

# External Debt and Financing of Economic Development in Guinea

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## Abstract

After fifty years of independence and notwithstanding several decades of official development assistance programmes, Guinea's economic performance remains mixed and far from satisfactory. The country is now in a very precarious economic and financial situation. All macroeconomic indicators are below acceptable standards: Uncontrollable inflation, steady currency depreciation, deterioration of the terms of trade, high level of corruption, etc. Socially, poverty is deepening, with more than 52 percent of the Guinean population living below the poverty line.

The many ills afflicting Guinea are compounded by a huge external debt (which rose from US\$ 514.1 million to US\$ 3,261.2 million between 1972 and 2004) and the issue of debt service (which increased from US\$ 19.1 million to US\$ 171.8 million during the same period) thus undermining all development efforts. The Guinean State has difficulty honouring its external debt maturities because of lack of foreign exchange. We therefore chose this theme in order to review the impact of debt on economic development and recommend economic policy solutions, in particular regarding debt management.

To assess the impact of external indebtedness on economic development, the study drew on the Patillo *et al.* (2002) model which was adjusted according to availability of data and Guinea's economic realities. It uses the cointegration technique for time series resulting in the error correction model for the 1972-2005 period. The estimation results show that external debt impacts negatively on per capita growth. They also show that of all the variables of the model, the investment rate and the development of human capital are the key sources of growth, while the country benefits very little from opening up to trade and currency depreciation. Economic policy recommendations, namely debt management, maintenance of macroeconomic stability, human capacity building, and diversification of exports, were made in consideration of these results.

## 1. General introduction

The indebtedness phenomenon is a natural consequence of economic activities, due to the fact that some countries or institutions have financial surpluses and others financing needs. Indebtedness, therefore, enables a country to invest capital in excess of its own financial resources by borrowing excess capital (Klein 1994). The debt thus created is supposed to generate growth and boost development. However, to generate resources and be able to repay the loan, the latter must be used efficiently and in productive sectors.

Soon after their independence, African countries, with a view to achieving economic and social development, realised that the capital and production infrastructure already in place was inadequate for any economic take-off. The gap between the need for necessary investments and available resources was enormous. Most of them had to rely on heavy indebtedness. The increase in needs had very quickly exceeded financing capacities.

Over time, trends in the debts of all developing countries (DCs) have shown that indebtedness was caused more by reasons arising from purely financial factors than by a real need for financing productive investment. The result has been a series of successive increases in the amount of debt, leading to a vicious circle of indebtedness. Between 1980 and 2000, the external debt of developing countries increased five times from US\$ 500 billion to US\$ 2500 billion, while African debt more than tripled, rising from US\$ 60 billion to US\$ 206 billion during the same period, according to the World Bank. The Republic of Guinea was not to be spared by this debt crisis. Its debt stock rose from US\$ 1133.5 million to US\$ 3516.02 million between 1980 and 2000. Exacerbated by poverty, this debt burden now impedes all development efforts.

Indeed, the Republic of Guinea, despite all its natural potential and all forms of assistance (financial and technical) it has received, is today in a very difficult economic situation and experiencing serious debt problems. From the macroeconomic standpoint, there is a slowdown in the rate of growth, a deterioration of the terms of trade, a worsening of the Treasury's indebtedness to the Central Bank, used especially to finance the budget deficit, which reached its peak in 2004 with a balance of GNF 197.4 billion, and a steady depreciation of the currency in relation to foreign currencies, from 0.09 percent in 1972 to 44.6 percent in 2006 against the US dollar. Inflation reached a year-on-year rate of 39.1 percent in 2006, which is its highest level in more than ten years.

This situation has been compounded by an increase in its external debt. The accumulation of arrears and poor debt management have led to excessive indebtedness. The debt stock rose from US\$ 514.1 million to 3261.2 million, representing an increase of 534.35 percent between 1972 and 2004. Debt service went up from US\$ 19.6 million to 171.8 million during the same period. In addition, huge sums of money are released as debt servicing each year. Many slippages in macroeconomic management have seriously impac-

ted the mobilisation of external financing and the implementation of the Poverty Reduction Strategy (PRS). Hence, in 2002, the three-year programme concluded with the IMF for the 2002-2004 period was suspended. Since 2003, the mobilisation of HIPC resources has also been suspended. And at the end of December 2006, cumulative arrears on debt service were estimated at US\$ 60 million.

In view of the foregoing, questions arise over the role of the debt in the economic development of Guinea.

The main objective of this study is therefore to assess the impact of external debt on Guinea's economic development. The basic assumption is that debt has not boosted economic development. To confirm or invalidate this assumption, it will be a matter of highlighting the relationship that exists between the per capita GDP growth rate, external debt indicators, and other growth indicators that can influence it. Accordingly, economic development here means a process through which the country builds its capacity to produce goods and services. Thus, the study will focus on economic growth, which is a prerequisite (though it is not enough) for economic development. The per capita GDP growth rate is the indicator of such growth.

This study comprises four parts in addition to the introductory section. The second part provides not only relevant information on the Guinean economy, but also analyses in detail the entire public debt of Guinea, laying emphasis on external debt as well as the various debt initiatives. After reviewing the different theoretical and empirical studies conducted on this subject in part three, the fourth part deals with the methodology, the research findings and their interpretation, as well as economic policy recommendations. The discussions end with a general conclusion.

## **2. Guinea's public debt and economic performance**

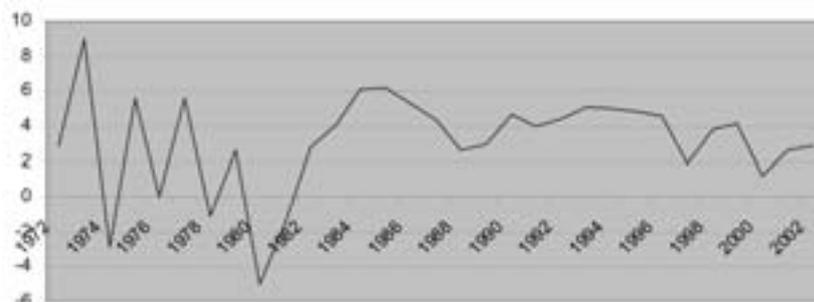
### **2.1. A mining and service economy**

Guinea's economy has experienced two development approaches – the planned and the market economies. The planned economy, which lasted from 1958 to 1984, was marked by the centralisation of the role of the State in economic activities. This period realised the following:

- The creation of 180 industrial enterprises, most of which were bottomless pits for the national budget;
- The elimination of private businesses from November 1964;
- The establishment of the 'standards' system in rural areas through capitation tax. Purchase prices of agricultural products were also taxed by the State.

In 1958, the rural sector employed 85 percent of the active population. It accounted for 65 percent of GDP and 60 percent of export earnings. By 1986, the sector accounted for only 30 percent of GDP and 3.5 percent of

**Figure 2.1. Trends in real GDP growth rate from 1972 to 2005**



Source: World Bank Statistics Division - 2007

export earnings. It was in this context that the planned economic system gave way to the market economy beginning 1985. Since this date, Guinea has embarked on an economic and financial reform process backed by the International Monetary Fund (IMF) and World Bank (WB). The reforms have sought to revive economic growth and improve the living conditions of Guineans through the restoration of macroeconomic balances. The reforms have certainly had positive impacts, but the real change expected has not been realised. The living conditions of the population have been deteriorating, especially in recent years.

In general, economic activity has not always kept up with the reforms implemented to promote sustained growth. It continues to suffer the effects of the absence of a dynamic private sector that can generate resources to narrow the balance of payments deficit and curb unemployment. The GDP growth rate was irregular over the 1972-1986 period as the graph below shows.

From 1972 to 1982, real GDP growth rates were relatively high (from 5.1 percent in 1974, the rate was 9 percent in 1976), even though there were also negative rates (-5 percent in 1983). In contrast, since 1986 the rates have been positive but rarely reaching six percent. During the 1994-2006 period, the growth rate hovered around four percent, with a peak of 5.2 percent in 1997.

Furthermore, the structure of the economy is characterised by a predominant tertiary sector with an average contribution to nominal gross domestic product (GDP) of about 41.1 percent. The secondary and primary sectors accounted for 29.9 percent and 20.9 percent of GDP respectively over the 1986 to 2004 period. Whereas agriculture plays a predominant role in the primary sector, the secondary sector is characterised by the significant contribution of the mining sub-sector to export earnings. The economy is therefore largely dependent on the mining sector, which generates more than one-quarter of the State's current revenue and about three-quarters of its export earnings. For decades, bauxite has indisputably been the major export pro-

**Table 2.1. List of Major Export Products (US\$ million)**

Year	Bauxite	Aluminium	Gold	Diamond	Coffee	Cotton	Fish	Others
1989	415.82	130.49	50.74	67.26	19.20	6.52	0.02	3.70
1990	457.60	166.01	43.22	64.33	22.06	18.64	46.83	1.84
1991	434.39	134.55	32.23	50.75	23.75	21.39	22.77	1.85
1992	358.82	102.52	19.75	55.38	24.33	20.94	24.99	4.85
1993	333.27	108.89	13.89	70.03	36.59	14.59	22.80	16.66
1994	283.20	88.17	20.77	31.94	67.24	15.60	26.87	14.17
1995	326.00	96.32	72.88	35.31	43.03	21.73	58.95	11.31
1996	311.58	103.60	65.20	38.87	13.48	22.62	36.02	12.73
1997	325.93	94.50	34.01	56.81	31.59	34.54	46.83	4.45
1998	325.14	100.31	72.06	34.01	37.49	37.49	24.14	11.49
1999	296.65	85.60	120.12	50.82	35.42	20.29	14.00	28.43
2000	299.42	102.77	131.48	61.57	21.41	25.37	23.48	20.92
2001	319.58	138.54	139.34	28.14	15.18	16.69	25.16	29.54
2002	282.21	137.80	162.32	35.86	17.64	29.02	30.15	13.59
2003	255.88	144.98	179.34	52.19	20.40	31.46	34.05	13.73
2004	292.32	162.92	164.70	48.15	8.94	0.30	36.17	36
2005	358.14	173.38	182.44	45.48	11.64	0.34	26.74	38.34
2006 <sup>e</sup>	404.69	147.07	327.00	42.91	27.64	0.30	37.04	35.92
2007 <sup>e</sup>	424.64	165.67	374.90	50.73	26.86	0.00	36.24	15.00

e: estimates

Source: Guinea's Economic Simulation Model (2007).

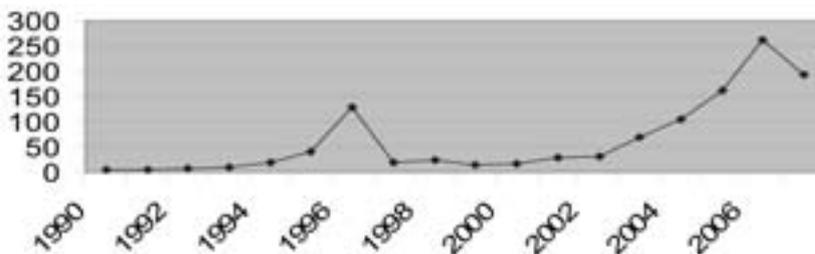
duct of Guinea, which has about two-thirds of world bauxite reserves. Gold and diamonds also contribute to GDP formation, but their share is small because they are under-tapped. The table below shows trends in the major export products.

In view of the country's mineral reserves, therefore, mining will be one of the main sources of foreign exchange for a long time, and an important activity for the economic growth of the country.

## 2.2. Domestic Debt Review

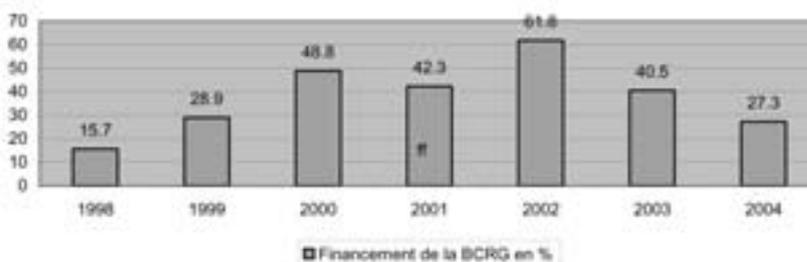
The domestic debt of a country is the debt that the State contracts from the residents (or institutions) of the country in local currency. In Guinea, domestic debt has increased significantly in recent years. At the end of 2004, the State's domestic debt represented about 22 percent of GDP. It was made up of Central Bank advances (15 percent), Treasury bills held by commercial banks (four percent) and accumulated arrears owed to the private sector (three percent). The volume and structure of the domestic debt show not only the deterioration of the cash position of the government, but also the weakening of the financial capacities of public enterprises and private economic operators. The causes of such massive increase in domestic debt are principally the decline in the value of the contributions of mining companies, low level of tax revenue, lack of foreign aid since 2002, and accumulation of arrears. The figure below shows domestic debt trends in billions of Guinean francs.

Figure 2.2. Domestic Public Debt Trends (in billions of Guinean francs)



Source: Guinea's Economic Simulation Model (2008).

Figure 2.3. Financing of the Budget Deficit by Central Bank from 1998 to 2004 (in %)



Source: Central Bank of the Republic of Guinea (2005).

Furthermore, there is a strong interdependence between monetary policy and fiscal policy, as the rate of money creation is closely correlated with the size of the budget deficit. From 1998 to 2004, the Central Bank's contribution to the financing of the budget deficit rose from 15.7 percent to 27.3 percent, with a peak of 61.8 percent in 2002.

However, the State cleared GNF 16.97 billion of its debt owed to the BCRG (Central Bank of Republic of Guinea) and GNF 63.40 billion owed to commercial banks. In terms of stock, at the end of June 2005, the consolidated net position of the Public Treasury vis-a-vis the banking system was GNF 733.03 billion owed to the Central Bank and GNF 248.52 billion owed to primary banks. In addition, during the 2007 budget, GNF 192.43 billion of the debt owed to the BCRG by the Treasury was paid, but GNF 197.74 billion of arrears of payment had accumulated.

In short, there is a significant domestic debt and the large public deficit does not make it possible to effectively clear it. Although domestic debt has been reduced, the outstanding amount is still high and undermines national savings, which are relatively low (20 percent of GDP) because there are practically no public savings (which were negative for some time, and hovered around three percent of GDP in recent years) as most of the revenues generated are earmarked for debt servicing and current expenditure (salaries). The domestic debt is therefore a real obstacle to the revival of growth.

**Table 2.2. External Debt Trends in US\$ million**

Year	Debt Service	Outstanding Debt	Total External Debt
1972	19.6	610.7	514.1
1974	27.5	876.6	743.6
1976	38.1	1 032.2	824.1
1978	72.6	1 283.8	1 040.1
1980	109.3	1 545.6	1 133.5
1982	88.9	1 576.7	1 365.6
1984	110.3	1 691.7	1 256.2
1986	71.7	2 472.6	1 764.1
1988	127	3 035.1	2 265.7
1990	168.6	3 436.8	2 476.2
1992	87	3 462.4	2 633.6
1994	96.8	3 507.7	3 109.8
1996	113.5	3 612.8	3 240.3
1998	159.1	3 545.9	3 376
2000	155	3 387.9	3 516.02
2002	125	3 400.9	3 364
2004	171.8	3 218	3 261.2

Source: World Development Indicators (2006).

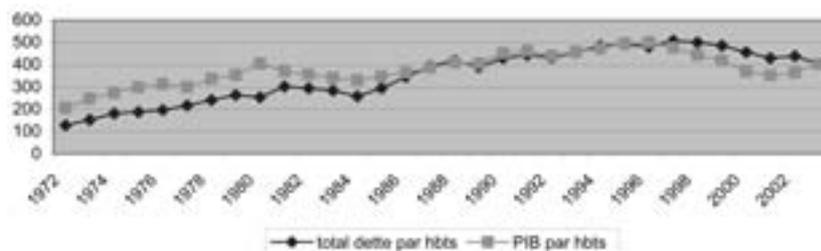
### 2.3. External Debt Review

Guinea, which became a socialist country upon independence, quickly turned towards countries of the Eastern Block, in particular Russia (former USSR) for borrowing, among other forms of support. In the 1960s, the major creditors of Guinea were Eastern Block countries, in particular Russia (former USSR). About 47 percent of the 27 loan agreements signed by the country were with Russia. However, because of the non-convertibility of the Russian currency, Guinea turned towards other donors and from the 1970s, the most important creditors were members of the Paris Club and international organisations. Gradually, the debt burden became heavy, especially because of bad management and accumulation of arrears. The country's debt stock rose to US\$ 3141 million in 2006 from US\$ 514.1 million in 1972, while the outstanding debt increased from US\$ 610.7 million to 3141.45 million between 1972 and 2006. Debt service surged from US\$ 19.60 million to US\$ 206.72 during the same period.

For the 1990-2002 period, debt service accounted for about 25 percent of current expenditure on average. In 2007, debt service was estimated at US\$ 193.78 million including 49.59 million in interest, although presently, most of Guinea's external resources are derived from grants as official development assistance, which accounts for nearly 60 percent of the country's net resource flows. The graph below shows debt per capita trends compared with per capita GDP trends.

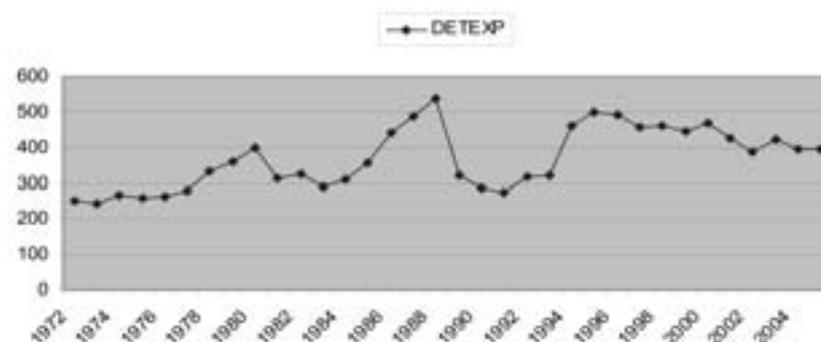
Paradoxically, it was from 1987 that the debt/inhabitant ratio increased, whereas structural adjustment programmes had just been put in place. Since

**Figure 2.4. Trends in Debt and GDP per capita from 1972 to 2004 (in US\$)**



Source: WDI 2005 and WB 2006

**Figure 2.5. Trends in Outstanding Debt/Export Ratio (DETEXP) from 1972 to 2005**



Sources: WDI and World Bank Statistics Division (2006).

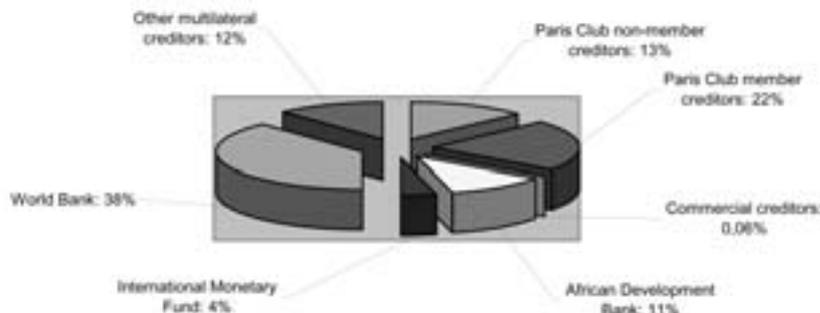
1996, debt per capita has been higher than GDP per capita. However, since 2005, debt per capita seems to have been levelling down to GDP per capita, due to the decrease in foreign aid. Still, the substantial financial flows obtained as a result of indebtedness have not facilitated the economic take-off of Guinea.

In addition, the outstanding debt/export ratio went up from 250 percent to 396 percent between 1972 and 2005 with a peak in 1995 (500 percent), whereas the desired value was 275 percent, while the debt service/export ratio fluctuated between five percent and 29 percent during the same period, against a projected debt service/export ratio of 30 percent.

Bad public resource management, lack of policy and social dialogue, and weakening of State authority have led to a drastic drop in external financing<sup>1</sup>, undermining the implementation of the National Poverty Reduction Strategy

1. The European Union (EU), the country's leading financial partner, has suspended its financial co-operation since 2001. Likewise, since the suspension of the programme with the IMF in December 2002, Guinea has not been able to reach the completion point of the HIPC Initiative, which was initially scheduled for 2003, or receive budget support to finance its PRS.

**Figure 2.6. Breakdown of External Debt by Creditor (end 2004)**



Source: World Bank (2006).

(PRS). This makes it unlikely that Guinea will achieve the Millennium Development Goals (MDGs) by 2015.

Furthermore, the poor management of the economy in recent years has led to deepening poverty, which rose from 49.2 percent in 2002 to 53.6 percent in 2005. This situation is primarily due to bad governance, inadequacy of implemented development strategies and programmes, and the inconsistency of fiscal and monetary policy measures.

Guinea's external debt structure shows a predominance of multilateral debt, followed by debt contracted from member countries of the Paris Club.

At the end of 2004, Guinea's external public debt was estimated at US\$ 3270 million. Some 65 percent of this amount was owed to multilateral creditors (including three-quarters to the World Bank and African Development Bank). About 22 percent was owed to creditors of the Paris Club and the rest to commercial creditors and non-members of the Paris Club.

Problems associated with indebtedness are numerous and arise from many factors including the following:

- As in most heavily indebted poor countries (HIPC), Guinea's external debt is sensitive to fluctuations in the dollar in relation to the major international currencies. More than 70 percent of the debt is denominated in euros, yen and SDRs. The depreciation of the dollar against these currencies has increased its value in dollars.

- The external current account deficit (excluding transfers) worsened, increasing from 4.6 percent of GDP in 1989 to 7.7 percent of GDP in 2006 due to the deterioration in the terms of trade and a high rise in imports, especially of petroleum products and foodstuffs.

- The main tax problem is the low level of revenue, which leads to inadequate resources devoted to investment and delivery of essential public services. The country is bound to pay interest on its debt, which is a component of current expenditure. The mobilisation of revenues has been less than 12 percent of GDP in recent years. This is well below the average of about 18 percent of GDP for countries in the sub-region. Debt service continues to be

a burden because, on average, it has accounted for about 25 percent of current expenditure over the past few years.

- Debt sustainability indicators worsened in relation to the calculations made at the decision point of the HIPC Initiative, reflecting essentially a fall in the value of exports (of about 20 percent year-on-year) and tax revenue.

- Another major problem is the high level of domestic debt owed to the Central Bank because of the printing of new money. The total stock of Guinea's public debt was about US\$ 3.4 billion as at 31 December 1999, according to the IMF in 2001.

- Lastly, there is a problem of debt management. The debt is often directed at non-productive sectors, waste, and institutionalised corruption. The choice of beneficiaries is frequently political.

Other dysfunctions also led to the debt crisis. They include dubious use of funds borrowed, inadequate foreign exchange gains, the public deficit situation, wide fluctuations in commodity prices, lack of diversification of export earnings, and bad governance.

## **2.4. Debt Initiatives**

Faced with the problems of indebtedness and in a bid to stimulate the growth of poor countries (particularly sub-Saharan African countries), creditor states agreed to gradually relax debt repayment conditions. To this end, two sets of solutions were proposed to assist the countries concerned in adapting the debt burdens to their actual capacity to service them. The first set of solutions relates to technical adjustments of debt contracted exclusively from the Paris Club and the London Club. The second set of solutions is based on the system of previous debt adjustments, which proposes an overall debt relief (including multilateral debts) that would make the debt burden economically and socially bearable. This is the heavily indebted poor countries (HIPC) debt relief initiative.

### **2.4.1. Solutions preceding the HIPC Initiative**

The first international conventional debt reduction mechanisms implemented include the Baker and Brady Plans, the Toronto Terms (1988), the London Terms (1991), the Naples Terms (1995) and the Lyon Terms (1996). As the adjustment technique through debt rescheduling only lengthens maturities, the debtor country sees its future loan maturities increase. And if the economic situation of the country deteriorates due to poor international economic conditions affecting the prices of major commodities or to internal factors, the country is obliged to re-apply for successive rescheduling. This was the case of Guinea. The deterioration of both the domestic and international economic environment led it to apply for rescheduling. The table below summarises the renegotiation of Guinea's debt according to these terms.

**Table 2.3. Guinea's Debt Workout in US\$ million**

Workout Date	Type of Workout	Amount of Workout	Workout Status
18 April 1986	Conventional	200	Repaid
12 April 1989	Toronto	124	Active
18 November 1992	London	203	Active
25 January 1995	Naples 50%	156	Active
26 February 1997	Naples 50%	122	Active
15 May 2001	Cologne	151, including 70 cancelled and 81 rescheduled	Active

Source: Paris Club (2002).

In 1989, the amount of debt cancelled was US\$ 239.30 million while US\$ 75.5 million in debt was rescheduled. In 1995, US\$ 181 million in debt was rescheduled and 110.91 million cancelled, against 384.2 million rescheduled and 59.4 million cancelled in 1992 (MSEGUI 2005).

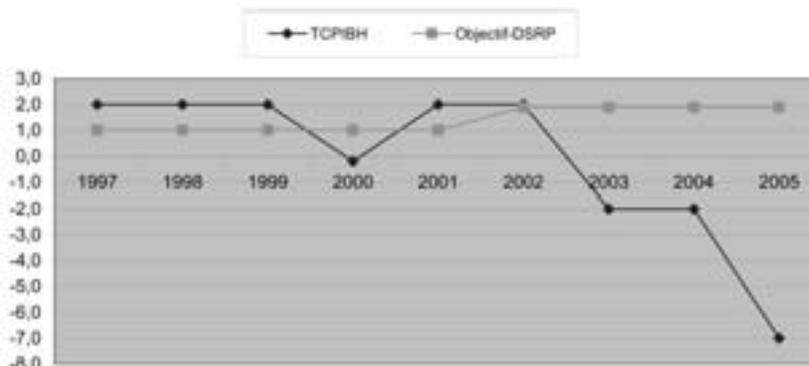
#### **2.4.2. HIPC Initiative**

The scope of the new poverty-reduction-focused approach is broader because it covers the debts of multilateral bodies. The approach was initiated by the Bretton Woods institutions, which agreed to relax the terms and conditions of implementation of the Heavily Indebted Poor Countries (HIPC) debt relief initiative. It was later enhanced and backed by industrialised countries during the G-7 Summit in Cologne in June 1999, leading to the implementation of the enhanced HIPC initiative.

In a bid to benefit from assistance under the initiative, Guinea embarked on macroeconomic and structural reforms, which enabled it to be eligible for the HIPC Initiative in December 2000. Its outstanding debt as at 31 December 1999 (the base year for calculation of relief at the decision point) stood at US\$ 3374.78 million, representing 219 percent of exports of goods and services in net present value terms and US\$ 1178 million due to the Paris Club on 31 December 2000. On 15 May 2000, Guinea's programme was reviewed at the Paris Club under this initiative. The first two phases of the programme (December 2000-March 2003) were successful and efforts to mobilise HIPC resources for basic social sectors were made. However, the deterioration of the macroeconomic framework in recent years led to the suspension of the implementation of the HIPC initiative. The attainment of the completion point of the HIPC Initiative, which was initially scheduled for mid-2003, was postponed to a later date.

Furthermore, since the launching of the process to formulate and implement a national poverty reduction strategy in 2000, the growth dynamics have continued to lose steam, compounded by high inflation and deepening poverty. On average, the annual per capita GDP growth rate stood at about 0.33 percent between 1997 and 2004, compared to a population growth rate

Figure 2.7. Trends in Per Capita GDP Growth Rate from 1997 to 2005



Source: Macroeconomic framework (2005).

of three percent and a PRSP projected growth rate of 1.9 percent (Figure 2.7). This clearly shows that the poverty reduction objective based on strong and sustainable growth has been jeopardised. It is therefore doubtful if the HIPC Initiative is a workable approach to finding an effective solution to lift Guinea out of the vicious circle of indebtedness and poverty.

Between 1997 and 2005, the per capita GDP growth rate (TCPIBH) dropped from 2-0.9 percent. After a recovery between 2001 and 2002 (a two percent growth rate), it dropped again to -2 percent in 2004. In 2005, the situation was worse. The GDP growth rate declined to -7 percent, significantly short of the objectives of the PRSP. Such poor performance can be explained by external factors (continuing insecurity in the sub-region, rise in the prices of petroleum products, etc), but also by the tense political climate in the country and slippages in the management of public resources and bad governance. In this context, Guinea has to meet major challenges in order to normalise its relations with its key partners and revive the fight against poverty in the country.

However, in April 2005, the government was able to negotiate the resumption of a PRGF (Poverty Reduction and Growth Facility) programme with the International Monetary Fund (IMF). It put in place a staff-monitored programme. Nevertheless, the outcomes were still not favourable. However, in 2007, Guinea gradually resumed co-operation with development partners and benefited from debt relief of US\$ 547.17 million, including US\$ 33.43 million rescheduled and US\$ 21.28 million under the HIPC Initiative (National Directorate of Economic Studies and Forecasting, 2008). In 2008, it concluded a PRGF programme with the IMF. The proper implementation of the programme was expected to enable Guinea to reach the completion point of the HIPC initiative scheduled for December 31, 2008, and which could result in the cancellation of most of its debt. The outstanding amount represented 75 percent of GDP in 2007 after reaching 112.8 percent of GDP in 2006.

After reviewing the trend of Guinea's economy and public debt, the first remark is that although the debt situation has improved significantly, economic performance has not followed suit. In short, Guinea is experiencing serious debt problems, which have plunged the country into continuous dependence on foreign aid while poverty is deepening. It is therefore necessary to see what theoretical and empirical studies have obtained as conclusion on the relationship between growth and indebtedness.

### **3. Debt and growth: theoretical lessons and empirical studies**

Many authors have written on the theoretical bases of economic growth and its determinants, as well as the role of borrowing. Although this is a relatively old debate with Cairnes (1874) being one of its forerunners, recent theories of endogenous growth helped to revive it.

#### **3.1. Theoretical framework**

There are two main opposing schools of thought on the economic theory of external debt and growth, namely the Keynesian and the neoclassical. To the Keynesians, indebtedness does not bring about charges either for future generations or present generations as a result of the investments that it generates. According to this theory, indebtedness, which revives demand, results in a more proportionate increase in investment through the accelerator effect. This in turn leads to a rise in production. By contrast, the classical economists consider indebtedness as a future tax and attribute it to the State. It is a negative connotation because to them, public indebtedness hinders capital accumulation and consumption by present and future generations.

All theoretical studies on the relationship between external debt and growth have therefore been centred mainly on the negative effects of debt overhang. The *debt overhang* theory supposes that beyond a certain threshold, external loans have negative effects on economic growth. This means that additional loans will reduce the probability of repayment.

The twin-deficits model propounded by Chenery and Strout (1966) underscores that indebtedness is associated with an imbalance, and depending on the case, it is the imbalance between savings and investment, and the budget deficit and the current account deficit. Consequently, the model recommends that external savings should condition economic development if the savings-investment and import-export imbalances are to be corrected. These authors believe that domestically, it entails accumulating the savings needed to finance domestic investment and externally, finding the resources needed to finance the balance of payments deficit.

Dittus (1989) demonstrated a relationship between tax burden and debt repayment. He points out the existence of costs associated with indebtedness,

which lead to artificial growth based on investment that is more than the country's effort. This triggers adjustment through inflation.

The Barro (1990) model argues that debt is not wealth for the present generation. It is therefore not a bridge between generations as economic agents perfectly anticipate future taxes, which will be reimbursed. Thus, part of the debt will be transferred to the future generation (fiscal debt) and the other part will be compensated (government securities). That is why the substitution of taxation by borrowing does not necessarily bring about growth.

Empirical studies relating to the impact of debt on economic growth have recently gained ground. There has been a growing number of studies devoted to this issue in developing countries, especially since the debt crisis in the 1980s.

### **3.2. Empirical studies**

All studies conducted on a sample of countries, such as the studies by B. Eichengreen and R. Portes (1986), Elbadawi *et al.* (1996), Patillo *et al.* (2004), and Clemens *et al.* (2003), also noted that excessive indebtedness has a negative effect on the growth rate.

The works of Barry, E. and Portes, R. (1986) focused on the identification of determinants of the stock of debt of about thirty countries at a given moment of their economy. They came to the conclusion that excessive indebtedness and default tend to reduce the real growth rate and the credibility of the State.

Elbadawi *et al.* (1996) confirmed the effect of debt overhang on economic growth in 99 developing countries, and tried to identify the channel through which indebtedness impacts negatively on growth. In this connection, they identified three channels of transmission of the impacts of debt on growth. These are the effects of debt on growth, liquidity (as a result of the drawdown due on debt service), and indirectly on public sector expenditure and deficits. The study concluded that it was the accumulation of debt which had a negative impact on growth.

Clemens *et al.* (2003), for their part, considered a growth model by choosing the virtual debt burden hypothesis. They arrived at the conclusion that a six-point debt service reduction in percentage of GDP will increase the investment rate from 0.75 to one point and growth to two points. Furthermore, they believe that if half of debt service were cancelled without a rise in the budget deficit, growth will increase in some HIPCs by 0.5 point per annum.

In a complementary study conducted in 2002, Patillo *et al.* applied a growth accounting model to a group of 61 developing countries and noticed that doubling the average level of their external debt reduced the growth of both the physical capital per head and the total productivity of factors by almost one point. On the basis of the LAFFER curve, their study enabled

them to prove that debt would have a reverse U-curve with growth. The results obtained confirm the debt overhang hypothesis because they found that beyond the debt-to-export ratio of 160-170 percent and debt-to-GDP ratio of 35-40 percent in nominal value, debt led to negative growth. Nevertheless, there was a limit in their analysis owing to the fact that the reasoning was applied to HIPCs but based on a sample including non-HIPCs.

Concerning specific studies conducted in countries, there is no consensus. For Borensztein (1990), debt service is an essential determinant which impacts negatively on external indebtedness in the Philippines. He concluded that the outstanding debt and the debt service-to-export ratio generally had the opposite effect on private capital formation and encouraged the country's indebtedness. In analysing the issue of indebtedness in Uganda, Barungi *et al.* (2000) identified the problems relating to indebtedness as well as its implications on the country's economy. Their major concern was to find out if the economy could attain a five percent growth rate while maintaining a suitable level of domestic investment, considering the country's heavy dependence on foreign capital. This concern was justified by the fact that a large portion of the country's debt was not eligible for rescheduling. For Uzochukwu (2005), the improvement of external debt indicators, in particular the debt service-to-export and the outstanding debt-to-export ratios, is the main cause of the slow growth in Nigeria.

Conversely, Wejeweera *et al.* (2005) demonstrated the relationship between economic growth and indebtedness in Sri Lanka during the 1952-2002 period, and arrived at contrary conclusions. They established that the country did not have a problem of debt overhang, and that indebtedness was not the major obstacle to growth, owing to the fact that the total debt stock was not too high. The study conducted by Desta (2005) also came to the conclusion that it was not debt service payment that curbed growth in Ethiopia, but rather the real effective exchange rate and inflation.

From this literature review, which probes the relationship between external debt and economic growth, it can be deduced that, in most cases, external indebtedness has a negative effect on the economic growth of developing countries, particularly those of sub-Saharan Africa. The countries find themselves with very high levels of indebtedness. But then, empirical evidence reveal controversial results concerning the impact of the various debt ratios. Whereas for some countries it is debt service payment that is an obstacle to growth, for others, it is the accumulation of debt itself or both. Such contradictions might have stemmed either from the variability of the methods used by the specialised economists or from the particularities (economic situation, buoyant growth sectors, and availability of data) of the countries under study. Guinea, a heavily indebted poor country, does not have a desirable economic situation. That is why the next section deals with the specific case of Guinea.

## 4. Methodology of estimation and interpretation of results

### 4.1. Specification of the model

The relationships between external debt and economic growth have been the subject of many econometric research works and most of the results point to the negative effect of the one on the other. For this study, the model used by Patillo *et al.* in 2002 served as the frame of reference. In addition to the debt ratios, the study took into account growth determinants and arrived at satisfactory results. These include deferred per capita income, investment rates, secondary school enrolment ratio and population growth rate (all in logarithms), the difference in policies (openness, budget balance), as well as external shocks (terms of trade). However, modifications were made to this basic model depending on the availability of data and the economic realities of Guinea as underscored in Part II.

The period chosen for the estimation is 1972 to 2005. The choice of this period is justified by: (i) The fact that it is from 1970 that Guinea turned to the other donors to diversify borrowing sources; (ii) in 2005, the country recorded a drop in foreign aid due particularly to the suspension of the programme; and (iii) the availability of data.

However, other internal factors, such as inflation, the level of indebtedness of the treasury, or the budget deficit, can play a major role as growth determinants. But due to lack of data over a long period, they were not taken into account in the model below. Another study would require the consideration of all these factors.

Thus, Guinea's economic growth will be approximated by the per capita GDP growth rate ( $TCPIBH_t$ ). Economic growth refers to increase in the production of goods and services in an economy at a given period, particularly over a long period. Generally, per capita GDP growth is used as an indicator of improvement of the standard of living.

The independent variables are the deferred per capita GDP growth rate of a period ( $TCPIBH_{t-1}$ ) and the population growth rate ( $TCPOP$ ). A population increase is likely to impact negatively on the growth rate. In other words, a high population growth tends to impoverish a country in the sense that it is difficult to preserve a significant volume of capital per worker in the face of a rapid growth in the number of workers (Mankiw 2003). The investment rate ( $TXINV$ ) shows the share of total investment in GDP. Considered as a source of growth, it helps to increase the physical capital and production, hence income. The investment rate will be deferred by a period because as usual, the effect cannot be felt during the same year.

The investment rate in Guinea varied between 12 and 25 percent between 1972 and 2005, with a 27 percent peak in 1985, which marked the start of economic liberalism. Human capital development ( $DCH$ ) is measured here by the secondary school enrolment ratio because that of the pri-

mary level has very wide gaps, particularly over the last few years with the advent of the MDGs.

The secondary school enrolment ratio has improved significantly since the 1970s. From 1972 to 1983, it steadied around 13 percent before rising to close to 18 percent during the 1985-1996 period. Since then, the increase has been significant. It averages 20 percent. It should be recalled that human capital development makes it possible to increase the productivity of workers and their income, as well as that of the national economy. The level of openness of a country (**OUV**) is measured here by the total imports and exports entered in the GDP. Most studies (theoretical and empirical) affirm that the more a country is open, the more it will be able to redirect its scarce resources towards more efficient sectors and improve its well-being.

A depreciation of the Guinean currency in relation to the dollar (**TXDMON**) should limit imports and foster exports because with the local currency losing its value, it would be cheaper for foreign countries to buy from that country. In the 1970s, a dollar was traded at syli 25. Presently, a dollar is traded at about GNF 4500. The value of the Guinean currency has dropped considerably over the past few years, which accounts for the high debt service payment rate compared to projections. This rate increased from 0.1 percent in the early 1970s to 60.5 percent in 2005.

One of the debts ratios used is, debt-to-export ratio, which is defined as the ratio of the total outstanding debt at year end to exports of goods and services (**DETEXP**). An increase in this ratio means that the total debt is increasing faster than the fundamental source of income. This rate varies between 300 percent and 460 percent over the period under analysis. The other debt ratio is debt service to exports (**SDEXP**). It shows the vulnerability of commitments in which the payment of commitments under debt servicing is exposed to the risk of an unexpected drop in export earnings. It should be noted that this ratio is about 20 percent in Guinea.

A dummy variable (**DUM**) was also taken into account to assess the impact of regime change and the economic policies that accompany the change. Thus, to improve on the overall framework of its socioeconomic development, the Guinean Government implemented a wide range of economic and financial reform programmes upon the advent of the 2<sup>nd</sup> Republic in 1985. The programmes were aimed at promoting a rational development of the country's potential by reducing the macroeconomic imbalances within the context of a liberal economic system.

The functional form of our model is as follows:

$$TCPIBH_t = f \left( \begin{matrix} TCPIBH_{t-1}, SDEXP_t, TCPOP_t, TXINV_t, TXINV_{t-1}, DCH, OUV_t \\ DETEXP_t, TXDMON_t, DUM_t \end{matrix} \right) \quad (4.1)$$

The variables SDEXP, TCPOP, TXINV, TXINV<sub>t-1</sub>, DCH, and DETEXP, were expressed in Napierian logarithms in order to avoid problems

**Table 4.1. Stationarity test on the variables used in the model**

Variables	ADF (level)		ADF (1st difference)		PP (level)		PP (1st difference)	
	C	CT	C	CT	C	CT	C	CT
TCPIBH	-3.769 <sup>a</sup>	-3.889 <sup>a</sup>	8.200 <sup>a</sup>	-8.063 <sup>a</sup>	-3.731 <sup>a</sup>	-3.876 <sup>a</sup>	-10.184 <sup>a</sup>	-9.958 <sup>a</sup>
LSDEXP	-1.754	-2.795	-2.661 <sup>c</sup>	-2.792	-2.222	-2.107	-6.643 <sup>a</sup>	-6.608 <sup>a</sup>
LTCPOP	-1.842	-1.268	-5.581 <sup>a</sup>	-5.877 <sup>a</sup>	-1.834	-1.182	-5.581 <sup>a</sup>	-5.952 <sup>a</sup>
LTXINV	-1.716	-1.575	-4.674 <sup>a</sup>	-5.003 <sup>a</sup>	-1.604	-1.622	-4.899 <sup>a</sup>	-5.004 <sup>a</sup>
LDCH	0.526	-0.485	-2.647 <sup>c</sup>	-2.972	0.120	-0.794	-5.666 <sup>a</sup>	-5.874 <sup>a</sup>
OUV	-1.199	-0.197	-3.602	-3.742	-1.700	-1.358	-6.906 <sup>a</sup>	-7.223 <sup>a</sup>
LDETEXP	-2.672 <sup>a</sup>	-3.287 <sup>a</sup>	-3.327 <sup>b</sup>	-3.306 <sup>c</sup>	-2.289	-2.292	-4.879 <sup>a</sup>	-4.856 <sup>a</sup>
TXDMON	-3.578 <sup>b</sup>	-3.702 <sup>b</sup>	-6.306 <sup>a</sup>	-6.186	-4.660 <sup>a</sup>	-4.808 <sup>a</sup>	-10.399 <sup>a</sup>	-10.171 <sup>a</sup>
DUM	-3.313 <sup>b</sup>	-4.602 <sup>a</sup>	-6.448 <sup>a</sup>	-6.343	-5.029 <sup>a</sup>	-6.340 <sup>a</sup>	-12.389 <sup>a</sup>	-12.108 <sup>a</sup>
TXDMON	-3.578 <sup>b</sup>	-3.702 <sup>b</sup>	-6.306 <sup>a</sup>	-6.186	-4.660 <sup>a</sup>	-4.808 <sup>a</sup>	-10.399 <sup>a</sup>	-10.171 <sup>a</sup>
DUM	-3.313 <sup>b</sup>	-4.602 <sup>a</sup>	-6.448 <sup>a</sup>	-6.343	-5.029 <sup>a</sup>	-6.340 <sup>a</sup>	-12.389 <sup>a</sup>	-12.108 <sup>a</sup>

Source: Author using Eviews 5.1.

linked to the quantity effects and to facilitate interpretations. The linear form is as follows:

$$TCPIBH_t = \alpha_0 + \alpha_1 TCPIBH_{t-1} + \alpha_2 LSDEXP_t + \alpha_3 LTCPOP_t + \alpha_4 LTXINV_t + \alpha_5 LTXINV_{t-1} + \alpha_6 LDCH + \alpha_7 OUV + \alpha_8 LDETEXP_t + \alpha_9 TXDMON_t + \alpha_{10} DUM + \varepsilon_t \quad (4.2)$$

## 4.2. Estimation Method

In order to examine the presence of unit root, the Augmented Dickey-Fuller (ADF) and Phillips and Perron (PP) tests were applied. The result shows the existence of non-stationary series, but which are integrated in first difference. The table below shows the result of the stationarity test.

Another test to be conducted when working with time series is the cointegration test aimed at detecting if the variables have a unit root and a common stochastic cointegration trend. If such is the case, then there is a long-term equilibrium equation between the variables and the linear combination of two variables from non-stationary series is, for its part, stationary. To test the presence of an equilibrium equation between the variables, the Johansen cointegration test, which performs a cointegration rank test, was used with the results presented in the table below.

This test shows the existence of four cointegration equations with the Trace test and two cointegration equations with the Maximum Eigen value test. Given that the cointegration hypothesis is verified, it can be concluded that it is an Error Correction Model (ECM) and the classical tests may be applied without the risk of fortuitous correlations. The cointegration test enabled us to identify two long-term equations, including:

$$TCPIBH = -1.75 LSDEXP + 2.05 LTCPOP + 8.114 LTXINV + 0.253 LDCH + 0.481 OUV - 9.102 LDETEXP - 0.102 TXDMON + 2.59 DUM \quad (4.3)$$

**Table 4.2. Results of the Johansen test**

Nil Alternative		Trace Test		Maximum Eigen value test	
		Test statistics	5% Critical value	Test statistics	% Critical value
r=0	r=1	<b>281.092</b>	179.509	<b>92.360</b>	54.965
r≤1	r=2	<b>188.731</b>	143.669	<b>58.219</b>	48.877
r≤2	r=3	<b>130.512</b>	111.780	42.688	42.772
r≤3	r=4	<b>87.823</b>	83.937	33.059	36.630
r≤4	r=5	54.764	60.061	28.868	30.439
r≤5	r=6	25.896	40.174	15.291	24.159
r≤6	r=7	10.604	24.275	5.610	17.797
r≤7	r=8	4.994	12.320	4.635076	11.224
r≤8	r=9	0.359	4.129	0.359323	4.129

Source: Author using Eviews 5.1

This result shows that in the long run, there is a positive relationship between the population growth rate, the investment rate, human capital development, the degree of openness, the change of regime, and economic development, hence the improvement of the well-being of the population. On the contrary, the debt service-to-export ratio, the rate of currency depreciation and the debt-to-export ratio are an obstacle to economic development.

$$LSDEXP = -0.906 LTXINV - 7.302 LDCH - 0.290 OUV + 7.618 LDETEXP + 0.491 TXDMON + 4.558 DUM \quad (4.4)$$

This second relationship indicates that the increase in the debt service-to-export ratio is mostly due to the increase in the amount of outstanding debt, the continuous depreciation of the currency and change of regime.

The dynamic model is written thus:

$$DTCIBH_t = \beta_0 + \beta_1 DTCPIBH_{t-1} + \beta_2 DLSDEXP_t + \beta_3 DLTCPOP_t + \beta_4 DLTXINV_t + \beta_5 DLTXINV_{t-1} + \beta_6 DLDCH + \beta_7 DOUV + \beta_8 DLDETEXP_t + \beta_9 DTXDMON_t + \beta_{10} DUM_t + \beta_{11} ECT_1(-1) + \beta_{12} ECT_2(-1) + \mu_t \quad (4.5)$$

where,

- D is the first difference operator
- Coefficient  $\beta_0$  represents the constant of the model
- Coefficients  $\beta_1$  to  $\beta_{10}$  represent the short-term dynamics
- Coefficients  $\beta_{11}$  and  $\beta_{12}$  show respectively the speed of adjustment of the per capita GDP growth rate and the debt service-to-export ratio to return to equilibrium following a shock.

**Table 4.3. Result of the Estimation of the Error Correction Model**

Variables	Coefficient	t-Statistics	Prob.
C	-5.685039	-1.661899	0.1121
DTCPIBH(-1)	-0.468138	-1.990341	0.0604
LSDEXP	<b>-1.787650</b>	-0.490167	0.1387
DLTCPOP	0.988946	0.685783	0.6324
DLTXINV	6.727346	0.225686	0.8234
DLTXINV(-1)	<b>3.795120</b>	7.324725	<b>0.0088</b>
DLDCH	<b>1.942259</b>	2.785017	<b>0.0316</b>
DOUV	3.210885	0.440858	0.6640
LDDETEXP	<b>-6.311990</b>	-3.679747	<b>0.0089</b>
DTXDMON	0.009013	0.175224	0.8627
DUM	<b>0.057261</b>	2.202157	<b>0.0418</b>
ECT1(-1)	<b>-0.140775</b>	-4.287093	<b>0.0128</b>
ECT2(-1)	<b>-0.095316</b>	-3.369208	<b>0.0259</b>
R-squared	<b>0.789183</b>	Durbin-Watson stat	2.180467
Adjusted R-squared	0.749301	Prob (F-statistics)	<b>0.00070</b>

Source: Author using Eviews 5.1

• ECT<sub>1</sub> and ECT<sub>2</sub> are error terms corresponding to long-term equations with:

$$\begin{aligned}
 ECT_1 = & TCPIBH + 1.754 LSDEXP - 2.05 LTCPOP - \\
 & 8.114 LTXINV - 0.253 LDCH - 0.481 OUV + 9.102 LDETEXP \\
 & + 0.102 TXDMON - 2.52 DUM
 \end{aligned} \quad (4.6)$$

$$\begin{aligned}
 ECT_2 = & LSDEXP + 0.906 LTXINV + 7.302 LDCH + 0.290 OUV - \\
 & 7.618 LDETEXP - 0.491 TXDMON - 4.558 DUM
 \end{aligned} \quad (4.7)$$

The results of the projection of the error correction model through the least squares method are presented in the table below.

### 4.3. Result interpretations

The results show that 79 percent of fluctuations of the per capita GDP growth rate are explained by the variables of the model. The coefficient associated with the error term of the growth equation (ECT1) implies that 14 percent of the imbalance between the desired level and the effective economic development level were adjusted. In other words, in the event of imbalance, the system will take at least seven years (1/0.14) to return to equilibrium. This means that the speed at which the imbalance (between the desired and effective growth rate) will be adjusted is extremely low.

All the debt ratios are negatively correlated to the per capita GDP growth rate. However, owing to its coefficient and significance, the outstanding debt-to-export ratio (DETEXP) is one of the major obstacles to economic

development in Guinea. In other words, a one-point increase (100 percent) in the debt-to-export ratio leads to a six-point (631 percent) decrease in growth.

As the total debt increases faster than the main source of the economy's external income, the country faces difficulties in fulfilling its future debt obligations. Furthermore, it was seen in Figure 2.5 that this ratio is above 250 percent, which is the acceptable value for debt sustainability. The debt service-to-export ratio (SDEXP) is certainly negatively correlated to the growth ratio, but it is not really the cause of the poor economic performance. Thus, since the Central Bank does not have enough foreign exchange to ensure debt servicing, debt has become a burden and its stock is on the rise. Consequently, the country is facing both liquidity and solvency problems. The debt service burden is felt at the level of the budget, for the most part due to the fluctuation of the local currency against the payment currencies (since the budget is denominated in local currency and payment effected in foreign exchange).

It should be recalled that foreign exchange is derived essentially from the export of minerals, whose prices are fixed on the international market. Thus, debt servicing has no direct effect on growth, which confirms the results obtained by Patillo *et al.* (2002), who arrived at the conclusion that it is rather the efficiency or the quality of the investment and not its volume that explains the fact that in the model under appraisal, the investment rate is included as an explanatory variable and a maintained constant.

The negative sign of the initial per capita GDP growth rate ( $TCPIBH_{t-1}$ ) could be explained by the serious growth instability in Guinea and its high sensitivity to external shocks (increase in the price of petroleum products, drop in commodity prices, in particular that of bauxite). This result confirms that of Savvidès (1995) as well as Ojo and Oshikoya (1995).

Owing to its coefficient and significance, the investment rate (principally  $TXINV_{t-1}$ ) is the main source of growth in Guinea. If this rate increases by one point (100 percent), it will lead to a three-point (379 percent) increase in the growth rate. This confirms the theory, which testifies that a country's development depends on the effort made toward productive investments, above all.

Apart from the short-term effects of investment in the economic situation, investment has a decisive impact on the level of a country's sustainable growth. It should be noted that what is significant is the deferred investment rate of a particular period, given that since investments here are those in infrastructure and hence not profitable from the baseline year, the effects are felt only after some time. The positive impact of human capital development (DCH) on economic growth rate is justified by the fact that education is considered as the cornerstone of development, particularly where development is understood to mean enrichment and improvement of productivity and the well-being of the people. However, it is necessary to be careful with this indicator because it does not take into account qualification and therefore

efficiency. The results also point to the positive effect of change of regimes (DUM). The transition from planned economy to market economy entailed changes in the socioeconomic life of the population. Although progress was made, socio-political and economic stability is still fragile.

The population growth rate (TCPOP), the degree of openness (OUV), and the currency depreciation rate (TXDMON) are all positively correlated, but do not affect economic development. Moreover, most of the studies showed that there was no impact between population growth and economic growth and, as pointed out by Barro, the exogenous nature of the population variable in the growth models integrated into debt sustainability models was often justified by the absence of a significant relationship between accumulation and population growth.

The degree of significance also shows that the country does not benefit much from its opening up to trade, which is explained by the fact that the openness of a country is not limited only to its international trade. It is also characterised by its competitiveness and its capacity to host foreign multinational firms, which can improve the overall efficiency of an economy through the availability of technological and organisational knowledge that can be transferred to the rest of the economy. Better still, the liberalisation of trade is considered today as a source of convergence and a key element for the formulation of development strategies. Moreover, a good number of international organisations are encouraging countries to liberalise their trade. But most of the companies established in Guinea operate in the mining sector, and most of the time their activities are limited to extraction and exportation of raw products. Other sectors that could induce growth, such as agriculture, fisheries, and stockbreeding, among others, have been neglected in favour of the mining sector, whereas the country has enormous potential in these areas. Also, imports of consumer goods are far higher than imports of capital goods. Currency depreciation (TXDMON) is accompanied by uncontrollable inflation and the printing of new money. Even worse, such depreciation has nothing to do with any policy, but just economic slippages.

In short, the results show that most of Guinea's economic development can be explained positively by the investment rate, human capital development and change of regime. It can be explained negatively by debt ratios, in particular, the debt-to-export ratio and the debt service-to-export ratio. This confirms the basic assumption. Notwithstanding national economic policy commitments and the assistance of donors, it should be pointed out that Guinea continues to suffer from a heavy debt burden. The country's increasing dependence on foreign aid and the accumulation of arrears are a threat to its sustainable economic and social development.

#### **4.4. Recommendations**

An analysis of the results of the model shows that debt did not promote the economic take-off of Guinea. However, external debt is not the only

obstacle to the country's economic development. The challenge of improving the people's living conditions remains unmet. That is why the following economic policy recommendations are formulated to create, not only a favourable environment for stimulating growth, but also, and above all, to lay the foundation for tolerable indebtedness and to enable debt to play an effective role in financing economic development. The recommendations include:

► *Implement a sound debt management strategy*

The noted negative impacts of the debt ratios on growth showed that Guinea is facing debt management problems. Efficient debt management will help to minimise exposure to risk and to restructure the debt in order to maintain it at a sustainable level. Of course, such management does not only concern debt service payment. It should also take into consideration the use into which the debt is put. State authorities should therefore redirect loans towards productive investments rather than using them for debt service payment or for financing imports.

In order to prevent the accumulation of arrears, the competent services should effect a complete reconciliation of their statements of debt with those of all of the country's creditors. This will help improve the debt service payment procedure and ensure a better monitoring of debt sustainability.

► *Diversify export products*

Exports could be a natural source of Guinea's growth, judging from its potentials. The need for a dynamic growth of exports to enhance its external payment capacity and have additional resources partly depends on their diversification. This would enable the country to be less vulnerable. Given the country's potentials, it is possible to diversify its export products by turning to other sectors (agriculture, fisheries and handicrafts) that have the advantage of being labour intensive and requiring less investment, in order to diversify the sources of growth and thus secure and sustain it.

In addition, exports should be better remunerated on the commodity markets through the country's active participation in the sub-regional and international economic integration process. Trading partners should also expand access to American, European, and Asian markets.

► *Maintain macroeconomic stability*

It is acknowledged that countries that implement sound macroeconomic policies and which have economic structures suitable for the operation of the market can experience relatively flexible and stable growth. Prominent among such policies are the control of the general level of prices and checking continuous currency fluctuation. These are all the more important elements for Guinea's stabilisation policy because there is a return to two-digit inflation

without real prospects of reversing the trend and a continuous depreciation of the currency due to slippages.

► *Design new mechanisms for debt relief and aid effectiveness*

At this level, it is necessary to enlist the involvement of donors and secure the concessionality of external loans granted to Guinea. Multi-lateral creditors in particular, should ensure that the financing instruments in force correspond with the country's capacity to pay debt service. Resources obtained from the HIPC Initiative should be used entirely in the basic priority sectors, namely education, health, infrastructure, restructuring of the institutional framework and governance, in order to improve the people's living conditions and hence ensure sustainable growth. It would be better to cancel most of Guinea's debt, considering the difficulties the country is facing.

## 5. Conclusion

The focus of this study is to assess the impact of external debt on economic development through growth. Thus, the study also examined the evolution of Guinea's economic situation – that of the public debt (internal and external), with emphasis on the various debt initiatives.

Using an error correction model, the results of the estimation showed that debt did not foster growth in Guinea. This confirmed most of the empirical and theoretical studies as presented in Part III. Guinea's economic growth pattern is well explained by the Error Correction Model, with a 79 percent degree of reliability. Of all the factors taken into account in this study, investment and human capital development are the engines of growth, while the country does not benefit much from its opening up to trade and the depreciation of its currency.

The coefficients of the debt ratios show that there is a real problem of debt relating to its use and co-ordination. The accumulation of arrears, the high amount of outstanding debt and economic slippages affected the solvency of the country's economy, which translated into the risk of seeing some financing bodies turn away from the country.

Thus, the fragility of Guinea's economy and the debt problems associated with its very weak payment capacity and the accumulation of debt are obvious. The achievement of sustainable economic growth in the context of external debt seems to be difficult at the moment, as shown throughout this study, and could remain evasive if measures are not taken. The government could play a significant role by stimulating the economy if resources obtained, in particular from the HIPC Initiative, are devoted to productive public investments and the priority sectors.

As the main debtor, the government's challenge remains that of ensuring efficiency in the provision of services and the greatest productivity of public

investments. Although efforts have already been made in this connection, the government should redouble its efforts to further improve the economy, which is the sustainable path to growth that is the basis for economic development.

In the final analysis, loans should complement and not replace domestic savings. Macroeconomic management is important for external debt management. The availability of external funds should be compatible with a policy framework to be maintained (exchange rate policy, interest rate policy, price policy, etc.). Development activities should also be financed by increased export earnings guided by a growth-based export diversification strategy.

Subsequently, the commitment to rebuild credibility is one of the country's key challenges, but Guinea still has a possibility to overcome its external debt problems by adopting sound policies, while depending on poverty reduction initiatives. Lastly, the international community should create a suitable environment for exports from low-income countries, including Guinea.

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**ANNEXES**

**Annex 1. Results of the Error Correction Model Projection**

Dependent Variable: DTCPIBH				
Method: Least Squares				
Date: 03/21/07 Time: 19:56				
Sample (adjusted): 1974 2005				
Included observations: 32 after adjustments				
Variables	Coefficient	Std. Error	t-Statistic	Prob.
C	-5.685039	3.420809	-1.661899	0.1121
DTCPIBH(-1)	-0.468138	0.235205	-1.990341	0.0604
DLSDEXP	<b>-1.787650</b>	0.027924	-0.490167	0.1387
DLTCPOP	0.988946	0.211383	0.485783	0.6324
LTXINV	6.727346	38.67033	0.225686	0.8234
DLTXINV(-1)	<b>3.795120</b>	8.607644	7.324725	<b>0.0088</b>
DLDCH(-1)	<b>1.942259</b>	1.569591	2.785017	<b>0.0316</b>
DOUV	3.210885	0.478352	0.440858	0.6640
DLDETEXP	<b>-6.311990</b>	11.38452	-3.679747	<b>0.0089</b>
DTXDMON	0.009013	0.051436	0.175224	0.8627
DUM	0.257261	2.219227	0.202157	0.8418
ECT1(-1)	-0.140775	0.131680	-4.287093	<b>0.0128</b>
ECT2(-1)	-0.095316	0.122737	-3.369208	<b>0.0259</b>
R-squared	<b>0.789183</b>	Mean dependent var	0.468750	
Adjusted R-squared	0.749301	S.D. dependent var	4.723479	
S.E. of regression	4.838514	Akaike info criterion	6.257379	
Sum squared resid	49.63550	Schwarz criterion	6.761225	
Log likelihood	-89.11806	F-statistic	5.854348	
Durbin-Watson stat	2.180467	Prob(F-statistic)	<b>0.00070</b>	

Source: Author, using Eviews 5.1

**Annex 2. Portfolio of financing in Guinea (in US\$ million)**

	1970	1980	1990	1995	1996	1997	1998	1999	2000	2001	2002
<b>Total flows</b>	<b>89</b>	<b>80</b>	<b>262</b>	<b>303</b>	<b>218</b>	<b>344</b>	<b>256</b>	<b>244</b>	<b>94</b>	<b>203</b>	<b>106</b>
<b>Official flows (including IMF)</b>	83	33	198	320	209	310	259	192	84	201	106
Multilateral debt (including IMF)	19	27	54	148	68	182	97	41	11	80	10
Bilateral debt	62	-19	51	-63	-8	3	-10	-7	-39	-27	-43
Grants (excluding technical assistance)	2	25	93	235	149	125	172	158	112	148	139
<b>Private flows</b>	6	47	64	-17	9	34	-3	52	10	2	0
Domestic capital markets	6	46	46	-18	-15	17	-21	-11	0	0	0
Debt flows	6	46	-18	-15	17	-21	-11	0	0	0	0
Bank loans	6	46	-18	-15	17	-21	-11	0	0	0	0
Bonds	0	0	0	0	0	0	0	0	0	0	0
Investment flows	0	0	0	0	0	0	0	0	0	0	0
FDI	0	1	18	1	24	17	18	63	10	2	0

Source: Global Finance Report (2003)

**Annex 3. IDA Assistance under the HIPC Initiative (in US\$ million)**

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010			Cumul
												2001- 07	2008- 15	2000-24
Debt servicing before HIPC assistance	20.3	21.6	22.3	23.7	24.8	26.2	28.7	29.6	33	35.2	38.4	25.3	38.1	481.6
Principal	12.7	14.1	15	16.4	17.7	19.2	21.8	22.9	26.5	21.9	32.3	18.2	32.4	386.4
Interest	7.6	7.5	7.4	7.3	7.1	7	6.8	6.7	6.5	6.3	6.1	7.1	5.7	95.2
Debt servicing after HIPC assistance	20.3	10.8	11.2	11.9	12.4	13.1	14.4	14.8	16.5	17.6	19.2	12.7	19.9	248.1
Principal	12.7	7.1	7.5	8.2	8.8	9.6	10.9	11.5	13.3	14.5	16.2	9.1	17	199.6
Interest	7.6	3.7	3.7	3.6	3.6	3.5	3.4	3.3	3.3	3.2	3	3.6	2.9	48.5
IDA debt servicing savings	0	10.8	11.1	11.8	12.4	13.1	14.3	14.8	16.5	17.6	19.2	12.6	18.2	233.6
Principal	0	7	7.5	8.2	8.8	9.6	10.9	11.4	13.2	14.4	16.1	9.1	15.4	186.9
Interest	0	3.7	3.7	3.6	3.6	3.5	3.4	3.3	3.2	3.1	3	3.5	2.7	46.7
Savings on the servicing of debts owed to IDA (%)	50	50	50	50	50	50	50	50	50	50	50	49.9	47.8	49

Source: Guinean Authorities and IMF/WB staff (2003).