ALBANIAN CURRENT ACCOUNT DEFICIT: DOES IT POSSESS MEAN REVERTING PROPERTIES?

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CONTENT

ABSTRACT

During the last 15 years Albania's current account has wandered in deficits, which in most of the cases have reached well beyond the 5% of GDP, a broadly accepted measure of sustainability. This research investigates the sustainability properties of the Albanian current account deficit, based on the LRBC method developed by Trehan and Walsh (1991), and extended by Taylor (2002). We make use of quarterly current account observations for the 1994–2006 period and unit root testing to investigate the mean reverting properties of current account. We pay special attention to the role of remittances and aim to asses whether they play a significant role in the sustainability of current account. Our results show that despite latest widening deficit, current account seems to be sustainable in the long run. However this sustainability might be vulnerable and deserves the attention of Albanian authorities.

I. INTRODUCTION

Albanian economy has moved along its transition path generating sustained growth, relatively well controlled inflation and large current account deficits. Among these variables, first growth and recently inflation have received the bulk of research and other study efforts. Current account, despite its important role as a useful indicator of a country's foreign position, has received far less attention by researchers and academia. This observation becomes more surprising at a time when current account deficit has stabilised well beyond the 5% of GDP which is a broadly accepted measure[1] of sustainability. Should these large and persistent current account deficits concern Albanian authorities?

The scope of this study is to evaluate the sustainability of the current account in the case of Albania. Many authors have linked the concept of current account sustainability to the stationarity of the current account, as non-stationary would imply a violation of the inter-temporal budget constraint. Testing for unit roots and cointegration in the current account dynamics of developed and emerging markets has been the focus of research by Otto (1992), Wickens and Uctum (1993), Liu and Tanner (1996), Wu (2000). This paper uses simple unit root testing on quarterly data to investigate the sustainability of Albanian current account position. Our results based on ADF procedure show that different measurements of current account deficit are stationary, suggesting that Albania's external position is sustainable.

Concerns about the level and persistence of current account imbalances become more prominent after the repeated episodes of currency and financial crises in Latin America, Asia and Russia. Among other empirical research studies by Crosetti, Pesenti and Roubini (1998), Radelet and Sachs (2000), Kamin et al. (2001), Fisher (2003) and Edward (2004) concluded that countries which suffered the most during these episodes were the ones that experienced large current account deficit relatively to GDP throughout 1990s. Conversely, other countries, such as Chile and Mexico, experienced severe external crises in the context of an external position that is not severely deteriorated.

The academic studies and their empirical findings as well as policy judgments about the implications of a persistent and rising current account deficit have evolved considerably over the past decade. Milesi-Ferretti and Razin (1996) were the first to analyze and "draw" the guidelines of current account sustainability. They suggest the conventional wisdom that "… current account deficits above 5% of GDP flash a red light, in particular if the deficit is financed with short-term debt or foreign exchange reserves and if it reflects high consumption spending". However, they concluded "… a specific threshold on persistent current account deficits (such as 5% of GDP for 3-4 years) is not *per se* a sufficiently informative indicator of sustainability. The size of current account imbalances should be considered in conjunction with exchange rate policy and structural factors …".

Sustainability refers to the question of whether the economy is able to meet its budget constraint without a drastic change in private sector behavior or policy shifts. This change is not likely to happen if the country's intertemporal solvency is not violated. An economy is solvent, if the expected present value of future trade surpluses equals its current indebtedness, that is, if the economy meets its external intertemporal budget constraint.

For transition economies Roubini and Wachtel (1998) argued that the current account deficits reflect two important aspects: on one hand, these deficits reflect the success of structural changes that have enabled capital and investment inflows, and have opened up prospects of fast economic growth. On the other hand, current account deficits could also reflect mismanaged transition processes featuring unsustainable imbalances that are a potential source of balance of payments crisis e.g. Czech Rep. in 1997, and Russia in 1998.

Due to recent improvement in capital markets and increased access, as well as persistent enhancement of the terms of trade and productivity growth observed in transition economies moderate current account deficits can be financed on an ongoing basis (Aristovnik, 2006). Nevertheless, Edwards (2001) warns that large current account deficits should be a cause for concern of economic policy.

While financing trade deficits or other current imbalances through foreign funds is a reasonable way to achieve consumption smoothing of emerging economies, the crucial question is whether this accumulation of foreign liabilities will be sustainable over time. According to the country's inter-temporal solvency constraint, such accumulated liabilities need to be paid to the rest of the world at some time in the future. Furthermore the ability of any economy to generate additional financial resources to finance its current expenditures will depend on the size and the persistence of its current account deficit. If foreign investors were to conclude that such persistent imbalances are not sustainable, authorities would have to face the sharp and painful adjustment process of funds withdrawal and its undesired consequences on output, consumption and exchange rate.

Even in the case when such risks fail to materialize, it is important to bear in mind that persistent large deficits will require persistent increase in interest rates to attract foreign capital. Foreign capital requires higher price compensation to cover the rising risk of default on country's foreign liabilities. Raising interest rates would result in a distortion of optimal consumption path and put additional burden on future generations and their consumption. For all these reasons current account deficits are a major concern of both domestic authorities and foreign agents.

The paper proceeds as follows: section two discusses the Albania's current account position, section three discusses the model and methodology, section four describes the data and empirical findings and section five concludes.
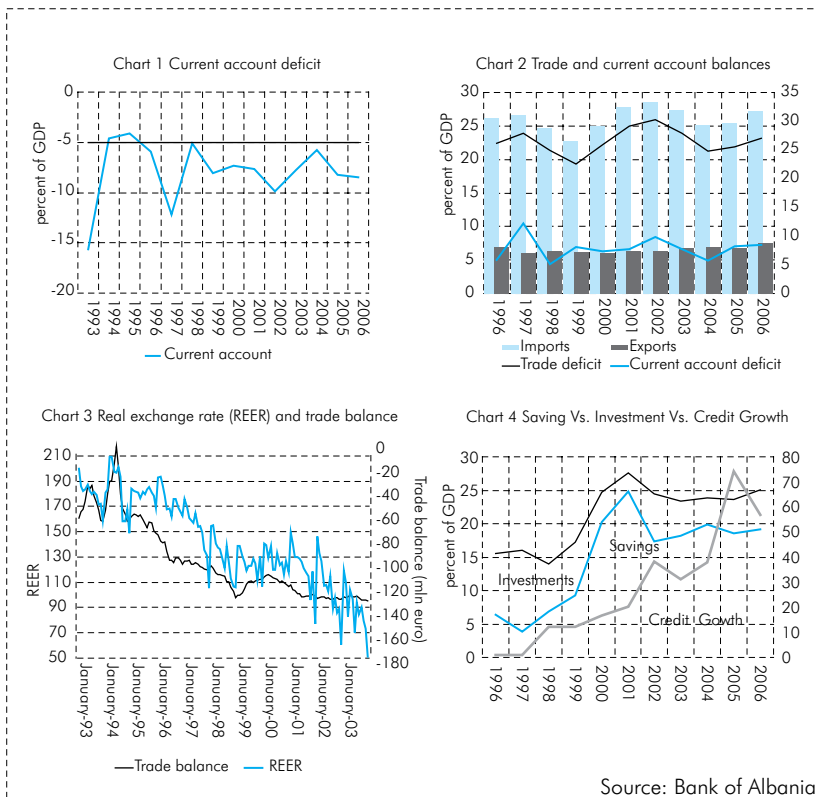
II. CURRENT ACCOUNT POSITION IN ALBANIA.

Albania's current account[2] has been persistently in deficit since the beginning of 1990s. Chart 1 shows that current account has varied frequently during the 1990s, which was a period of high and low deficits around 7.9 percent of GDP. During this period current account deficit peaked to 15.7 percent in 1993 and 12.2 percent in 1997. However they reversed[3] respectively to 4.1 percent of GDP between 1994 and 1995 and 5 percent in 1998. During 2000s the level of current account deficits has always been above the threshold of 5% of GDP. Along this period, current account deficit ranged between 6 and 10 per cent of GDP, reaching the maximum level in 2002.

Previous work in assessing the external position sustainability of Albania has been done by Kolasi and Tanku (1998), Xhepa and Mancellari (2003). Comparing theoretical and especially practical criteria of the current account deficit sustainability with the current account balance status in Albania, they concluded that the current account deficit, in Albania's case, can be considered as relatively sustainable. However such stability is fragile and can be seriously threatened by the persistent deterioration of trade. They suggest that current account deficit deserves constant attention of the authorities; it requires above all structural changes followed by economic policies and incentives to improve competitiveness. The focus of such measures should be to stop the growth of trade deficit.

The above recommendations are in line with the literature, which finds that current account composition could provide important hints in assessing a country's current account sustainability. Its main components – trade deficit and net factor income – are potential sources to affect sustainability. Current account deficit may be less sustainable, if it is derived from a large trade deficit than from a large negative net factor income (Roubini and Wachtel (1998)). Large and persistent trade deficits indicate structural competitiveness problems, while large and negative factor incomes may be a fall out of higher external debt profile. In this context the level of exports to GDP ratio could be a good indicator of structural competitiveness.

Large trade deficits in merchandise are the driving force behind current account deficits. Trade balance in Albania represents a growing deficit since the beginning of transition. The reason behind these deficits is the slow export performance, on average 7 percent of GDP, and the escalating import growth, estimated by an average of 30 per cent of GDP. Among other structural issues these figures indicate a clear problem with Albanian export competitiveness and strong consumption growth. The Bank of Albania trade statistics indicate that, around 37 percent of the imports (according to UN's Broad Economic Categories) represent consumption goods, while the rest consist of intermediate and capital goods. Such distribution provides hints on Albania's ability to increase investment and drive growth in the long run. However, a closer look into import components reveals a much higher share of consumption vs. other uses of imports, raising additional concerns about current account sustainability.

Chart 1 Current account deficit

Chart 2 Trade and current account balances

Chart 3 Real exchange rate (REER) and trade balance

Chart 4 Saving Vs. Investment Vs. Credit Growth

Source: Bank of Albania

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There is however, more than one way to look at current account. From the national account point of view, the current account represents the difference between Albanian gross savings (public and private) and investment. These two components can reveal important hints on the current account sustainability. International comparisons suggest that low and falling savings rates make current account deficits less sustainable and the economy potentially fragile. (See among others, Bruno, 1996, and Milesi-Ferretti and Razin, 1996.) Furthermore, Summers (1996) suggests that a current account deficit driven by investment growth is more likely to be more sustainable in a dynamic concept[4] than a deficit driven mainly by falling national savings (higher budget deficits). Chart 4 shows how these two factors have evolved during the last 10 years.

Low savings rates forced Albania to rely upon volatile foreign capital, which makes the country vulnerable to crises. As Uvalic (2005) concludes, low levels of income, falling living standards, underdeveloped capital and financial markets, various pyramid schemes, lack of confidence in official financial institutions, continued practices of savings held under mattresses, and high levels of corruption and criminality…" repressed savings. Starting from 1994, savings rate stabilizes at around 5.6 percent for the remaining of '90s. However low, this represents a strong recovery, from -51.9 percent of GDP in 1992 to -1.5 percent in 1993. Based on IMF estimations, savings picked up to 23 per cent of GDP during 2000-2001 and scaled back at around 18 per cent throughout 2006. While this accumulation of savings is achieved by the behavior of the private sector, public savings increased as well, from –22 per cent of GDP in 1992, they turned positive in 2004, (estimated at 0.1 per cent of GDP) and increased to 2.6 per cent of GDP in 2006. Therefore the later deterioration of current account was carried out in the presence of shrinking fiscal deficit, dismissing the case of the "twin deficit" hypothesis for Albania.

Investment suffered as well at the beginning of transition but they recovered following structural economic reforms, including privatization and opening up of foreign sector (see Kolasi and Tanku (1998)). Such reforms boosted private investments to 11 per cent of GDP in 1996 and provided grounds for further increase to

20 per cent of GDP in 2006. At the same time public investments increased as well, but remained low, around 5 percent (ranging from 4.5 per cent of GDP in 1996 to 5.2 per cent in 2006).

While this increase in investments might imply an increase in future savings and a reversal of current deficits, the fast growth of credit to economy observed during the last three years might contribute to a faster decline of the savings rate, as uncertainty becomes reduced and liquidity constraints are eased.[5]

The decomposition of the external imbalance between savings and investments shows that growing current account deficits represent simultaneous increase in the average investment and saving rate. Our discussion reveals no clear cut trends in savings or investment positions, which together with a shrinking fiscal deficit, make it difficult to asses the sustainability properties of the current account deficit.

In addition to the above description of the current account position, careful consideration of Balance of Payment statistics published by the Bank of Albania highlights other important aspects of the foreign position. Foreign direct investments in per capita terms are among the lowest in the CEE region. The accumulated stock of foreign debt is also low and represents mainly soft loans to/or guaranteed by Albanian Government, while portfolio investments are insignificant. Therefore, it is reasonable to conclude that capital inflows have not acted as a push factor for deficit creation and the Albanian economy does not face high risk of capital reversals.

On the other hand, the downside risk of over-depending on capital inflows to fill the current account deficit gap is the potential of such flows to cause real exchange rate appreciation. The exchange rate effects of capital inflows have been augmented by huge foreign exchange flows in the form of remittances from Albanian expatriates. The volume of remittances has grown rapidly since the beginning of the transition and recently stabilized at around 13-14 per cent of GDP. Remittances are increasingly important, relative to other foreign exchange-earning economic activities, representing ~14 per cent of GDP, 56 per cent of trade balance.

The appreciation in real exchange rate could cause a loss of competitiveness and further structural worsening of the trade balance, which in Albania's case tends to drive the current account deficit. Roubini and Wachtel (1998) notes that deficit could become less sustainable, if it is associated with appreciation of the real exchange rate. However, not all real exchange rate appreciation could lead to the deterioration of current account deficit. Some real exchange rate appreciation could also occur in response to changing fundamentals and not necessarily misalignment.

The obvious question is how real exchange rate appreciation has affected the current account balance dynamics in Albania. As shown in the chart 3, the fluctuations in real exchange rate[6] in Albania have tracked both trade balance and current account balance consistently. "The sum of the estimated price elasticity of trade flows (in absolute value) in Albania is greater than 1, indicating that the Marshall-Lerner condition is satisfied and therefore a currency devaluation might have positive effects on the trade deficit" Vika (2006), which in the light of recent appreciation implies possible deterioration of current account position.

The above discussion clearly shows that current account deficits in the case of Albania are for the most part a function of large trade deficits, recently supported by real exchange rate appreciation oriented mainly toward consumption. It is hard to identify any single item or factor within current account which could emerge as a potential force that could revert trade deficits. On the other hand, savings investment behavior, combined with shrinking budget deficits and developments on the capital account and exchange rate do not provide sufficient arguments for assessing the current account sustainability in Albania's case, which makes it hard to judge the position based on the conventional wisdom.

III. MODEL DESCRIPTION

The econometric model of this study builds upon the budget constraint that a country faces in the long run. The theory was developed by the work of Trehan and Walsh (1991), Hakkio and Rush (1991), and Wickens and Uctum (1993). A good summary of the long run budget constraint (LRBC) is provided by Taylor (2002), who shows that the LRBC provides a simple test for the long run sustainability of any economic model that incorporates a long run budget constraint. Here we will provide a brief summary of the LRBC developed by Trehan and Walsh (1991) and extended by Taylor (2002).

A country's current account identity could be represented in simple representation by the following equation:

$$CA_t \equiv B_t - B_{t-1} = rB_{t-1} + Y_t - C_t - I_t - G_t \qquad (1)$$

where:
Y denotes a country's GDP
B denotes the stock of countries debt
C denotes a country's consumption
I denotes a country's investments
G denotes government expenditures

Given that $Y_t - C_t - I_t - G_t = X_t - M_t$ then we can rewrite equation (1) as follows

$$CA_t \equiv B_t - B_{t-1} = rB_{t-1} + X_t - M_t \qquad (2)$$

where:
X denotes a country's exports
M denotes a country's imports

In this new form it is clear that any change in the net credit position in period t must equal interest paid/received on liabilities/assets plus the trade balance of period t[7], which implies that:

$$B_t = (1+r)B_{t-1} + X_t - M_t \qquad (3)$$

The long run sustainability condition requires that the present discounted value of the implied future stock of debt converges to zero. Trehan and Walsh (1991, p. 209) iterated this equation forward in time solving recursively to obtain the result that the current debt/assets expressed in its expected value will be offset by future surpluses/deficits. Thus one could write equation (3) above in the following form:

$$B_{t-1} = -\sum_{j=0}^{\infty} R^{-(j+i)} E(NX_{t+j} | I_{t-1}) + \lim_{j \to \infty} R^{-(j+1)} E(B_{t+j} | I_{t-1}) \quad (4)$$

where:
NX = $X_t - M_t$;
R = $1 + r$, with "r" representing the real interest rate;
I_t represents the entire set of information available to economic agents at time t;
E is the expectations operators.

Equation (4) assumes that the discounted value of all future trade balances is equal to current stock of debt, while present discounted value of the stock of assets/liabilities must converge to zero as time goes to infinity. Therefore given the present value of the stock of debt, the last term in equation (4) must equal zero, as time goes to infinity.

$$\lim_{j \to \infty} R^{-(j+1)} E(B_{t+j} | I_{t-1}) = 0 \quad (5)$$

Based on the assumption that $E(R_{t+j} | I_{t-1}) = R$ for all t and $j \geq 0$, meaning that real interest rate r will not change over time, Trehan and Walsh (1988), show that equation (5) represents a sufficient and necessary condition that satisfies the LRBC. The proof rests on the fact that while equation (3) tents to zero as t goes to infinity, both processes, the stock of debt and non interest deficit are either simultaneously stationary or I(1) and cointegrated, see Trehan and Walsh (1988). Wilcox (1989), Campbell and Shiller (1987) and Hansen, Roberds and Sargent (1987) have developed alternative

approaches to test current account sustainability along the similar reasoning.

However, the assumption that r does not change over time is not realistic and "does not provide a good characterization of the data generating process" (Trehan and Walsh, 1991). If R were not constant, the above tests will not provide sufficient conditions for sustainability[8], because the "cointegration test does not generalize to the case where $E(R_{t+i} || _{t-1})$ is allowed to vary. A similar conclusion holds with respect to the VAR cross – equation restrictions implied by cointegration". However, it will be reasonable and more rational to assume a strictly positive real rate of interest. If that were the case, Trehan and Walsh (1991) show that the sustainability condition and the budget constraint hypothesis depicted in the equation (4) require that:

$$\lim_{j \to \infty} E(_t r_{t+i}^{-1} B_{t+i} || _{t-1}) = 0 \qquad (6)$$

where: $_t r_{t+i} = \prod_{i=0}^{j} R_{t+i}$ represent the j periods discount factor from time t to $t+j$. In this case Trehan and Walsh (1991) show that as long as the outstanding stock of debt B_t follows a trend stationary process and the $\{_t r_{t+i}\}$ grows exponentially, the LRBC condition is satisfied.

Further *proposition 2 of* Trehan and Walsh (1991), shows that such condition is met (LRBC holds) only if R is a stochastic process strictly bounded below by $1+\delta$ $(\delta>0)$ in expected value and $CA_t \equiv b_{t-1} - b_t$ is a stationary process.[9] This preposition gives a sufficient condition for which LRBC holds, providing a powerful tool for testing a fundamental assumption of international economic models (Taylor, 2002).

The assumption that steady state real variables will grow at a rate that equals 0, implies that the steady state net exports will be equal to interest payments/interest received on the stock of foreign liabilities/assets, for each period. This in turn implies that current account must grow at a zero rate in the steady state, and the stock of foreign liabilities/assets will not change between period t and $t + j$ for any $j > 0$. Taylor 2002, argues that current account could

be a function of the country's ability to grow as the economy itself can grow at a stochastic growth rate g with $G_t = 1 + g_t$ and $E(g_t) = g_t > 0$ therefore $E(G_t) = G_t > 1$[10].
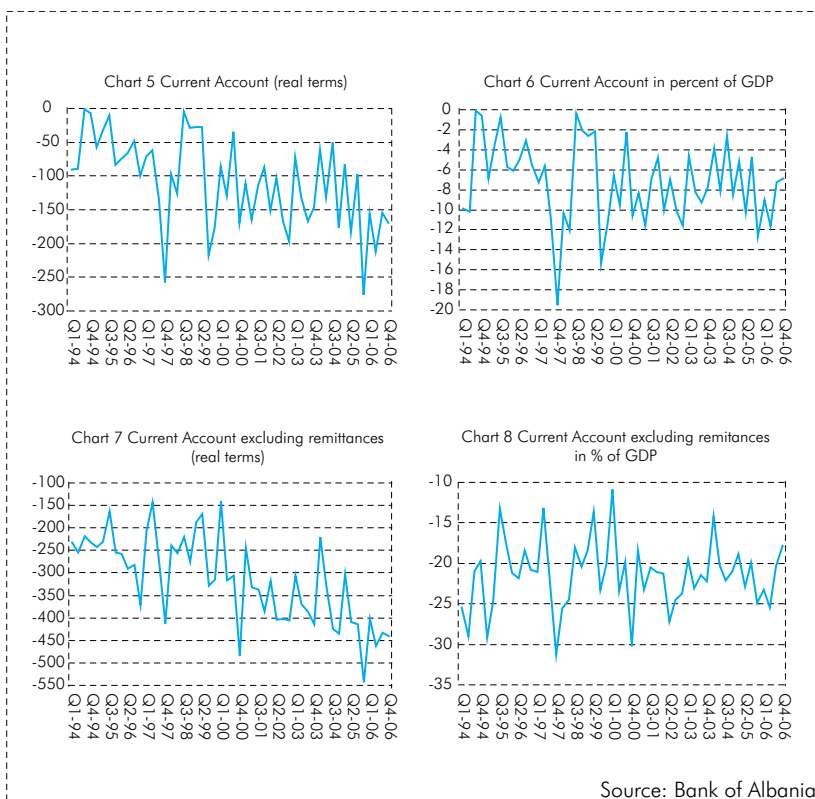
Estimating LRBC condition in the presence of changing growth rates Taylor 2002, takes the discussion further, by incorporating in it the stochastic steady state growth rate g_t for the world economy. Such growth could be assumed as a stochastic technological shock in the world economy, in which case the discount factor of Trehan and Walsh (1991) will take the form:

$$_t\rho_{t+i} = \prod_{i=0}^{i} \frac{R_{t+i}}{G_{t+i}} \tag{7}$$

where: $G = 1 + g$, while the LRBC condition will require that equation (6) goes to zero, as time t goes to infinity. Taylor's *Corollary 1* shows that such condition is satisfied, if $\rho_t = \frac{R_t}{G_t}$ is a stochastic process bounded below by $1 + \delta\ (\delta > 0)$[11] in expected value and CA_t/Y_t is a stationary process.

Based on the above theoretical background, we intend to estimate the mean reverting properties of the Albanian current account deficit. Despite the short run period, we intend to use both approaches described above due to the fact that growth rates of the Albanian economy have swung drastically at least once during this short transition period.

In addition, remittances from expatriates provide a very important financing source of current account in Albania. However, they are not regarded as a stream of payments that extends to infinity. They are more of a finite source in support of consumption smoothing in the transition phase. If these flows were not present, then additional borrowing should have occurred to cover the resulting gap in current account financing. Hence, it will make sense to evaluate the mean reverting property of the current account excluding such transfers. Comparing both results (with and without remittances) could provide valuable hints on whether the reliance on such source of financing could affect the sustainability of our current account in the long-run.

Chart 5 Current Account (real terms)

Chart 6 Current Account in percent of GDP

Chart 7 Current Account excluding remittances (real terms)

Chart 8 Current Account excluding remittances in % of GDP

Source: Bank of Albania

IV. DATA DESCRIPTION AND EMPIRICAL RESULTS

Unit root tests are conducted on quarterly observations for current account excluding official transfers[12] and the one excluding official transfers and remittances. Current account data comes from Balance of Payments Statistics published by the Bank of Albania. Monthly current account data are converted in ALL using the monthly exchange rate and are expressed in real terms, using the quarterly CPI data published by INSTAT. Quarterly GDP observations, as calculated by E. Dushku (2006) are used to construct current account as a percentage of GDP. The series cover the period from Q1-94 to Q4-2006, adding up to 56 observations. All four series are graphed in charts (5-8).

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Conventional Dickey-Fuller procedure is applied to investigate the null of a unit root in the current account data. ADF method is used to correct for the presence of serial correlation in the residuals.

Charts in charts (5-8) suggest that both current account series measured in real terms have trended downward during the period of investigation, while the current account data measured as a percentage of GDP do not seem to have clear deterministic trends. Based on such observation, we decided to include a constant in the empirical analysis of real current account data, and a constant and trend in the model of current account measured as a percentage of GDP. Schwartz information criterion is used to select the lag length of the autoregressive process of the model.

We first perform unit root tests in the levels of real current account and current account as a percentage of GDP. We further repeat such tests on the above variables excluding remittances from expatriates. The results are presented in Table 1 below. As it can be easily seen from the table, it is evident that all calculated values are less than ADF critical values (meaning they are located to the left of the critical values), suggesting that the null hypothesis of non-stationarity is rejected in all cases but the last one. ADF test does not reject the presence of unit root in current account, excluding remittances from expatriates measured as a percentage of GDP, indicating that it is not stationary.

The theoretical implication of such results demonstrate that given the conditions discussed by equations (6) and (7) are satisfied, then LRBC holds and the current account of Albanian is sustainable in the long run for all, but the real current account excluding remittances. Non-stationarity of this last case suggests that real current account excluding remittances could face sustainability problems in the long run.

We recognize that failure to reject the null hypothesis of unit root in this last case could relate to the low power of ADF test over a short time span (we have 52 only quarterly observations representing a period of 13 years) as it is pointed out by Shiller and

Perron (1985). However, at this point we stop our investigation in this direction due to the lack of data. Further research could be conducted when more data become available. Future research could also focus on what Harris and Sollis (2005) refer to as "the inclusion of additional deterministic components beyond those included in the (unknown) data generating process". According to Harris and Sollis, this might increase the probability to accept the null hypothesis of non-stationarity.

Table 1 Test results of the model

	t-Statistic	Prob.*	Critical values	
CA % GDP	-5.718633	0.0000		
CA real	-6.459152	0.0000	1% level	-4.1611
CA excluding remittances, % GDP	-7.036238	0.0000	5% level	-3.5064
CA excluding remittances, real	-2.532354	0.3120	10% level	-3.1830

Source: Authors' calculations

Taking into account the above observation, we intend to investigate the possibility that our model which includes both, a constant and a deterministic trend does not represent the true data generating process, using Peron's (1988) procedure.

V. CONCLUSIONS

The purpose of this study is to evaluate whether large and increasing current account deficits of the Albanian economy are sustainable in the long run. This paper extends the literature on the current account sustainability in Albania, proposing an alternative way to asses it for a developing economy with considerable inflows of remittances. The procedure used by the authors is the one proposed by Trehan and Walsh (1991) and Taylor (2002). Conventional wisdom based on these theoretical grounds suggests that unit root tests provide a practical approach to evaluate current account sustainability. Along these lines we use ADF test to evaluate the stationary characteristics of the current account with and without remittances from expatriates expressed in real term, as well as a percentage of GDP. Our results suggest that despite

recent large and growing deficits, current account in Albania is sustainable in the long-run. Therefore, we conclude that there is no need for drastic measures to be taken by the Bank of Albania with reference to the monetary or financial policies.

Our findings also reveal that the sustainability properties of the current account might change depending on the way one defines it. Results are suggestive that maintaining the actual pace of economic growth could play an important role in the sustainability issue. Authorities must be very careful when planning and implementing fiscal, monetary or exchange rate policies. The results show that expansionary policies, which rely on foreign financing or encourage current expenditures more than current incomes, must consider the prospect of midterm economic outlook for growth. Otherwise, their policies risk becoming unsustainable in the long run, with major implications for foreign sector and financial stability.

However, further research is needed to investigate the real reasons behind the determinants of current account behavior. Despite the empirical findings, which show that LRBC condition is satisfied, the authors believe that the current level of trade deficits and the current account deficit require constant attention by all economic actors. It constitutes a potential problem, which must be addressed by measures described along the lines proposed by Kolasi and Tanku (1998), Xhepa and Mançellari (2003).

REFERENCES

Aristovnik, A. (2005), "Public Sector Stability and Balance of Payments Crises in Selected Transition Economies." *Democratic Governance for the XXI Century: Challenges and Responses in CEE Countries*.

Aristovnik, A. (2006), "Current Account Adjustments in Selected Transition Countries." *William Davidson Institute Working Paper*, No. 813.

Bruno, M. (1996), "Comment", in Hausmann, R. and L. Rojas-Suárez (eds), "Volatile Capital Flows: Taming their Impact on Latin America." *Johns Hopkins University Press for the Inter-American Development Bank.*

Campbell, H.Y., and Shiller, R.J. (1987), "Cointegration and Tests of Present Value Models." *Journal of Political Economy* 95, 1062-1088.

Corsetti, G., Pensenti, P., and Roubini, N. (1998), "Paper Tigers? A Model of the Asian Crisis. " *NBER Working Paper*, No. 6783.

Edwards, S. (2001), "Does the Current Account Matter?" *NBER Working Paper,* No. 8275.

Edwards, S. (2004), "Thirty Years of Current Account Imbalances, Current Account Reversals and Sudden Stops." *IMF Staff Papers*, Vol. 61, Special Issue: 1–49 International Monetary Fund.

Edwards, S. (2005), "Is the U.S. Current Account Deficit Sustainable? And If Not, How Costly is Adjustment Likely to Be?" *NBER Working Paper,* No. 11541.

Fischer, S. (2003), "Financial Crisis and Reform of the International Financial System." *Review of World Economics/Weltwirtscahfliches Archiv*, 139(1):1-37.

Hakkio, C.S., Rush, M. (1991), "Is the Budget Deficit "Too Large?" *Economic Inquiry*, 39, pp.429-445.

Harris, R., and Sollis, R. (2005), *"Applied Time Series Modelling and Forecasting." Chichester: John Wiley & Sons.*

International Monetary Fund "Article …. Consultation – Staff report"; IMF Country Report.

Kamin, S., Schindler, J., and Samuel, S. (2001), "The Contribution of Domestic and External Factors to Emerging Market Devaluation

Crises: An Early Warning Systems Approach." *International Finance Discussion Papers*, No. 711.

Liu, T.C. and Tanner, E. (1996), "International Intertemporal Solvency in Industrialized Countries: Evidence and Implications", *Southern Economic Journal*, vol.62, n.3, p.739-749.

Milesi-Ferretti, G.M. and Razin, A. (1996), "Current Account Sustainability"; *Princeton Studies of International Finance*, No. 81.

Milesi-Ferretti, G. M. and Razin, A. (1996), "Current Account Sustainability: Selected East Asian and Latin American Experiences", *NBER Working Paper,* No. 5791.

Milesi-Ferretti, G.M., Razin, A. (1998), "Current Account Reversals and Currency Crises: Empirical Regularities." *NBER Working Paper*, No. 6620.

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

Otto, G. (1992), "Testing a present-value model of the current account: evidence from US and Canadian time series." *Journal of International Money Finance*, 11, 414 430.

Radelet, S., and Sachs, J. (2000), "The Onset of the East Asian Currency Crisis." *NBER Working Paper*, No. 6680.

Rodrik, D. (2000), "Saving Transitions" *World Bank Economic Review*, 14(3): 481-507.

Roubini, N., and Wachtel, P. (1998), "Current Account Sustainability in Transition Economies." *NBER Working Paper*, No. 6468.

Schrooten, M., Stephan, S. (2005), "Private Savings and Transition." *Economics of Transition*, Volume 13, pp. 287-309(23).

Shiller, R.J., Perron, P. (1985), "Testing the Random Walk Hypothesis: Power versus Frequency of Observation." *NBER Technical Working Papers* No. 0045.

Summers, Lawrence (1996), "Commentary," in Ricardo Hausmann and Liliana Rojas-Suarez eds, Volatile Capital Flows. IDB, p.46.

Taylor, A. M. (2002), "A century of current account dynamics." *NBER Working Paper* No. 8927.

Trehan, B., and Walsh, C.E. (1988), "Common Trends, Intertemporal Budget Balance, and Revenue Smoothing." *Journal of Economic Dynamics and Control* 12, 425-444.

Trehan, B., Walsh, C. (1991), "Testing Intertemporal Budget Constraints: Theory and Applications to U.S. Federal Budget and Current Account Deficits." *Journal of Money, Credit, and Banking,* 23 (2), 206-223.

Uvalic, M., (2003), "The Transition Twelve Years After - Specific Problems of Southeast Europe", *CEE-Japan Forum for the 21st Century* – "Democracy and Market Economics in Central and Eastern Europe: Are New Institutions Being Consolidated?

Vika, I. (2006), "Measuring Import and Export Functions in Albania", *Bank of Albania, unpublished Discussion Paper*.

Vika, I. (2006), "Kursi Real Efektiv i Këmbimit në Shqipëri: Konceptet dhe Matja e Tij", *Banka e Shqipërisë, Material Diskutimi* 2 (18).

Wickens, M. R., and Uctum, M. (1993), "The Sustainability of Current Account Deficits: A Test of the U.S. Intertemporal Budget Constraint." *Journal of Economic Dynamics and Control*, 17, 423-441.

Wilcox, D.W. (1989), "The Sustainability of Government Deficits: Implications of the Present-Value Borrowing Constraint." *Journal of Money, Credit, and Banking* 21 (3), 291- 306.

Wu, J-L. (2000), "Mean Reversion of the Current Account: Evidence from Panel Data Unit-Root Test." *Economic Letters*, 66: 215-222.

Xhepa, S., Mançellari, A. (2003), "Current Account Sustainability", *Albanian center for International Trade, Research Paper*.

ENDNOTES

[1] The threshold was initially mooted by Summers (1996), who wrote that "…close attention should be paid to any current account deficit in excess of 5% of GDP, particularly if it is financed in a way that could lead to rapid reversals…".

[2] Current account excluding official transfers.

[3] The current account reversals are defined as improvement in the country's current account by more than 4 percent of its GDP in a year. (Edward, 2004).

[4] Higher current account deficits are more likely to be sustainable under conditions of higher economic growth.

[5] Rodrik (2000) estimated that a 1-percentage point increase in the private-credit-to-income ratio would lower the long-term private saving rate by 0.74 of a percentage point in five CEE economies.

[6] Real exchange rate has been defined in such a way that downward movements represent appreciation and upward movements represent depreciation. See Vika (2006) for derivation of Real Effective Exchange Rate for Albania.

[7] Such description will have a major implication later as we select the variable of choice for our test. Since in the LRBC condition of equation (2) we have referred to the deficit as net of interest current account deficit, by definition it means the country's trade deficit in goods and services. This definition on the other hand represents the current account, excluding transfers.

[8] In general, cointegration tests, on which the condition is based, do not generalize to the case where the expected real interest rate

is allowed to vary.

[9] The proof comes from Trehan and Walsh (1991, pg209-15).

[10] Taylor assumes that all countries grow at the same rate g, so that no country would be able to outgrow the rest of the world and borrow or lend a constant fraction of debt from or to the rest. (Taylor 2002, pg. 729)

[11] The condition $1+\delta$ ($\delta > 0$) holds as long as $0 < g < r$. (See Taylor, 2002, pg. 729)

[12] The purpose of using the CA excluding the official transfers is to avoid the effects of this item during late 90's, as that period is characterized by a significant flow of grants in the form of cash goods and technical assistance.