until 1985 when ED were instituted. That period was characterized by high inflation and negative real bank interest rates, which could not have supported the speculation hypothesis.¹³ In contrast, the period from the mid 1980s to the mid 1990s was characterized by positive real interest rates, remarkable real GDP per capita growth, and exchange rate stability, which would suggest a lower need for transfers based primarily on altruism.¹⁴

The substantial increase in growth of ED in the second half of the 1990s, in particular from 1998 on, should be at least partly explained by the shift from the exchange rate system based on a target of a broad basket of currencies to the peg with the Portuguese escudo and later to the euro, which provided more stability and credibility in the system. In addition, the relaxation of exchange controls on the purchase and sale of foreign currencies might be another measure that positively affected ED, sharply reducing the need for a black market for financial transactions and shifting the remittance flows from informal to formal channels. However, high interest rate differentials in favor of Cape Verde and the interest rate subsidy granted by the Treasury might have been the main policies responsible for the surge in ED.

Aside from the variables determined by policies at home, international developments beyond the control of Cape Verdean authorities also have the potential to influence ED. Undoubtedly, real GDP growth in host countries is one of them, with higher productivity and real wages of emigrants boosting ED via the wealth effect. Conversely, changes in policies abroad are capable of influencing those flows that are generally driven by speculation. In addition, positive developments in foreign stock markets can provide an attractive alternative investment outlet, and hence may divert ED away from Cape Verde.

The recent slowdown in the accumulation of ED could be at least partly explained by the weaker performance of labor market indicators in the host countries as well as by the depreciation of the U.S. dollar, which contributed to lower inflows from the diaspora in the United States. The recent decrease in domestic interest rates granted to ED should not have contributed substantially to a decrease in the accumulation thanks to the still high spreads with euro area and U.S. deposit rates.

¹³ As documented by the RED, only flows from Portugal, and to a small extent from the Netherlands, decreased sharply in that period until interest rate parity was restored.

¹⁴ Although the RED reveals the role of income differentials as determinants of remittances, it fails to detect the significance of interest rate differentials in the analyses, possibly due to a structural break introduced in the series by the introduction of the high interest rate policy which is unaccounted for in the estimation.

C. Impact of Migration on Emigrant Deposits

The evolution of ED is likely to be determined by opportunities at home and prospects for migration. Thus, the size of the diaspora, the pattern of migration across time, the status of emigrants abroad and their identification with the home country will all potentially influence ED.

The initial conditions in favor of migration in any country include the menace of war, the proximity to the host country, the capacity to borrow for the trip or the presence of relatives abroad who can provide help, the level of development at home, and job prospects. The freedom of movement, however, as defined by legislation in the host country, is the chief force in determining migration.

Aspects of migration that determine remittances and thus ED are in turn much more complex and dynamic in nature. The gender composition of migration may determine the size of remittances, although its overall impact is the result of opposite forces and thus difficult to predict. While men who emigrate alone are likely to send money to wives and children at home, the recent feminization of migration, documented by Carling (2004),¹⁵ has been found to increase flows. In fact, women are believed to be more likely to remit even though they often earn less.

The decision to return, which distinguishes permanent from temporary emigrants, is one aspect of transnationalism influencing remittances which characterizes ties to the home country. First generation migrants are those who maintain strong identification with the home country and see themselves as temporary emigrants. These individuals are believed to be more likely to remit and save at home (RED). Nevertheless, the decision to return and/or remit changes through time, depending on the accomplishments of the migrant (e.g., securing a pension or a large inheritance) as well as on the restrictiveness of migration laws.¹⁶ Finally, strong national identification can be abstract and symbolic, with no concrete ties and no determination to remit or invest.

Cape Verdean emigration to the United States began in the early 20th century, but slowed in the 1990s when the United States introduced immigration quotas. Cape Verdeans

¹⁵Cape Verdean emigration has been heavily male dominated in the beginning of the 20th century. The proportion of women who emigrated to join their husbands increased significantly in the 1960s and 1970s. A large part of emigration of the 1990s consisted of female domestic workers while the demand for unskilled male labor has fallen in Europe.

¹⁶ Exchange rate stability and the enhanced convertibility of ED is a new situation characteristic of the late 1990s that potentially blurs the distinction between permanent and temporary migrants' inclination to remit as assumed in the RED paper. The latter paper presupposes that permanent migrants are not willing to bear the sunk cost stemming from the non-convertibility of ED back into original currency, thus choosing to save exclusively abroad.

emigrated to Portugal, West Africa, and South America in the 1940s, while emigration to the north, in particular to Western Europe, occurred in the 1960s and culminated in the period around independence in 1975. Since then, the destination of the majority of Cape Verdean emigrants has been Europe (Carling, 2004).

Despite the lack of reliable statistics on migration, the Cape Verdean population abroad is believed to exceed the number of nationals at home, with most emigrants residing in the United States. However, these emigrants are the fourth generation of Cape Verdean in the United States and see themselves already as permanent residents and thus not returning home. Consequently, they save and remit less in Cape Verde than more recent emigrants to other countries, even though they may be richer (see also RED). Thus, at present, Cape Verdeans in Europe, who account for only a third of the total diaspora, account for more than half of all remittances (World Bank, 2004).

III. DATA AND METHODOLOGY

Following the discussion above, indicators of both altruistic and speculative motivations are incorporated in the analyses of long-run determinants of ED. The selected data set covers monthly indicators for the period December 1996 – October 2005. The dependent variable LDEP is the logarithm of the end of month stock of time deposits in domestic currency provided by the BCV.

Among the explanatory variables are interest rates on ED in Cape Verde, as well as interest rates on U.S. certificates of deposit and euro area deposits. The threat of a potential endogeneity of the Cape Verde interest rates to the ED flows that could bias the results is discarded. Due to the lag in the collection of data on ED the interest rate policy response takes place also with the lag thus justifying the use of contemporaneous interest rates in the estimation. Rather than looking at the real interest rate differential as the determinant of portfolio choices, the analysis considers nominal interest rates¹⁷ and inflation at home and abroad. Other explanatory variables include wages in the United States and the euro area which are a proxy for the wealth effect and thus an indicator of altruism.

In contrast with the RED study, this paper introduces several dummies in the estimation in order to capture the effect of September 11, the introduction of the euro (which forced individuals without bank deposits to convert savings held in notes from euro area countries to euros), the introduction of the foreign exchange law and the change in exchange rate peg, as well as the fiscal policy slippage that preceded the 2001 election.¹⁸

¹⁷ Average time deposit rate on ED is used in the estimation given that interest rates on the different types emigrant deposits are correlated and that the share of time deposits in the total ED is the largest.

¹⁸ This tests the possibility that increases in fiscal spending might have deterred both altruistic driven flows, by signaling to emigrants the lowering of needs of Cape Verdean residents, as well as speculative flows, by raising concerns about the sustainability of the exchange rate peg due to the decrease in the level of reserves.

In order to capture the wealth effect for Cape Verdean residents, a variable such as GDP per capita or index of industrial production should be included. A negative sign associated with this indicator would support the altruistic assumption. However, such data are not available at high frequency in Cape Verde and could not reasonably be included in the estimation. Nevertheless, a simple plot of annual real GDP growth and ED flows shows a negative lagged correlation between these two variables in the period 1995-2005, suggesting that a decrease in GDP induces altruistic flows into the country.¹⁹

In addition, the change in the composition of migration, which has characterized the recent period, could be one of the reasons for the change in the level of deposits.²⁰ This could not be accounted for in the estimation, however, as detailed data on the breakdown of deposits by currency and on migration are unavailable.²¹ As a matter of fact, foreign exchange inflows are converted by the BCV into national currency before being deposited into emigrant deposits, and the original currency composition is not published. Building this information from migration flows would not be advisable, due to the possible inverse relationship between the size of the emigrant community and quantity of remittances as noted above. Data sources and a detailed description of variables can be found in Table 2.

The regression analysis draws on the framework of Gordon and Gupta (2004) and can be represented as follows:

$$LDEP_t = c + \alpha Int_t + \sum \beta_i X_{it} + \varepsilon_t, \quad \varepsilon \sim N(0, \sigma^2) \quad t = (1, 2, \dots, T)$$

where LDEP is the logarithm of ED,²² Int is the interest rate on ED and X is the vector of non interest variables (inflation, wages, and seasonal and functional dummies). Two separate estimations are carried out, one for the variables pertaining to the euro area and one for the United States, the area where most of remittances originate. While various specifications have been attempted, including the one with euro area and United States variables together, this approach was deemed more appropriate due to the fact that differences between permanent vs. temporary migrants are at the center of the analysis.

¹⁹ The correlation coefficient is -0.4.

²⁰ Caused by the change in the euro-dollar exchange rate.

²¹ The U.S. Bureau of Statistics and the Organization of Economic Cooperation and Development both record inward migration. However, their methodologies differ substantially (Adams, 2003).

²² Logarithms are used in order to interpret the coefficients from the estimation as elasticities.

IV. EMPIRICAL FINDINGS

Cointegration analysis appears to be the most appropriate technique for the study as all variables are integrated of order (1) according to the ADF statistic presented in Table 4. Misspecification tests are presented in Table 5.²³

The cointegration tests presented in Table 6 for both the euro area and the United States specifications indicate the presence of one cointegrating vector at a 5 percent significance level,²⁴ suggesting the existence of a long-run relationship between ED and the remaining variables in both the euro area and U.S. data sets. These long-run relationships between ED and the explanatory variables are depicted in Tables 7 and 8.

The estimation carried out on the euro area sample suggests that, more in line with findings on remittances than with evidence on deposits of emigrants, the determinants of ED do not encompass risk-return considerations.²⁵ The positive long-run relationship between ED and wages in the euro area supports the altruistic hypothesis discussed above and found in the RED paper on remittances. This finding is in line with our expectations regarding the temporary character of Cape Verdean emigrants in Europe and their stronger ties with the home country.

On the other hand, the estimation carried out on the U.S. data set suggests that, while wage increases do have a positive impact on ED, speculative behaviour of earlier emigrants cannot be ruled out with confidence. In fact, the negative sign attached to Cape Verde inflation indicates that emigrants residing in the United States are not interested in maintaining the real value of their transfers to families unaltered. In contrast, they might be concerned about the narrowing of real interest rate differentials that determine their portfolio choice. Moreover, the negative sign of the coefficient of interest rates on the U.S. certificates of deposits implies that better investment opportunities in the host country deter flows to Cape Verde deposits. However, and most importantly, interest rates on Cape Verde ED are not revealed as significant determinants of flows in any of the estimations, raising questions about the underlying strength of the speculative motive for ED flows.

The short-run effects are mostly insignificant across the estimates. Only the term representing the announced change in exchange rate policy (the devaluation dummy) is found to be significant, and bears the expected negative sign.

²³ Normality tests for the two specifications indicate that the hypothesis of normality of the residuals is rejected. However, Paruolo (1997) shows that in instances where normality is rejected due to excess kurtosis rather than skewness, as in the present case, the Johansen cointegration results are not affected.

²⁴ Possibly two vectors exist for the euro area.

²⁵ See for instance evidence from India on remittances (Gupta, 2005) and nonresident deposits (Gordon and Gupta, 2004).

These results are confirmed by several robustness tests in which an attempt is made to construct an alternative dependent variable by disentangling the interest capitalized on ED from the net flows through different assumptions on the modality and rate of withdrawal of accumulated interest. In one specification the assumption tested is the one implying that all interest earned on ED is retained in the account. Further, a different specification tests the possibility that interest capitalized in the periods February to June is withdrawn in July and August, while interest capitalized between September and December is withdrawn entirely in January, as implied by the seasonality detected in gross flows.

Estimations carried out on these different specifications yield qualitatively similar results in both data sets. However, results attained are not robust to changes in the period under consideration, pointing to a possible instability of the relationship between ED and the explanatory variables across time. The Chow test, the Chow breakpoint test, and the recursive estimations (not reported here) confirm this suspicion.

V. CONCLUSIONS AND POLICY IMPLICATIONS

The empirical findings have to be interpreted with extreme caution, as indicated by the instability of the results and the limitations of Cape Verde data. Drawing partly from the empirical analyses and taking a broader perspective from results of other studies the paper proposes the following qualitative interpretation.

With regard to the speculative motive for holding ED, four risks to the future accumulation of ED can be identified:

- An increase in interest rates in the euro area or the United States, which reduces spreads with ED rates in Cape Verde;
- A decrease in interest rates on ED (which, while possibly lowering ED, are needed to support stronger growth of credit to the private sector);
- Sluggish growth in host countries, which could lower the accumulation of wealth and leave less room for savings and investment;
- Exchange rate credibility, reflected in Cape Verde's capacity to generate foreign exchange reserves.

The first three events are already taking place and could be partly indicative of the recent slow down in the rate of accumulation of ED. On the other hand, exchange rate credibility appears to be high. This strength needs to be maintained, given that the one and only episode of massive withdrawal of ED in the past was associated with devaluation fears.

Risks associated with the altruistic motive could arise from the following:

- An increase in the restrictiveness of immigration laws in Europe and the United States;
- An increase in per capita income in Cape Verde and the country's move to middle-income status;
- A decline in the relative wealth of emigrants—stemming, for example, from wage or exchange rate changes.

The future evolution of ED should closely reflect the pattern of migration flows, determined by conditions at home and legislation in host countries, as well as by changes in the status of emigrants (temporary migration turning to permanent). Prospects for growth in Cape Verde are improving and immigration legislation abroad is tightening. Both trends argue against further accumulation of ED. However, the composition of migration—shifting toward an increasing share of women—should support an increase in flows based on altruism. Moreover, a potential decrease in flows might be delayed by some years due to the fact that some emigrants are returning home and are sending more money to Cape Verde in view of their imminent retirement.

Among the developments in favor of ED, of considerable importance is their past stability, the limited convertibility of deposits, the favorable business outlook, and the stable political climate. While, for reasons mentioned above, ongoing reliance on ED should be viewed with caution, the persistent accumulation of ED through numerous adverse events in the past suggests that robust inflows will likely continue into the future.

Notwithstanding data limitations, the empirical estimates suggest that emigrants residing in the euro area behave in an altruistic manner, while the flows generating in the United States might be partly driven by speculation. If the speculative aspect of ED is to continue in the future, including from Europe as migrants there gradually become permanent, the economy's ability to attract such flows, while also achieving the desired reduction in domestic interest rates spreads, will depend on the effectiveness with which ED are channeled into productive uses and hence generate adequate returns. In this context, progress with structural reforms and macroeconomic policies directed at ensuring economic confidence will be of primary importance. Such measures are also desired both to underpin the employment growth that will be needed to offset the effects of slower migration, and to support diversification of the economy into a wider range of export-oriented activities. Over the longer term, the latter will be a key determinant of Cape Verde's need for external financing, including from ED.

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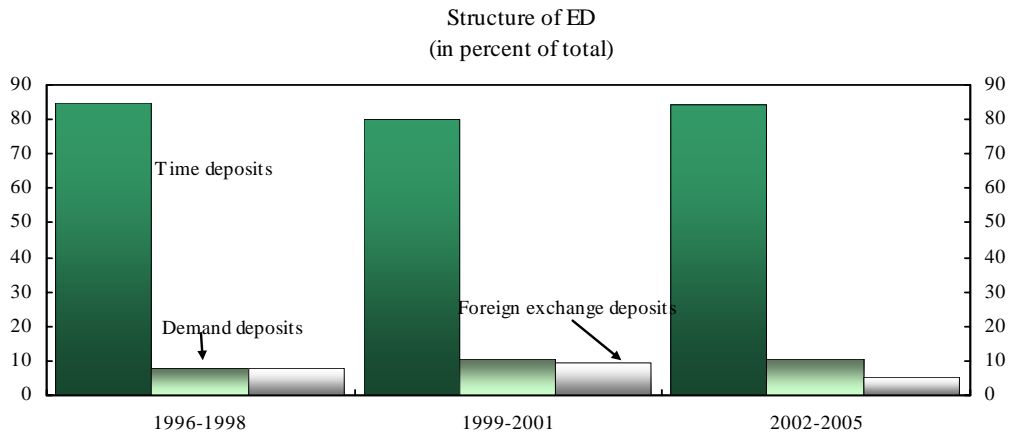
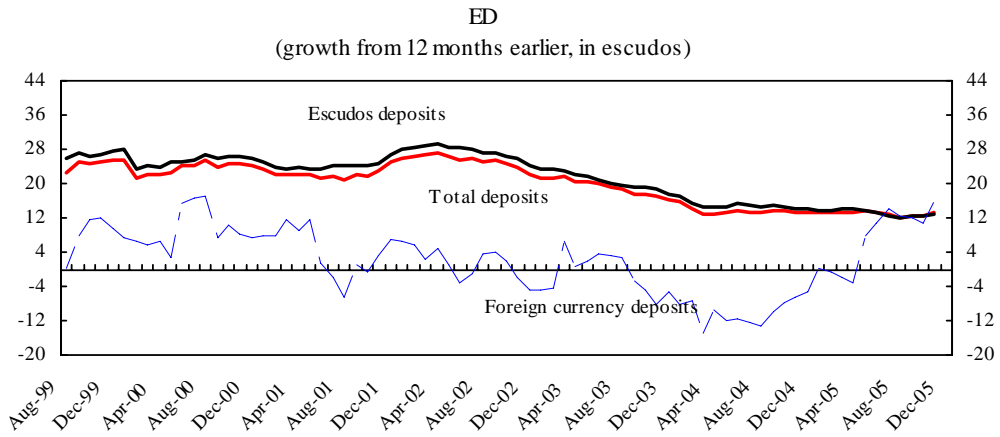
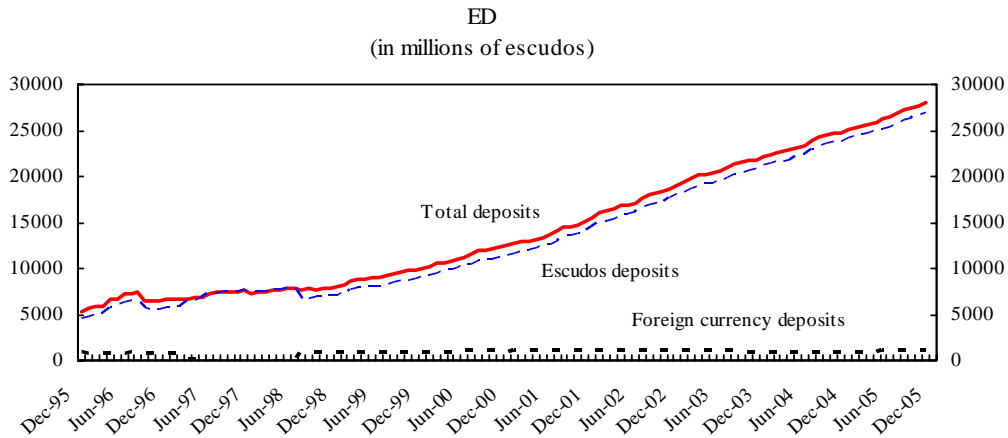
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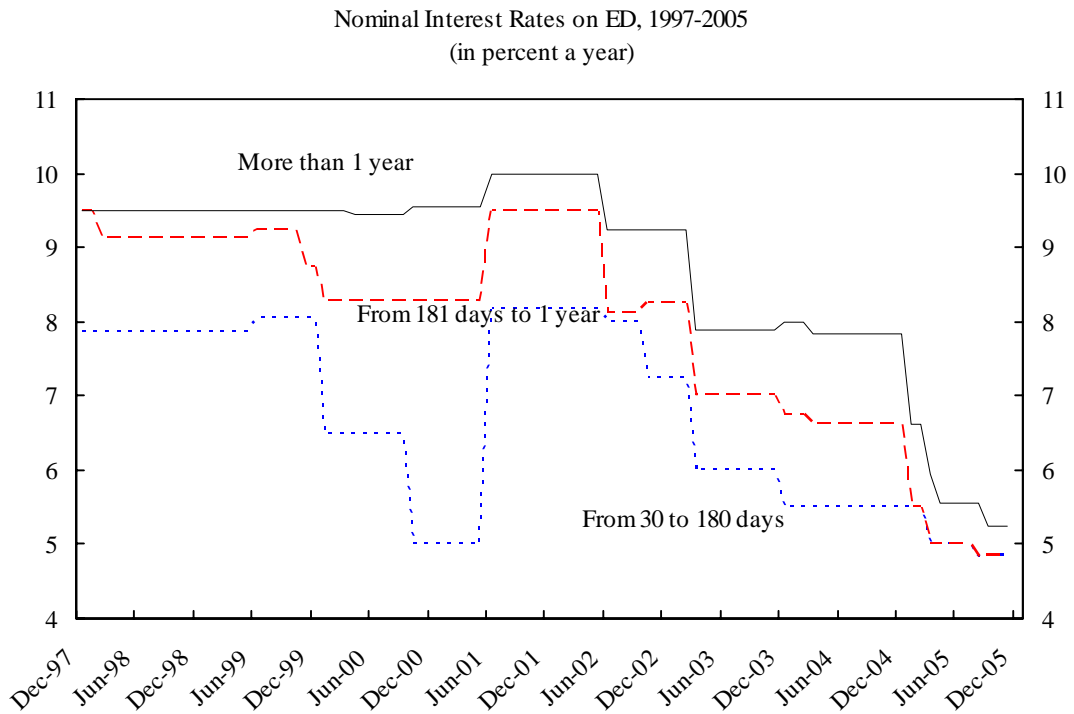
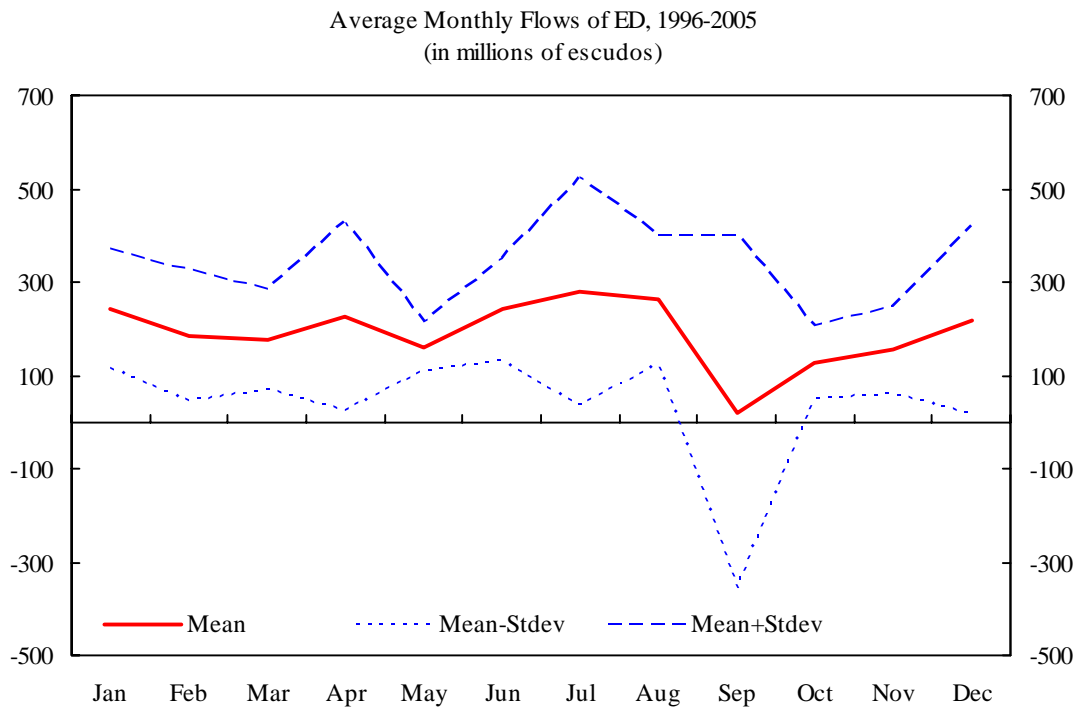
A. Charts

Figure 1. Cape Verde: Evolution of ED, 1995-2005



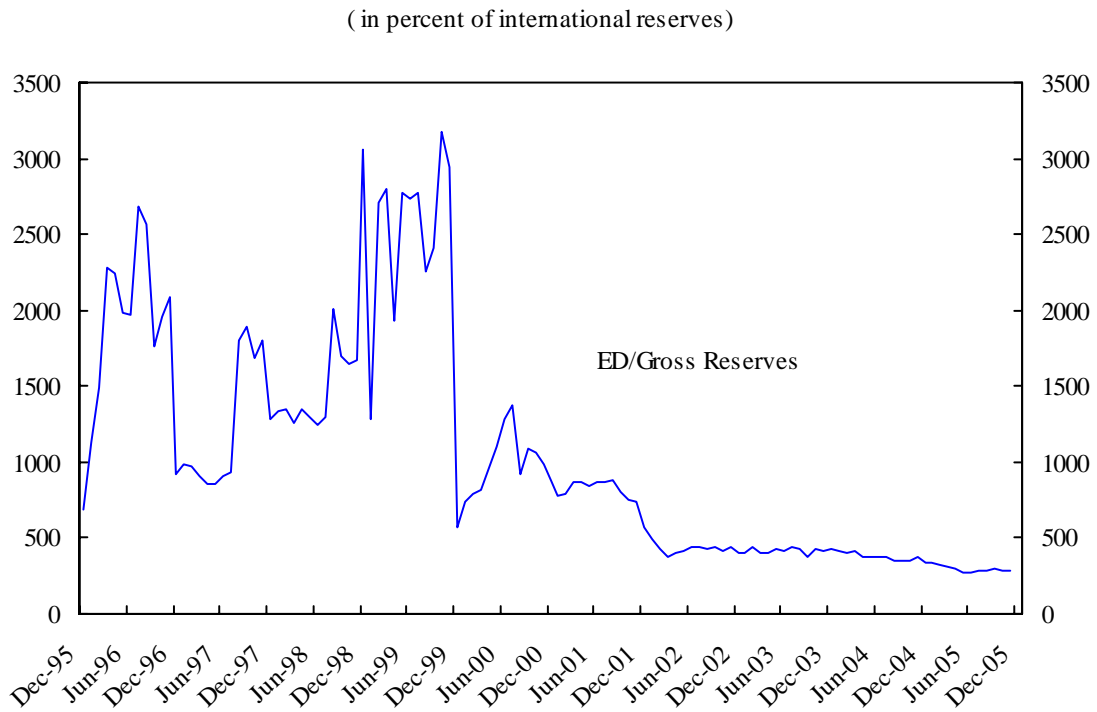
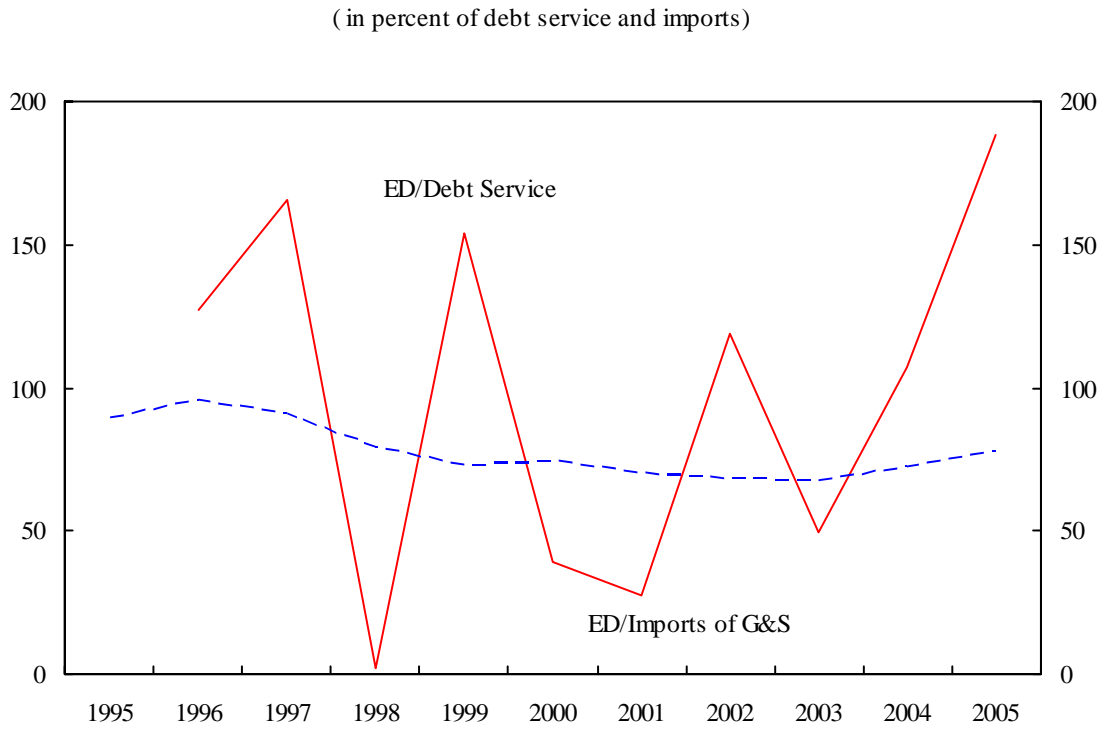
Source: Cape Verdean authorities; and IMF staff estimates.

Figure 2. Mean Monthly ED Net Flows and Interest Rates, 1996-2005



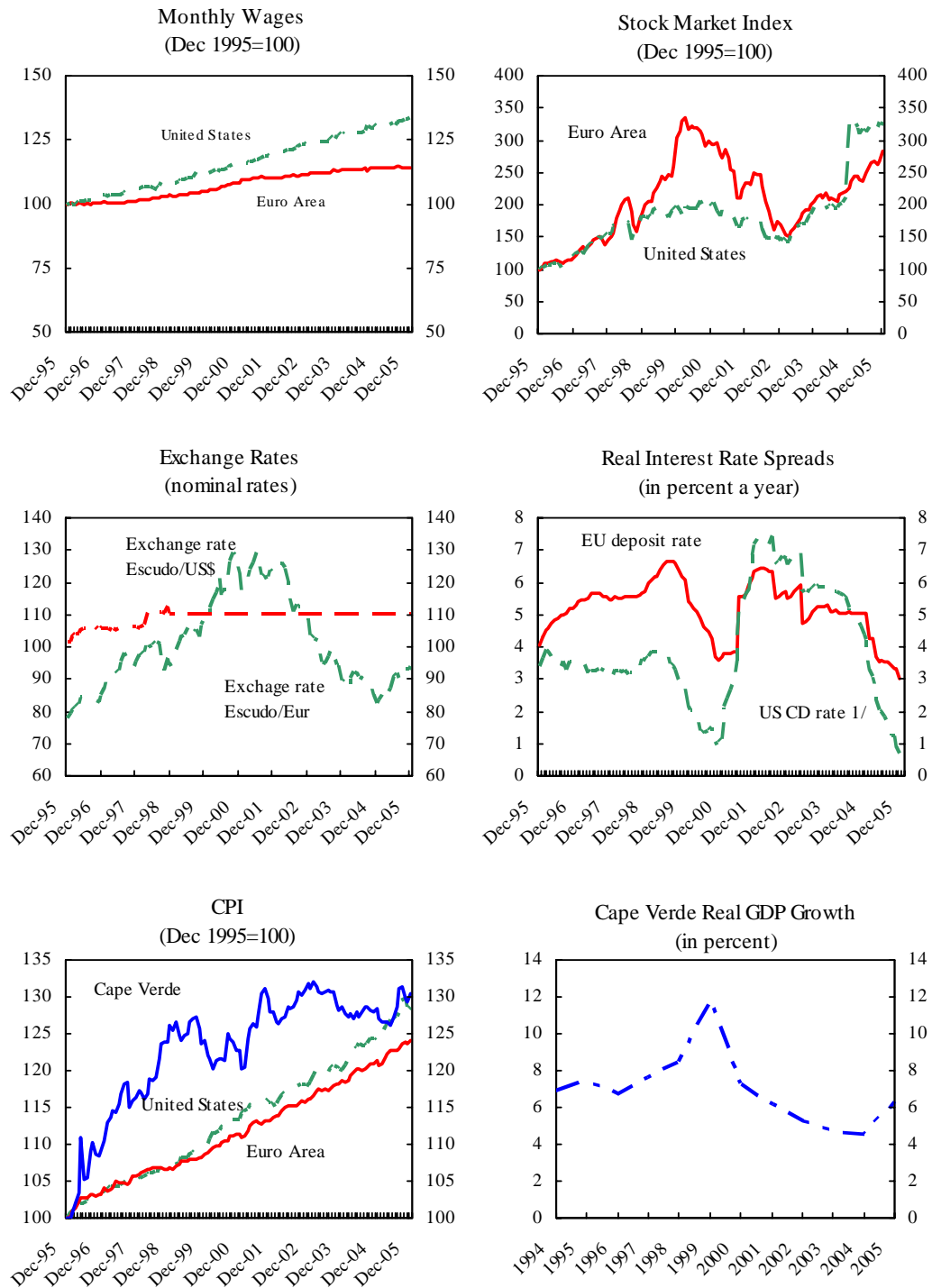
Source: Cape verdean authorities; and IMF staff estimates.

Figure 3. Cape Verde: ED Indicators, 1995-2005



Source: Cape Verde authorities; and IMF staff estimates.

Figure 4. Cape Verde: Determinants of ED, 1995-2005



Sources: IMF, International Financial Statistics; Datastream; Cape Verdean authorities; and IMF staff estimates.

1/ 3 months and 6 months average.

B. Tables

Table 2. Data Sources and Description of Variables

<i>Variable</i>	<i>Source</i>	<i>Description</i>
<i>DEP</i>	BCV	Emigrant time deposits expressed in millions of escudos at end of month.
<i>INT_CV</i>	BCV	Average nominal interest rate on emigrant time deposits (from 1 to 6 months, from 6 months to 1 year and from 1 year).
<i>INT_EU</i>	ECB and IFS (16360LZM and 16360LHSZI)	Euro area deposit rate (households).
<i>INT_US</i>	FRCD3M and FRCD6M	United States secondary market CDs' rate, 3 and 6 months average
<i>WA_EU</i>	WEFA-Intline (M163PLTTW)	Euro area index of gross wages and salaries seasonally adjusted.
<i>WA_US</i>	IFS (11165EYZF)	United States index of hourly earnings.
<i>CPI_CV</i>	BCV	Consumer price index for Cape Verde.
<i>CPI_EU</i>	IFS (16364HZF)	Harmonized consumer price index for the euro area. For the period before introduction of the euro the CPI for Germany is used to splice the series.
<i>DUM0911</i>	Constructed	Dummy for September 11, 2001.
<i>DUMDEV</i>	Constructed	Dummy for the period characterized by devaluation fears that preceded the change of the peg from the basket of European currencies to the Portuguese escudo.
<i>DUMF_LAW</i>	Constructed	Dummy for the introduction of the foreign exchange law in August 1998 that liberalized foreign exchange transactions.
<i>DUMEURO</i>	Constructed	Dummy for the introduction of the euro that coincides with the first change in government democratically elected (January 2001).

Table 3. Monthly Average Net ED Flows During Specific Events

Event	ED Flow	Months
Devaluation fear	24	11
Introduction of the euro	185	2
Increase in fiscal expenditure that preceded 2001 election	171	3
September 11, 2001	185	2
Introduction of the new foreign exchange law	-199	1
Total 1/	191	120

1/Average monthly flows over the whole period

Table 4. ADF Statistics Unit Root Test

Euro Area			United States		
Variables	t-ADF	lag (AIC)	Variables	t-ADF	lag (AIC)
<i>Log Levels 1/</i>			<i>Log Levels 1/</i>		
dep	-0.953	0	dep	-0.953	0
int_cv	0.366	0	int_cv	0.366	0
int_eu	-1.688	2	int_us	-2.308	9
cpi_cv	-3.209	0	cpi_cv	-3.209	0
cpi_eu	1.415	12	wa_us	-0.045	12
wa_eu	-1.385	12			
<i>First differences</i>			<i>First differences</i>		
dep	-10.007	0	dep	-10.007	0
int_cv	-10.813	0	int_cv	-10.813	0
int_eu	-4.235	1	int_us 2/	-1.805	9
cpi_cv	-11.513	0	cpi_cv	-11.513	0
cpi_eu 2/	-2.577	11	wa_us	-3.618	11
wa_eu 2/	-2.079	12			

1/ Interest rates are expressed in levels.

2/ Not stationary in first differences according to ADF. However, the Schwartz Information Criterion test suggests variable is stationary.

Table 5. Misspecification Tests

(Chi-squared test statistics)

A. VEC Test for Skewness, Kurtosis and Normality of residuals 1/2/

	Euro Area			United States		
	Degr. of freedom	Statistic	Probability	Degr. of freedom	Statistic	Probability
Skewness	6	5.814	0.444	5	9.441	0.093
Kurtosis	6	137.449	0.000	5	59.200	0.000
Normality	12	143.264	0.000	10	66.641	0.000

1/ The null hypothesis is that of residuals with no skewness, no kurtosis and normal.

2/ Ortoogonalization is based on Cholesky (Lutkepohl) test; skewness and kurtosis is based on joint chi-square test; normality is based on joint Jarque-Bera test.

B. VAR Residual Serial Correlation LM Tests 1/

(Chi-squared test statistic)

Lags	Euro Area		United States	
	LM-Stat	Prob	LM-Stat	Prob
1	46.497	0.113	23.294	0.560
2	62.783	0.004	41.696	0.194
3	38.243	0.368	23.360	0.557
4	38.361	0.363	15.168	0.937
5	29.743	0.760	19.055	0.745

1/ The null hypothesis is that of no serial correlation at lag order h.

C. VEC Lag Exclusion Wald Test 1/2/

	Euro Area	United States
Lag1	91.941 [0.000]	57.859[0.000]
Lag2	61.330 [0.005]	...
Lag3	...	34.694 [0.017]
Lag4
Lag5	...	85.570 [0.000]
Lag6
degr. of freedom	36	25

1/ The null hypothesis is that the coefficients of the lags are jointly non-significantly different from 0.

2/ Numbers in [] are probabilities

Table 6. Test Statistics for the Cointegrating Rank 1/

Euro Area					
Null	Alt	Trace statistic	Null	Alt	λ_{\max} statistic
$r=0^*$	$r \geq 1$	121.739	$r=0^*$	$r=1$	50.271
$r \leq 1^*$	$r \geq 2$	71.469	$r=1$	$r=2$	29.232
$r \leq 2$	$r \geq 3$	42.237	$r=2$	$r=3$	19.537
$r \leq 3$	$r \geq 4$	22.700	$r=3$	$r=4$	13.308
$r \leq 4$	$r \geq 5$	9.392	$r=4$	$r=5$	7.568
$r \leq 5$	$r \geq 6$	1.824	$r=5$	$r=6$	1.824

1/ The unrestricted Var was estimated with 2 lags following the results from the lag exclusion test in Table 5. The adjusted sample is 1996M12-2005M10. * denotes rejection of the null hypothesis and 5 percent significance level.

United States					
Null	Alt	Trace statistic	Null	Alt	λ_{\max} statistic
$r=0^*$	$r \geq 1$	95.910	$r=0^*$	$r=1$	53.386
$r \leq 1$	$r \geq 2$	42.524	$r=1$	$r=2$	22.825
$r \leq 2$	$r \geq 3$	19.699	$r=2$	$r=3$	12.284
$r \leq 3$	$r \geq 4$	7.414	$r=3$	$r=4$	6.116
$r \leq 4$	$r \geq 5$	1.299	$r=4$	$r=5$	1.299

1/ The unrestricted Var was estimated with 4 lags following the results from the lag exclusion test in Table 5. The adjusted sample is 1997M03-2005M10. * denotes rejection of the null hypothesis at 5 percent significance level.

Table 7. Selected Results of the VECM

Euro Area		
Cointegrating Equation:	CointEq	t-statistics
LDEP	1.000	
INT_CV	-0.035	[1.328]
INT_EU	0.060	[-1.351]
LCPI_CV	0.164	[-0.192]
LCPI_EU	2.455	[-0.944]
LWA_EU	6.773	[-2.560]
C	35.999	
Estimates of the speed of adjustment of emigrant deposits		
CointEq1	-0.041	[-3.401]
Estimate of the effect of the change in the exchange rate peg on ED		
DUMDEV	-0.006	[-2.406]
R-squared	0.889	
Sum sq. resids	0.843	
S.E. equation	0.009	
F-statistic	19.421	

Table 8. Selected Results of the VECM

United States		
Cointegrating Equation:	CointEq	t-statistics
LDEP	1.000	
INT_CV	-0.019	[1.817]
INT_US	-0.040	[5.723]
LCPI_CV	-2.544	[5.680]
LWA_US	5.934	[-22.012]
C		
Estimates of the speed of adjustment of emigrant deposits		
CointEq1	-0.153	[-3.591]
Estimate of the effect of the change in the exchange rate peg on ED		
DUMDEV	-0.016	[-3.795]
R-squared	0.750	
Sum sq. resids	0.638	
S.E. equation	0.013	
F-statistic	6.670	