Lessons from Experience with Ex-ante Poverty Impact Assessments of Macroeconomic Policies in Cameroon

By

Samuel Fambon
University of Yaounde II
Cameroon
E-mail: **sfambon@yahoo.fr**

Revised Final Draft: January 2006

ABSTRACT

In recent years, the impact of public policies and in particular, those intended to reduce poverty, constitutes a growing concern both at the national and international levels. This study reviews a few economic models used by various analysts (individual researchers, the Finance Ministry, the Planning Ministry, international organizations) to study the ex-ante macro-economic policy impact on income distribution and poverty in Cameroon. These models notably comprise macro-econometric models, partial equilibrium models, general equilibrium models, and micro-simulation models. This model review clearly shows that there exists no comprehensive tool for evaluating ex-ante macroeconomic policy impacts on poverty in Cameroon. However, the need to have such a framework available has been felt with Cameroon's admission to the Heavily Indebted Poor countries (HIPC) initiative, and the subsequent requirement to prepare a Poverty Reduction Strategy Paper (PRSP). To this end, Cameroon's macro-econometric model has been interfaced with the World Bank's 1-2-3 PRSP model to simulate notably, the macroeconomic policy impact on poverty and income distribution in the PRSP context. The absence of Cameroon's own tool to carry out analyses of ex-ante macroeconomic policy impacts on poverty has led to the suggestion from the review of existing models, that a general framework should be built to guide the country's future studies on the evaluation of ex-ante public policy impacts on poverty and income distribution. Furthermore, the study presents the state of existing capacities in Cameroon of ex-ante macroeconomic policy impacts on poverty, analyzes the participation of various actors in this area, and presents the different constraints involved to achieve a more comprehensive ex-ante evaluation of macroeconomic policy impact on poverty, and its use for formulating poverty reduction policies in Cameroon.

Table of contents

LIST OF ACRONYMS

BCAS	Bank of Central African States
BOP	Balance of Payments
CEMAC	Economic and Monetary Community of Central Africa
CFA	Communauté Financière Africaine (African Financial Community)
CGE	Computable General Equilibrium
CGEM	Computable General Equilibrium
CTS:	Comité Technique de Suivi (Technical Committee for Monitoring Programs)
DSCN	Direction de la Statique et de la Comptabilité Nationale
EHIPC	Enhanced Heavily Indebted Poor Countries (EHIPC) initiative
ESAF	Enhanced Structural Adjustment Facility
EU	European Union
FAO	United Nation Food and Agriculture Organization
FPM	Financial Programming Model
GDP	Gross Domestic Product
GFOFT	Government flow-of- funds Table
HEVECAM	Hévéas du Cameroun (Rubber Cameroon)
ILO	International Labor organization
IMF	International Monetary Fund
IMMPA	Integrated Macroeconomic Model for Poverty Analysis
MDG	Millennium Development Goals
MINFI	Ministry of Economic and Financial Affairs
MTEF	Medium-Term Expenditure Framework
NAS	National Account System
NEP	National Employment Policy
OHADA	Organisation pour l'Harmonisation du Droit des Affaires
PAMS	Poverty Analysis Macroeconomic Simulator
PMS	Poverty Monitoring System
PRGF	Poverty Reduction and Growth Facility
I-PRSP	Interim PRSP
PRSPs	Poverty Reduction Strategy Papers
RMSM-X	The World Bank's Revised Minimum Standard Model
RMSM-X (+LP)	Re-specified Minimum Standard Model-Extended (with a Labor-Poverty Module)
SAM	Social Accounting Matrix
SMEs	Small and Medium Enterprises
SMIs	Small and Medium Industries
UN	United Nations
UNDP	United Nations Development Programme
UDEAC	Union Douanière et Economique de l'Afrique Centrale (Economic and Custom Union of Central Africa)
UNECA	United Nations Economic Commission for Africa
UEMOA	Union Économique et Monétaire Ouest Africaine (Economic and Monetary Union of West Africa)
UNTAD	United Nation Conference on Trade and Development
UNIDO	United Nation Industrial Development Organization
VAT	Value Added Tax
WTO	World Trade Organization

1. Introduction

During the last two decades, Cameroon, like most other developing countries, has been struck by major economic shocks which have had significant impacts on the level of poverty and income distribution over its economy. Some of these shocks are the result of fluctuations in world prices of Cameroon's main export products (oil, cocoa, and coffee), while others stem from domestic economic policy reforms such as structural adjustment programs and trade liberalization.

Generally speaking, the quantification and evaluation of the impacts of these shocks, and / or the formulation of public policy to attenuate them, figure among the major issues subject to heated national debates on reforms in most developing countries. Moreover, several multilateral institutions namely the World Bank and the International Monetary Fund (IMF) have started to condition their financing operations in developing countries on the progress realized through measures and policies put in place to reduce poverty at the national level.

In particular, debt relief under the enhanced Heavily Indebted Poor Country (HIPC) Initiative is conditional on the preparation of a Poverty Reduction Strategies Papers (PRSP), whereby the impact of significant economic policies on poverty is supposed to be evaluated and quantified. Examples of such significant economic policies include structural changes in (i) public expenditures, (ii) tax policy, (iii) trade policy, (iv) privatization, and (v) exchange rate management. Equally important are poverty impact assessments of external shocks such as price fluctuations and capital movements. Answers to these questions require the development and use of econometric techniques capable of establishing a link between a country's macroeconomic structure and microeconomic behavior.

This study aims to analyze the various constraints presently associated with the implementation of methodologies for an ex-ante evaluation of macroeconomic policy impacts on poverty in Cameroon. A better understanding of these constraints could result not only in a better estimation of these impacts, but also in the formulation of more efficient poverty reduction policies. More specifically, this research aims at the following objectives:

- to carry out a brief review of the methodologies presently used in the ex-ante evaluation of macroeconomic policy impacts,
- to propose an appropriate framework for the evaluation of these impacts in the case of Cameroon;
- to present the state of existing analytic capacities for ex-ante evaluation of macroeconomic policy impacts on poverty in Cameroon;
- to analyze the participation of various actors in this process.

To attain these objectives, our methodology is mainly based on descriptive analysis, interviews, and a review of the major studies relating to this theme.

Following this introduction, the study revolves around six analytical sections. Section 2 presents the Cameroon Economy. Section 3 reviews the main methods used in the ex-ante evaluation of macroeconomic policy impacts on poverty. Section 4 presents the Type of Model to develop for Cameroon   In section 5, we present the state of existing analytic capacities for the ex-ante evaluation of macroeconomic policy impacts on poverty. Section 6 analyzes the role played by various participants in the ex-ante evaluation of macroeconomic policy impacts on poverty. Finally, section 7 concludes the study and provides a few recommendations.

2. The Cameroon Economy

2.1. Brief Review of the Socio-economic Situation in Cameroon

Cameroon's macroeconomic policies have evolved over time since the country's independence in 1960. The first economic policies were motivated by the structuralist approach to development which recommended market intervention. Thus, the first 25 years of independence were characterized by import substitution policies linking restrictive foreign trade policies and putting limited emphasis on export promotion. This early regime was followed by an adjustment regime during which Cameroon put in place stabilization policies and a series of structural adjustment reforms permitting the opening of several economic sectors oriented to exports.

During the first regime, i.e. from 1960 to the mid-1980's, Cameroon's economy was overall in good health. In effect, during the 1960-1976 period, Cameroon's economy was characterized by moderate and balanced growth with no relative price distortions between urban and rural areas and without any unsustainable internal or external deficits. Even though the economy dependent mainly on the production of primary exports (such as cocoa and coffee), its dynamism was based on a diversified economic fabric and a workforce well

adapted to its needs. However, the discovery and exploitation of oil in 1978 started a period of rapid growth spurred on by high rates of investment and supply in public services[1].

Taking advantage of its oil endowment and the availability of capital in international markets, Cameroon from the start based its development model on three main thrusts, namely, the development of large public and semi-public industrial production units, highly capitalistic investment strategies and transfers of equipment and sophisticated technologies generally delivered for immediate possession (Rosanvallon, 2002).

This ambitions development program permitted to establish large development projects which generated many jobs. With its numerous enterprises, the State further became the main employer in Cameroon. In addition to large building sites and roadworks, there were many sectorial development projects in the rural area employing a significant labor force. The country's highly agricultural rural population also benefited from the high incomes provided by the sale of raw materials. Moreover, the office in charge of the stabilization of primary product prices was established to protect farmers against the effects of wide price fluctuations in world markets by setting prices at constant levels.

In general, this period of strong growth led to a remarkable improvement in the living conditions of the population. However, it came to an end in 1985.

In effect, the 1983/84 Consumption Budget survey data collected by the Cameroon Direction de la Statistique et de la Comptabilité Nationale (DSCN) show that the incidence of monetary poverty at the national level was about 40%, and that the poverty rate was negligible (less than 1%) in Yaounde and Douala (the political and economic capitals), and remarkably high in rural areas (nearly one household in two was poor in the rural South, and two households in five were poor in the rural North). The urban South and North had respective, poverty incidences of 34% and 15%[2]. As will be seen, these incidence statistics are clearly higher for the years following the 1983-1984 period.

From the end of 1986 onwards, Cameroon entered into a long period of turbulence and crisis. This crisis was brought about by internal as well as external factors. At the external level, the

---

[1] From 1965 to 1985, growth accelerated in real terms: per capita GDP almost doubled. During this period three sub-periods can be distinguished :
- from 1965 to 1977, growth reached an annual rate of 4% on the overage with characterized by a slow improvement in per capita GDP;
- from 1977 to 1981, growth accelerated to a 13% rate following the discovery and exploitation of oil;
- from 1982 to 1985 growth remained at a sustained rate of about 8%.
During this take-off period (1977-1985), GDP grew rapidly, ranking Cameroon in the category of country with intermediate income according to the World Bank classification (see Aerts, J-J.et al (2000) for more details).

[2] See, i) Lynch SG (1991), Income Distribution, Poverty and Consumer Preferences in Cameroon, Cornell University; ii) Banque Mondiale (1998)

crisis was caused by a violent shock namely, a combination of a fall in the prices of primary products (especially oil) and the depreciation of the US dollar[3] which led to a considerable deterioration of the terms of trade between 1986 and 1988[4]. On the domestic level, the poor management of the economy has led to the overvaluation of the CFAF real exchange rate during more than one decade preceding the devaluation of the CFA franc in 1994. In effect, during this period, and given its fixed exchange rate owing to its member ship in the Franc Zone, Cameroon did not experience the exchange rate appreciation and immediate contraction in agricultural exports as was the case for its Nigerian neigh bor.

At the beginning, oil receipts had generated external account surpluses which in 1985 topped at about 11% of GDP. But domestic demand skyrocketed and the Dutch disease set in, manifesting themselves through a double digit domestic inflation rate of 12% during the period 1977-85[5]. This inflation had the effect of increasing notably, labor costs which led to a fall in the competitiveness of domestic exports and export-oriented industries which usually were facing the competition of imported goods, thus worsening the regular appreciation of the effective exchange rate. The latter reached its peak of 123.9 (1985 = 100) in 1987[6].   To the external causes of the deterioration of Cameroon's economic situation, we must add the high level of its external debt service**.**

Faced with this situation, the Cameroon government engaged in 1987 in a structural adjustment program, designed to initiate economic recovery without the assistance of foreign financial institutions. This autonomous (or internal) program basically aimed at reducing the government deficit and to lighten the weight of the public sector in the economy, especially by reducing the share of the budget allocated to subsidies, by reducing certain benefits paid to civil servants, and by freezing the financial benefits of civil servants' promotions

.However, all these turned out to be insufficient to stem the economic crisis. In effect, between 1987 and 1988, GDP fell by 9% in real terms (1987 = 100), the current account

---

[3] The depreciation of the US dollar started in 1985 following the plaza agreement. From 1985, oil prices witnessed a drastic fall, which continued in 1986: from 27 USD/barrel in 1985 to below 10 USD/barrel in 1986.
[4] The external shock caused a 44% fall in the terms of trade between 1986 and 1988, and the export price indices of primary products fell as follows: coffee (-11%), rubber (-20%), cocoa (-24%), and oil (-65%) This fall in export prices led to a remarkable fall in GDP (-14%) following the collapse in export receipts. Another consequence was a decrease in public spending and a significant accumulation of public payment arrears (250 billion CFAF in 1986/87, and 80 billion CFAF in 1987/88). For more details see Fambon (2002).
[5] Banque Mondiale (1998), op. cit.
[6] See Banque Mondiale (1998), op. cit.

balance continued to deteriorate. Finally, the budget deficit remained high (5.8% of GDP) although with a downward trend relative to the preceding year (12.8% in 1986/1987). Faced with the continued deterioration of the economic conditions of the country, the government reluctantly engaged in negotiations with the Bretton Woods institutions.

Given the extent of the deterioration in the terms of trade, and their adverse impact on revenues, the government adopted an austerity program in 1988, supported with an IMF stand-by agreement, and a World Bank structural adjustment credit (SAC)[7]. The funds provided by the IMF and the SAC of the World Bank were meant to be used in the implementation of measures aiming to: reduce spending, enhance revenue collection, reform civil services, liberalize the trade regime, restructure the banking system, and restructure or privatize some public enterprises. Despite this diagnosis, these reforms were slow (with exception of trade liberalization) and inadequate to stop the further deterioration of the economy. One of the big problems remaining was the persistence of an overvalued exchange rate.

Aware of the failure of "internal adjustment", and of the efforts undertaking to correct the price distortions caused by export subsidies and import duties, Cameroon and the other CFAF zone countries decided in January 1994 to devalue the CFAF by 50% and to establish its new parity at 100 CFA francs for 1 French franc.

After the CFAF devaluation, Cameroon adopted once again a stabilization program and structural reforms supported by the IMF and the World Bank[8]. This program aimed to maintain the rate of inflation at less than 8%, to achieve a GDP growth rate of 5% by improving the competitiveness of urban and rural sector exports, and to reduce current account balance to a low of 2.5% of GDP. To achieve these objectives, a number of

---

[7] A difference exists between the Cameroon governments' autonomous adjustment, and the programs supported by World Bank and the IMF. In effect, autonomous adjustment mainly aimed to reduce the State's life style (i.e. an austerity program) through cuts in spending on telecommunications, water and electrical power consumption subsidies to public enterprises, State-owned vehicles, and staffs stationed at diplomatic missions. To control public consumption, unextended carried forward credits were cut out. On the whole, this program consisted of taking some austerity measures whose aims were to stabilize public finance. On the other hand, programs supported by the World Bank and the IMF comprised a complete stabilization plan in addition to a structural adjustment plan both of which aimed to reconstruct the foundations of the Cameroon's economy in order to create the conditions necessary for it to shift on a sustainable growth path.

[8] Approved by the IMF Board of Directors on September 1995, this stand-by agreement was concluded for a nine months period and was to be completed in June 1996.

regulatory measures and structural reforms were provided for, and their implementation basically fell on the government. Essentially, the question was to undertake the reorganization of the financial and banking sector, the reform of the Civil Service, the implement of privatization and liberalization programs, the control of inflation and economic recovery. The best performance in the execution of these programs was to open the way to negotiations on a new medium-term program (supported by the donor community ands the IMF through the Enhanced Structural Adjustment Facility (ESAF)). Much hope rested therefore on this medium-term program which could set up the conditions for a durable consolidation, of the economic revival initiated in 1994-95.

The above economic policy measures, combined with the CFAF devaluation helped stir Cameroon's economy towards recovery after an agonizing decade of severe depression. However, despite improved performance in terms of GDP growth, household living conditions remained an object of great concern. In effect, more than half the country's population was living below the poverty threshold of 140,000 CFAF (about US$ 250) per year in 1996. At the national level, the incidence of poverty increased from 40 to50% between 1984 and 1996, while the depth of poverty continued to be significant, especially in rural areas, where the incidence of poverty came close to 68% in 1996, see World Bank (1998) and Fambon et al. (2001).

As the period of this stabilization program and structural reforms ended, it was noticed that the restructuring of the banking system was logging behind, and the privatization process was advancing very slowly. Faced with this situation, the government and the Bretton Woods institutions agreed on putting in place a "reference" program lasting until the end of 1996. This involves a program whose objective was to correct the mistakes observed during the previous program and which did not benefit from any external financial assistance, either from the IMF, or from other donors. The satisfaction of the criteria of this program constituted a precondition for the conclusion of the ESAF. The criteria in question were eight in number, of which three were related to the monetary situation, two to public finance and three to the external debt. The structural targets were concerned with indebtness organization and manpower plans (OMP) in privatization process and the restructuring of the financial sector.

But during the review of the program at the end of December 1996, the government worked hard at the correct implementation of the privatisation part of this transitory program with the

conclusion of the HEVEACAM deal. On the other hand, the situation of the banking sector had become even more disturbing owing to the closure of the MERIDIEN-BIAO bank and the problems of Crédit Agricole. For these different reasons, the IMF and the government found it useful in 1997, to extend for a few months the probation period whose good execution would open the way putting in place a medium-term program supported by the ESAF.

With the establishment of a new government in the later part of 1996, new negotiations started in May 1997 with the IMF for an agreement on an enhanced structural adjustment facility (ESAF). These negotiations led to an IMF three-year program supported by an enhanced structural adjustment facility for the period 1997-2000.

This program aimed to consolidate the reorganization of public finances, to establish growth, and to improve the living conditions of the population[9]. However, renewed growth has failed to achieve the latter objective. In effect, as of 2001, the overall national incidence of poverty still stood around 40.2%, (22.1% and 49.1% in urban and rural areas, respectively)[10].

Nonetheless, the "successful" implementation of the ESAF program, at least in the opinion of the IMF, and the adoption of an Interim Poverty Reduction Strategy Paper (I-PRSP) in August 2000 allowed Cameroon to implement a second three-year economic and financial program supported by the IMF in the context of the Poverty Reduction and Growth Facility (PRGF), covering the October 2000-September 2003 period[11]. This second generation program aimed to enhance past achievements and to pursue efforts for the promotion of strong economic growth. More precisely the Objectives of the PRGF were to strengthen fiscal

---

[9] This adjustment program was focused on the consolidation and in-depth reforms in four major sectors: the transport sector, privatisation program (public enterprises and agro-industries) the financial sector and the forestry sector. In the transport sector, it was a question of reducing transport cost substantially, and increasing the availability and quality of services both at the national and international levels. In the public enterprise sector, the program aimed to telecommunications water, and electric power, and to raise supplier efficiency in the provision of services. In agribusiness, it a question of opening up production and marketing in both domestic and export markets. In the financial sector, the objective was to develop a stable, healthy and efficient sector, to revive the confidence of investors, and to improve intermediation for financing productive economic activities. In the forestry sector, the program aimed to promote sustainable operations in Cameroon's forests, to protect ecological stability and to economically promote a strong and efficient value-added.

[10] See Institut Nationale de la Statistique du Cameroun (2001)
[11] Cameroon's PRGF was approved by the Executive Board of the IMF on December 21, 2000.

management and to expand the non oil revenue tax base, as well as to accelerate the implementation of structural policies that needed to establish an environment conductive to private investment and poverty reduction. The envisaged measures aim mainly at improving governance and promoting private investment and poverty reduction with a view of diversifying non-oil activities and to increasing their productivity and, thus, partially offsetting the negative impact of the projected decline in oil output over the medium to long term

During this program, the government finalized its Poverty Reduction Strategy Paper (PRSP) in April 2003, which allowed Cameroon to negotiate the enhanced HIPC completion point.

Recent Economic performance

Table **1** provides a summary of Cameroon's key economic indicators over the 1986-2004 period. Note that between 1986 and 1993, real GDP fell by more than a third owing to the deep and prolonged economic recession the country experienced from the mid-80's up to the mid-90's. Public finance went from a budgetary surplus to a deficit of about 6.5% of GDP over the 1986-1993 period. This deficit was financed by an increase in external borrowing and a considerable increase in both internal and external payment arrears.

However, the CFA franc devaluation in 1994 combined with the tax and customs reforms undertaken in the context of CEMAC countries were instrumental in restoring the competitiveness of Cameroon's economy. Thus, after more than ten years of negative growth, the country has resumed positive growth during the entire post-devaluation period. In effect, between 1995 and 2003 annual average growth rates of about 4.4% were realized. After reaching a peak of 30% per year just after devaluation inflation fell rapidly during the following years. This fall could have resulted from the implementation of cautions monetary policies at the regional level of the BEAC, tight fiscal policies, and the performance of economic growth.

The fiscal position also improved appreciably. Fiscal contraction (i.e. public spending reduction and recruitment freezes) were at the core of the stabilization program during the 1993-1996 period. This fiscal policy led to a reduction of more than 12% of the Civil Service's size between 1995 and 1999, and partially contributed to the reduction of burden on public finance. Although the overall balance remained negative during the entire second half of the 90's, it was relatively small, and since the year 2000, surplus have been recorded with a peak of 2.4% of GDP in 2001[1].

---

[1] – It is important to note that the inclusion in the government budget of all oil receipts was an important step towards fiscal management. Moreover, non-oil revenue increased from 10% of GDP in 1994-97 to 13.35% in year 2000. Combined with a mastery of current expenditures, this contributed to a net improvement in both the overall balance and the primary balance (which reached a surplus of 7% of GDP in year 2000. This favourable fiscal situation combined with debt relief granted by the Paris club helped offset all external payment arrears owed official creditors (an agreement with the London club private creditors was concluded in 2003). Moreover, a reimbursement scheme was set up for domestic arrears, spreading their repayment over six years. In addition, a number of structural tax reforms also contributed to the government budget position.

Moreover, the current account deficit (including grants) also improved by about 2% of GDP in 2003 owing to good export performance.

The external debt, a large part of which had considerably increased to finance the large development projects during the oil boom years remains a heavy burden that reached 90% of GDP in 1997. On the other hand, the public debt/GDP ratio experienced a decline starting in year 2000, due particularly the debt relief Cameroon benefited in the HIPC context.

Generally speaking, Table 1 indicators show some improvement in national income growth, tax and external accounts. Despite economic recovery with positive growth rates, Cameroon has problems in its attempts to reduce unemployment and poverty. In effect, post-devaluation and structural reform growth has resulted in a marginal poverty reduction as will be seen in the next paragraph.

Table 1: *Cameroon: Selected Economic and Financial Indicators, 1986/87- 2004*

	1986/87-92/93 (average)	1993/94-96/97 (average)	1997/98	1998/99	1999/00	2000/01	2001/02	2003	2004 (projection)
	(Annual percentage changes, unless otherwise indicated)								
National income and prices									
GDP at constant prices	-2.6	2.7	5.0	4.4	4.2	5.3	4.3	4.5	4.8
Of which : non-oil GDP	-2.0	3.1	5.0	4.4	4.6	5.5	4.9	4.8	5.1
Consumer prices (12-month average)	1.2	11.5	3.9	2.9	0.8	2.8	4.5	0.6	0.8
External trade									
Export volume	0.3	3.0	11.1	8.2	-0.7	2.5	-1.6	6.9	4.8
Of which : non-oil sector	5.1	8.2	18.5	5.8	1.2	4.1	0.0	12.3	8.3
Import volume 2/	-3.4	7.5	13.5	0.8	14.9	12.5	19.4	0.2	3.8
Real effective exchange rate	4.9	-8.0	-0.6	8.5	-4.2	-4.9	4.7	0.6	...
Terms of trade	-8.7	-0.3	-4.5	-15.7	41.5	4.5	-8.7	-0.5	4.1
	(In percent of GDP, unless otherwise indicated)								
Gross domestic investment	19.1	15.3	17.5	18.7	16.4	17.7	18.0	17.0	17.3
Public	6.4	1.0	2.0	2.3	1.4	2.1	1.8	1.5	2.0
Private	12.7	14.3	15.5	16.4	15.1	15.6	16.2	15.4	15.3
Central government operations									
Total revenue, incl.	16.5	13.3	16.5	15.7	18.8	21.0	19.9	18.8	17.8

grants								
Non-oil revenue	10.7	10.1	12.3	13.0	13.2	13.6	14.3	13.7	13.7
Total expenditure	23.0	16.9	17.9	18.9	17.4	18.6	18.1	16.8	17.5
Current expenditure	18.0	15.1	14.9	15.2	14.5	15.1	0.0	14.5	14.2
Capital expenditure	7.4	1.7	2.9	3.6	2.7	3.3	2.9	2.3	2.9
Overall fiscal balance (excl. grants)	-6.0	-3.8	-1.7	-3.4	1.4	2.0	0.0	1.4	1.1
Overall fiscal balance (incl. grants)	-6.5	-3.6	-1.4	-3.2	1.4	2.4	1.9	2.0	1.2
Primary balance	-0.8	4.0	5.9	4.6	7.2	7.5	5.5	4.6	3.9
External sector									
Current account balance (including grants)	-3.7	-3.0	-2.5	-4.1	-1.7	-4.1	-6.4	-2.5	-1.2
External public debt	45.9	97.7	87.8	90.2	79.5	77.3	58.5	48.2	40.7
External public debt (in millions of USD)	5311.4	8117.6	7639.9	7683.9	7035.0	6568.5	5282.7	6025.8	5879.2
Gross reserves (in months of imports)	4.5	6.2	3.5	3.3	1.1	0.4	1.5	1.5	1.8

Source: Ministry of Finance and Budget, Department of Forecast and IMF (2005)

Poverty and Inequality Profile in Cameroon

Two comprehensive surveys conducted in 1996 and 2001 by the Division of Statistics and National Accounting (DSNA) permit to describe the evolution of monetary poverty during this period. In effect, Cameroon witnessed a downturn in the prevalence of poverty between 1996 and 2001 since the head count ratio declined by 13.1 percentage points dropping from 53.3 percent to 40.2 percent between these two years. This decline was more pronounced in the urban than in the rural area (see Table 2). During the same period, the depth of poverty, which measures the average gap of the income of the poor and the poverty threshold, also dropped from 19 percent in 1996 to 14 percent in 2001. In addition, the severity of poverty index, which measures the severity of poverty among the poor, also declined from 9 to 7% between 1996 and 2001.

Table 2: *Evolution of poverty indices 1996-2001*

Indicators	Milieu	1996	2001	Changes
Headcount index (P0)	Urban	41,4	22,1	- 19,3
	Rural	59,6	49,9	- 9,7
	Cameroon	53,3	40,2	- 13,1
Poverty gap index (P1)	Urban	14,7	6,3	- 8,4
	Rural	21,5	18,3	- 3,2
	Cameroon	19,1	14,1	- 5,0
Severety index (P2)	Urban	6,9	2,7	- 4,2
	Rural	10,1	9,3	- 0,8

Cameroon	9,0	7,0	- 2,0

Source: DSCN, ECAM I and ECAM II Rapport

Figure in Table 3 below show that on the national level, total expenditure inequality as measured by the Gini index increased between 1996 and 2001. In effect, the Gini coefficient went from 0.406 in 1996 to 0.408 in 2001, corresponding to an increase of 0.002 percentage point. According to residence area, the urban area recorded a reduction in inequality, whereas the rural area witnessed a rise in the Gini index. Nevertheless, the extent of inequality remained less significant in the rural than the urban area.

Table 3: *Evolution of GINI index between 1996 and 2001 according to household head area of residence*

	1996	**2001**	**changes**
Urban	0,449	0,406	-0,043
Rural	0,345	0,369	0,024
Cameroon	**0,406**	**0,408**	**0,002**

Source: DSCN, ECAM I and ECAM II Rapport

As concerns social indicators, figures in Table 4 show an improvement in some education indicators. For instance, the net enrolment rate (in primary and secondary) school rose from 76% in 1996 to 79% in 2001, while the literacy rate went from 61% to 68% during the same period. However, there are indications that of some social services deteriorated significantly during the period, thus leading to an increase in the drop-out rate from school. In effect, the infant mortality rate increased from 85 to 95 per one thousand live births from 1990 to 2002, and the malnutrition rate rose from 32 to 44% from 1991 to 1998, while life expectancy declined from 55 to 48 years overall from 1992 to 2002. So that, between 2000 and 204, Cameroonian's rank droped from being 132th to 141th among the 177 countries classified according to UNDP's Human Development Index.

Moreover, gender disparities the gender dimension is quite large in Cameroon. Gender disparities in labor force participation and salaries, the allocation of time, land use rights and ownership, schooling and literacy rates constitute major obstacles in poverty reduction in Cameroon. Women play an essential role in economic production particularly in the agricultural sector but they experience a significant discrimination, often reinforced by customs, culture and lows, in access to, and control of, basic assets.

Table 4: *Selected Social and Demographic Indicators*

	Cameroon		Sub-Saharan Africa	
	1992	2002	1992	2002
. Population characteristics				
Life expectancy at birth (years)				
Total	55	48	50	46
Female	56	49	52	47
Male	53	48	49	45
Mortality rate, infant (per 1,000 live births)	92	95	...	103
Birth rate, crude (per 1,000 people)	41	36	43	39
Death rate, crude (per 1,000 people)	13	16	15	18
Fertility rate, total (births per woman)	6	5	6	5
Education				
Illiteracy rate (in percent)				

Adult total (of population 15+)	83	90 1/	...	80
Young adult female (aged 15-24 years)	79	88 1/	...	76
Young adult male (aged 15-24 years)	88	92 1/	...	84
School enrollment (in percent)				
Primary, gross enrollment	93	107 2/	73	87 2/
Female	88	99 2/	67	80 2/
Male	98	1152/	80	942/
Secondary, gross enrollment	28	33 2/	24	...
Female	23	29 2/	21	...
Male	34	36 2/	27	...
Pupil-teacher ratio, primary education	...	61 2/	39	45 2/
ealth				
Immunization (in percent of children under 12 months)				
DPT	37	48	49	54
Measles	41	62	50	58
Access to safe water (in percent of population)	...	58 2/	...	58 2/
V. Land use				
Arable land (in percent of total land area)	13	13 2/	6	7 2/
abor force				
Total (in percent of total population)	40	41	44	44
Female (in percent of total)	37	38	42	42

Sources: World Bank, *World Development Indicators,* 2004
1/ Data as of 2000.
2/ Data as of 2001.

2.2. Present Government Policies

In the context of its PRSP, Cameroon has identified the central thrusts of its medium-term strategy for the reduction of poverty in accordance with overall development objectives. These thrusts are:

- the promotion of a stable macroeconomic framework;
- the enhancement of growth by diversifying the economy
- the transformation of the private sector into an engine of growth, and as a partner in the supply of social services;
- the development of basic infrastructures, natural resources, and the protection of the environment;
- the acceleration of regional integration in the CEMAC framework;
- the enhancement of human resources, the social sector, and the insertion of disadvantaged groups into economic channels;
- the improvement of the institutional framework, administrative management, and governance. Priority sectors in this poverty reduction strategy are the educational sector, the health sector, and basic infrastructures.

2.2.1 Promotion of a Stable Macroeconomic Framework

Since macroeconomic policy constitutes one of the major pillars of the strategic framework for growth and poverty reduction, the government counts on pursuing, not only a cautious policy to maintain macroeconomic stability, and to promote a favorable context for private investment and growth, but also to ensure the availability of adequate budgetary resources to priority sectors in order to fight against poverty in direct support to economic growth.

2.2.2 Diversification of the Economy to Growth Enhancement

In this area, the government intends to accelerate reforms, diversify the economy, and raise the rate of growth up to about 6% on the average during the period between 2005 to 2015. To achieve this, the government intends to provide support to rural sector operators, stimulate production, increase incomes and food security for the population. Moreover, in the area of manufacturing, the government plans to favor overall competitiveness, and support the expansion of agribusiness, textiles, and wood processing industries. In the services sector policymakers intend to favor the development of tourism, information and communications technologies, transport, and finance.

2.2.3 Enhancement of the Private Sector as an Engine of Growth

The government intends to contribute directly to growth by allocating public resources efficiently in favor priority sectors, and by supporting the productive sector. To do this, the private sector must become dynamic in order to propel economic growth, favor a better social distribution of its benefits, enhance domestic savings, and also serve as a partner and efficient channel for foreign investment. In this respect, structural reforms (price liberalization, credit restrictions, the simplification of procedures and customs tariffs, the restructuring of the banking sector, privatizations, port reforms etc…) and the disengagement of the State from productive activities have already contributed to the creation of an incentive framework in favor of the private sector.

To complement the previous reforms, the government selected the following priorities: i) to improve the physical environment of enterprises by accelerating the development of transport infrastructures, telecommunications and the provision and distribution of energy; ii) to improve the institutional and regulatory framework in order to increase efficiency in the provision of public services to enterprises; iii) to guarantee the legal security of investments

by enhancing the performance of the judiciary, and the enforcement of the business legal framework, especially that of OHADA; iv) to promote the penetration of Cameroon's exports into foreign markets, and v) to consolidate the mechanisms of concertation and dialogue with private sector organizations.

In addition to the above overall strategy, the government plans to support and use the SMEs/SMIs as priority instrument for wealth creation and social service development, in order to fight against poverty. In this context, government strategy for private sector development comprises specific support thrusts targeted on small and medium enterprises (SMEs) and micro-enterprises. The objectives are: i) to enhance private sector involvement in capacity development, notably, in the provision of social services such as education and health; ii) to enhance the competitiveness of the SMEs/SMIs with a strong potential for growth; iii) the further mobilization of financial resources in favor of SMEs/SMIs and micro-enterprises, by diversifying and adapting financial instruments, as well as micro-finance development; iv) to support the organization of the SME/SMI and craft industries sub-sector in order to facilitate partnership, as for instance, the promotion of a development program for networks/clusters of SMEs, micro-enterprises, and training grounds for businesses; and v) to improve the impact of the privatization program on the subcontracting of services to SMEs/SMIs. Moreover, the government intends to carry on its institutional support policy for the traditional financial sector and micro-finance within the new regional regulatory framework.

2.2.4 Infrastructure Development to Enhance the Productive and Social Sectors

The basic goal here is to make available to the population a set of works likely to improve their living conditions. The Cameroon government priority is to enhance road maintenance on the one hand, and to revive rehabilitation and road-building program in rural as well as urban areas on the other hand. More specially, the government plans, notably: i) to enhance the road network, i.e. to built an adequate number of good quality roads; ii) to improve access to drinking water;[12] iii) to extend the electric power network cover over the national territory;

---

[12] To achieve this objective, the government has implemented a set of reforms of which we note the privatization of the Sociéré Nationale des Eaux du Cameroun and the « Hydraulique Rurale II » Program which aims to promote access to drinking water in all the country's region by 2025. This program aims, in particular, to provide dinking water to 75% of all rural areas by 2015, and improve sanitation services in the regions. The program comprises a set of extension and rehabilitation projects for water supply structures, canalisation programs, the drilling of boreholes and wells especially in disadvantaged areas as in the Northern part of the country.

and iv) to accelerate the resolution of existing infrastructures for the production of electric power – which constitutes one of the central thrusts in infrastructure development strategy.[13]

2.2.5 Acceleration of Regional Integration within the CEMAC Framework

The Cameroon government attaches great importance to regional economic integration with its Central African neighbors. With this in view, it ratified the Economic and Monetary Community of Central Africa (CEMAC) treaty in 1999 which aims to create a real economic entity in the sub-region. In this regard, Cameroon has committed itself to respect multilateral supervision criteria, and work out a convergence plan for its economy,[14] notably, to harmonize national fiscal policies with the common monetary policy, the constitution of an effective customs union between the six countries of the sub-region, the creation of a common market based on the free mobility of goods services, capital and persons, the harmonization of fiscal legislations and common sectoral policies.

2.2.6 Enhancing and Increasing the Value of Human Resources.

The Government policy objective constitutes the corner stone of Cameroon's social strategy, and the sectoral policies worked out in this context notably aim to: i) promote basic education for all, ii) improve the health status of the population in general, and that of mothers and children in particular; iii) improve living conditions in urban areas; iv) fight against unemployment, and insert disadvantage groups into economic channels; v) promote of equality and equity between the genders; vi) improve the conditions necessary for the blossoming and the protection of the family and the individual.

Specifically, the government strategy in the area of education aims to increase the provision (supply) of education, encourage the schooling of young girls, and private schools and continually improve the quality of education, and adequacy between education and the real needs of the economy.

---

[16] – In fact, the development of telecommunication services and electric power in general, constitute the central thrust of structural reform policies to which the government has committed itself for several years well be in the form of protected areas.

[13] In fact, the development of telecommunication services and electric power in general, constitute the central thrust of structural reform policies to which the government has committed itself for several years well be in the form of protected areas.

[14] CEMAC's convergence criteria are the following: achieve positive budget balance by 2004; total public debt below 70% of GDP; no accumulation of payment arrears, and wiping them out by 2004; annual inflation rate below 3%; 1) basic budget balance exclude grants and foreign financing of investments; 2) public debt equals external debt plus short and long-term domestic debt; 3) accumulation of payment arrears equals sum of accrued external and domestic arrears; 4) the inflation rate is the rate of increase of the consumer price index.

In the area of health, the government intends to achieve an improvement in the health status of populations through the sectoral health strategy adopted in October 2001. This strategy aims to reduce mortality and morbidity at birth, the incidence of transmissible diseases, to slowdown the progression of HIV/AIDS, and to enhance preventive medicine. Emphasis is put on the construction and equipping of health districts which constitute the first level of medical care. Measures are envisaged for the populations to have access to essential quality generic medications at affordable prices.

As to poverty reduction in urban areas, the government has commissioned the development of an integrated urban development strategy which aims to: i) improve the living conditions of urban populations, most of whom live under precarious conditions; ii) enhance the economic role of cities through the extension, rehabilitation, and maintenance of urban infrastructures; iii) develop a program for the promotion of social housing in urban areas.

Concerning the fight against unemployment, the measures taken by the government consist of encouraging job creation through:
- promotion of high employment generating labor intensive works such as road network repair, urban sanitation etc…
- provision of incentives for the creation of SMEs, and micro-projects which constitute active channels more likely to generate income for the poor;
- provision of incentives to large enterprises for subcontracting SMEs and SMIs;
- Access to capital investment.

Moreover, the government means to finalize and adopt the Statement on the National Employment Policy (NEP), and to put in place a national employment observatory. To ensure better living conditions for women, the respect of their rights, the effective recognition of their contribution to development, and their more rapid insertion in economic activities, the government intends to produce a sectoral strategy for the promotion of women, based on:

i)   improving the socio-legal status of women;
ii)   improving the living conditions of women;
iii)   the promotion of equality and equity between the sexes in all the sectors of national life;
iv)   enhancing existing institutional structures and mechanisms to address problems specific to women.

Concerning social protection, the government intends to enhance this area, notably, by reforming the social security system so as to ensure the cover of those socio-professional categories which have remained marginalized by the system.

2.2.7 Governance

Governance problems are notably linked to the prevalence of corruption at all administrative levels, which remains a compromising element against the legitimacy and credibility of the government, and which complicates the establishment of a meaningful social contract between the government and civil society. The low motivation of civil servants due to consecutive falls in their purchasing power owing to the economic crisis of the 90's, but also the widespread impunity for those who commit infringements against the rules, are as many factors which explain present governance problems to which may be added the structural and organizational problems, of the administration and State institutions.

Faced with this situation, the government has committed itself to enhancing the fight against corruption, while promoting the emergence of transparency and accountability in the management of public affairs. Priorities in the context of governance have been inserted into an action plan in the appendix to the I-PRSP (2001) which defines the following strategic objectives:

i) efficient and transparent management of government affairs and public funds;

ii) effective participation of populations in the management of public affairs, and in the development and consolidation of the partnership between the public sector and civil society;

iii) enhancement of the Rule of Law and equitable access of justice;

progressively putting in place the decentralization provide for in the 1996 Constitution.

In sum, the present policies of the government indicate the determination of public authorities to work for the achievement of the millennium objectives.

Moreover, in Cameroon, and in several low-income countries, Poverty Reduction Strategy Papers (PRSPs) have become a strategic structure for the design of policies and actions to fight against poverty. They also serve as a base and a framework for guiding the assistance of donors to low-income countries.

However many PRSPs suffer from the lack of a quantitative framework for evaluating the impacts of poverty reduction strategies and progress achieved in their implementation. In effect, one of the main weaknesses identified in Cameroon's PRSP and in its progress report

was the lack of a quantitative framework for analysing the impact of policies put in place on growth and poverty, and the changes involved in the choice of alternative policies on the economy in general. It is in this context that, to finalize its PRSP, the Government appealed to the World Bank and other development partners for support to carry out many analytical studies, notably, on the sources of growth, dynamic analysis of poverty, and studies to bring some consistency between sectorial frameworks of medium-term expenditures and the PRSP's macroeconomic and budgetary frameworks (Gouvernement du Cameroun, 2003). The next paragraph provides a brief review of the methods presently used in the analysis of ex-ante macroeconomic policy impacts on poverty.

3. Methods used in the ex-ante evaluation of macroeconomic policy impacts on poverty

This section reviews those few models more likely to measure the ex-ante macroeconomic policy impacts on household welfare. Some of the models reviewed in this paper have recently been built to help in the design of poverty reduction policies, and to provide a greater ownership of the poverty reduction strategy process to governments of developing countries. In contrast, other models were not initially constructed to analyze macroeconomic policy impacts on poverty.

Before presenting these models, let's first note that public policies may be divided into macroeconomic policies and sectoral policies. The latter are often disaggregated into policies related to productive activities (agricultural, industrial, trade, financial, transport… policies), and social sector policies (especially health and education).

The objective of sectoral analysis is to evaluate the mechanisms through which sectoral policies affect the supply of goods and services to poor households as well as the demand for those goods and services by those households. Sectoral policies include the economic and social policies which may affect either a specific sector or a group of related sectors. Several types of these policies may impact on household living conditions. In this regard, we may mention: i) price policy; ii) technology transfer policy; and iii) input subsidy policy.

Macroeconomic policies on the other hand, are adjustment policies which encompass policies whose objective is to correct the serious imbalances experienced in a country's economy. These imbalances between aggregate supply and demand usually manifest themselves notably through persistent balance of payment deficits, high inflation rates and unsustainable budget deficits. These policy measures simultaneously comprise stabilization and structural adjustment policies[15].

---

[15] See Guillaumont, P. (1985), for more details concerning stabilization and structural adjustment policies

The object of stabilization policies is to correct short run external account imbalances by reducing spending and by considering the structural parameters of the economy as given. In general, these policies tend to be deflationary. In contrast, structural adjustment policies aim to modify the structural parameters of the economy to achieve the simultaneous reduction of imbalances, and to accelerate economic growth over the medium-term. The key element here is the adequacy and efficiency of investment to sustain long-term growth. Macroeconomic adjustment policies generally include fiscal, monetary, foreign trade, price, and wage policies.

Macroeconomic policies impact significantly on the relative profitability of economy activity growth, inflation, employment, and unemployment, as well as on income distribution among various economic agents. They influence household decisions through market transactions involving the exchange of goods and services (public and private) and factors of production (land, labor and capital). Concerning poverty specifically, adjustment policies may negatively affect the poor in two ways: i) in the short-term, they may reduce the real income and consumption of certain population groups in the economy, especially the poor; and ii) in the long-term, disadvantaged groups may not benefit from changes in the distribution of income induced by the implementation of adjustment policies (Demery and Addison, 1997).

Modeling as an input to policy analysis has a long history which date back to Tinbergen's model of the German economy in 1936, and the American economy in 1939. Today, there exist a multitude of macroeconomic models for individual countries, regional groupings, and even for the world economy. Practically, there are many ways to classify existing macro-models. Thus, depending on the classification objective, models may be grouped according to their mathematical or methodology (e.g. optimization or simulation models, econometric models, computable general equilibrium models (CGEM)) and according to their policy interest, their underlying theoretical structure, the nature of the organizations by which they are developed (e.g. multilateral organizations, nationals' institutions, individuals, etc…). In this study, none of these typologies are adopted. We rather focus arbitrary on a few models which have been used to analyze macroeconomic impacts on poverty, or which have the potential to be so used, and we present in a detail fashion those models which have been used in the impact analysis of macroeconomic shocks on poverty in Cameroon.

3.1– The Financial Programming Model (FPM)

The Financial Programming Model (FPM)[16] is a dynamic monetarist framework developed by the IMF in the early 50's. After more than half a century, it remains at the center of the domestic analysis on which IMF conditionalities are based, i.e. the conditions the IMF imposes on borrowing countries in their credit contracts, and in Poverty Reduction and Growth Facility (PRGF) reports.

This model was designed to study the effects on income and balance of payments of two important variables, namely, changes in exports and bank credits[17]

In its simpler form, the FPM is constructed with four equations of which two define a country's money supply and foreign reserves and the other two, the behavioral assumptions of money demand and imports. The application of the FPM model requires banking data and foreign trade statistics which are easily available.

The FPM has been used since 1991 by the Bank of Central African States (BCAS). It was developed by the IMF in collaboration with the local staff, and was financed by the IMF and the World Bank.

In this model, no attempt has been made to model domestic market structures. Moreover, the model does not incorporate any representation of the country's environment and social system, or the links between its major economic indicators As a consequence, it does not allow to draw recommendations for the reduction of poverty. However, it was presented in this paper because it permits to gain a better understanding of the 1-2-3 model that is dealt with farther below.

3.2– The Revised Minimum Standard Model (RMSM-X)

The RMSM-X model is simple static gap model based on studies realized by the economists Harrod and Domar between 1939 and 1946. This model was implemented by the World Bank

---

[16] This model is often known as the « Polak model ». Jacques J.Polak was Director of the IMF Research Department from 1958 to 1979.
A financial program is a set of measures designed to eliminate the imbalance between domestic aggregate demand (absorption) and aggregate supply in an economy. Usually, this imbalance manifests itself by a balance of payment deficit and an increase in prices. The main objective of a financial program is to determine the ratio of available resources to needs likely to exert the least pressure on the domestic price level and to yield the expected balance of payment performance.
[17] Polak, Jacques J., (1998), **"**The IMF Monetary Model at Forty", *Economic Modelling* Vol. 15.cited by Tripathi, R. (2003).

in 1973[18] A variant of this financing gap model is used by more than 90 percent of World Bank country economists to make projections of growth and the financing gap[19].

The World Bank model estimates the total amount of funds a country needs to achieve its growth rate objective, and by implication poverty reduction[20]. In this context, after estimating likely investment from domestic tax savings and foreign investment, the model determines the amount of additional financing required from international development agencies. This amount, known as the "financing gap" is made up through aid, subsidies or loans approved by the advisory group, or at similar donor meetings where the World Bank often has a lot of influence both through drafting the preliminary documents concerned, or by presiding over these meetings.

This model has been built for the World Bank to have a consistent approach, not only in making projections for its client-countries, but also to be able to carry out inter-country comparisons. The RMSM-(X) model uses a two-deficit accounting framework which links national accounts and the balance of payments with a particular emphasis on the foreign financing gap, and to projections of external borrowing. Both gaps are the investment gap minus savings, and the export gap minus imports.

The model is based on a simple concept: the amount of investment times the efficiency in using capital, yields changes in GDP.
The main limit of this model is that it takes the growth rate and the price level as given, i.e. as determined outside the model. This analytical framework is highly aggregated and does not allow to examine the factors of production. At the structural level, the RMSM-(X) model is unable to capture distributive policy impacts. The labor market, poverty, and income distribution concerns are not incorporated into the model.

We present this RMSM-X model for it may serve as a coherent macroeconomic model for the PAMs model to forecast GDP, national accounts, the national budget, balance of payments and the price level.

---

[18] Fiscal and monetary accounts were added to the RMSM model which was then renamed the RMSM-X model to reconcile the model used by the World Bank and the IMF in the early 1990's. The RMSM-X +LP model (Silva et al (2001) adds the labor market and poverty to the RMSM-X model.
[19] Khan et al (1990).
[20] Addison (1989)

3.3– The RMSM-X (+LP) Model

To compensate for the drawbacks of the RMSM-X model and establish a link between the microeconomic and macroeconomic variables, in addition to growth and poverty reduction strategies, the World Bank has developed a RMSM-X version called the RMSM-X(+LP) model. The latter is basically a macroeconomic module of the standard RMSM-X combined with two modules related to poverty and social indicators (i.e. health and education). It helps analyze the impact of macroeconomic shocks on poverty through a poverty equation which links the incidence of poverty with the inflation rate, the living standard, the rate of economic growth, the degree of trade openness, public spending on education and health, and income inequality. Similarly, the impact on the education level and health status is estimated through a health/education equation.

More specifically, the (+LP) modules determine income broken down into socio-economic factors, level of skills, and locality, which consequently allow users to compute income distribution indicators (e.g. Gini coefficients), and given specific assumptions concerning poverty lines and within-groups income distribution, absolute levels of poverty. The modules then link social expenditures (consistent with the real economic data of the basic modules and the budget) with the country's socio-economic categories. They may also allow to simulate in a normative way the costs involved in attaining certain objectives such as those concerning the Millennium Development Objectives (MDO), with their and to determine which objectives may be achieved taking into account macroeconomic constraints (such as compute through the basic modules of the RMSM-X)[21]. The +LP modules require household surveys and more detailed budgetary data.

3-4 The SIPAE Model

The SIPAE model is Cameroon's macro-econometric framing model[22]; it was constructed with the aim:

1) to acquire a projection tool which could help in decision-making;
2) to possess a consistent framework able to integrate the four major macroeconomic accounts which are: the real sector (resources and uses); the Government flow-of-

---

[21] Bretton Woods Project Draft (2002)

[22] For more detail, see Ministère de l'Economie et du Budget du Cameroun, Direction de la Prévision: SIPAE: Modèle de Cadrage Macro économétrique du Cameroun.

funds Table (GFOFT) (revenues, expenditures and financing); the external account (balance of payments); and the monetary sector;: and

3) other modules (indebtness, MTEF (Medium-Term Expenditure Framework), and poverty).

The SIPAE model is a short-term (ST) and medium-term (MT) econometric forecasting model based on sound and consistent economic foundation. The assumptions of this model may be broken down into three categories:

- assumptions relating to the domestic economic situation: the prices of oil, cocoa, coffee, wood, bananas and aluminum; inflation in the Euro currency area, the USA and the CEMAC zone; the exchange rate, economic growth in the world, the Euro zone, the USA and in the CEMAC;

- assumption related to productive capacity: 1) human capital: a) education (primary, secondary, and higher education); b) physical capital (energy, roads, telecoms, construction, public works, etc…)

- assumptions connected with sectoral policies and strategies: 1) new policies; the MTEF (education, health, social development and employment; productive infrastructures, the rural sector and others).

This model is quite convivial (or user-friendly), for, it is easy to apply, calibrate, solve, interpret; and it uses the EXCEL software package which is widely available.

This model allows to make projection and macroeconomic framing (PRSP) to ensure consistency between the four macroeconomic accounts (real sector, GFOFT, BOP, and monetary sector); to evaluate the impact of basic economic policies on growth (e.g.: orientation of public spending (health, education, infrastructures etc…)).

3.5- **The JUMBO Model for Macroeconomic Forecasting**

The Jumbo model is a multi-sector model based on the input-output table. It may be applied (developed) to countries where quite detailed national account data is available. It is mainly applied in Franc Zone countries, except in the Comores Islands. The main purpose of the model is forecasting macroeconomic performances two years ahead in each Franc Zone country, and a synthesis for the Union Economique et Monetaire de l'Ouest Africain (UEMOA), the Communauté Economique et Monetaire de l'Afrique Centrale (CEMAC), and the entire Franc Zone.

This macroeconomic and financial forecasting was designed by the Agence Française de Developpement (AFD) with the view of providing a macroeconomic monitoring instrument

for a number of countries by drawing up accounts and making short-term forecasts. The model also aimed to help the AFD participate in debates on economic policies in Franc Zone countries.

It is a simple Keynesian-type model. Tradeable goods GDP is determined by demand components. The model comprises a few behavior relations with, for instance, an econometric estimation of each national consumption function. Initially, the model was based on a two-sector economy, with one tradeable goods sector producing a single composite good intended for consumption, investment, and export, and a non-tradeable goods sector making up the administration. This model has evolved with the inclusion of other sectors, such as the petroleum sector. International import and export prices are exogenous in strong foreign exchange. Tax receipts are endogenous, but the tax rate is exogenous. Current public expenditure is assumed to be a policy variable and it is exogenous in value terms. Interest paid outside the country is determined by the model and varies according to the assumption made on the exchange rate. Credit granted to the public sector and to the rest of the economy is exogenous.

Jumbo forecasting models are revised each year. They are presented in two reports, one on the economic outlook in April, and the other on structural studies using the Jumbo model, in September before the Franc Zone Finance Ministries meeting. The latter report presents and makes comments on short-tem economic growth forecasts, two years down the line. These independent forecasts can then be compared with those of national governments central banks, the IMF and the OECD.

One advantage of the Jumbo model is that it utilizes a long-term macroeconomic database (more than ten years, or more than 20 years for some variables), which makes it possible to conduct comparative analysis between countries. National statistics must be updated to render each country's statistics homogenous and therefore comparable. For instance, the impact of a fall in the US dollar or a rise in oil prices may be compared between countries, and also be measured for the UEMOA and the CEMAC.

Although the Jumbo model is presently used by the AFD for macroeconomic forecasts in Franc Zone countries, including Cameroon, it may also be improved to carry out ex-ante PSIA analyses, as will be seen in the next section.

3.6– The Poverty Analysis Macroeconomic Simulator (PAMS) [23]

The PAMS is an econometric model which links a coherent macroeconomic model or a macroeconomic framework with an employment/poverty module. This model possesses three main components, namely,

i)   an aggregate standard macroeconomic framework, which may come from any coherent macroeconomic model (e.g. the RMSM-X model, or the 123 model) for

---

[23] For a review and presentation of this model, see Pereira da Silva, Essama – Nssah and Samake (2003), Chapter 11 « Toolkit for Evaluating the Poverty and Distributional Impact of Economic Policies ». Also see Pereira da Siva, Essama – Nssah and Samake (2002):"A Poverty Analysis Macreoeconomic Simulator (PAMS): Linking households Surveys with Macro-models; Working Paper 2888, World Bank, Washington.

the projection of GDP, national accounts, the national budget, the balance of payments, the price level etc…in order to obtain consistent aggregated accounts

ii)   a labor market model breaking down labor categories according to level of skills, and economic sectors in which total output is consistent with the macroeconomic framework. Survey households are organized into representative household groups, defined according to household head employment category. For each employment category, labor demand depends on sectoral output and real wages. The wage levels by economic sector and labor categories may thus be determined. Moreover, different tax rates on incomes, and different budgetary transfer levels for different labor categories may be added to wage income; and

iii)   a model using the results of the labor market model to simulate an increase in the income of each individual within its own group, which is assumed to equal the group's average income. After forecasting individual incomes, the PAMS computes the incidence of poverty and inequality between groups.

The implementation of this model requires the availability of national accounts (broken down by sector), and household survey data containing data on household income or expenditure, and a breakdown of wages and employment according to economic sector.

The PAMS may be used to analyze macroeconomic policy impacts and exogenous shocks (such as an exogenous rise or fall in growth, or a change in the sectoral composition of output) on individual households. Moreover, the PAMS may also help carry out past or counterfactual simulations.

In the case of Cameroon, the PAMS model has adapted its interface with the government's macroeconomic model (SPAE) to simulate the impacts on income distribution and poverty of the main macroeconomic policies which are implemented in the context of the PRSP. The PAMS-SIPAE model is a combination of the World Bank model and the Cameroonian SIPAE model. The technique consist of extending the relationship between macroeconomic results such as GDP growth, consumer price index, inflation, unemployment and the incomes of different groups in the national economy. This model is used by the Forecasting Division of the Finance Ministry. It is based on the representative household hypothesis, where each household is employed in a different economic sector.

3.7– The Social Accounting Matrix (SAM)

The social accounting matrix (SAM) is a matrix presentation of the national accounts system which integrates the four existing economic sectors of a country, namely: i) the national account system (NAS); ii) the balance of payments; iii) the flow-of-funds table; and iv) the input-output matrix[24]. Consequently, the SAM is a comprehensive detailed and quantified (or statistical) description of the macroeconomic and financial interrelations in a country.

On the technical level, the SAM is a square matrix in which each account is represented by a row and column. Each cell of the matrix indicates the payment of the account of its column to the account of its row. The incomes of a column appear along a row, and its expenditures along its column. Moreover, the underlying double accounting principle requires that, for each of the SAM's account, total income (row total) equals total expenditure (column total). Given that a SAM is a structure of comprehensive detailed economic data which specifically represents a country's economy, it allows to make a picture of all the transactions between all economic agents in an economy during a base period. Thus, it is possible to simulate the economic and distributive impacts of different policies on the basis of this picture and assumptions on the evolution of these accounts. SAM results are highly sensitive to accounts which are endogenous, and those assumed exogenous.

Among the different social accounting matrix (SAM) accounts, the most important endogenous accounts as concerns poverty analysis are, namely, the production account, the household account, and the productive activities account. In effect, given that the most important aspect of poverty analysis is the projection of factorial income distribution on household income distribution, a more detailed disaggregation of these two accounts therefore provides a suitable SAM for poverty analysis. On the other hand, the only endogenous account in the context of economic policy impact on poverty is the government account for any policy measure such as structural adjustment, or poverty relief policy will be implemented through this account. As an example, a cut in government spending will affect transfers and subsides to households and government expenditures on education health, and infrastructures.

In contrast, an exogenous shock such as a change in terms of trade will be transmitted to the SAM through the "Rest of the World" account, and the latter will be considered as being exogenous.

Moreover, the "Saving-Investment" account may be taken as exogenous or endogenous depending on the time horizon or the type of policy shock which obtains. Investment is generally considered as exogenous in a static context, whereas in a dynamic context where the policy shock is likely to affect the economy's structure, the investment account should be treated as endogenous.

As an organizational tool, the SAM provides an ordered way to identify the main components of a CEEM. These modules are: production and technology, the household income and

---

[24] The Social Accounting Matrix (SAM) is a square matrix with expenditures in columns, and income in rows. The SAM combines input-output data with national accounts data to reflect the circular flow of income at a particular point in time. In this context, its basic use is to evaluate the direct and indirect effects of a particular exogenous shock such as a policy change relating to various expenditure models (for a recent application of the SAM to policy analysis, see Iqbar and Siddiqui (1999), and Khan (1999)).

expenditure account, the saving and investment behavior, the foreign trade and balance of payment account, and the government activity account.

Given that SAMs may be constructed for various household groups, they can be used to evaluate policy impacts on the poor.

As we will see in the following sections, the Social Accounting Matrix (SAM) has being use by several researchers, Devarajan (1987), Bamou (2000), Emini (2000), Njinkeu (2000), Bakup and Tar (1998) to generate several CGEMs for Cameroon.

The SAM is often used to generate certain reference parameters for the IMMPA model (In the case of Cameroon, see below the construction of Cameroon's financial integrated SAM by Emini and Fofack (2004)).

3.8 General Equilibrium Model

The computable general equilibrium model (CGEM) allows to measure the aggregate impact of an economic policy reform by considering the economy as a whole[25] These models can take into account the direct and indirect effects of a policy reform. It may also be more or less complex depending on the objectives of the analysis and available resources. It is used as an analytical and simulation instrument, and integrates the data of all aggregate sectors of the economy (production, labor market, external indebtness and its effects of investment in debtor countries, public spending, household income and expenditure, etc…). This model allows to undertake dynamic analyses on the articulation of different reforms over time, taking into account their short and long-term effects.

As to its usefulness for poverty reduction, we may note that this model is "calibrated" by means of the social accounting matrix (SAM), and consequently follows the desired level of disaggregation of factors, activities, goods, institutions (households, firms, government), and the rest of the world. For poverty and inequality analysis, the SAM must include a detailed decomposition "of households and factors, activities and goods which are important for the generation of their income and consumption, sources of income or other socio-economic characteristics"[26]

---

27 – In 1984, the computable general equilibrium model was built and published in Cameroon by the Economic and Finance Ministry by the local staff and World Bank consultants. It was financed by USAID and the Cameroon government. It is dated and needs updating..
[26] Bank PSIA Tolkits (2003)

The standard model is used in comparative statics analysis, thus implying that the impact of a shock (or a combination of shocks) which is simulated by comparing the solutions of the model with or without shock(s). It is possible to simulate a great number of shocks with this model, including changes in the rates of direct taxes, trade taxes, other indirect taxes (subsidies), world prices, factor productivity, technologies, transaction costs, government transfers to households and to the rest of the world. Each model solution yields an extensive set of economic indicators, including GDP, sectoral output and trade volume, representative household income and consumption, the prices of goods etc…[27]

However, though captivating and attractive because of its theoretical foundations, the CGEM has not been used extensively in operationalizing policy decisions in African countries. This is partially due to the huge amount of data required by models of this type, which are incompatible with the realistic statistical and administrative data situation of a country. This state of affairs reduces the researcher to making assumptions or to importing parameters from other countries, which implies that it is difficult to ascertain whether or not simulations results reflect the real situation of the economy under study, or the researcher's assumptions. Also, the CGEM requires great ability to run and interpret its results[28].

A relatively simple computable general equilibrium model is for instance, the 1-2-3 model (comprising one country, two activities and three goods) which is presented below.

The 1-2-3 PRSP Model[29]

The 1-2-3 PRSP model is a computable general equilibrium static model built to serve as a macroeconomic framework for Poverty Reduction Strategy Papers (PRSPs). It is based on a country's trade sector (exports/imports), tradeable goods (goods exported/goods imported) and non tradeable goods which are consume locally (domestic goods).

To use this model, the analyst starts with the IMF financial programming model which is static, uses national account aggregates, and relates them to a selected endogenous growth

[27] Bank PSIA Tolkits (2003
[28] For other critics of CGEM, see Gunter (2003),
[29] For a detail description of the 1-2-3 PRSP model, See Devarajan, S. and Delfin S. GO.(2002).

model. On the other hand, this model is linked with household expenditure and/or income surveys by the 1-2-3 model. These four linkages constitute the large macroeconomic framework used by the Work Bank.

According to the authors of this model (Shanta Devarajan and Delfin S.GO, both economists at the World Bank), the 1-2-3 model computes the impact on each household in the sample so as to capture the effect on the entire income distribution. Of course, for a given poverty line, the effects on different poverty lines may also be computed; with detailed data, poverty analysis can be carried out across different regions of a country. These authors' analysis makes no mention of other forms of classifications such as environmental and within household investigations.

Since one of the significant features of the 1-2-3 model is that it provides a link between macroeconomic policies and a critical price ratio (the exchange rate), this policy in turn is identified by means of data on household consumption of exports/imports. The authors of the 1-2-3 model also argue that this model has "sound economic foundations", and may be run with poor quality data. A useful feature of this model is that if a particular module is not available because of lack of data or for any reason, the remaining analytical framework may still be implemented without the missing module.

In the following subsection, we briefly present a few studies carry out on Cameroon using a CGEM.

The 1-2-3 model was applied to a variety of problems, including the overvaluation of the CFA franc before 1994 (Devarajan, 1998).

In the early 90's in effect, many observers argued that the CFA franc, legal tender in 13 francophone African countries[30], was overvalued. Using the simple computable general equilibrium model (the 1-2-3 model), and taking into account the terms of trade shocks sustained by these countries in the late 80's and early 90's, Devarajan showed that the CFA franc was overvalued by about 50%. On January 1994 the CFA franc was devalued by 50%.

---

[30]The CFA zone comprise 7 countries (Benin, Burkina Faso, Côte-D'ivoire, Mali, Niger, Senegal and Togo) forming the Economic and Monetary Union of West Africa (UEMOA) and 6 countries (Cameroon, Central Africa Republic, Equatorial Guinea, Chad, Congo, Gabon) which also form the Economic and Monetary Community of Central Africa (CEMAC). The Comoros are the fourteen country of the Franc Zone in Africa.

In the context of the Cameroon PRSP, impact analysis was realized using the 1-2-3 model in association with the macroeconomic model of Forecasting Division of the Ministry of the Economy and Finance (the SIPAE model).

The 1-2-3 PRSP model was put in place by linking the 1-2-3 module (which is a computable general equilibrium model), and the household module derived from ECAM II (i.e. a Cameroon Household Survey) with the Forecast Division's macroeconomic model. This combination of instruments allowed to measure external shocks (such as terms of trade), changes in fiscal policy (such as public spending changes), or changes in structural reforms (e.g. physical, financial and social infrastructures), medium-term growth, relative prices, and household income distribution.

More concretely, the PRSP scenario is based on a set of key assumptions related to the international environment, economic and social policies, and the efficient implementation of programs. Adverse external shocks such as a fall in oil prices or the contraction of expected external resource inflows, the persistence of domestic structural rigidities (e.g. energy problems, low foreign investment inflows, or poor implementation of privatization programs, low rate of budgetized resource absorption) could reduce growth, and hence its impact on poverty. The contraction induced by budget allocation could lead the government to undertake difficult adjustments in sectoral spending which could compromise the achievement of PRSP objectives.

To appreciate the incidence of the preceding risk factors on growth and poverty profile, and the implications of resource availability in priority sectors, sensitivity analysis needs to be carried out. They consist of modifying assumptions on the PRSP scenario's risk factors, and of measuring their effects in terms of deviations of the growth rates and budget allocations of the Medium-Term Expenditure Framework (MTEF). The effects on the poverty rate are inferred as previously from the growth rate through the elasticity method. The analysis is extended to capture household income distribution effects. For this, the endogenous growth macroeconomic model was interfaced with the 1-2-3 PRSP (a simple computable general equilibrium model) which comprises a detailed "households" module with household groups (deciles). Inference on the evolution of monetary inequalities is made by comparing the

increase in the income of 20% of the poorest household with that of 20% of the richest households.

Outside 1-2-3 model which was apply to Cameroon to simulate economic policy impacts in the context of PRSP, several others studies have used the CGEM to simulate the impacts of different policies on Cameroon's economy.

By using a CGEM, Bakoup and Tarr (1998) have quantified the impact on Cameroon's economy of three aspects of his new regional agreement on trade with the CEMAC. This agreement deals with:
- market access improvement in the CEMAC zone;
- preferential tariffs reduction;
- reduction of his external tariffs through the implementation of CEMAC Common External Tariff (CET).

Their estimation shows none only that Cameroon will benefit from the agreement, but it also indicates how Cameroon, as the biggest economy of the sub-region dominates the sub-regional market both in term of imports and exports despite its small size in world market.

Moreover, they also find that the best access to market by its sub-regional partners and the reduction of the external tariff largely explain all of its gain in social welfare. In their preferential scenario (Cameroon is the sub-regional market leader), the reduction of the external tariff explains the three fourth of the social welfare gain. If Cameroon further reduces its tariffs on regional partners' products, the effects on his economy will result in a real loss in revenue but that overall impact will be negligible.

Bamou (1997) uses CGEM to analyze the impact of indirect and customs tax reform, put in place in January 1994 by the Cameroon government, on the supply and demand for products of the fishing sector, the welfare of the population and the great macroeconomic account balances (budget and current account balances). His simulation results show that: i) the putting in place in Cameroon of the UDEAC customs and domestic taxation reform, beyond its macroeconomic objective, has an appropriate impact on the fishing sector, in general. The industrial sub-sector has witnessed a freeze on its activities, while small-scale production by craftsmen has been improving concurrently with its competitiveness.

Bamou (2000) uses a multi-country computable general equilibrium model applied to Cameroon and Gabon to study the impact of the real coordination of fiscal policy and population movements between CEMAC countries on the macroeconomic performances and welfare of their populations. The results of these simulations show that, despite the large structural disparities between the economies considered, fiscal policy coordination is possible provided some precautions are taken into account and specific measures applied. These simulations also indicate that the free mobility of people between CEMAC countries does not constitute a handicap in itself. Combined with a better income redistribution policy it can turn out to be a vital support element for the economic development of countries with "low human capital levels" such as Gabon, and for the reduction of unemployment in countries with unlimited surplus labor such as Cameroon.

Emini (2000) use a CGEM applied to Cameroon to measure the lag between the short-term and long-term effects of the implementation of the value-added (VAT) tax. The short run is assumed to be a time period in which only labor is mobile between sectors of production, while the long run is that period of time when capital becomes mobile. This paper focuses on welfare effects and some considerations as to resource allocation. Simulation results show that, even if an imperfect VAT were to improve social welfare in the short run, this improvement would tend to lead to the deterioration of welfare in the long run. On the other hand, if the VAT implemented is a pure VAT, the transitory improvement in welfare in the short run will increase in the long run; similarly, if there is short period of welfare deterioration, it will tend to vanish, or turn into a welfare gain in the long-term.

Njinkeu (2000) uses a CGEM to evaluate the impact of the 1994 sub-regional fiscal reform in Cameroon. His CGEM is characterized by two main elements. It takes into account the asymmetrical impact with trade partners, and the dualism on products and factor markets by taking into account formal and informal sectors activities. Price formation is according to standard form in the model, except that imported products are adjusted to take tax evasion and smuggling into consideration. This author's analysis is focused on the macroeconomic impact and the social implications of simulations. On the whole, the different simulations show a strong economic growth and employment expansion. However, sectoral effects are different depending on the combination the taxes used. As a member of the CFA zone, Cameroon may realize a real depreciation individually, especially through tight fiscal and monetary policies. The simulation of this policy scenario leads to an increase in GDP at factor costs, while

employment increases at a consequence, the unemployment rate falls and household welfare increases. All the households experience an improvement in welfare in this scenario, even though for the category of in the formal sector, welfare only increases little.

As may be noted, preceding models show that applications of the CGEM to public policy analysis in Cameroon are relatively recent, and date from the late 80's onwards. Moreover, these studies were not commissioned by the government; the works by Bakoup and Tarr (1998), and the one by Devarajan (1987) were commissioned and financed by the World Bank. Those by Njinkeu (2000), Emini (2000), etc. were individuals studies carry out by their authors and supported by research organizations based either in Africa or outside the continent.

Moreover, most of the studies using the CGEM basically focus on trade and fiscal policy with little or no emphasis on poverty. However, we will see in Section 4 how some of these CGEM may be improve to become a useful tool for analysing ex-ante policy impacts on poverty.

3.9 The Integrated Macroeconomic Model for Poverty Analysis (IMMPA)

The integrated macroeconomic model for poverty analysis (IMMPA)[31] developed by the World Bank is a more elaborate computable general equilibrium model based on a framework which put emphasis on the role of labor market segmentation, the role of informal sector employment in the transmission of policies and exogenous shocks on the poor, and the adverse effect of external indebtness on private investment incentives. It also explains the impact of the various components of public expenditures on the production process, and the formation of physical and human capital by the private sector. This model moreover, allows to link the real sector of the economy with the financial sector, and also innovates by emphasizing investment. This analytical framework is built on a series of equations linking production, employment, demand, foreign trade, sectoral and aggregated prices, income formation, the financial sector and asset allocation decisions, and the public sector. In addition, behavioral functions are specified for six categories of agents, namely, households, firms, the government, the Central Bank, Commercial Banks and the rest of the world.

In the context of HIPC (Heavily Indebted Poor Countries) initiative, Cameroon reached the decision point in October 2000, and engaged in the design and implementation of the IMMPA model to throw some light on the PRSP process, with the aim to shore up its growth strategies for the future. In this regard, Emini and Fofack (2004) have constructed an integrated

---

[31] See Agénor, P.-R., A. Izquierdo, and H. Fofack (2002). for more details concerning IMMPA model

financial Social Accounting Matrix (SAM) for the Cameroon economy which serves as input in the process of building an IMMPA model for Cameroon.

The old SAM of the Cameroon economy focused on real sector activities and transactions, and was built in 1998 using 1989 data. Since then, this matrix has not been updated despite the significant changes which occurred in the structure of the economy, such as the rapid growth of the informal sector, and the decline in industrial production. The integrated financial Social Accounting Matrix (SAM) proposed by Emini and Fofack is based on recent data, covers the post-devaluation period of 1996, and provides an updated and consistent picture of the complexity of Cameroon's economy. It focuses on both the real and financial components of Cameroon's economy, and put a particular emphasis on the strong growth of the informal sector. Drawing its inspiration from the IMMPA analytical framework, it also provides an evaluation of income and the distributive effects of growth under the fixed-price multiplier assumption, in addition to an outline of the functional and institutional income distribution, and financial flows between various institutions, economic agents and sectors during the years following the CFA franc devaluation in 1994[32].

The results derived from the Cameroon SAM show that Cameroon's economy is characterized by a high concentration of resources and flows in urban areas, and the formal and informal sectors. Urban formal and informal sectors together contribute for 80 percent to aggregate value-added, of which the share of formal output is 42 percent of value-added at the national level, and about 45 percent of total urban output. This leaves a large share of about 46 percent to the urban informal sector. Moreover, investment remains dramatically low, and significantly below the levels registered during the periods preceding the advent of the economic crisis as a consequence of the extremely high levels of final consumption and external debt service payments. The significant fall in investment is partially supposed to be responsible for the persistent high rates of unemployment and poverty recorded during the 90's and beyond, a period characterized by a dramatic fall in income. Furthermore, assuming fixed-price multipliers, policy simulations show that potential advantages could be derived from increases in public investments. In effect, given the assumption of a reduction in the debt service consistent with the HIPC initiative, in addition to debt relief re-allocated to public investment, a significantly higher growth rate of the economy could be achieved, with the

---

[35 – CFA] : Communauté Financière Africaine (African Financial Community)

benefits of growth contributing to a rapid increase in household income and financial assets, especially to the advantage of "capitalist households".

3.10 The Monitoring/Evaluation System of Macroeconomic Policy Impact

The standard system for monitoring poverty is generally based on extensive surveys (household income-expenditure surveys, health surveys, censuses etc…) which are quite costly to be frequently repeated. Moreover, the coverage and reference periods of these surveys are different, and it is thus impossible to obtain a comprehensive profile of different socio-economic groups of interest at a specific point in time. Hence, the sampling design of these surveys usually does not correspond to the geographic disaggregation which may needed for policy planning. As consequence, the standard poverty monitoring system (PMS) does not provide a regular and updated profile of the poverty status of vulnerable groups, which makes it difficult to take appropriate and timely measures to combat poverty.

Even though there is a great need for a monitoring and evaluation system which can provide indications on the possible ex-ante impacts of policies, the progress realized towards the achievement of objectives, and the ex-post impacts of concrete policies, they should be put in place, a simple monitoring/evaluation system which is able to gather in a regular manner, a set of targeted indicators on poverty. Such a system should not only encompass community participation in data collection, but also ensure that these communities be the first users of these data. In this regard, the system may become less costly and easily sustainable.

In the case of Cameroon, the PRSP was designed and elaborated following a participative approach which closely associates, throughout each of its steps, public administrations, economic operators, civil society and development partners. The authorities intend to reinforce the participative process in the context of PRSP implementation by closely associating the different players in the phases of its execution, monitoring and evaluation of poverty reduction projects and global strategy.

In the context of participative follow-up and as concerns the informational basis and monitoring indicators, the government intends to establish a poverty information system which would enhance the present statistical mechanism. This system aims to provide a common data platform to public authorities, private sector, development partners and civil

society to (i) permit a better piloting of poverty reduction actions and (ii) get, thanks to the transparency of information, the adhesion of those who benefit from these actions. The system will be organized around: (1) a number of objectives for analyzing poverty, (ii) a battery of qualitative and quantitative indicators allowing a regular conduct of analyses and (iii) a series of operations for gathering data to produce those indicators.

It emerges from the above review of the models that no specific macroeconomic model is available to the government to study poverty in order to assess the impact of social needs in Cameroon. However, a short-term (ST) and medium-term (MT) projection model has been developed by the Forecast Division of the Ministry of the Economy and the Budget. It allows to make forecast and macroeconomic framings, and to evaluate the impact of basic economic policy choices on growth.

At this stage, it may be important to note that several constraints affect the conduct of ex-ante evaluation of macroeconomic policy impacts on poverty and the social welfare in Cameroon. Given the fact that this type of evaluation does not have a precedent in the country, this in itself constraints the whole process. This is the first time government agencies conduct an ex-ante evaluation of macroeconomic policy impact on poverty. Consequently, it may make it difficult for some categories of key economic agents to accept such evaluation and even their participation in the process may be scanty.

Other constraints are those which create and reinforce the gap between researchers and policymakers. Yet, the (formal and informal) networks, especially those among and between researchers/research center and decision makers should exist and work as vehicles for the dissemination of scientific information to ensure a better formulation of policy objectives and their efficient implementation for poverty reduction.

However, to formulate the best poverty reduction policies, the government should have at its disposal its own ex-ante analytical tool to determine economic policy impacts on poverty and inequality in Cameroon.

4. **Type of Model to develop for Cameroon.**

Across the world nowadays, poverty issues in developing countries have increasing drawn the attention of international organizations and governments of various countries. On the international level, several development and financing agencies have started to question the impact on poverty of their operations in developing countries. On this account, they have built

models to analyze policy impacts on poverty, some of which are presented in the preceding section. On the level of different countries, politicians have started to monitor the consequences of their economic policies on poverty. Similarly, they have started designing public policies and measures to relieve the incidence of poverty in their countries. The estimation of the impacts of such policies and measures requires methodological tools. This section therefore aims to propose tools that will help the Cameroon government in the ex-ante evaluation of macroeconomic policy impacts on poverty without resorting to external assistance. In this regard, we start with a brief presentation of some key results of the methods presented in the preceding section, with emphasis on their usefulness for ex-ante analysis of PSIA.

4.1 – The Jumbo Model and its Usefulness for PSIA Ex-Ante Analysis

In the preceding section, we have seen that in its present version, the JUMBO model was basically used for macroeconomic forecasting in Franc Zone countries. However, the Jumbo model may easily be linked to a household budget survey to compute poverty and inequality measures. In fact, such a study has already been conducted by the AFD for Senegal, a Franc Zone country. In the present Jumbo model of Senegal, households are disaggregated into five categories, namely, rural sector employees, groundnut rural sector employees, formal sector employees, urban informal sector employees and public sector employees.

Data derived from Senegal's household survey (ESAMII, 2001-2002) are classified into household categories contained in the structural component of the model. By following forecasts over years, real growth rates of per capita consumption and disposable income of all household categories are derived from the Jumbo model. These growth rates are applied to the income and consumption expenditure of each survey household, thus yielding a new consumption levels vector. Indicators of poverty (poverty incidence, depth and severity) and income distribution (Gini index) are then calculated with these new data, after updating initial poverty threshold (using the price indices generated by the macroeconomic model).

An advantage of this method is its simplicity. This model can easily be applied to any country where the Jumbo model is operational. Its first application has been developed for Senegal. But in the long-term the AFD would like to extend the method to all Franc Zone countries in order to acquire a situational poverty indicator in the context of monitoring millennium development objectives (MDO). One limit of this model for PSIA ex-ante analysis is that its labor market module is not detailed enough.

4.2 – CGE Model and Its Usefulness to PSIA Ex-Ante Analysis

Computable general equilibrium models have been important tools for the evaluation of the more comprehensive impacts of economic policies. For illustration in the Cameroon case, we briefly present the study realized Emini (2000) on the impact of value-add tax (VAT) reforms on Cameroon's economy.

Emini study (2000) built a CGEM for Cameroon and assesses both the short and long-terms effects of introducing the value-added tax (VAT) on different categories of Cameroon's households. The model comprises 20 production sectors among which we may mention sectors with an ex-ante heavy tax burden and sectors with a light tax burden. In addition, sectors are differentiated by tax regime applicable to their productions during the first implementation phase of the VAT in Cameroon: products subject to the general VAT rate,

product subject to the reduced VAT rate, product subject to excise taxes, products subject to the non-refinancing of the VAT, products subject to the special tax on petroleum and products exempted from the VAT. Four economic agents interact in the model: 1) households split up into three classes: urban, semi-urban and rural households, 2) enterprises, 3) the State, and 4) the Rest of the World (ROW). Two agents do not have explicit objective functions, whereas the objectives of enterprises is maximize their utility. Data use in the model comes from Njinkeu et al (1993), Cogneau and Rouband (1992) and the DSCN (1990).

Four pairs of simulations are performed, each pair including the simulation of the same scenario in short run on the one hand, and in long run case on the other hand. The first three scenarios rank among various imperfect forms that the VAT have more or less embodied in Cameroon since its adoption in 1994. The last scenario portrays a pure VAT which would be the ultimate stage of a VAT implementation. All these four scenarios imply the cancellation of the former indirect taxes applied to products henceforth subject to VAT, except customs duties and miscellaneous special taxes.

Looking at the different scenarios there is quite a dramatic difference in aggregate welfare across the various experiments (negative number represents a welfare improvement). Broadening the base with a uniform rate and a perfect refund system improves welfare considerably, both in the short- and the long-term (Scenario 4). In the long run all household groups benefits but in the short run rural households experience a decline in welfare. The disadvantage is, however, that this scenario proves to be the most regressive in terms of distribution. Scenario 2 shows the impact of introducing a uniform rate (compared to scenario 1 with a narrow VAT base). In the short run there is significant increase in aggregate welfare. However, in the long run this welfare gains disappear and is reversed. The rural households bear the most significant loss, whereas the urban ones support the least.

Table 5: *VAT reform in Cameroon*

	Hicksian compensation variation (in billions of CFA Francs)							
	Scenario 1		Scenario 2		Scenario 3		Scenario 4	
	Short run	Long run	Short run	Long run	Short run	Long run	Short run	Long run
Rural households	1.1	45.4	-25.4	16.6	-27.8	12.1	3.4	-81.3
Semi-urban households	-6.8	21.9	-23.0	2.4	-25.4	-1.5	-31.3	-79.2
Urban households	-4.9	21.0	-22.5	0.7	-24.8	-3.1	-35.6	-76.5
Welfare	-10.5	87.8	-70.3	19.6	-77.3	7.4	-62.5	-230.3
Gini coefficient (% change)	0.038	0.029	0.05	0.052	0.056	0.06	0.223	0.189

Source: *Addison, T. and Jörgen, L. (2005)*

Scenario 1: Two VAT rates of 15 and 5 percent, exemption of exports and inputs, an imperfect deduction of refundable VAT and a narrow base of VAT.
Scenario 2: Scenario 1 + abolition of the VAT reduced rate
Scenario 3: Scenario 2 + complete refund of VAT
Scenario 4: Scenario 3 + broadening the VAT base

The third scenario above explores the impact of moving towards situation with a complete refund of VAT. In the short run welfare improves (compared with scenario 2) and in the longer welfare is

reduced although less compared to scenario 2. Thus, a system where the refund mechanism works efficient would benefit all households. Finally, an interesting result from the various scenarios is that there might be short-term gains of introducing a VAT but there could be welfare losses in the longer term when the VAT is partially implemented (scenario 1-3). Thus, in order to avoid welfare losses in the long run it is necessary to succeed not only in operating an efficient refund mechanism but also to succeed in broadening and make the VAT base uniform.

When all is said and done, the results obtained from simulations show that the CGEM can be a powerful ex-ante analytical instrument of the PSIA. Unfortunately, as presented, it lacks certain characteristics for estimating poverty. Thus as will be seen below, some of the most significant characteristics that need to be included in the CGEM for it to become a genuine tool for ex-ante PSIA analysis are notably: detailed representations of household activities, and different groups, and household income or expenditure derived from household consumption surveys.

4. 3 Choice of model for ex ante PSIA analysis in Cameroon

In this paragraph, we briefly present the type of methodological framework we could develop to reach a consensus on the ex-ante impact of macroeconomic policies on poverty in Cameroon.

Taking into account the literature review we carried out previously on certain models, and its conclusion which revealed that no single analytical framework is able to help solve all the problems associated with the evaluation of macroeconomic policy impacts, it is advisable to develop models which incorporate enough details to evaluate these impacts on poverty, not only in terms of macroeconomic results, but also in terms of their impact on the environment, the social and institutional capital, income distribution, the quality of life, and gender.

In this regard, the model to be developed should follow the agreed on standards. Moreover, independent researchers should be able to use it to carry out that evaluation. This quantitative model should be designed with the concern that it be used for the ex-ante evaluation of macroeconomic policy implications. Furthermore, the model should not only consider Cameroon's economic specificities, but it should also be useful to those who propose macroeconomic policies and programs in addition to who carry out their evaluation. Thus collaboration becomes necessary for building such a model.

The model we intend to develop should be a Computable General Equilibrium Model (CGEM) which allows to establish the links between macroeconomic variables and microeconomic results in a more analytic and clearer way[33].

Let's briefly recall the elements to be included in this framework which is likely to lead the country into the evaluation of ex-ante public economics policies on poverty in Cameroon.

In effect, this analytical framework should specifically taking to account the socioeconomics characteristics of the country, data availability, and the public policy objectives of the country within the next two decades. The main component of the framework are: a data base, a CGE standard model, a methodology for modeling public policy, a methodology for modeling and measuring poverty, and a set of scenarios describing the future policy environment.

As concern data availability, we should note that the availability of the SAM is essential for the construction of CGEM. In this regard, Cameroon disposing of a SAM with is dated and highly aggregated. The first step should therefore be to update this SAM by using recent national accounts income and trade data.

In the second step, the SAM should be adapted to poverty analysis. This exercise requires different kinks of desegregation for production activities, households and others factors taking into account by the SAM. This is done by using existing data to the maximum to breakdown these accounts in as many details as possible.

In addition to disaggregating the SAM, the model also requires exogenous forecasts of macro variables such the GDP, population, workforce, capital stock as well as data on within-groups distribution, poverty line, and elasticity estimated.

The different blocks which make up the CGEM are well known. Let's note that the desegregation of modeling projection should focus on a details breakdown of activities associated with the poor and vulnerable groups in the economy. Cameroon is a country where agricultural and informal sectors are the main sources of income for households and others

---

[33] On examining the above constraints, the computable general equilibrium model (CGEM) seems to be advisable for poverty analysis in the case of Cameroon. It could be developed locally in consideration of which retraining programs could be put in place for capacity enhancement.

disadvantaged groups. As consequence, an appropriate specification of these sectors in the CGEM is essential. This is usually done   at the SAM level using agricultural survey data. Moreover, a details classification of households is essential for poverty analysis. In this respect, we note for instance that as regards Geographic's characteristics, it is at least important to make a distinction between rural and urban households in the model; and since agriculture is the main source of revenue of poor rural households, rural households should be disaggregated further.

Furthermore, as the factor of production constitutes the main transmission channel for most policies shocks on income, the CGEM should include a detail representation of the ownerships structure of these factors in the economy.

Concerning the nature of the CGEM, it is important to note that several economics policies such as those related to poverty reduction and structural adjustment could have quite different effects on poverty in short, medium, and long term. To capture the effects of such policies, a dynamic model is required. Let's note that one of the simplest methods for representing dynamic in a CGEM is a recursive dynamic method.

For public policy modeling a variety of economics policies such as fiscal, trade, industrial, public expenditure policies with affect poverty can be use. A clear specification and representation of these policies in a CGEM consequently constitute an essential component of a poverty analysis exercise.

Similarly, a measure of poverty is required in the model. In this regard, we may note that the national poverty line may be directly calculated from the recent Cameroon's Households survey ECAMII conducting in 2000 by the National Institute of Statistic in Cameroon. It is a large scale national representative survey which dealt with 12000 households. In addition, the evaluation of the impact on poverty both at the aggregated level and level of goods should be done by using FGT poverty indices.

As far as policies scenarios are concerned, we may note that Cameroon is not only a part of CEMAC, but also it has signed various types of agreements for several years (agreements with WTO, the UE, the AU, etc., including domestics' policies commitment in the context of structural adjustment program). The impacts of such commitments on poverty could be

simulated as parts of basic scenario covering the present period up to 2015. Others alternatives scenarios can be envisaged.

Given the characteristics of the model discussed above with the view to construct an appropriated model for Cameroon, it seems that the 1-2-3PRSP and IMMPA already possess most of these characteristics. In these conditions, either of these two models could be used as point of departure in the search for analytical framework to construct model for Cameroon.

In the case of IMMPA model, and as compared to other existing CGEMs, the IMMPA analytical framework can capture the various channels through which structural adjustment and stabilization policies impact short and long run growth, income inequality and poverty.

Moreover, it puts a particular emphasis not only on the role of labor market segmentation (caused by government measures and the firms decisions in setting wages), but also on the role played by informal sector employment in the transmission of external shocks and policies affecting the poor. For a heavily indebted and poor country such as Cameroon, the IMMPA model may help capture the negative impact external indebtness has on private sector incentives to invest. Furthermore, this analytical framework takes into account the impacts of the various components of public spending (such as infrastructures, health, and education) on the production process, and physical and human capital formation by the private sector. In addition, it also incorporates credit market imperfections and the link between the financial system and the real sector of the economy by relating the firms' financing requirements to bank loans.

By linking the real and financial sector in a consistent way, this model can enable economic policy analysts not only to study structural reform impacts (such as changes in tariffs or public expenditure composition) on relative prices the domestic product and the short run stabilization policy impact, but also to analyze the evolution of poverty in urban and rural areas.

Given the resources and expertise available to international institutions (the IMF, the World Bank etc…) for the development of such tools, much efficiency would be gained by associating some foreign experts in building the model for Cameroon. To that end, domestic experts could create the database necessary for building the IMMPA model for Cameroon (the financial SAM, for instance) and to write a program for the model using either GAMS or

EVIEWS software packages. The role of foreign experts would then be to assist local experts in adapting the model to Cameroon's realities. Moreover, in finalizing the model, foreign experts would not only, discuss and check the performance of the model with local experts, but also help organize seminars for its popularisation.

Lastly, if such a model is built for Cameroon, it will permit to evaluate and to measure ex-ante economic policy impacts on poverty, on the one hand, and to examine the impact and public policy efficiency on poverty reduction; which evidently will be necessary to evaluate the performance of policies and guide Cameroon's future economic policy. Are there qualified personnel in Cameroon to use such a model?

5. Capacities

Domestic institution such as the Ministry of Economic and Financial Affairs (MINEFI), the Technical Committee for Monitoring Programs (CTS), and Universities in Cameroon, employ staffs endowed with the basic education and training in research required to use the model we intend develop. For this personnel to become efficient and operational however, it is advisable to organize retraining programs in their behalf in the macroeconomic modelling area for the job to be carried through.

As to those institutions with the mandate and human and financial resources to conduct macroeconomic analysis and modelling, we may note that there exist a modelling unit in the Forecast Division at the MINEFI, and an economic research center at the University of Yaounde II. The MINEFI's Forecast Division has the official mandate to conduct macroeconomic analysis and modelling at the national level, disposes, to some extent of enough human resources to carry modelling through, but does not have adequate financial resources to get the job done. Moreover, and strictly speaking, there exist no institution with the mandate and resources for analyzing and modelling the ex ante impact of macroeconomic policies on poverty in Cameroon.

- Institution able to conduct the analysis and modelling of ex-ante macroeconomic policy impacts on poverty exist within the government (Forecast Division), and outside the government (economic research center at the University etc…)
- Some of these institutions have the capacity and communication channels to engage in discussions with policymakers; individual researchers do not.
- Some of these institutions are able to disseminate knowledge widely; individual researchers are not.

Considering the manner in which international organizations and donors have helped relieve capacity constraints in the analysis and modelling of the ex-ante macroeconomic policy impacts on poverty in Cameroon, we may note that the UNDP and the World Bank have been of great assistance regarding the development of capacities and the utilization of tools for analysis[34]. The real problem here is that those who are trained are young University graduates who, after completing their programs, look for ways to go abroad to continue their studies in order to find well-paid jobs, and a better work environment. It is therefore urgent to increase training capacity, especially the capacity of those who already have a university degree in order to ensure the sustainability of the process.

Since Cameroon is in the process of undertaking significant economic policy reforms, the present conditions are perhaps more favorable than they have ever been since independence in 1960, to achieve adequate investment in the enhancement of ex-ante analytical and modelling capacities. As the country intensifies its reform programs, the demand for qualified modelling experts will progressively increase. The supply of such experts will have, on the other hand, to satisfy that demand. It is therefore advisable to urgently improve research capacities in modelling if the reform process engaged in Cameroon is to succeed.

Cameroon disposes a strong Capacity for Using Ex-ante Poverty and Social Impact Analysis (or PSIA)[35] Methods. PSIA is an approach for evaluating the impact of changes in policies, mostly in the context of structural adjustment policies. It uses various data collection techniques to disaggregate the impact of policy changes on various groups of recipients. It examines both the impacts of policies on the population and the impacts of recipients on the policy reform, in addition to the manner in which the population responds to the opportunities offered by policy actions. In such a way, this technique allows to identify the gainers and losers from the reform. The PSIA may be used to measure the direct policy impacts (policy impact analysis), and to examine how the population responds to policy changes (opportunity analysis). Moreover, the PSIA can be used to evaluate how the costs and benefits of the reforms are distributed among the recipients over time. It is particularly useful in testing how

---

[34] In this regard, we may note that, with the support of the UNDP and the World Bank, the government has developed a macroeconomic and budgetary framework tool which has permitted to simulate the growth profile and to introduce some consistency into the macroframework and the sector strategies of the PRSP. Concurrently, sector framework models were developed to quantify sector strategies and to render them consistent with the macroframework.

[35] For more detail concerning PSIA, see, Bank PSIA Tolkits (2003)

the poor are linked to market structures, and how assets, and economic and social relations (e.g. gender, social exclusion, etc…) affect policy performances. Though this mechanism, it allow to analyze how these reforms affect the welfare of the population.

The PSIA may be applied to structural reforms such tax reform, budget stabilization, trade reform, price liberalization, the privatization of public enterprises and basic services.

In general, the approach adopted in drafting a Poverty Reduction Strategy Paper (PRSP) and assessing the achievement of the Millennium Development Goals (MDGs) requires a growing number of systematic analysis on social and poverty repercussions resulting from reforms. In this context, the PSIA may help in realizing these studies. However, since Cameroon has already finalized its PRSP, and subscribed to the MDOs, we feel that policy-makers and Cameroon's institutions find the political will and strong commitment for the adoption and ex-ante PSIA tools for use in Poverty Reduction.

6. Participation

With support from development partners[36], the Cameroon government has produced Poverty Reduction Strategy Papers (PRSP). These documents have in view a set of policies for achieving the development objectives of the millennium, notably, poverty reduction. They were worked out in the context of an open and dynamic process. In this regard, they are evolutionary in the sense that they may be continually refined as new strategies are developed. It is in this context that the results of new research on poverty reduction may be included. Moreover, in the context of implementing and monitoring the PRSP, the government intends to enhance the participative process by working closely with various actors during the implementation phase. On the other hand, researchers have the opportunity to change the direction of poverty reduction policy decisions.

In the past however, individual researchers were not influenced by the decisions of policy-makers in the area of macroeconomic policy, or more precisely, in the context of poverty reduction programs. This state of affairs could perhaps be due to the fact that the government, for one reason or another, pretended to ignore the works of individual researchers on the policy options of the country; this could also be due to the government failure to trust

---

[36] With the support of the World Bank and the EU, the Cameroon government has conducted large-scale statistical studies to evaluate the extent of poverty in Cameroon (using ECAM I and II) to analyze its dynamics and determinants so as to achieve a better formulation of the poverty reduction strategy.

individual researchers analyses which it might have considered as being insufficiently objective, too theoretical, or not adapted to the economic context of the country, etc…

In any case, individual researchers and their research centers should be engaged in the public decision-making process. In this regard, national institutions connected with policy analysis should be improved and broadened in scope; these include, public policy institutes, research centers, and more notably so, the country's university faculties and departments which are (and should constitute) the natural breeding grounds of both the training of researchers and scientific endeavor. National institutions should be brought to contribute, in form or another, to the definition and implementation of public policies.

At the level of governmental structures, the Forecast Division has greatly influenced decision-makers in adopting the county's macroeconomic policies. However, these efforts have often been stifled by IMF experts during their adjustment programs review missions, by imposing their databases to the Forecast Division in various estimations and policy analysis.

Moreover, the coalition of advocates of ex-ante policy impact analysis dispose of capacities (human, organizational and resources), and of a process to exert political pressure, but these capacities are vastly inadequate for pursuing a healthy effort in the fight against poverty.

As to partnership, we may note that it is partially effective as far as foreign institutions and backers are concerned, even if the MINEFI Forecast Division macroeconomic model was developed with the technical support of a foreign expert and financed by the UNDP. In this respect, more commitment is therefore needed to enhance bilateral and multilateral partnership with foreign donors and institutions.

7. Conclusion

This study aimed to briefly review of the methodologies presently used to evaluate the ex-ante impacts of macroeconomic policies on poverty, and to prose an appropriate for evaluating these impacts on poverty and income distribution in Cameroon. Moreover, the presentation of an inventory of existing capacities as concerns the evaluation of macroeconomic policy impacts in Cameroon as well as an analysis of the various participants in this area were other concerns of this study.

It emerges from the review of a few economic models used by various analysts (individual researchers, Finance Ministry, Planning Ministry, international organizations) to study macroeconomic policy impacts on poverty in Cameroon, that these methodologies are different from one another. Indeed, these models notably comprise macroeconomic models, partial equilibrium models, general equilibrium models and micro-simulation models. The review of these models clearly show that there exists no comprehensive tool available to the government for evaluating ex-ante macroeconomic policy impacts on poverty in Cameroon.

However, the need to have an analytical framework available has made itself felt following Cameroon's admission to the Heavily Indebted Poor countries (HIPC) initiative and the subsequent obligation to prepare a Poverty Reduction Strategy Paper (PRSP). To that end, Cameroon's macroeconometric model has been interfaced with the World Bank's 1-2-3 PRSP model, to notably simulate the macro-econometric policy impacts on poverty and the distribution of income in Cameroon in the context of the PRSP. The absence of a Cameroon's own tool for carrying out ex-ante evaluations of policies aimed at poverty reduction lead us to suggest, from the review of existing models a general framework to guide the country's future studies for evaluating ex-ante macroeconomic policy impacts and income distribution.

Although the model to be developed is a computable general equilibrium model which establishes in a more analytical and transparent way the links between macro-variables and macroeconomic performances, we must not loose sight of the fact that the best policy recommendation can not rely on one approach. As a consequence, policy decision makers must be equipped with a whole set of tools. For instance, using combined partial and general equilibrium techniques would be an excellent point of departure for informing decision makers on the probable distributional impacts of the tax system reform.

With regard to the state of existing capacities in Cameroon as concern the evaluation of ex-ante impacts of macroeconomic policies, the study notes the existence of adequate human resources in the Ministry of Economic Affairs and Finance (MINEFI) in the Technical Committee for Monitoring Program (TCM) and in Universities which have the education and training required to use the models to be developed. However, for them to become operational, they should be re-trained in macro economic modelling. Furthermore, strictly speaking, there exists no institution with the mandate and resources for the analysis and modelling of ex-ante impacts of macroeconomic policies on poverty.

Now that Cameroon is undertaking significant economic policy reforms, circumstances seems to be more than ever, since independence in 1960, conducive to adequate investment for enhancing the analytical and ex-ante modelling capacities of the country. As the country intensifies these reform programs, the demand for qualified experts will keep on increasing. Supply must therefore follow suit. It is therefore urgent to improve modelling research capacities if the reform process engaged in Cameroon is to succeed.

The participation of various actors in the area of evaluating ex-ante macroeconomic policy impacts on poverty in Cameroon is effective. With the support of development partners, the government has elaborated the poverty reduction strategy paper (PRSP). The macroeconometric model being used by the forecasting Division at the Economic and Finance Ministry has been developed with the technical support of an expert financed by UNDP.

Finally, as to the constraints on a more comprehensible ex-ante evaluation of macroeconomic policy impacts on poverty in Cameroon, the study reveals that all the constraints are critical save for the hypothesis of within household behavior analysis. Existing household surveys do not capture such behavior.

REFERENCES

Addison, T. and Jörgen L., (2005). Tax Policy Reform in Developing Countries. UNU/WIDER, Third draft, June

Aerts, J., .J., Cogneau, D., Herrera, J. de Monchy, G. et Roubaud, F. 2000 : L'Économie Camerounaise : Un espoir évanoui, Karthala, Avril .

Agénor, P.-R., A. Izquierdo, and H. Fofack (2002). "IMMPA: A Quantitative Macroeconomic Framework for the Analysis of Poverty Reduction Strategies," June 11. Washington,   DC: The World Bank
(http://www.worldbank.org/wbi/macroeconomics/modeling/Immpa-text.pdf)

Addison, Doug (1989). "The World Bank revised minimum standard model: concepts and issues", Washington D.C., IBRD Working Paper.

Arulpragasam,, J. and P. Conway. (2003). « Partial Equilibrium Multi-Market Analysis. » in F. Bourguignon and L.A. Pereira da Silva, eds., Evaluating the Poverty and Distributional Impact of Economic Policies (Techniques and Tools),World Bank, Washington D.C.

Bakoup, F., and Tarr, D., (1998). How Integration into the Central African Economic And Monetary Community Affects Cameroon's Economy. Policy Research Working Paper 1872, January.

Banque Mondiale (1998), Rapport No. 7486-CM intitulé : « Cameroun : Rapport sur le secteur de l'agriculture », Volume 1, Rapport Principale, Novembre.

Bamou, E. (2000) Regional Integration and Economic Performance of the CEMAC Countries: A Multi-Country CGE Analysis, African Journal of Economic Policy, Vol. 7, N° 2, December.

Bourguignon, Ferreira, Pereira da Silva and Stern (2002), Evaluating Economic Policies for Poverty Reduction, The World Bank (forthcoming at the March 14-15 IMF Conference on Poverty Reduction Strategies)

Bourguignon, F., J. de Melo. and A. Suwa. (1991). "Modelling the effects of adjustment programs on income distribution". *World Development*, pp. 1527–1544.

Bretton Woods Project Draft (2002)

Cameroon (2003), Poverty Reduction Strategy Paper. The Ministry of Finance and Development Planning, Republic of Cameroon.

Decaluwé, B. Patry, A., Savard, L. and E. Thorbecke (1999), "Poverty Analysis Within a General Equilibrium Framework," Cahier de Recherche, CREFA, University of Laval, Canada.

Demery.L and D. Demery (1991) "Poverty and Macroeconomic Policy in Malaysia" World Development, vol 19, no 11.

Dervis, K. DeMelo, J. and S. Robinson (1982), General Equilibrium Models for Development Policy, Cambridge University Press, London.

Devarajan, S. and D. Go (2003)," The 123PRSP Model" ", Chapter 13, *Toolkit for Evaluating the Poverty and Distributional Impact of Economic Policies,* World Bank, Washington D.C.

Devarajan, Shantayanan and Delfin Go. 2001. "A Macroeconomic Framework for Poverty Reduction Strategy Papers." Washington, DC: The World Bank.

Devarajan, S. (1997) "Real Exchange Rate Misalignment in the CFA Zone." *Journal of African Economies* 6(10): 35-53.

Direction de la Statique et de la Comptabilité Nationale du Cameroun (DSCN), (1997). "Enquête camerounaise auprès des ménages (ECAM)". Volume 2: "Résultats. Tome 2: Distribution des revenus et consommation des ménages au Cameroun en 1996".

Emini, C., A., (2000). Long Run Vs Short Run Effects of a Value Added Tax: A Computable General Equilibrium Assessment for Cameroon, Cahier de Recherche n° 00-12 du CREFA, Université Laval, Juin.

Emini, C., A. and Fofack, H., (2004), A Financial Social Accounting Matrix for the Integrated Macroeconomic Model for Poverty Analysis Application to Cameroon with a Fixed-Price Multiplier Analysis, World Bank Policy Research Working Paper 3219, February.

Fambon S., (2002), Endettement du Cameroun, WIDER Discussion Paper No 2002/49, May.

Fambon S., A. Ajab Amin, F. Menjo Baye, I. Noumba, I. Tamba, and R. Tawah (2001). "Pauvreté et Répartition des Revenus au Cameroun Durant les Années 1990." Cahier de Recherche No. 01-06 du CREFA, Département d'économie, Université Laval, Canada.

Guillaumont, P. (1985), « Croissance et ajustement en Afrique de l'Ouest », ed. Economica

Gunter, B. G., (2002), Towards Poverty Reducing Macroeconomic Policy, Strategy Paper, New Rules for Global Finance Coalition

Harris, J. R. 1985. "A survey of macroeconomic modelling in Africa". Paper presented to a meeting of the Eastern and Southern Africa Macroeconomic Research Network sponsored by International Development Research Centre of Canada: 7–13, September Nairobi.

Hoffman, J. 1995. "Linking economic research and policy-making: Ideas on AERC's role". Paper prepared for the Senior Policy Seminar of the African Economic Research Consortium, March 30–31 Nairobi.

IMF (2005). Cameroon: Ex Post Assessment of Longer-Term Program Engagement. Country Report No. 05/189, Washington DC, June

Khan, M.S, Montiel, P and Hague, N.U. (1990). "Adjustment with Growth: Relating the Analytical Approaches of the IMF and World Bank", *Journal of Development Economics*, Vol. 32, No. 1, January.

Latreille Th, Leenhardt, B., and Massuyeau, B., (2004). Perspectives économiques et financières des pays de la zone franc – Projections Jumbo 2004-2005, AFD

Lynch, S.,G., (1991), Income Distribution, Poverty and Consumer Preferences in Cameroon, Cornell University

Ministère de l'Economie et du Budget du Cameroun, Direction de la Prévision: SIPAE: Modèle de Cadrage Macro économétrique du Cameroun.

Njinkeu, D. and Bamou, E. (2000). Trade and Exchange Rate Policy Options for the CFA Countries: Simulations with a CGE Model for Cameroon AERC Research Paper No. RP_96, July.

Pereira da Silva, Essama-Nssah et Samake (2003), chapitre 11 de *Toolkit for Evaluating the Poverty and Distributional Impact of Economic Policies*.

Pereira da Silva, L.A., B. Essama-Nssah et I. Samaké. (2002). « A Poverty Analysis Macroeconomic Simulator (PAMS): Linking household surveys with macro-models. », Working Paper 2888. La Banque mondiale,Washington, D.C

Rosanvallon, A., (2002). *Cadrage stratégique de la politique de l'emploi au Cameroun ; Organisation internationale du travail-Bureau sous-régional pour l'Afrique Centrale,* Yaoundé..

Soludo, C., C. (1998), Macroeconomic Policy Modelling of African Economies, Acena publishers, Enugu –Nigeria.

Thorbecke, E. (1991), "Adjustment, Growth and Income Distribution in Indonesia," World Development, 19(11), 1595-614.

Tripathi, R. (2003), Macro-models for Poverty Reduction Policies: comparison of key features, *DRAFT* Research for EPEP and Bretton Woods Project.

World Bank (2000) "Cameroon: Country Assistance Strategy Progress Report". IDA/R2000-95, The World Bank, Washington DC.

World Bank (2000) "Cameroon: Preliminary Document on the Enhanced Initiative for Heavily Indebted Poor Countries (HIPC)", IDA/R2000-96. The World Bank, Washington DC.

World Bank (2000) "Cameroon HIPC Debt Initiative: President's Memorandum and Recommendation and Decision Point Document", IDA/R2000-168. The World Bank, Washington DC.

World Bank (1998), "Cameroon: Country Assistance Strategy Progress Report". IDA/R1998- 14, The World Bank, Washington DC.

World Bank (1980), "The Revised Minimum Standard Model". Mimeo: The World Bank.

World Bank. 123 PRSP Toolkit from PSIA User guide.
http://poverty.worldbank.org/files/14540_23_123PRSP.pdf

World Bank (2000), Toolkit for Evaluating the Poverty and Distributional Impact of Economic Policies., Washington D.C.

World Bank (200), *World Development Indicators,* Washington DC.