

TOWARDS ADEQUATE ANALYSIS AND MODELING
OF STRUCTURAL ADJUSTMENT PROGRAMS:
AN ANALYTICAL FRAMEWORK WITH APPLICATION
TO GHANA

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Abstract

When a country experiences a balance of payments problem, the typical remedy mix proposed by the International Monetary Fund consists of fiscal austerity, tight monetary policies, devaluation, privatization, elimination of subsidies and trade liberalization, combined with low interest rate loans. Throughout the late 1980s, Ghana has been hailed as a success story for that policy mix. However, Ghana's performance has been increasingly disappointing during the 1990s. This thesis explores the reasons for that slowdown, its distributional implications, and the extent to which the behavior of the Ghanaian economy validates commonly used assumptions in economic models of developing countries.

We compile a complete consistent yearly dataset of financial stocks, nominal money flows (arranged in Social Accounting Matrices) and real product flows for Ghana in 1990-2001. The real-side data, available yearly, are then examined using fit optimization with alternative functional forms, while nominal time series (Consumer Price Index, the broad money supply and the exchange rate), available on a monthly basis, are analyzed using ARIMA-X regressions.

We find that industrial production, as well as investment, has been demand-constrained during our period, while agriculture has hit an aggregate supply constraint around year 1995. The relative price elasticity of substitution between imports and non-traded goods (in volume terms) is around minus one. The government was the only net source of demand during the period. Inflation could be predicted extremely well using only broad money supply, wholesale price of food crops and price of fuel, and formed a weak positive feedback loop with money supply growth. The main channel through which exchange rate depreciation impacted the price level was revaluation of the foreign currency-denominated money supply component. The response of broad money supply to interest rate increases was significant but small. We also formulate a novel matrix formalism for a more compact description and analysis of financial stock dynamics, cleanly separating structural and accounting constraints from behavioral descriptions.

We conclude that the major reasons for the economic slowdown of the 1990s were excessive liberalization of commodity imports and strangulation of industry through lack of demand and volatile real interest rates, and of agriculture through withdrawal of government support programs.

Contents

1	Introduction	10
1.1	Research Questions	10
1.1.1	Why Was Macroeconomic Performance Not Sustained?	10
1.1.2	What Were the Distributive Impacts?	10
1.1.3	Does the behavior of the Ghanaian Economy in 1990s conform to the assumptions of economic models?	11
1.2	Methods and Intermediate Results	11
1.2.1	Compile a Dataset: SAM/FAM time series for 1990-2001	11
1.2.2	Statistical Analysis of Selected Variables	12
1.2.3	Discussion of Quantitative Results' Implications	14
1.3	Results	14
1.3.1	Neoclassical/Monetarist vs. Structuralist Theory	14
1.3.2	Reasons for Poor Macroeconomic Performance	15
1.3.3	Distributional Impacts	15
1.4	Limitations	16
1.4.1	No Formal Overall Model	16
1.4.2	Limited Analysis of Distributional Impacts	17
1.5	Structure of This Manuscript	18
2	Structural Adjustment	19
2.1	What is Structural Adjustment?	19
2.2	A Typical Structural Adjustment Policy Package	19
2.3	Assessments and Criticisms	21
3	Structural Adjustment in Ghana	23
3.1	The economies of Sub-Saharan Africa	23
3.2	The case of Ghana	24
3.2.1	Fiscal Policy	27
3.2.2	Monetary Policy	29
3.2.3	Inflation	31
3.2.4	Labor Market	32
3.2.5	Sectoral Behavior	33
3.2.6	External Trade and Balance of Payments	35
3.3	Summary	37

4	Currently Used Methodologies	38
4.1	Fixed Ratio Models	39
4.1.1	Key assumptions	39
4.1.2	Strengths	39
4.1.3	Main weakness	40
4.2	Statistical Macro Models	40
4.2.1	Main assumptions	40
4.2.2	Strength	41
4.2.3	Weaknesses	41
4.3	Computable General Equilibrium Models	41
4.3.1	Key assumptions	41
4.3.2	Strengths	42
4.3.3	Weaknesses	42
4.4	The Major Differences between Neoclassical and Structuralist CGE Models	43
4.4.1	Neoclassical CGE Models	43
4.4.2	Structuralist CGE Models	45
4.4.3	Whose assumptions are better?	45
4.5	Microsimulation Models	47
4.6	Summary	48
5	An Introduction to Useful Accounting Concepts	49
5.1	Social Accounting Matrix	49
5.2	Real Product Flows	52
5.3	Financial Accounting Matrix	53
5.3.1	Monetary Aggregates and Control of Money Supply	56
5.4	Summary	58
6	The Approach of This Thesis	59
6.1	Introduction	59
6.2	Stock-Flow Consistent Accounting, Social Accounting Matrices and SAM/FAM Time Series	60
6.3	Examination of the Behavior of Key Variables	60
6.4	Methodological Contributions Towards a Model	61
6.5	In-depth Discussion of Implications for Theory and Policy	61
6.6	Discussion	62
6.7	Summary	63
7	Compilation of a SAM/FAM Time Series 1990-2001	64
7.1	Data Sources	64
7.2	Sectoral Structure	70
7.3	Overall Accounting Framework	75
7.4	Structure of the Social Accounting Matrix	75
7.5	Financial Accounting Matrix	83
7.5.1	FAM Time Series Compilation	83
7.5.2	Net lending flows implied by the FAM	85
7.6	Reconciliation	85
7.7	Discussion	86

7.7.1	Are Different Levels of Household Aggregation in Different Parts of the Framework Defensible?	86
7.8	Summary	87
8	Decomposing the FAM dynamics	90
8.1	Revaluation	90
8.2	Current Transactions	91
8.3	Capital Transactions	91
8.4	The Master Equation for FAM Dynamics	93
8.5	Reconstructing Transaction Flows From FAM Time Series	93
8.6	The Transaction Matrices We Use	96
8.7	Summary	96
9	Investigation of key individual time series	98
9.1	A method for dealing with short data series	98
9.2	Supply Side	100
9.2.1	Incremental Capital-Output Ratio	100
9.2.2	Real Investment	100
9.2.3	Ratio of exports to nontraded goods in industrial production	102
9.2.4	Ratio of exports to nontraded goods in agricultural production	103
9.2.5	Behavior of the Agricultural Sector	105
9.3	Demand Side	107
9.3.1	Demand Injection Decomposition	107
9.3.2	Net Private Savings	107
9.3.3	Consumption Function	110
9.3.4	Ratio of imports to nontraded goods consumption	110
10	Fix-flex Accounting in an Open Economy	114
10.1	A Fix-Flex Framework in an Open Economy	114
10.2	Summary	117
11	Econometric Investigation of Monthly Time Series	118
11.1	Introduction	118
11.2	Consumer Price Index	119
11.2.1	Summary	126
11.3	Money Supply	126
11.3.1	Summary	133
11.4	Price Level - Money Supply Feedback Loop	133
11.5	Exchange Rate	135
11.5.1	Summary	139
12	Discussion I: Implications for Theory	141
12.1	Methodological Innovations	141
12.1.1	Dataset Compilation	141
12.1.2	Systematic Integration of Financial Stock Time Series with Flow Data	142
12.1.3	Testing Nonlinear Relationships on Short Data Series	142
12.1.4	A Simple Core for a Dynamic Fix-Flex Model	142

12.1.5	A Compact Formalism for Description and Analysis of Financial Stock Dynamics	143
12.2	Structure of the Ghanaian Economy Compared to Common Model Assumptions . .	143
12.2.1	Structuralist vs. Monetarist views on Price Formation	143
12.2.2	Output Determination and the Balance of Payments	146
12.2.3	Exchange Rate Determination	148
12.2.4	Is building CGE models worthwhile?	149
12.3	Summary	150
13	Discussion II: Implications for Policy	152
13.1	What were the likely consequences of Structural Adjustment Policies in Ghana? . .	152
13.2	Answering Our Research Questions	157
13.2.1	Why Was Macroeconomic Performance Not Sustained?	157
13.2.2	What Were the Distributive Impacts of the Structural Adjustment Policies in the 1990s?	159
13.3	Policy Suggestions	159
13.3.1	Trade Policy	160
13.3.2	Sectoral Policies	160
13.3.3	Fiscal Policy	161
13.3.4	Exchange Rate Policy	161
13.3.5	Monetary Policy	162
13.4	Summary	162
14	Conclusion	164
A	The structure of the SAM	167
B	Decomposition with Respect to a Basis Using a Scalar Product	169

List of Tables

3.1	<i>Indicators of Ghana’s adherence to Structural Adjustment policies.</i>	28
5.1	<i>A Simple Social Accounting Matrix</i>	50
5.2	<i>Structure of the Financial Accounting Matrix</i>	55
5.3	<i>Central Bank Balance Sheet</i>	57
5.4	<i>Banking System Balance Sheet</i>	57
7.1	<i>Data Sources. The italicized sources have not been used in compiling our dataset.</i>	67
7.2	<i>The Sectoral Disaggregation of Ghana National Accounts</i>	71
7.3	<i>The Sectoral Grouping Used in This Thesis</i>	72
7.4	<i>Imports/Exports By Sector</i>	74
7.5	<i>The real production flows</i>	77
7.6	<i>The Leontief Matrix</i>	78
7.7	<i>Overall Social Accounting Matrix Structure</i>	79
7.8	<i>Factor Shares in Value Added</i>	81
7.9	<i>Structure of the Financial Accounting Matrix</i>	82
8.1	<i>The transaction matrix for creation of new local-currency denominated loans</i>	92
8.2	<i>Transaction Matrices Used in this Thesis</i>	97
9.1	<i>Ratio of investment to GDP as function of relative price of imports and of interest rates</i>	101
9.2	<i>Ratio of exports to nontraded goods in industrial production as function of relative price</i>	103
9.3	<i>Ratio of exports to nontraded goods in agricultural production as function of relative price</i>	104
9.4	<i>Private consumption plus investment as share of private disposable income</i>	109
9.5	<i>Consumption of industrial goods as function of total consumption and relative price</i>	110
9.6	<i>Ratio of imports to nontraded goods in consumed industrial goods as function of relative price</i>	111
9.7	<i>Ratio of imports to nontraded in consumed non-government services as function of relative price</i>	112
11.1	<i>Preliminary Lag Structure Examination for CPI</i>	121
11.2	<i>ARIMA-X model identification for $D.cpi$</i>	122
11.3	<i>ARIMA-X regression for $D.cpi$</i>	123
11.4	<i>Summary of ARIMA-X regression for $D.cpi$</i>	124
11.5	<i>ARIMA-X model identification for $D.m2$</i>	128

11.6	<i>ARIMA-X regression for D.m2</i>	129
11.7	<i>Summary of ARIMA-X regression for D.m2</i>	129
11.8	<i>ARIMA-X model identification for D.m2, no constant</i>	131
11.9	<i>ARIMA-X regression for D.m2, no constant</i>	131
11.10	<i>Summary of ARIMA-X regression for D.m2, no constant</i>	132
11.11	<i>Preliminary Lag Structure Examination for the Exchange Rate</i>	135
11.12	<i>ARIMA-X model identification for D.er</i>	136
11.13	<i>ARIMA-X regression for D.er</i>	136
11.14	<i>Summary of ARIMA-X regression for D.er</i>	137
A.1	<i>The Blocks of the Social Accounting Matrix</i>	168

List of Figures

3.1	<i>Population Growth, Annual (World Development Indicators 2002)</i>	25
3.2	<i>GDP growth, Annual (World Development Indicators 2002)</i>	26
3.3	<i>GDP Deflator, Annual Inflation (World Development Indicators 2002)</i>	27
3.4	<i>Debt to GDP ratio (World Development Indicators 2002)</i>	27
3.5	<i>Composition of the Fiscal Deficit (International Monetary Fund)</i>	28
3.6	<i>Monetary Policy Indicators</i>	30
3.7	<i>Employment composition (GLSS1-4 and author's estimates)</i>	32
3.8	<i>Average Households' Income Composition in 1993 by Main Occupation (author's estimates from GLSS4 data)</i>	33
3.9	<i>Effective Tariff Rates on Trade (World Development Indicators 2002, Oduro [2000], International Monetary Fund)</i>	35
3.10	<i>GDP, imports, and exports in real terms (author's estimates, Chapter 7)</i>	36
3.11	<i>Some Price Indices (IMF Ghana Desk Country Reports and author's estimates)</i>	37
5.1	<i>A simple money flow diagram</i>	50
5.2	<i>A more realistic SAM</i>	51
5.3	<i>Real Product Flows</i>	52
7.1	<i>Shares of Subsectors in Value Added</i>	68
7.2	<i>Manufacturing output discrepancy</i>	68
7.3	<i>Sectoral Deflators (Source: World Development Indicators 2002; International Monetary Fund)</i>	69
7.4	<i>Investment to GDP ratios computed from nominal resp. real time series (source: International Monetary Fund)</i>	70
7.5	<i>Our Overall Accounting Framework as a Flow Chart</i>	76
7.6	<i>Share of foreign-denominated loans and deposits in the respective total</i>	84
7.7	<i>Relative Adjustments During FAM/SAM Reconciliation</i>	87
7.8	<i>Total Multiplier Effect as Function of Total On-Impact Household Income</i>	88
7.9	<i>The Patterns of Multiplier Income For Different Injections</i>	88
9.1	<i>Ratio of Investment to GDP (log scale)</i>	102
9.2	<i>Food crop production, wholesale price of food crops relative to the CPI and land area under cultivation</i>	105
9.3	<i>Net Lending By Institution</i>	108
9.4	<i>Taylor Decomposition of Demand Injections</i>	108
11.1	<i>Inflation and Money Supply Growth</i>	120
11.2	<i>Contributions to Inflation Derived from Table 11.3</i>	125

11.3	<i>Actual CPI vs. predictions from ARIMA-X regressions</i>	126
11.4	<i>Actual M2 vs. predictions from ARIMA-X regressions</i>	130
11.5	<i>Actual M2 vs. predictions from ARIMA-X regressions without a constant term</i>	132
11.6	<i>Impact of a unit increase in m2 on cpi</i>	134
11.7	<i>Impact of a unit increase in cpi on m2</i>	134
11.8	<i>Actual exchange rate vs. predictions from ARIMA-X regressions</i>	137
11.9	<i>Actual exchange rate vs. predictions from ARIMA-X regressions without a constant term</i>	138
11.10	<i>Inflation vs. Depreciation for Falling vs. Floating Periods</i>	139
11.11	<i>Exchange Rate Depreciation, Falling/Floating Periods, and Foreign Exchange Reserves</i>	140