The paper deals with the economic growth of the open and small developing countries which signed the Lomé Convention (henceforth ACPs). Results showing that earnings instability damages their economic performance can be used to support the EU policy of guaranteeing financial aid to those countries suffering reductions in export proceeds. The second section of the paper analysing the workings of STABEX, however, highlights certain weaknesses in the effectiveness of STABEX transfers when their impact on economic growth is considered. The general conclusion is that, if the current EU-ACP negotiations for Lomé V are to be successful, then some aspects of the scheme (eligibility criteria and use of funds) will have to be radically changed.

I. INTRODUCTION

The analysis of the effects of export earnings instability on the economic growth of developing countries has long interested economists for several reasons. First of all, from the beginning of the 1960s developing countries have experienced a steady and sustained growth in exports. The outcome of this process, initially encouraged by a growing demand for raw materials to be transformed in industrialised countries, is that today many developing countries find themselves with an exports structure which is highly restricted both in terms of products and in terms of outlets; this high level of exports concentration plus the turbulence and interdependence of world markets is considered one of the reasons for the difficulty of promoting growth in a small economy dependent on the production of goods for exports (Lancieri E., 1978; Love J., 1989; Grilli E. 1994).

At the same time there has been a considerable number of studies which have attempted to explain empirically the exact nature of the relationship between economic growth and exports instability. Although economists in this field have different opinions, the basic hypothesis according to which export earnings instability penalises developing countries is shared by many authors\(^1\)\(^2\). There is a great deal of hard evidence to support this conclusion: instability of earnings from exports increases the uncertainty as to the amount of foreign currency available for the purchase capital goods from abroad. This, in

\(^1\) For example, certain works claim that export instability is positively linked to the economic growth of a country. See, Knudsen and Parnes (1975), Knudsen and Yotopoulos (1976), Yotopoulos and Nugent (1976), Lam (1980) e Savvides (1984). These studies, however, have been the object of so much criticism that it has cast doubt on the validity of their interpretation of the results. On these issues see, Stein L., (1977); MacBean A. (1986); MacBean A. e Nguyen D.T., (1987); Guymah-Brempong K., (1991); Tan, (1983); Glezakos (1983; 1984) e Lim D. (1991).

turn, disrupts the investment planning which is a necessary prerequisite for the formation of capital and consequently for determining the level of efficiency in a given country 3.

Finally, a further reason for the attention development economists have devoted to this line of research is the fact that policy makers despite the uncertainty surrounding the theoretical framework on this issue, have joined forces with that part of the academic world, which sees instability of earnings from exports as a serious problem. This has stimulated the search for policies specifically aimed at the stabilisation of export proceeds.

This paper will attempt to follow two objectives contemporaneously. The first question to be addressed: what are the effects of export earnings instability on the economic performance of developing countries? These effects have been analysed by taking estimates of a growth model which includes capital and employment growth rates along side other variables such as the growth rate and instability of exports. The 52 countries studied are those where exports, under the framework of the Lomé Convention, have benefited from policies compensating for loss in export earnings.

At the same time, the limiting of the choice of countries to beneficiaries of STABEX had the aim of furthering the second objective of the study. In the evaluation of exports stability of ACPs one has also to bear in mind the financial transfers from the EU under STABEX; that is to say, the system of financial compensation which aims to reduce export earnings instability of ACPs. Thus the second objective is to evaluate the impact of STABEX on the economic growth of ACPs.

Underlining how ACPs are penalised by exports instability, this analysis provides empirical data to support the contention that the European Union should set aside development funds to support sectors of the economy which produce exportable goods. At the same time, this paper also suggests that current policies adopted to stabilise exports are not working effectively; in particular they do not lead to improved economic growth rates. Certain elements play a crucial role in this, not least of which are two factors: the selection criteria for the basket of goods which benefit under STABEX and the absence of restrictions on the utilisation of transfers in the triggering sectors.

II. THE MEASUREMENT OF EXPORTS INSTABILITY

This section looks at the measures used to evaluate the export earnings instability in ACPs. The decision to consider two indices of instability is based on two different orders of reasons. First of all, there is no consensus in the literature on how to determine instability (Lim D., 1991; Maizels A., 1992), even though export instability is widely considered to be an unpredictable deviation over an observed time series compared to its trend. In addition, many studies have shown the sensitivity of the results to the measure of instability4. Therefore, the use of two indices of instability should lend weight to the

---

3 Similar conclusions are obtained when the role that governments have in influencing the dynamics of development in a country is considered. Possibly on account of the high proportion of exports in GDP or the relative ease with which taxes can be imposed on exports, the earnings to the public purse of many developing countries and thus their spending capacity are dependent on the export sector. In these cases an unstable market is considered especially damaging for emerging economies [Gyimay-Brempong, 1991; Love, 1987].

4 An example of how an incorrect measure of instability can produce conflicting results is found in a comment by Glezakos (1983) and Tan (1983) on Lamb (1980) and in another comment by Glezakos (1984) on Savvides (1984).
reliability of the results. The first index of instability used is the corrected coefficient of variation defined by Cuddy-della Valle (1978) as follows:

\[ INST1 = CV \sqrt{1 - R^2} \]  \[1\]

where CV is the coefficient of variation of the time series of the export earnings and \( R^2 \) is the corrected coefficient of determination of the trend function that best fits the actual export proceeds. If the t-test, F-test and DW-test are statistically significant at least at 5% level, the index INST1 is calculated by selecting the trend function (linear or log-linear) having the highest \( R^2 \). When (a) the test statistics are not significant and/or (b) \( R^2 < 0 \), the unmodified CV is chosen.

The second index considered is the arithmetic mean of instability based on squared deviations of exports from trend. That is:

\[ INST2 = \frac{1}{n} \sum_{t=1}^{n} (X_t - \hat{X}_t)^2 \]  \[2\]

where \( n \) represents the number of years in the export earnings time series, \( X_t \) is the actual value of the exports at time \( t \) (\( t = 1, \ldots, n \)) and \( \hat{X}_t \) is the expected value of the exports (Moran C., 1983; Love J. 1987). The functional forms of the trend used to specify the value of \( \hat{X}_t \) correspond to the one defined in equation [1] for obtaining \( R^2 \). The same procedure to evidence autocorrelation applies.

III. THE MODEL

The model used to evaluate the impact of STABEX on the economic growth of ACPs relates the rate of growth of GDP to the growth rate of employment, capital and exports. In this study, the model is econometrically tested in a wider version which includes both instability indicators referred to in the previous section and two variables relating to STABEX payments. Besides providing indications on the relations between export

5 The comment by Duggan J.E. (1979) on the Cuddy-Della Valle's article points out how the autocorrelation of the errors modifies the values of the index INST1. Therefore, to use the index INST1 correctly, the autocorrelation of residuals was tested and it was also taken into account that the inconclusive range of Durbin-Watson statistic is narrowed when a trend model is estimated (King M.L., 1981). In order to eliminate the effects on the least-squares estimators of the autocorrelation, the Cochrane-Orcutt iterative process was used and it was always assumed that the disturbance term follows an AR(1) scheme. Finally, it appears worth to underlined that in the applications of Cuddy-Della Valle's index, the presence of autocorrelation in the models estimated to eliminate the trend has not been considered. See, i.e., Cuddy J. D. A. and Della Valle P.A. (1978); Herrmann R., Burger K. and Smit H.P. (1993); Di Costanzo S. (1993), Herrmann R. and Weiss D., (1995).

6 In Emery (1967) reasons are provided for the insertion of exports in the function of production of a country. See also Ram (1985) and Balassa (1978; 1985), Krueger A.O. (1980), Feder G. (1983), Fosu (1992; 1996). In particular, one should remember that: (a) a growth in exports causes a concentration of investments in the thriving sectors within a country; (b) international markets make it possible to carry out economies of scale in the exporting sectors; (c) international competition stimulates the introduction of technological innovations in the sectors orientated towards exports in the attempt to reduce the efficiency gap with other countries (Emery, 1967; Feder, 1983).
earnings instability and economic growth, the variants of the model which include exports instability are particularly useful because they make possible an a posteriori evaluation on the efficacy of export stabilisation policies in ACPs. The model subjected to econometric verification is the following:

\[
\dot{Y} = b_0 + b_1 K + b_2 L + b_3 X + b_4 \text{INST} + \mu \tag{3}
\]

where \(\dot{Y}, \dot{K}, \dot{L}\) and \(\dot{X}\) respectively represent growth rates of GDP net of exports, of gross fixed capital formation, of employment and of exports\(^7\). The variable \(\text{INST}_{i}\) \((i=1,2)\) is the index of exports instability calculated as described in Section 2, while \(\mu\) is the term of error. The growth rates of the variables included in Equation 3 have been calculated using the following technique: for each country and each variable \((Z)\) a linear trend model \((Z=a+bT+e)\) and a log linear trend model \((\log Z=a+bT+e)\) have been estimated. The choice has been made in favour of the model which is better fitted to the data and the coefficient associated to time variable \((b)\) has been utilised as a measure of the annual growth rate of \(Z\).

On the basis of expectations of the coefficients, \(b_1, b_2\) and \(b_3\) should be positive. The estimation of \(b_4\) is the central objective of this part of the work. If we refer to the available literature on this argument, the coefficient sign \(b_4\) may be either positive or negative (cf. notes 1 and 2). However, given the group of the countries examined, one would expect \(b_4\) to be always negative. Indeed, bearing in mind that the sample under study is made up of beneficiaries of STABEX compensation, it is likely that these countries are penalised by the instability of their exports.

The second methodological problem to be overcome was that of specifying a model capable of providing indications on the impact of STABEX on the economic growth of ACPs. To this end, the econometric exercise used in equation [3] was repeated inserting the variables \(ST\) and \(D_1\), so defined:

- \(ST\) is equal to the value of payments received by each ACP\(^8\).
- \(D_1\) is a dummy variable, which is equal to one for those countries which have seen a reduction of exports instability as a result of STABEX. On the contrary, \(D_1\) is equal to zero for those ACP beneficiaries, in which the effect of compensation has been to increase exports instability.

The stabilising effect used to construct the variable \(D_1\) is obtained by comparing the index of exports instability including STABEX payments with the index of exports instability without compensation. If the difference between these two measures is negative then

\(^7\) Posing \(b_4=0\), equation [1] can be obtained by calculating the total differential of \(Y=F(L,K,X)\), divided by \(Y\) and carrying out the appropriate reductions. Coefficient \(b_0\) keeps account of changes of an exogenous nature which other regressors miss. It is obvious that exports are in themselves a function of both labour and capital. However it would have been opportune to estimate a model of simultaneous equations in which, beside equation [3], one would also have Equation \(X=a_0+a_1 L + a_2 K + et\). Nevertheless the recursive nature of a model of this kind enables equation [3] to be estimated separately from the growth function of exports [Green W., 1997; Johnston J., 1998]. Most of the empirical literature on this issue (cf. Section 1) follows the same approach. See in particular Fosu (1996) for a recent application of this methodology.

\(^8\) The insertion of the value of STABEX payments as an explicative variable of the economic growth of ACPs is suggested by the specific empirical verifications on the impact of external aid on growth. See, for example, Mosley, Hudson e Horrell (1987; 1992).
STABEX has managed to stabilise the series of total exports from ACPs, if not there is a destabilising effect. The time series of export proceeds with STABEX funds \( X_t^{\text{with}} \) have been calculated by using the expression \( X_t^{\text{with}} = X_t^{\text{without}} + ST_{t-1} \), in which it is assumed that the payments were made one year after the year of application. Therefore, at the time \( t \), the export receipts with STABEX are given by the sum of the export without STABEX and the compensation related to the export earnings in year \( t-1 \) that the EC settled at time \( t \). In this case, either a stabilising or a destabilising effect would be expected. The rationale behind the assumption is based on the fact that the EU commission must "take a decision concerning all transfers" by July 31 of the year following the year of application (art. 207 of Lomé IV). In addition, both in 1975-1979 and 1988-1992 the Commission paid compensation within 9-10 months after the year of reference (Di Costanzo S., 1993; Lim D., 1991).

In the case of the dummy variable \( D1 \), one would expect that, ceteris paribus, the impact of STABEX on the growth of ACPs would be greater (lesser) for the countries in which the value of exports were stabilised (destabilised) by compensation payments. The coefficient associated with \( D1 \) is assumed to be positive.

As regards the variable \( ST \) relating to the overall sum of STABEX transfers, one would assume there to be a positive coefficient. The reason for this is that as the amount of compensation increases so should, all things being equal, the economic performance of the country concerned improve.

IV. ECONOMETRIC RESULTS

Equation 3 has been estimated through the OLS estimation technique. Table 1 summarises the results obtained in the estimation of some variants of equation [3] against which the model with the variables \( D1 \) and \( ST \) can be evaluated. The first column refers to the estimation of the coefficients of the growth function when only labour force and gross fixed capital formation appeared as independent variables (Base model, M1). The second column (Model M2) contains also the estimation of the coefficient relating to exports growth, the third and forth column contain the results when the instability index \( INST1 \) (Model 3) or index \( INST2 \) (Model 4) is added to Model 2. The remaining columns refer to variants of Models 3 and 4 containing the variable dummy \( D1 \) or payments \( ST \). Next to the usual statistics of OLS estimates, Bartlett’s test to check for heteroscedasticity has also been presented. Its values justify the rejection of the hypothesis of heteroscedasticity and this means that the parameters can be considered efficient and consistent.  

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9 It is worth recalling that some ACPs are forced to give back part or all of the funds received from the STABEX. Therefore, this rule should be taken into account in the expression of the refunded exports and, consequently, the STABEX transfers should be net of the amount repaid by each ACP. We have not been able to take such a problem into account for the following reasons: (a) from 1975 to 1989 the funds reimbursed by the ACPs were a small share (8.5%) of the total transfers (EU Commission, 1990); (b) there is no indication about the product and/or the year which the repayments refer to; (c) since 1990, the year when Lomé, IV came into force, STABEX compensation is paid as donations; and, finally, (d) since 1990, the ACPs have been free to give back the replenishments received during Lomé I, Lomé II and Lomé III.

10 Along side the heteroscedasticity of the residuals another typical problem of cross-section analysis is the sensitivity of the estimates to single observations. To deal with this, an algorithm has been constructed to calculate the dfbeta, defined as the difference (normalised with regard to the standard error of the coefficient) between the value of the parameter estimated when the observation (the country) is or is not
What emerges clearly from Table 1 is how the estimated models explain a relatively high proportion of variability in the growth rates of ACPs. The coefficient of determination ranges from 0.67 (Model M1) to 0.8 (Model M8). These values are rather satisfying, if one thinks of the type of analysis undertaken (cross-section) and the quality of the statistical information utilised.

As regards the base model, the coefficients relating to employment and capital are both statistically significant and, as expected, positive. The sign of the coefficient on capital and employment is not altered when the growth rate of exports is added (Model M2); the coefficient of this is positive and has a level of significance of 1%.

Moreover, passing from M1 to M2, there is a reduction of standard error in estimates (SEE) and an increase in $R^2$. These results indicate that in the period from 1975 to 1995 the economic growth of ACPs was strongly and positively influenced by the exporting sectors. Since in the estimated models there was an attempt to eliminate any spurious correlations deriving from the fact that exports are a component of GDP, the results represent an indication of how export growth favours economic growth in other productive sectors. This conclusion is coherent with the hypotheses of Emery (1967), Feder (1983) and Balassa (1985), according to which exports stimulate economic growth in a country though the positive effects they have on productivity levels even in other sectors (cf. notes 6 and 11). The values of the coefficient $b_3$ obtained in all the estimations show how important this effect is for ACPs. This is hardly surprising when one considers how dependent these countries are on exports.

As regards the aim of this section, the estimates relating to M3 and M4 allow us to discern the existence of a negative relationship between export instability and economic growth in ACPs. In particular, if the export earnings instability is added, an increase in the coefficient of determination is obtained and there is no variation in the signs of coefficients of the other three independent variables, whose statistical significance remains high. This signifies that the index of exports instability does not introduce multicollinearity into the model. It can be noted, moreover, that this result is found both in Models M3 and M4 and therefore shows how the relationship of negative significance between exports instability and economic growth in ACPs is not only significant but also independent of the way in which instability is measured.

The importance of these results can be seen from the fact that they represent a further element of support to the hypothesis that exports instability hinders economic growth (cf. note 2). Furthermore, they are coherent with our predictions and constitute solid empirical evidence to justify the EU decision to adopt policies of financial compensation to stabilise export earnings in ACPs.

11 Although referred to different samples of countries and different time periods, many other works have shown that there is a positive relation between the growth of exports and economic growth in developing countries, for example, Balassa (1985), Colombatto (1992), Emery (1967), Feder (1983), Fosu (1992; 1996), Gyimah-Brempong (1991), Ram (1985), Rosen and Shapouri (1989).
Table 1  The impact of STABEX on the Economic Growth of ACPs.  
Regression results (1975-95).

<table>
<thead>
<tr>
<th>Models</th>
<th>M1</th>
<th>M2</th>
<th>M3</th>
<th>M4</th>
<th>M5</th>
<th>M6</th>
<th>M7</th>
<th>M8</th>
</tr>
</thead>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
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<td>-4.11</td>
<td>-0.42</td>
<td>-2.3</td>
<td>1.01</td>
<td>1.43</td>
<td>-2.21</td>
<td>-4.21</td>
</tr>
<tr>
<td></td>
<td>(-4.48)</td>
<td>(-4.17)</td>
<td>(-0.23)</td>
<td>(-3.17)</td>
<td>(1.81)</td>
<td>(1.78)</td>
<td>(-2.67)</td>
<td>(-2.1)</td>
</tr>
<tr>
<td>r(L)</td>
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<td>0.29</td>
<td>0.31</td>
<td>0.28</td>
<td>0.32</td>
<td>0.33</td>
<td>0.29</td>
<td>0.30</td>
</tr>
<tr>
<td></td>
<td>(6.89)</td>
<td>(4.12)</td>
<td>(2.44)</td>
<td>(3.98)</td>
<td>(2.25)</td>
<td>(2.45)</td>
<td>(3.1)</td>
<td>(2.3)</td>
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<tr>
<td>r(K)</td>
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<td>0.39</td>
<td>0.35</td>
<td>0.37</td>
<td>0.31</td>
<td>0.37</td>
<td>0.32</td>
<td>0.39</td>
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<tr>
<td></td>
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<td>(1.84)</td>
<td>(1.86)</td>
<td>(1.93)</td>
<td>(1.83)</td>
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<tr>
<td>r(X)</td>
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<td>0.29</td>
<td>0.20</td>
<td>0.17</td>
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<tr>
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<td>(2.18)</td>
<td>(2.34)</td>
<td>(2.21)</td>
<td>(2.1)</td>
<td></td>
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<tr>
<td>INST1</td>
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<td></td>
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<tr>
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<td>(-2.33)</td>
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<td>(-2.21)</td>
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<td>INST2</td>
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<td>(-2.09)</td>
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<tr>
<td></td>
<td>(0.97)</td>
<td>(1.21)</td>
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<td></td>
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</tr>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(1.34)</td>
<td>(1.42)</td>
<td></td>
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<td></td>
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</tr>
</tbody>
</table>

Statistics

| Statistics | R² | 0.67 | 0.74 | 0.77 | 0.78 | 0.77 | 0.79 | 0.79 | 0.8 |
|            | 0.66 | 0.72 | 0.75 | 0.76 | 0.75 | 0.77 | 0.77 | 0.77 | 0.78 |
|            | 0.66 | 0.63 | 0.62 | 0.61 | 0.60 | 0.59 | 0.58 | 0.57 | 0.56 |
|            | 4.81 | 4.32 | 4.13 | 3.99 | 6.12 | 4.01 | 3.54 | 3.76 |
|            | 2.87(2) | 2.64(2) | 2.13(2) | 3.01(2) | 4.21(2) | 3.98(2) | 3.32(2) | 3.78 |
|            | 52 | 52 | 52 | 52 | 52 | 52 | 52 | 52 | 52 |

Note: The dependent variable is the annual growth rate of GDP net of exports. r(L), r(K), r(X) denote, respectively, the annual growth rate of labour force, gross fixed capital formation and exports in value. Data for r(GDP) and r(K) are from World Bank (World Development Report), data for r(L) are from United Nations (National Accounts Statistics: Analysis of Main Aggregates) and data for r(X) are from FAO (AGRISTAT database). INST1 and INST2 are the indices of instability computed as defined in par. 2, D1 is a dummy variable, whereas ST states for the STABEX transfers received by each ACP country. t-student values are in parentheses R²,  R² and SEE are the usual regression statistics; n is the sample size and B(df) is Bartlett’s test on eteroscedasticity (degrees of freedom in parentheses).

If export instability damages economic growth and if STABEX reduces on average export instability (Aiello, 1999; Di Costanzo, 1993; Herrmann et al., 1993), then it could be claimed that STABEX has had a positive effect on the dynamics of economic growth in ACPs. In order to find this out directly, an experiment was made repeating the estimates of models M3 and M4 but adding the already mentioned independent variables D1 and ST. The first result is that the conclusions obtained from previous estimates of M3 and M4 hold. In particular, the insertion of the variables D1 and ST does not alter either the sign or the statistical significance of the coefficient b₄ associated with indices of exports instability. As regards the specific objective of verifying econometrically M5 and M7, it should be
stressed that the results of the estimates of the coefficient of the variable ST are rather disappointing overall both for the value of the coefficient, which is close to zero, albeit positive, and for the degree of significance. These conclusions do not fundamentally differ from those of other authors on the subject of the impact of aid to growth (Mosley, Hudson e Horrell, 1987 e 1992).

The situation is not better when the exercise is repeated for M6 and M8 where an attempt was made to assess the economic impact of STABEX utilising the dummy variable D1. One can observe, in fact, how the coefficient relating to D1, albeit positive, records in both cases a degree of significance over 10%.

Certain methodological limitations of the analysis should be borne in mind when interpreting these findings. In particular, the results are certainly undermined by the cross-section of estimated regressions and by the fact that a single equation was considered for a phenomenon - the economic growth of a country - which by its nature is very complex and as regards which it would have been more appropriate from an econometric perspective to have applied a simultaneous equation model.

However, if on the one hand the characteristics of the estimates are such that their results can not be considered as conclusive evidence of the inefficiency of STABEX in terms of its impact on the economic growth of ACPs, they can on the other hand be treated as a serious indications in that direction.

V. SOME REASONS FOR THE FAILURE OF STABEX

The analysis so far has gone beyond the verification of the efficiency of STABEX understood merely as a measure of the impact of compensation on the exports of ACPs over a period of time. Instead it attributes a wider validity to the results, since the evaluation of instability of the proceeds from exports, although necessary if we are to understand if the scheme has achieved its instrumental objective, does not provide indications as to whether STABEX has contributed to the improvement in the economic performance of ACPs, which all things considered is the ultimate objective of all international policies designed to foster development.\(^{12}\)

In the previous section it was pointed out how STABEX has not positively affected the economic growth of ACPs, although the econometric analysis does not specify the ways in which inefficiencies are manifested. This section will try to find out the reasons which may have contributed to bring about this result and examine certain of the functional mechanisms of the compensation scheme. The aim of this part of the work is not just to provide elements for evaluation in order to account for what has happened in the past, but also to reflect on the possible political and economic implications which can derive from a study of the workings of the scheme. This rests on the assumption that the current negotiations between the EU and the ACP will culminate in the signing of a new Lomé Convention.

\(^{12}\) It appears especially difficult to claim the full efficiency of the compensation scheme if we look at the effect of stabilisation export earnings on its own. This is because a significant stabilisation effect on export time series over a number of years does not necessarily lead to a stabilisation in the income of producers operating in the sector and thus does not necessarily stimulate an increase in the overall level of efficiency in the country concerned.
The first problem concerns the identification of the specific objective that STABEX is trying to achieve. This is why, by stressing the harmful effects of export earnings instability on economic growth (art. 186.1, Lomé IV), it seems that the Lomé Convention places the issue of aid to the ACPs in a macro-economic context only and that from this viewpoint what is important is the impact of STABEX on total exports rather than on exports of single products. There are a few reasons to consider these arguments as complementary to the approach which claims the effectiveness of STABEX should be also evaluated in terms of the micro-bias of the scheme.

The first objective of the scheme is to stabilise the nominal export earnings time series of particular commodities which are relevant to the export structure of each country. In order to underline this point it is useful to recall that this is the official position of the EU which is also shared by many authors. The logic of concentrating on what happens in a single market implies that it is not possible to make compensation between reductions and increases of proceeds from exports, which can be recorded, at the level of a single country in differing sectors. Moreover, it is highly likely a situation could arise in which an ACP country, even though there is a reduction in the value of total exports, does not have the right to receive any transfers if the STABEX products themselves have not recorded reductions in the value of their exports or if such reductions are insufficient to satisfy the criteria for access to compensation. For these reasons the STABEX transfers are called gross and they are justified in only two cases. First of all, when the objective of the scheme is to stabilise export proceeds in specific sectors. Second, when it has become apparent that a beneficiary can not possibly transfer resources from the sector which has recorded an increase to another sector which has suffered a drop in export earnings (Guillaumont P., 1987).

If the principal objective of STABEX is to guarantee stability of earnings of foreign currency in the triggering sectors, then it is important to devote more detailed attention to micro-biased specifics of STABEX, which are crucial for its correct functioning. In particular, the aspects which are considered here are the composition of the basket of goods which are entitled to benefit from transfers and the use of the transfers in the specific production sector for which they had been claimed. Ceteris paribus, one would

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14 To claim compensation one must satisfy three conditions. The first condition called dependency threshold, reflects the need to offer financial support to ACPs which are heavily dependent on certain agricultural products; where dependency is expressed in terms of share of a particular product of the total exports of a country. The second condition stipulates that the difference between the export earnings of a product and the reference proceeds be superior to the value of a predetermined fluctuation threshold. The reference level is calculated for each product and for each country and is equal to average export proceeds recorded in the six years prior to the year in which exports declined, excluding from the calculation the highest and the lowest value. Finally, the last condition stipulates that the reduction in export proceeds has not been caused by the ACP operating commercial policies which discriminate against EU interests.

15 It is clear that the amount of finance available and the rapidity with which funds are transferred to the beneficiaries are other elements to take into consideration and they help to explain the reasons for the lack of success of STABEX. On these aspects see, among others, Aiello (1999), Hermann, Burger and Smit (1993), Hewitt (1993) and Lim (1991).
expect that the greater the number of products covered by the scheme the greater the observable effect at the level of total exports and, therefore, the stronger the impact on growth in the economy of the beneficiaries. On the other hand, the logic underlying the aim of stabilising earnings from exports of each product requires that compensations are transferred immediately to the sector concerned in order to allow producers both to reorganise production and improve their investment planning. These contentions are to some extent useful for understanding the way in which a micro-biased scheme such as STABEX can have an impact on a macro-variable such as the growth of a country.

One of the most controversial and debated aspects of STABEX is its product coverage. The list of eligible products has been extended over time from 29 in Lomé I to 49 in Lomé IV\(^\text{16}\). The aim of the EU-ACP agreement is to provide financial support to the exports of traditional commodities, in particular tropical tree crops, upon which many ACPs, as exporters, and the EU countries, as importers, depend. In fact, in 1994 the STABEX-products represent a large proportion of the total exports of many ACPs\(^\text{17}\) which are still the predominant suppliers to the EU market\(^\text{18}\). It would appear, however, that this basket of products could put ACP countries at a disadvantage. In fact, it could be a disincentive to diversification: it is in the interest of ACPs to achieve certain levels of production and exports in the selected sectors to satisfy the qualifying criteria of STABEX and then claim compensation. Yet it is unclear what the economic justification is for excluding from the stabilisation scheme various products (sugar, meat and tobacco) which are crucial for many countries (Zimbabwe, Malawi, Mauritius, Guyana, Fiji, Jamaica, Swaziland, Botswana). This choice can certainly not be justified on the grounds that certain products (meat and sugar) are included in preferential commercial agreements because the preferential policies are not concerned with export instability and, even if this

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\(^{16}\) The 49 products covered by the STABEX are the following: cocoa beans, cocoa husks, shells and skins and other waste, cocoa paste, cocoa butter, cocoa powder, raw or roasted coffee, extracts, essences and concentrates of coffee, groundnuts in shell or shelled, groundnuts oil, cotton not carded or combed, cotton linters, coconuts, copra, coconut oil, palm oil, palm kernel oil, palm nuts and kernels, leather of bovine animals, sheep and lamb skin leather, goat and kid skin leather, wood in the rough and squared wood, sawn wood, fresh bananas, dried bananas, tea, vanilla, cloves, wool not carded or combed, fine animal hair of angora goat mohair, gum arabic, pyrethrum, saps and extracts of pyrethrum, essential oils, sesame seed, cashew nuts and kernels, pepper, shrimps and prawns, squid, octopus and cuttlefish, cotton seed, oil cake, rubber, peas, beans, lentils, nutmeg and mace, shea nuts, shea nut oil and mangoes (art. 187.1 of Lomé IV).

\(^{17}\) In 1994, for example, exports from many ACPs were still concentrated on one or two STABEX products: Benin (exports of cotton accounted to 79% of the total exports of the country), Burkina Faso (cotton, 41%), Burundi (coffee, 85%), Comores (ylang-ylang, 59%; vanilla, 40%), Dominica (bananas, 59%), Ethiopia (coffee, 50%; skins 15%), Kiribati (copra, 80%), Grenada (nutmeg, 36%; bananas, 14%), Guinea Bissau (cashew nut, 60%; fishing, 20%), Ivory Coast (cocoa, 31%; coffee, 8%), Mali (cotton, 43%), Rwanda (coffee, 69%; tea 18%), Saint Lucia and Saint Vincent (bananas, 55%), Sao Tomé and Prince (cocoa, 80%), Somalia (40%), Sudan (cotton (40%), Tanzania (cotton , 20%; coffee, 16%), Tchad (cotton, 47%), Tonga (squash, 60%; vanilla, 23%), Uganda (coffee, 90%; hides, 3%) and Vanuatu (copra, 44%). Previous data are from EU Commission, «EU-ACP co-operation in 1995. What form of structural adjustment?», Directorate General for Development, Brussels, 1996.

\(^{18}\) Most of the EU imports of STABEX products come from ACPs. In terms of volume, in 1994, for example, ACPs absorbed 77% of Community imports of vanilla. Similar market shares were 62.64% in the case of copra, 87.36% for cocoa beans, 37% for coffee, 94.33% for natural gum arabic, 39.34% for groundnut oil, 38% for wood in the rough, 22% for cotton (not carded or combed) and 55% for sisal. The source of this data is EUROSTAT, «External trade of the EU with the ACPs and the OCTs», Brussels, 1995.
were not the case, it would be impossible to understand the inclusion of bananas to which Lomé granted a specific protocol. The paradox surrounding the exclusion of these products can be highlighted by recalling the guiding principle for the formation of the STABEX basket of goods, which was «to take account of employment, of the deterioration of the terms of trade between the EU and ACPs, on the level of development in the latter as well as the difficulties of isolation faced by less developed ACP states» (Art. 17, Lomé I). Evidently, political reasons concerning the protection of the EU domestic producer have outweighed the economic factors which should have inspired the choice of products to be included in the scheme. Today for various reasons the protecting arguments inside the Community have lost ground and this fact may make it now politically feasible to extend the range of goods under STABEX.

As regards the eligible products, there is another element to be considered, which has often been misinterpreted. Why does STABEX take into consideration only primary materials from the agricultural sector but totally reject mineral commodities? Compensation payments are made in order to «overcome one of the main obstacles to the stability, profitability and sustained growth of the economies of ACPs... through stabilising the export earnings of products on which their economies are dependent and which are affected by fluctuation in price or quantity or both these factors» (Art. 186.1, Lomé IV). This implies that the causes of instability are completely disregarded: the only thing that is considered is the stabilisation of export earnings. Therefore, it is hard to defend the selection of only agricultural products simply by saying that their export earnings instability depends to a greater extent on factors linked to domestic conditions of production, whereas in the case of the mining products the causes of variability are linked to fluctuations on the demand side19.

One consequence of the fact that the basket of goods covered by the system is tilted in favour of certain tropical agricultural products is how the STABEX payments are distributed on a country and/or product level. Over the period 1975-95 almost 30% of the transfers went to the Ivory Coast and Cameroon, that is to the major exporting countries of cocoa and coffee. These two products together received 56% of total transfers. As it functions at the moment it is of doubtful utility to privilege the biggest and the richest ACPs and doubts increase when one considers that from Lomé IV the STABEX payments are grants. Moreover the inclusion of only certain products accentuates the asymmetry in the treatment of ACPs under the Lomé Convention, because no account is taken of the position of some of the poorest countries which export mineral products20. Nevertheless, there is no mention in any official publication of the Commission of the difficulties connected with the setting up of a compensation system including all products, which would lead to reduction in those disparities in treatment between and within ACPs that have been evident up to the present.

As regards the second characteristic of STABEX studied in this paper - the utilisation of transfers in the ACPs - it has to be stressed that the EU Commission has

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19 It should be recalled that in 1980 the EU introduced a scheme, SYSMIN, that was aimed at the production of certain mineral products (copper, phosphates, manganese, bauxite, aluminium and tin). The substantial difference with STABEX is that SYSMIN payments are used to compensate for losses of production capacity in the ACPs.

20 Dependence on exports of minerals is very marked, for example, in Zimbabwe and Zambia, where copper exports in 1994 were 85% of the total exports of each country. The situation is similar in Zaire (copper, 85%), Jamaica (aluminium, 67%; bauxite, 14%), Suriname (bauxite, 85%), Togo (phosphates, 20%) and Sierra Leone (rutile, 48%; bauxite, 25%).
always allowed ACPs to decide freely how to allocate STABEX funds, even if the exercise of this discreional power has had to be in conformity with the regulations laid down under the Convention. These regulations stipulate that STABEX transfers be invested preferably in the sector concerned, or more generally in other sectors of the country where this could be justified on the grounds of diversification. In particular, from 1975 to 1985, the years of application of the first and second Lomé Convention, the final use of funds was not subject to any stringent controls. In Lomé I, ACPs on request from the Commission had to communicate the final destination of the allocated funds. Other than this, during Lomè II the ACPs were expected to inform the Commission on their most likely use and destination before obtaining the transfers. In Lomé III ACPs had to provide the Commission with «substantial» indications on projects financed by STABEX funds giving the motivations for diverting the funds from their original destination into a different sector. It is, however, from Lomé IV, that the EU has visibly renewed its orientation in STABEX, stipulating further controls and restrictions on the possible uses of transfers. One of these restrictions is that the ACPs transmit a detailed report on the use of the funds to the Commission, with the sanction of the EU withholding further resources from those countries which do not comply (Art. 212, Forth Lomé Convention).

The extreme flexibility of the regulations is accompanied by a large measure of discretion in the management of the funds by ACP governments. This fact could be used to explain the low impact of STABEX on economic growth in ACPs, because the possibility of diverting funds into sectors other than those which experienced a drop in revenue introduces a further distorting element in the economy. This is why the agents who operate directly with foreign markets can not stabilise their incomes\textsuperscript{21}. On the contrary, had ACP governments been obliged to utilise the funds in the triggering sectors, then it would have been possible to set up a virtuous circle which starting from the stabilisation of revenues of producers would have facilitated the rationalisation of decision making at the micro level and as a result would have enabled the country to achieve in the long run higher economic growth rates.

On the other hand, it is reasonable to consider that from the point of view of individual ACPs the lack of constraints in the regulations did not represent a problem, since, given the currency shortages, the balance of payment and debt problems, the object of governments is to increase the intake of foreign currency, whichever the reasons are. Operating in this way, however, the donors are equally responsible for the process which generates an incorrect perception of the variability in export earnings in that each ACP limits itself to linking the wide variation in revenues from exports, with the transfers which result from it. In other words, the ACPs see STABEX as an additional aid window, not as a stabilisation device. It is quite clear that this works as a disincentive to imposing policies aimed at removing the domestic causes of instability and this must be very much taken into account in future Lomé negotiations.

\textbf{VI. CONCLUSION}

This work has analysed both the impact of instability of export proceeds on the economic growth of 52 ACPs and the efficacy of STABEX in terms of the impact of compensatory

\textsuperscript{21} The use of transfers outside the triggering sectors constitutes the rule rather than the exception followed by ACP governments in the management of STABEX funds (ERO, 1995, Hewitt A., 1983; Kappel, 1996; Lim D., 1991)
payments on economic growth in the recipient states. The countries included in the analysis are those which, between 1975 and 1995 benefited from financial transfers from the EU under the terms of the Lomé Convention. These transfers were intended to compensate for short term falls in exports revenue of ACPs. The method used was the evaluation of a neoclassical growth model, which included the growth rates of capital and employment as well as the growth and instability of exports. The empirical analysis represents, in the first place, a confirmation of the hypothesis often argued in the literature that exports can be the motor of development in developing countries. In the case of ACPs this finding can be used to support the aid to trade approach that is one of the distinguishing feature of the past Lomé Conventions. The indications which emerge from the study re-enforce the basic idea that the political-commercial instruments set down in the EU-ACP agreements can contribute to the dynamics of self-development of each country driven by the extent of their capability to stimulate export growth. Examples of these instruments are the protocols on single products (meat, sugar, rubber, bananas, etc) and the preferential commercial policies in favour of exports from ACPs to the European Union.

Moreover, as regards the specific objectives of this paper, the most important finding is that economic development is severely penalised by the instability of exports. In fact, in all the growth models estimated the coefficient associated with the index of export earnings instability is negative and statistically significant. Furthermore, this was found to be true whatever method was used to calculate the instability of exports. This part of the analysis, which covers the period up to the mid 1990s, adds a further contribution to the somewhat pessimistic debate on the instability of revenues from exports in ACPs. Added to this if one takes into account the overall composition of the countries analysed and the fact that they all belong to the Lomé Convention, then the results also represent clear evidence to support the international development policies pursued by the EU in this area. In this specific case, it seems legitimate to promote development through compensation transfers for the loss of earnings caused by falls in the value of exports. At the same time an attempt was made to test the efficacy of the instrument adopted by the EU to cope with the problem of instability. On one side the analysis illustrates how STABEX has on average lessened earnings instability from total exports, on the other, the paper tried to show that the stabilising effect was insufficient to influence in a significant way the dynamics of economic growth in these countries. So, another finding is that STABEX does not «help ACPs overcome the obstacles to stability, profitability and growth in their economies», contrary to what is claimed in the various Lomé Conventions (art.186.1, Lomé IV).

At the end of the work it has been argued that among the causes of STABEX’s lack of effectiveness one should include certain aspects of the workings of the scheme. Besides an increase in the amount set aside by the Commission and the speed with which payments are made, another proposal worth considering is extending the scheme to all exports from ACPs. In fact, the possibility of including every product would not only create the conditions for greater stabilisation of total exports and consequently more economic growth in the beneficiary but also would lessen the asymmetry in the treatment between countries with few STABEX products (coffee and cocoa) and exporters of other agricultural products (meat, sugar, tobacco) or mineral commodities.

The final element examined has been the way in which ACPs use the compensation. It was highlighted how using funds outside the triggering sector is a disincentive to coming to grips with the real causes of the problem and encourages the erroneous perception on
the part of ACP governments of the variability of their exports. It is important, therefore, to stress the need for a policy which aims at enlarging the product coverage and for measures to restrict the use of funds to the sector in which the drop in earnings occurred. These two innovations are indispensable if STABEX is to become a valid instrument of international aid for development.

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