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A Quantitative Appraisal of Adjustment Lending

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This paper presents a quantitative analysis of adjustment programmes. This is done by charting changes in various performance indicators following the receipt of the first adjustment loan, and by further contrasting the results with those for the comparator group of countries that did not receive adjustment loans.

It is found that the average decline in the GDP growth rate in the loan-recipient countries was less than in the comparator groups. Similar results were obtained in regard to per capita GDP. At the same time, in both cases, a majority of loan-recipient countries experienced an improvement in their relative position *vis-à-vis* the non-recipients.

It is further apparent that the loan-recipient countries made an adjustment effort in the period following the first loan. To begin with, economic expansion was concentrated in the traded goods sectors, industry and agriculture, both of which experienced an improvement in the loan-recipient countries relative to the comparator groups. Also, the growth of consumption declined substantially in absolute terms as well as relative to the non-recipient countries. In turn, an acceleration is observed in the growth of investment that holds the promise for future economic growth.

1. INTRODUCTION

Adjustment lending by the World Bank has a history of nearly a decade. The first structural adjustment loans were extended to Bolivia, Kenya, Philippines, Senegal, and Turkey in 1980. The first sectoral adjustment loan was granted to Jamaica in 1979, followed by loans to Pakistan and Sudan in 1980.

This paper aims to provide a quantitative appraisal of adjustment lending, including structural adjustment loans as well as sectoral adjustment loans. This is a difficult task that entails the choice of appropriate benchmarks as well as performance indicators. Both of these choices involve practical problems and the results should be interpreted with caution.

The basic idea is to compare performance indicators for periods before and

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after adjustment loans. But, countries often had several loans; Turkey even received five structural adjustment loans. In these cases, the date of the first adjustment loan was used as the benchmark. However, in a subsequent part of the paper, we employed a weighting procedure, based on the number of adjustment loans a country received.

The next question concerns the choice of the time-period before and after the adjustment loan. In order to provide information for a long time-span following the adjustment loan, the estimates pertain to the period after the receipt of the loan up to 1987, the latest year for which data are available, and comparisons were made with the three-year period preceding the loan. Excluding the year of the loan, for an adjustment loan extended in 1984, for example, this involved comparing data for the 1981–83 and 1985–87 periods. (For lack of data, countries receiving adjustment loans beyond 1984 could not be considered.)

Changes in performance indicators for particular countries between periods before and after adjustment loans were further compared to the changes observed in countries that did not receive such loans. Comparisons were made for countries that belong to the following groups: Sub-Saharan Africa (14 recipients and 23 non-recipients of adjustment loans), low-income countries (1 and 7), lower middle-income countries (8 and 24), and upper middle-income countries (6 and 21). The latter three groups follow the *World Development Report 1987* classification, and were defined to exclude the countries of Sub-Saharan Africa.

The next question concerns the choice of the performance indicators. In the present investigation, a large number of indicators were used, and grouped under nine headings. They are economic growth (GDP, per capita GDP, industrial production, agricultural production, consumption, per capita consumption, investment, and aggregate expenditure), export performance (export growth), import substitution (import-GDP ratio), savings and investment (domestic saving/GDP, private saving/GDP, public saving/GDP, investment/GDP, and foreign saving/GDP), balance of payments (current account balance/GDP, basic balance/GDP, and overall balance/GDP) external debt (external debt/exports, debt service/exports), inflation (wholesale prices, consumer prices), monetary policy (money supply growth, real discount rate), fiscal policy (government revenue/GDP, government expenditure/GDP, budget surplus/GDP).

2. PERFORMANCE INDICATORS

GDP growth is a particularly important performance indicator since adjustment policies aim at accelerating economic growth. But, the gross domestic product may or may not increase more rapidly than population. Hence the use of per capita GDP as an additional indicator.

Within GDP, traded goods are produced by the industrial and the agricultural sectors. Since reductions in the balance-of-payments deficits through output-increasing policies involve increases in production in these sectors, their inclusion among performance indicators is of interest.

Aggregate expenditure will rise less than the gross domestic product if expenditure-reducing policies are applied. Within aggregate expenditure, changes in consumption provide an indication of variations in living standards, while changes in investment are a gauge of prospects for future economic growth.

Increases in output in traded goods sectors may involve export expansion, import substitution, or production catering to increases in domestic demand. Export performance is measured by export growth while the import-GDP ratio is used as an indicator of import substitution.

Changes in domestic savings may originate in the private or in the public sector, when public savings are measured in terms of the government budget balance and private savings are defined as the difference between domestic and public savings. Domestic investment may be financed by domestic or by foreign savings.

The group of savings and investment indicators is followed by indicators of the balance of payments. The current account deficit would equal foreign savings, except for unilateral transfers and for differences in national accounts and balance-of-payments statistics. These differences are quite substantial, e.g., in Bolivia.

The basic balance further includes long-term capital movements while the overall balance comprises short-term capital movements as well. The overall balance thus equals changes in foreign reserves.

In the present paper, debt indicators were expressed in relation to exports since export receipts are used to service the debt. The statistical tables provide information on the debt-export and debt service-export ratios, the latter inclusive of amortization as well as interest, although rescheduling arrangements involve postponing the payment of amortization.

The wholesale price index and the consumer price index are used as indicators of inflation. In turn, indicators of monetary policy include money supply growth and the real discount rate. With money supply growth defined in nominal terms, it is also an indicator of inflationary pressures emanating from monetary policy.

Among fiscal indicators, the government budget balance is identical to public savings as noted above. Further information is provided on changes in government revenue and government expenditure.

3. THE ESTIMATES

Table 1 provides averages of country data for the three years preceding the loan and for the years until 1987 after the receipt of the loan. For each period, averages of the performance indicators for the recipients of adjustment loans are reported under the heading "own average", while the "group average" refers to the

Table 1
Performance Indicators

Indicators	Group = Overall Average								
	Preceding 3 Years			Years Until 1987 Unweighted			Years Until 1987 Weighted		
	Own Average	Group Average	Difference	Own Average	Group Average	Difference	Own Average	Group Average	Difference
Population, Mil.	**24.2**	**17.2**	–	**27.6**	**19.1**	–	**29.6**	**20.8**	–
Per Capita GDP, US $	**1107.9**	**1333.9**	–	**938.5**	**1448.1**	–	**967.4**	**1373.6**	–
Economic Growth									
Gross Domestic Product	2.7	3.7	–1.0	2.5	2.8	–0.3	2.7	2.8	–0.1
Per Capita GDP	0.2	1.2	–1.0	–0.0	0.4	–0.4	0.3	0.4	–0.0
Industrial Production	1.8	5.1	–3.3	1.8	2.8	–0.9	2.5	2.8	–0.3
Agricultural Production	1.6	2.1	–0.5	3.2	2.8	0.4	2.9	2.6	0.3
Consumption	4.0	4.1	–0.2	2.0	2.4	–0.4	2.3	2.6	–0.3
Per Capita Consumption	1.5	1.5	–0.1	–0.4	–0.1	–0.3	–0.1	0.0	–0.1
Investment	–1.5	6.8	–8.3	2.0	5.0	–3.1	2.1	3.7	–1.6
Aggregate Expenditure	2.7	4.1	–1.4	1.8	1.5	0.3	2.1	1.6	0.5
Export Performance									
Export Growth	7.1	5.7	1.3	5.8	3.5	2.3	6.6	3.4	3.3
Import Substitution									
Import/GDP Ratio	30.7	46.1	–15.5	28.7	43.1	–14.5	29.9	43.6	–13.7
Investment and Savings									
Domestic Saving/GDP	16.3	12.3	4.0	15.3	10.8	4.6	16.2	10.5	5.7

Continued –

Table 1 – (*Continued*)

Private Saving/GDP	24.3	18.4	5.9	23.7	16.4	7.3	23.5	16.6	7.0
Public Saving/GDP	–8.0	–5.5	–2.4	–7.9	–5.9	–2.0	–7.1	–6.3	–0.8
Investment/GDP	23.2	25.0	–1.8	19.0	20.8	–1.8	19.8	21.5	–1.7
Foreign Saving/GDP	6.9	12.7	–5.8	3.7	10.0	–6.3	3.6	11.0	–7.4
Balance of Payments									
Current Account/GDP	–7.5	–6.2	–1.3	–2.1	–4.9	2.7	–3.4	–5.5	2.1
Basic Balance/GDP	–3.6	–0.2	–3.4	–1.0	–1.1	0.1	–1.7	–1.3	–0.3
Overall Balance/GDP	–3.4	–0.2	–3.2	–2.8	–1.8	–1.1	–2.4	–1.9	–0.5
External Debt									
External Debt/Exports	271.7	173.9	97.8	392.2	265.9	126.3	345.8	257.8	88.0
Debt Service/Exports	21.8	12.4	9.4	25.7	18.7	7.0	25.4	18.6	6.8
Inflation									
Wholesale Prices	32.5	18.5	13.9	44.9	25.0	19.9	46.3	23.0	23.3
Consumer Prices	24.6	17.0	7.6	102.0	20.6	81.5	68.2	20.5	47.7
Monetary Policy									
Money Supply Growth	24.0	20.3	3.7	88.8	21.9	66.9	64.4	21.4	42.9
Real Discount Rate	–6.0	–4.3	–1.8	–3.5	–0.8	–2.7	–1.7	–0.9	–0.8
Fiscal Policy									
Government Revenue/GDP	19.0	23.5	–4.5	22.5	25.9	–3.4	20.8	25.2	–4.5
Government Expenditure/GDP	27.0	29.0	–2.1	30.5	31.8	–1.4	27.9	31.5	–3.7
Budget Surplus/GDP	–8.0	–5.5	–2.4	–7.9	–5.9	–2.0	–7.1	–6.3	–0.8

average for the countries that are not recipients of adjustment loans and belong to the same category as the recipients of adjustment loans. The tables further provide information on the difference between the "own average"and the "group average" for each period.

Table 2 shows changes in the performance indicators between the three-year period preceding and the period up to 1987 following the first adjustment loan for each loan recipient, separated into four groups. In the tables, a positive sign indicates an increase in the particular indicator and a negative sign a decrease (there are no instances where no change would have occurred in a particular indicator). Finally, N refers to not available. The tables further show the sums of positive and negative signs, as well as of the not available data, for each performance indicator.

It should be noted that a positive sign may represent an improvement or a deterioration, depending on the particular indicator. It will show an improvement in the case of economic growth, export performance, investment and savings (except for foreign savings), balance of payments, government revenue, and budget surplus indicators. In turn, increases in foreign savings, the external debt, debt service, inflation, money supply growth, and government expenditure indicators are interpreted negatively.

The import substitution and real discount rate indicators are ambiguous. Import substitution may be the result of output-increasing policies or of excessive protection. And, increases in the real discount rate represent an improvement in cases when negative real interest rates gave place to positive real interest rates, and a deterioration when interest rates rose to excessive levels.

Table 3 shows changes in performance indicators *vis-à-vis* the comparator groups between the periods before and after the first adjustment loan. A positive (negative) sign indicates an increase (decrease) in the value of a country's performance indicator relative to that for the comparator group.

In interpreting the average values of the performance indicators, it should be noted that some indicators are not available for all countries or for all years. Correspondingly, there may be discrepancies in the values of linked indicators, e.g., those for domestic savings, private savings, and public savings.

4. THE OVERALL RESULTS

Countries receiving adjustment loans experienced some decline in the rate of growth of *GDP* in the period following the first adjustment loan, with a slight plurality in the negative results being translated into a decline in average growth rates from 2.7 to 2.5 percent. However, there was an improvement *vis-à-vis* the comparator groups, with fifteen of the twenty-nine countries bettering their relative position and the 1.0 percent average shortfall in the three years preceding the loan declining to 0.3 percent afterwards.

Table 2

Performance Indicators: Years Until 1987

	COTE-DIV	GHANA	GUINEA-B	KENYA	MALAWI	MAURITIU	NIGERIA	SENEGAL	SIERRA-L	SUDAN	TANZANIA	TOGO	UGANDA	ZIMBABWE	PAKISTAN	BOLIVIA	COSTA-RI	GUYANA	JAMAICA	MOROCCO	PHILIPPI	THAILAND	TURKEY	BRAZIL	KOREA	MEXICO	PANAMA	URUGUAY	YUGOSLAV	INCREASE	DECREASE	NOT-AVAI
Economic Growth																																
Gross Domestic Product	–	+	–	–	–	+	–	+	–	–	–	+	–	–	+	–	+	–	+	+	–	–	+	+	+	–	–	+	+	13	16	0
Per Capita GDP	–	+	–	–	–	+	–	+	–	–	–	+	–	–	+	–	+	–	+	+	–	–	+	+	+	–	–	+	+	13	16	0
Industrial Production	–	+	–	–	–	+	+	–	–	+	–	–	–	–	+	–	+	–	+	–	–	–	+	+	+	–	–	+	+	12	17	0
Agricultural Production	–	+	–	–	+	+	–	+	+	+	+	+	–	+	+	–	+	–	–	+	–	–	+	–	+	–	+	+	–	16	13	0
Consumption	–	+	–	–	–	+	–	–	–	–	–	+	N		–	–	+	+	+	+	–	–	+	+	–	–	–	+	+	11	17	1
Per Capita Consumption	–	+	–	–	–	+	–	–	–	–	–	+	N	–	–	–	+	+	+	+	–	–	+	+	–	–	–	+	+	11	17	1
Investment	–	+	+	–	–	+	–	+	+	+	+	+	N	–	–	+	+	–	+	+	–	+	+	+	+	+	–	+	+	19	9	1
Aggregate Expenditure	–	+	–	–	–	+	–	+	–	–	–	+	N	–	–	–	+	–	+	+	–	–	+	+	+	–	–	+	+	12	16	1
Export Performance																																
Export Growth	–	+	+	+	–	+	+	–	+	+	–	–	N	+	+	–	+	–	+	–	–	–	+	–	+	–	–	+	+	15	13	1
Import Substitution																																
Import/GDP Ratio	–	+	+	–	–	–	–	+	–	+	–	–	+	–	+	–	–	–	+	+	–	–	+	–	+	–	–	–	+	11	18	0
Investment and Savings																																
Domestic Saving/GDP	–	+	–	–	–	+	–	–	+	–	–	–	+	+	–	–	+	–	+	+	–	–	+	+	+	+	–	+	+	14	15	0

Continued –

Table 2 – (*Continued*)

	COTE-DIV	GHANA	GUINEA-B	KENYA	MALAWI	MAURITIU	NIGERIA	SENEGAL	SIERRA-L	SUDAN	TANZANIA	TOGO	UGANDA	ZIMBABWE	PAKISTAN	BOLIVIA	COSTA-RI	GUYANA	JAMAICA	MOROCCO	PHILIPPI	THAILAND	TURKEY	BRAZIL	KOREA	MEXICO	PANAMA	URUGUAY	YUGOSLAV	INCREASE	DECREASE	NOT-AVAI
Private Saving/GDP	–	–	–	+	–	–	N	–	+	–	–	–	+	+	–	+	–	N	+	+	–	–	+	+	+	+	–	–	+	12	15	2
Public Saving/GDP	+	+	–	–	+	+	N	–	+	+	+	–	+	+	–	–	+	N	–	+	–	–	–	+	–	–	+	+	+	15	12	2
Investment/GDP	–	+	+	–	–	–	–	–	–	+	–	–	+	–	–	–	–	–	+	–	–	–	+	–	–	–	–	–	+	7	22	0
Foreign Saving/GDP	–	+	+	–	–	–	–	+	–	+	–	–	–	–	+	–	–	+	+	–	–	–	–	–	–	–	–	–	–	7	22	0
Balance of Payments																																
Current Account/GDP	+	–	–	+	+	+	+	–	+	–	N	+	+	+	+	+	+	–	–	+	+	+	+	+	+	+	+	+	+	22	6	1
Basic Balance/GDP	+	+	+	–	+	+	+	+	–	–	N	+	+	+	+	–	–	–	–	+	+	+	+	–	+	+	+	–	+	19	9	1
Overall Balance/GDP	+	–	+	–	+	+	+	–	–	–	N	–	+	+	+	–	+	–	+	+	–	+	+	–	–	+	–	+	+	16	12	1
External Debt																																
External Debt/Exports	+	+	+	+	+	+	+	+	+	+	+	+	N	+	–	+	+	+	+	+	+	+	–	+	+	+	+	+	–	25	3	1
Debt Service/Exports	+	+	+	+	+	+	+	–	–	–	+	+	N	+	+	+	+	–	–	–	+	+	+	–	+	+	–	+	–	19	9	1
Inflation																																
Wholesale Prices	N	+	N	N	N	N	N	N	+	N	N	N	N	N	–	N	–	N	N	–	+	–	N	+	–	+	–	+	+	7	6	16
Consumer Prices	–	–	N	–	+	–	+	+	+	+	+	–	N	+	–	+	–	+	–	–	+	–	–	+	–	+	–	+	+	14	13	2

Continued –

Table 2 – (*Continued*)

Monetary Policy							
Money Supply Growth	+ + N – + + – + + – – – + –	–	+ – + – + – – –	+ – + – + +	14	14	1
Real Discount Rate	+ + N + + + + – – N – + N –	+	– + + + + – + +	+ + N N N +	17	6	6
Fiscal Policy							
Government Revenue/GDP	+ + + + + + N + – – – + + +	+	– + N + – – + –	– + + – – –	16	11	2
Government Expenditure/GDP	+ + + + – – N + – – – + + +	+	+ + N + – – + –	– + + – – –	15	12	2
Budget Surplus/GDP	+ + – – + + N – + + + – + +	–	– + N – + – – –	+ – – + + +	15	12	2

Table 3

Performance Indicators: Relative to Comparator Groups in Years Until 1987

	COTE–DIV	GHANA	GUINEA–B	KENYA	MALAWI	MAURITIU	NIGERIA	SENEGAL	SIERRA–L	SUDAN	TANZANIA	TOGO	UGANDA	ZIMBABWE	PAKISTAN	BOLIVIA	COSTA–RI	GUYANA	JAMAICA	MOROCCO	PHILIPPI	THAILAND	TURKEY	BRAZIL	KOREA	MEXICO	PANAMA	URUGUAY	YUGOSLAV	INCREASE	DECREASE	NOT–AVAI
Economic Growth																																
Gross Domestic Product	–	+	–	–	–	+	–	+	–	+	+	+	–	–	+	–	+	–	+	+	–	–	+	+	+	–	–	+	+	15	14	0
Per Capita GDP	–	+	–	–	–	+	–	+	–	+	+	+	–	–	+	–	+	+	+	+	–	+	+	+	+	–	–	+	+	17	12	0
Industrial Production	–	+	–	–	–	+	+	–	+	+	–	–	–	–	+	+	+	+	+	–	–	+	+	+	+	–	–	+	+	16	13	0
Agricultural Production	–	+	–	–	+	+	–	+	–	+	+	+	–	+	+	–	+	+	–	+	–	+	+	–	+	–	–	+	–	16	13	0
Consumption	–	+	–	–	–	+	–	+	–	–	–	+	N	–	–	–	+	+	+	+	–	+	+	+	+	–	+	+	+	15	13	1
Per Capita Consumption	–	+	–	–	–	+	–	+	–	–	–	+	N	–	–	–	+	+	+	+	+	+	+	+	+	–	+	+	+	16	12	1
Investment	–	+	–	–	–	+	–	+	–	+	+	+	N	–	+	+	+	+	+	+	–	+	+	+	+	+	+	+	+	20	8	1
Aggregate Expenditure	–	+	–	–	–	+	–	+	–	–	–	+	N	–	+	+	+	+	+	+	–	+	+	+	+	+	+	+	+	18	10	1
Export Performance																																
Export Growth	+	+	+	+	–	+	+	+	+	+	+	–	N	+	+	+	–	+	+	–	+	–	+	–	+	–	–	+	+	20	8	1
Import Substitution																																
Import/GDP Ratio	–	+	+	–	–	–	–	+	–	+	–	–	+	–	–	–	–	+	+	+	–	+	+	+	+	+	–	+	+	15	14	0
Investment and Savings																																
Domestic Saving/GDP	+	+	–	+	+	+	–	–	–	+	–	–	+	+	–	–	+	–	+	+	–	–	+	+	+	+	–	+	+	17	12	0

Continued –

Table 3 – (*Continued*)

Private Saving/GDP	+ + – + + + N – – – + + + +	–	+ + N + + – – +	+ + + – + +	19	8	2
Public Saving/GDP	+ + – – + + N – + + + – + –	+	– – N + + + – +	+ + + + + +	19	8	2
Investment/GDP	– + + + – – – + – + – – + +	–	– + + + + – + +	+ + + – + +	18	11	0
Foreign Saving/GDP	– + + – – – – + – + – + – –	–	– + + + + – + –	– – + + – +	13	16	0
Balance of Payments							
Current Account/GDP	+ – – + + + – – + – N + + +	+	+ + – – + + + +	+ + + + – +	20	8	1
Basic Balance/GDP	+ – + + + + – + – + N + + +	+	– – – + + + + +	– + + + – +	20	8	1
Overall Balance/GDP	+ + + – + + + + – + N – + +	+	+ + – + + + + +	– + + – + +	22	6	1
External Debt							
External Debt/Exports	+ + + – – – + – + + + – N –	–	+ – + + + + – –	– – + + + –	15	13	1
Debt Service/Exports	– + + + + + + – – – – + N +	–	+ + – – – – + +	– – + – – –	13	15	1
Inflation							
Wholesale Prices	N + N N N N N N + N N N N N	+	N – N N – + – N	+ – + – + +	8	5	16
Consumer Prices	– – N + + – + + + + + – N +	–	+ – – – – – – –	+ – + – + +	13	14	2
Monetary Policy							
Money Supply Growth	+ + N – + + – + + + – – + –	–	+ – + + – + – +	+ – + – + +	17	11	1
Real Discount Rate	+ + N + – + – – – N – + N –	+	– + – + – – + +	+ + N N N +	13	10	6
Fiscal Policy							
Government Revenue/GDP	+ + – – – – N – – – – – + –	+	– + N + – – + –	– + – – – –	8	19	2
Government Expenditure/GDP	– – + – – – N + – – – + + –	–	+ + N – – – + –	– – – – – –	7	20	2
Budget Surplus/GDP	+ + – – + + N – + + + – + –	+	– – N + + + – +	+ + + + + +	19	8	2

Decreases in the *per capita GDP* of the loan recipient countries approximately matched those for the gross domestic product as population growth rates underwent little change during the period under consideration. Just as in the case of GDP, improvements are observed *vis-à-vis* the comparator groups. While in the three years preceding the first adjustment loan, the average per capita income growth was 1.0 percentage points lower in the loan-recipient countries than in the non-recipients, this difference declined to 0.4 percentage points in the period after the loan. At the same time, there were seventeen countries experiencing an improvement *vis-à-vis* the comparator groups.

Economic growth following the first adjustment loan was concentrated in industry and in agriculture. The average rate of *industrial growth* remained unchanged following the first adjustment loan, even though a larger number of countries experienced a deceleration than an acceleration. At the same time, there was a substantial improvement *vis-à-vis* the comparator groups, with the average shortfall declining from 3.3 percent in the three years preceding the loan to 0.9 percent in the years following, as sixteen countries experienced an improvement in relative terms.

Agricultural growth exhibited a continued acceleration in the loan-recipient countries during the period under consideration and the majority of these countries experienced increases over time. The average improvement is particularly noteworthy *vis-à-vis* the comparator groups (from −0.5 percent to 0.4 percent), with sixteen countries improving their relative position.

The decline in the average growth of *aggregate expenditure* for the recipients of adjustment loans was considerably greater than that in GDP growth. However, the relative increase *vis-à-vis* the comparator countries was also larger. In fact, in the years following the first adjustment loan, the recipients of these loans attained average increases 0.3 percentage points greater than the comparator groups in aggregate expenditures, while they had a shortfall of 1.4 percentage points in the three years preceding the loan.

The fall in aggregate expenditure was concentrated in *consumption*. A decline is shown in consumption growth in the loan-recipient countries *vis-à-vis* the non-recipients, with a differential of −0.2 percentage points in the three years preceding the first adjustment loan, giving place to a differential of −0.4 percentage points in the years following. At the same time, there was a substantial improvement in the relative position of the loan-recipient countries in regard to *investment*.

While the recipients of adjustment loans experienced an average 8.3 percentage points shortfall in investment growth *vis-à-vis* the comparator groups in the three years preceding the first adjustment loan, the shortfall decreased to 3.1 percentage points in the years following the loan. This occurred as a 1.5 percent average annual rate of decline in investment gave place to a 2.0 percent rate of increase in the loan-recipient countries while the comparator groups exhibited decreases in investment growth rates. There is also a large plurality in the number of loan-recipient countries experiencing improvements in investment growth rates *vis-à-vis* the comparator groups.

Average *export growth* rates declined less in countries receiving adjustment loans than elsewhere, as a much larger number of countries experienced an improvement rather than a deterioration in their relative position. In turn, average import-GDP ratios fell in the same proportion in the loan-recipient as in the non-recipient countries, while fewer loan-recipient countries showed relative increases than decreases.

Average *domestic savings* ratios decreased slightly in countries receiving adjustment loans, with somewhat larger declines occurring in the comparator countries over the entire period. At the same time, a substantially larger number of loan-recipient countries experienced increases than decreases in domestic savings ratios *vis-à-vis* the non-recipients.

The latter conclusion also applies to *private savings* and *public savings*, taken individually. Furthermore, the loan-recipient countries experienced an improvement in their average private and public savings ratios *vis-à-vis* the comparator groups.

In turn, average *investment* ratios decreased in a parallel fashion in the two groups of countries, although a substantial majority of loan recipients improved their relative position *vis-à-vis* the non-recipients. Finally, the ratio of *foreign savings* to GDP decreased in both cases, but the decline was larger in the loan-recipient countries.

A large majority of loan recipients attained an improvement in their *current account balance* during the period under consideration. This result was repeated for the *basic balance* and, to a lesser extent, the *overall balance*. Furthermore, average improvements in these balances were substantially greater in loan-recipient countries than in the comparators, and there was a very large plurality of loan-recipient countries experiencing a relative improvement.

In relative terms, the loan-recipient countries also attained improvements in their *external debt indicators vis-à-vis* the non-recipients, although these indicators increased in absolute terms over time. Thus, between the three years preceding the first adjustment loan and the subsequent period, the average external debt-export ratios increased from 272 to 392 percent, and debt service-export ratios from 22 to 26 percent, in the loan-recipient countries, while average increases were from 174 to 266 percent and from 12 to 19 percent, respectively, in the comparator countries.

Data for *wholesale prices* are available for only a few countries, hence the discussion will concentrate on *consumer prices*. Inflation, as measured by the consumer price index, accelerated in fourteen countries receiving adjustment loans and decelerated in thirteen countries, with fourteen loan-recipient countries showing an improvement and thirteen countries a deterioration *vis-à-vis* the comparator groups. But average annual inflation rates in the loan-recipient countries increased substantially, from 25 percent in the three years preceding the adjustment loan to 102 percent in the post-loan period, reflecting in large part the 1965 percent annual rate of inflation in the latter period in Bolivia. By comparison, inflation rates increased from 17 to 21 percent in the comparator groups.

The average results for *money supply growth* also largely reflect the Bolivian increase of 1397 percent a year. At the same time, fourteen countries showed an increase, and fourteen a decline in money supply growth rates. Money supply growth rates accelerated, however, *vis-à-vis* the comparator groups in the large majority of the loan-recipient countries.

The *real discount rate* increased in seventeen loan-recipient countries and declined in six countries between the three-year period preceding the loan and the subsequent period up to 1987. As a result, the average rate increased from –6.0 percent to –3.5 percent. This compares with an increase from –4.3 percent to –0.8 percent in the comparator groups while a majority of loan recipients experienced increases in the real discount rate *vis-à-vis* these groups.

Changes in the *budget surplus* (public savings) have been discussed above. At the same time, loan-recipient countries experienced increases in *government expenditure ratios* as well as in *revenue ratios*. In these countries, the average ratio of government expenditures to GDP increased from 27.0 percent to 30.5 percent between the pre-loan and the post-loan periods, while the average government revenue ratio rose from 19.0 to 22.5 percent.

At the same time, the loan-recipient countries exhibited relative increases in government expenditures and government revenues *vis-à-vis* the comparator countries. However, these results were due to developments in relatively few countries; in particular, twenty countries experienced a decline, and seven countries an increase, in their expenditure ratio compared with the non-recipients.

5. RESULTS FOR PARTICULAR COUNTRY GROUPS

Further interest attaches to the results for particular country groups. As noted earlier, adjustment loans were extended until 1984 to 14 Sub-Saharan African countries while 23 countries of the region did not receive such loans. The corresponding figures are 1 and 7 for low income countries, 8 and 24 for lower middle-income countries, and 6 and 21 for upper middle-income countries. The following discussion will make comparisons for the loan recipients and non-recipients in each of the four country groupings between the three-year period preceding the first adjustment loan and the subsequent period up to 1987. The relevant results are shown in Table 4.

The recipients of adjustment loans in *Sub-Saharan Africa* had a slightly lower GDP growth rate than the non-recipients in the three years preceding the loan; the

Table 4
Performance Indicators: Regional Results

Indicators	Sub-Saharan Africa		Low Income Countries		Lower Middle Income Countries		Upper Middle Income Countries	
	Preceding 3 Years Difference	Years Until 1987 Difference	Preceding 3 Years Difference	Years Until 1987 Difference	Preceding 3 Years Difference	Years Until 1987 Difference	Preceding 3 Years Difference	Years Until 1987 Difference
Economic Growth								
Gross Domestic Product	–0.1	–0.9	0.2	2.4	–3.6	–1.2	–0.1	1.7
Per Capita GDP	–0.1	–1.0	–0.9	1.2	–3.2	–0.8	–0.1	1.5
Industrial Production	–3.4	–2.7	–0.1	4.3	–6.8	–1.9	1.1	3.8
Agricultural Production	–0.0	0.4	0.1	0.5	–1.4	1.1	–0.8	–0.3
Consumption	2.7	–1.6	2.3	1.5	–4.0	–0.4	–2.0	2.1
Per Capita Consumption	2.6	–1.6	1.1	0.2	–3.5	0.0	–2.0	1.9
Investment	–5.8	–10.7	–9.6	3.0	–14.1	2.5	–6.5	6.1
Aggregate Expenditure	1.6	–1.3	0.3	1.7	–6.0	0.3	–2.8	3.7
Export Performance								
Export Growth	4.1	4.0	–4.9	6.6	–5.6	0.5	5.2	0.4
Import Substitution								
Import/GDP Ratio	–13.9	–15.2	2.6	2.6	–12.8	–10.8	–25.9	–20.6
Investment and Savings								
Domestic Saving/GDP	4.8	5.2	–6.8	–8.0	6.6	6.5	0.3	2.5

Continued –

Table 4 – (*Continued*)

Indicators	Sub-Saharan Africa		Low Income Countries		Lower Middle Income Countries		Upper Middle Income Countries	
	Preceding 3 Years Difference	Years Until 1987 Difference	Preceding 3 Years Difference	Years Until 1987 Difference	Preceding 3 Years Difference	Years Until 1987 Difference	Preceding 3 Years Difference	Years Until 1987 Difference
Private Saving/GDP	8.9	12.0	–4.7	–10.7	7.7	7.8	–1.8	–1.4
Public Saving/GDP	–5.1	–5.5	0.7	2.3	–0.5	–1.3	0.7	3.9
Investment/GDP	–0.7	–1.4	–1.4	–4.4	–3.4	–2.5	–2.4	–1.2
Foreign Saving/GDP	–5.5	–6.7	5.4	3.6	–9.9	–9.0	–2.7	–3.6
Balance of Payments								
Current Account/GDP	–1.0	5.0	–2.5	2.1	–2.8	–1.3	–0.2	3.3
Basic Balance/GDP	–4.1	3.4	–2.8	0.4	–4.3	–5.5	–0.6	0.3
Overall Balance/GDP	–2.9	1.0	–1.9	–0.3	–4.9	–4.6	–1.8	–1.0
External Debt								
External Debt/Exports	92.1	168.7	266.9	69.7	80.0	81.6	109.2	112.6
Debt Service/Exports	2.4	4.7	13.1	11.8	11.8	7.5	20.2	10.3
Inflation								
Wholesale Prices	22.9	39.1	–3.2	–0.4	9.5	–6.5	2.8	16.4
Consumer Prices	5.2	6.2	2.9	–2.2	5.5	233.3	15.4	41.1

Continued –

Table 4 – (*Continued*)

Monetary Policy								
Money Supply Growth	5.4	16.4	–0.9	–1.4	–2.0	169.3	7.7	49.9
Real Discount Rate	–1.8	–2.4	–0.2	2.3	–3.2	–3.2	0.5	–3.1
Fiscal Policy								
Government Revenue/GDP	–2.2	2.8	0.4	1.6	–1.8	–5.5	–14.3	–15.5
Government Expenditure/GDP	2.9	8.3	–0.3	–0.7	–1.4	–4.2	–15.0	–19.4
Budget Surplus/GDP	–5.1	–5.5	0.7	2.3	–0.5	–1.3	0.7	3.9

difference increased in the period up to 1987, following the loan, as the recipient countries experienced a greater deceleration of economic growth than the non-recipients. Similar conclusions apply to per capita income growth.

Loan recipients slightly improved their relative position, however, as far as industrial and agricultural growth are concerned. In turn, they experienced a much larger fall in the growth of aggregate expenditure than the comparator group. The decline was concentrated in consumption where average annual increases fell from 6.3 percent in the three years preceding the loan to 0.9 percent after the loan in the first group, as against an average decline from 3.6 to 2.5 percent in the second.

Export growth rates declined proportionately less in the loan-recipient countries than in the non-recipients. At the same time, eleven loan-recipient countries accelerated their export growth rate while two experienced a deceleration relative to the non-recipients. In turn, the import-GDP ratio declined slightly more in the loan-recipient countries than in the comparator group.

The domestic savings ratio fell somewhat in Sub-Saharan countries receiving adjustment loans while larger decreases were shown for the comparator group, with the fall in private savings dominating the outcome in the latter case. At the same time, investment ratios declined somewhat more in the loan-recipient than in the non-recipient countries of the region. This occurred as foreign savings fell to a greater extent in the first case than in the second.

Loan-recipient countries exhibited substantial improvements in their current account balance, with smaller changes were seen in the basic balance and the overall balance. Lesser improvements were observed in the current account balance and the basic balance of the comparator group, which also experienced a deterioration in its overall balance. However, loan recipients exhibited much larger increases in their external debt-export and debt service-export ratios than non-recipient Sub-Saharan African countries.

The rate of inflation declined less in the loan-recipient than in the non-recipient countries as money supply growth accelerated to a greater extent in the first group than in the second. Also, the real discount rate increased to a lesser extent in the loan-recipient countries than in the non-recipients. Finally, both expenditure-GDP and revenue-GDP ratios rose more in the former case than in the latter.

Pakistan is the only *low income country* outside Sub-Saharan Africa that received adjustment loans during the period under consideration. It showed a much superior growth performance than the comparator group, with its GDP growth rate rising from 5.3 to 6.9 percent as against declines elsewhere. Also, the growth of industrial production and agricultural output accelerated in Pakistan, while industrial growth rates declined and agricultural growth rates increased less in the comparator group. Finally, the growth of aggregate expenditure decreased to a lesser extent in Pakistan than elsewhere and the decline was equally shared by consumption and investment.

Pakistan experienced a substantial acceleration of export growth between the pre-loan and the post-loan periods while a slight decrease occurred in the low-income group of non-recipients of adjustment loans. At the same time, Pakistan exhibited a small increase in its import-GNP ratio that was matched by the comparator group.

Domestic savings ratios declined more in Pakistan than in the comparator group, as the fall in private savings was not compensated by improvements in public savings. There was also a decline in the investment ratio, despite a rise in foreign savings. The foreign savings ratio increased to a greater extent in the comparator group, leading to a rise in the investment ratio.

All indicators show an improvement in Pakistan's balance of payments, compared with a deterioration in the non-recipient group of low income countries. At the same time, Pakistan experienced a decline in its external debt-ratio, compared with an increase in the comparator group, which also exhibited a larger rise in its debt service ratio than Pakistan.

Pakistan experienced a deceleration of inflation, whether measured by the wholesale or the consumer price index. The two indices, however, point in different directions for the rest of the low income countries. This occurred as money supply growth decreased in a parallel fashion in the two cases. Finally, the real discount rate increased in Pakistan while declining in the comparator group.

The approximate maintenance of budget deficits in Pakistan was the result of parallel increases in government revenues and expenditures, expressed as a percentage of the GDP. In turn, revenues rose more than expenditures in the rest of the low income countries, leading to smaller budget deficits.

Loan-recipient *lower middle-income countries* experienced a small increase in their average GDP growth rate between the pre-loan and the post-loan periods, while a decline was observed in the non-recipient countries. This occurred as the former group of countries attained a substantial improvement in its industrial and agricultural growth performance relative to the latter.

In turn, a decline in aggregate expenditure in the pre-loan period gave place to an increase following the adjustment loan in the loan-recipient countries, whereas a deceleration of expenditure growth was observed in the comparator group. Within aggregate expenditure, increases in loan-recipient countries relative to the non-recipients were much greater in regard to investment than consumption.

The group of loan recipients attained a substantial acceleration in export growth while the opposite conclusion applies to the non-recipient group. At the same time, both country groups experienced import substitution as measured by the import-GDP ratio.

The average domestic savings ratio declined in the group of loan recipients as a fall in the private savings ratio was accompanied by a rise in public dissavings. The domestic savings ratio decreased in a parallel fashion in the rest of the lower middle-income countries, where private as well as public savings also declined.

The average investment ratio fell more than the domestic savings ratio in the group of loan recipients as foreign savings decreased over time. Changes in the same direction, but of a larger magnitude, occurred in the comparator group.

The current account deficit of loan recipients among lower middle-income countries declined slightly, with increases experienced in the case of non-recipients. In turn, the basic balance and the overall balance of both groups of countries deteriorated.

Wholesale price data are available for few lower middle-income countries. At the same time, the average rise of consumer prices accelerated in the loan recipients owing to Bolivia's rapid inflation; most other countries of the group experienced a decline in inflation rates. In turn, inflation rates increased to a substantial extent in the comparator group.

Average money supply growth rates were again dominated by Bolivia; a majority of the other loan recipients experienced a decline as against an acceleration in the non-recipient countries. Finally, the average real discount rate increased proportionately less in the former group of countries than in the latter.

The rise in the ratio of the government budget deficit to GDP for loan recipients among lower middle-income countries was due to decreases in revenues in excess of the decline in expenditures. In turn, revenues increased more than expenditures in the comparator countries.

The average rate of growth of GDP increased in the *upper middle-income* countries receiving adjustment loans while a decline was observed in the comparator group. The same conclusions apply to per capita income growth.

The average growth of both industrial production and agricultural output accelerated in the loan-recipient countries after the first adjustment loan. In turn, a decline occurred in industrial production growth, and a smaller increase was experienced in the growth of agricultural output in the non-recipient group.

The rise of aggregate expenditure accelerated in the recipients of adjustment loans. This occurred as a decline in investment gave place to an increase and consumption growth rates rose over time. By contrast, consumption growth rates decreased and investment fell in absolute terms in the non-recipient countries.

Loan recipients among upper middle-income countries experienced a deterioration in their export performance as against improvements in the comparator group. In turn, the import-GDP ratio fell in both groups of countries.

The domestic savings ratio increased in the loan-recipient countries as the decline in private savings was more than offset by the fall in the government budget deficit. The share of investment in GDP decreased, however, as the inflow of foreign savings was superseded by an outflow. A larger fall in investment shares occurred in the non-recipient countries, where domestic as well as foreign savings ratios declined.

The loan recipients among upper middle-income countries experienced a substantial improvement in their current account balance, turning a deficit into a surplus, while less sizeable improvements occurred in the comparator countries that continued to have a deficit. Improvements were smaller in the basic balance and the overall balance of the loan recipients; both of these balances deteriorated in the comparator countries. Finally, the loan-recipient countries attained a reduction in their average debt service-export ratios while their external debt-ratio increased. Both of these ratios increased substantially in the comparator group.

The average rise of wholesale as well as consumer prices accelerated in both the loan-recipient and the non-recipient countries, with larger increases in both indices in the first group. Similar results obtained in regard to money-supply growth. Finally, the real discount rate increased less in the case of loan recipients than non-recipients.

The budget deficit declined in the loan-recipient countries as their expenditures fell and revenues remained unchanged as a proportion of GDP. In turn, the budget position of the comparator countries deteriorated as expenditures increased more than revenues.

6. CONCLUSIONS

This paper presented a quantitative analysis of adjustment programmes. This was done by charting changes in various performance indicators following the receipt of the first adjustment loan, and by further contrasting the results with those for the comparator group of countries that did not receive adjustment loans.

We find that the average decline in the GDP growth rate in the loan-recipient countries was less than in the comparator groups. Similar results were obtained in regard to per capita GDP. At the same time, in both cases, a majority of loan-recipient countries experienced an improvement in their relative position *vis-à-vis* the non-recipients.

It is further apparent that the loan-recipient countries made an adjustment effort in the period following the first loan. To begin with, economic expansion was concentrated in the traded goods sectors, industry and agriculture, both of which experienced an improvement in the loan-recipient countries relative to the comparator groups. Also, the growth of consumption declined substantially in absolute terms as well as relative to the non-recipient countries. In turn, an acceleration is observed in the growth of investment that holds the promise for future economic growth.

The average export growth rate fell less in the loan-recipient countries than in the comparator group, and a much larger number of countries experienced an improvement than a deterioration relative to the non-recipients. At the same time, the loan-recipient countries attained a substantial improvement in their current account balance position as their domestic savings ratios declined less than in the comparator groups. Finally, despite increases in absolute terms, the loan-recipient countries improved their relative position as far as external debt indicators are concerned.

Inflation, as measured by the consumer price index, decelerated in a majority of countries receiving adjustment loans *vis-à-vis* the comparators, although the average increased substantially due to hyper-inflation in Bolivia. In turn, money supply growth rates increased more in the loan-recipient countries than in the non-recipients, while real discount rates increased in the majority of the loan recipients. Finally, expenditure-GDP ratios increased less in the loan-recipient than in the non-recipient countries.

Data have also been provided for loan recipients and non-recipients in Sub-Saharan Africa, low-income countries, lower middle-income countries, and upper middle-income countries. The following discussion will be limited to changes in per capita incomes in the period until 1987, following the first adjustment loan.

Average per capita incomes decreased more in Sub-Saharan loan-recipient countries than in the comparator group. However, the relative position of the loan recipients improved *vis-à-vis* the non-recipients in the other three groups of countries. In fact, per capita incomes rose more in the post-loan period than in the pre-loan period in Pakistan, the only loan recipient among low income countries. The same result was obtained in the upper middle-income countries while the lower-income countries experienced a smaller decline after than before the loan.

Thus, the relative position of loan recipients improved in three out of four country groupings in regard to per capita incomes. It is also apparent that, on the whole, loan-recipient countries improved their relative position *vis-à-vis* the comparator groups in industrial production, agricultural output, investment, exports, the balance of payments, external debt indicators, and the government budget. In turn, the results point in different directions, depending on whether average changes or the number of countries experiencing improvements *vis-à-vis* the comparator groups are considered in the case of inflation and the real discount rate and a deterioration is observed in regard to money supply growth.

The quantitative appraisal of adjustment programmes thus points to the overall success of these programmes, with the qualifications just noted. This conclusion is strengthened if consideration is given to weighted performance indicators, the weights being the number of times a country received an adjustment loan. Thus, weighting improves the relative performance of the loan recipients in regard to practically all economic growth indicators, export growth, domestic savings, external debt indicators, inflation, money supply growth, the real discount rate, and the government budget, while little change is shown in regard to the rest of the indicators (Table 1).