



## HEALTH AND HEALTH EXPENDITURES IN ADJUSTING AND NON-ADJUSTING COUNTRIES

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**Abstract**—The focus of this study is on the impact of World Bank structural adjustment operations on health expenditures and outcomes. We compare trends and levels of real per capita public spending on health, private consumption (which is the resource base for private health expenditures), and groupings child mortality indicators in four groups of countries. These are: (i) countries that started to borrow for the adjustment process early—Early Adjustment Lending (EAL) countries, (ii) Other Adjustment Lending (OAL) countries, (iii) Non-Adjustment Lending countries whose economies grew during the period 1985–1990 (NAL+), and (iv) Non-Adjustment Lending countries whose economies did not grow (NAL–). The NAL– group provides a ‘counterfactual’ for comparison with the two groups of adjusting countries. The results show that the fear about possible declines in health care spending in adjusting countries is unwarranted for EAL countries, that is those countries that started the adjustment process early and took it seriously. Government spending on health care increased on average for this group of countries, as did private consumption levels. Government health care expenditures also continued to increase in OAL countries, but mixed GDP growth performance has left little room for increased private spending. However, those countries that showed negative growth in the late eighties and did not start an adjustment process, fared worse throughout: real per capita public health care spending declined during the late eighties and increased less than in the other countries during 1989–1993, while private consumption has declined steadily. The trends in child mortality indicators show tremendous and continuing progress during the past two or three decades with few discernible differences among the four country groupings. © 1998 Elsevier Science Ltd. All rights reserved

*Key words*—structural adjustment, health, health expenditures, health indicators, World Bank

### INTRODUCTION

The end of the seventies was a difficult time for many developing countries. They experienced high inflation, slow growth, stagnating exports, and mounting debt problems. The situation was caused in part by the oil crisis of the seventies. When the first oil crisis hit, many countries turned to the international capital market to cover their budgets, because they were unable or did not see fit to adjust their economies to the changing international environment. At that time interest rates were relatively low. By the end of the 1970s, however, they were hit with a second rise in oil prices and this time the international climate was not so favorable. Tight monetary and fiscal policy in the industrialized world led to rising interest rates, the U.S. dollar exchange rate was high and developing countries faced falling commodity prices for their goods at a time when import prices were soaring. A debt crisis ensued in most of Latin America, Asia, and Africa. Previous policies were no longer sustainable, once popular development strategies, such as import substitution, had failed, and growth stagnated or

turned negative. Countries were faced with the need to adjust.

The new set of macro-economic measures that were put in place are now collectively referred to as ‘adjustment’. Adjustment policies aim to restore internal and external balances and increase the role of the market. This is achieved by a variety of measures such as privatization of state-owned enterprises, liberalization of the trade regime, and elimination of distortions and controls on prices, wages, the exchange rate, and the allocation of credit. Government expenditures are reduced and in most cases public employment is curtailed. The purpose is to achieve an environment for sustainable growth through stable macro-economic conditions, an appropriate system of incentives for resource allocation, an adequate level of savings, and efficient institutions to turn savings into productive physical and human capital.

Although a number of countries have embarked on adjustment type programs without outside help,<sup>†</sup> many have relied on financing from the World Bank and the IMF. Structural Adjustment Operations [Structural Adjustment Loans (SALS) and Sector Adjustment Loans (SECALs)] accounted for 10% of all loan operations by the Bank during the period Fiscal Year (FY) 1980–

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<sup>†</sup>For example, the East Asian countries Taiwan, Singapore, Hong Kong and Malaysia.

1984. The percentage rose to 21% over FY 1985–1989. It reached a high of 27% in FY 1992, and subsequently decreased to 16% in FY 1995.\* In recent years, there has also been growth in adjustment lending from other international banks and donors such as the EU, the U.S.A., and Japan. Excluding the IMF, these donors accounted for almost half of the adjustment financing in 1991 (Larsson, 1994, p. 20).

Since the introduction of adjustment policies, scholars and politicians have expressed concern about the effect of these policies on the poor. The concern usually centers on the issue of social development, since adjustment policies may adversely affect the availability of affordable health and education services. This concern is understandable. Adjustment policies include a combination of measures that aim to reduce government expenditure, which accounts for a large portion of expenditures on health and education. The policy measures also lead to a reduction of private consumption, at least in the short run, and—through changes in trade and exchange rate regimes, taxes and subsidies—to a re-alignment of consumer prices with (world) market prices. The latter may result in price increases for food products and pharmaceuticals.

Of course, the events of the seventies that made it necessary for a country to adjust its economic policies in the first place, had similar effects: debt servicing became so high that other sectors, including health care, were under severe budgetary constraints. Rampant inflation eroded private incomes, often putting various necessities, such as food and drugs, out of the reach of the poor.

The apparent similarities between the initial effects of adjustment measures, and the continuous eroding effects of unsustainable economic policies, make it extremely hard to identify the impact of adjustment policies on social development. Indeed, the early literature on this topic observed that countries that started to adjust, suffered from increased poverty and deterioration of social services. Unfortunately, little reference was made to the policies that created the large numbers of poor people in the first place, and that had depleted government resources and hence ability to improve on this situation. The resulting adjustment measures were therefore erroneously identified as the cause of stagnation in social development, rather than the inevitable result of unsustainable policies.

The second wave of literature on adjustment was more careful. It tried to compare the situation during adjustment with the counterfactual: what would the country have looked like if it had contin-

ued with its pre-adjustment policies? These studies came out later and benefited from more and better data, covering a longer time-span. The new findings on the health policies of adjusting countries were very different from the earlier reports. Health indicators on the whole in Latin America and Asia improved, while there was variation among trends and levels in Africa (Diop *et al.*, 1991, p. 10). A large body of literature now exists that looks at health expenditures, health policy, and health outcomes, in adjusting and non-adjusting countries. We will review some of this literature in the next section.

The focus of this study is on the impact of World Bank structural adjustment operations on health expenditures and outcomes. We compare trends and levels of real per capita public spending on health, private consumption (which is the resource base for private health expenditures) and child mortality indicators in four groups of countries. These groupings are: (i) countries that started to borrow for the adjustment process early—Early Adjustment Lending (EAL) countries, (ii) Other Adjustment Lending (OAL) countries, (iii) Non-Adjustment Lending countries whose economies were growing during the period 1985–1990 (NAL+), and (iv) Non-Adjustment Lending countries whose economies did not grow (NAL–).†

The NAL– countries are probably the best ‘counterfactual’ for comparison with the two groups of adjusting countries, though they are far from a ‘random control group’. They are ‘countries in trouble’ who chose not to adjust, as compared to the EAL countries who, when ‘in trouble’, did choose to adjust. This comparison is, of course, far from ideal, but we believe it is preferable to comparing adjusting countries with all other countries combined, whether the latter performed well or not.

Throughout the analysis it should be kept in mind that (i) these groupings do contain an element of arbitrariness, see for instance Mosley and Weeks (1993), and (ii) within-group variation among these countries is often as large, or larger, than the between-group variance. Nevertheless, we are confident that if adjustment lending has a major impact on public spending on health care, comparisons of trends in spending among these four country groupings should reveal this.

Following the review of the literature, we will turn to an often forgotten aspect of the health care system: private spending. Despite the large role of the government in the health care sector in almost every country, private spending on health care equals more than 40% of total spending globally (Murray *et al.*, 1994). Moreover, in some countries, especially some of the poorer ones, private spending may be as high as 80%. Thus, a second way in which adjustment policies may influence the health care sector is by reducing private income or consumption. Despite the explicit objective of adjust-

\*World Bank data.

†For precise definitions of these four groups of countries see Appendix A.

ment—to foster economic growth—the macro-economic policies that are to position a country for sustainable long-term growth, are likely to reduce private income in the short run, with possibly severe consequences for the poorest households' ability to buy medical care. This issue is addressed by analyzing trends in private consumption for all four groups of countries, as well as by looking at patterns of public and private spending on health for selected countries.

We complete the study by looking at trends in two child mortality indicators, followed by conclusions.

#### REVIEW OF THE LITERATURE

There is a vast literature on social development and adjustment, and this is not the place to review it all.\* Rather we will highlight the two main approaches on this topic and discuss some of the key issues pertaining to health policy and adjustment programs.

The first, and still best known publication on the social implications of adjustment is *Adjustment with a Human Face* (Cornia *et al.*, 1987). Based on ten case studies the report concluded:

National adjustment policies have, on the whole, successfully combined adjustment with poverty alleviation and nutritional protection in the Republic of Korea, Botswana, and Zimbabwe. In other countries, economic developments have seriously eroded the levels of living of the poor and the nutritional standards of children (p. 4).

This report and others which are based on case studies have been criticized for their "selective choice of examples as the basis of generalization... writers in this field... look at the data with strong 'priors', with a tendency, that is, to search for and underscore information that is consistent with the argument they wish to make" (Berg and Hunter, 1992, p.51).

However, the report does address the crucial question of whether adjustment policy is the main cause of human difficulties and social set-backs. The answer:

No, this is not the position of this study...we recognize that the primary cause of the downward economic pressures on the human situation in most of the countries affected is the overall economic situation, globally and nationally, not adjustment policy as such (p. 5; emphasis in original).

Nevertheless, the study as a whole is very critical of the early adjustment policies (the study covers the period 1980–1985), and calls for the need to look for alternative approaches that explicitly protect the most vulnerable groups in society.

\*See, for example, Vivian (1995); Cornia and Helleiner (1994); Mosley and Weeks (1993); Summers and Pritchett (1993); Bourguignon *et al.* (1991); Reimers and Tiburcio (1993).

Spurred by this kind of critic, and perhaps also by dispiriting initial results of stabilization and adjustment efforts, the development community—notably the World Bank and the IMF—continued to critically assess the results of its own efforts to put failing countries back on a path of sustainable development. A comprehensive study, entitled *Adjustment Lending Revisited*, was published in 1992 by the World Bank (Corbo *et al.*, 1992). This study made a major effort to define 'the counterfactual', i.e. the hypothetical situation without adjustment, and corrected its results accordingly. A few of the conclusion are worth quoting. First, it found convincing evidence that:

Adjustment lending contributed to faster growth of gross domestic product (GDP) and higher ratios of export saving to GDP in the latter 1980s in countries that used adjustment lending intensively, starting in 1985 or earlier...living conditions, even in the short run, did not appear to have been systematically related to adjustment lending. Furthermore, most long-run indicators of living conditions continued to improve [in countries that adjusted rapidly] (p. 2).

At the same time, the study found two related results that were seriously troublesome: the ratio of investment to GDP decreased in these countries, and in some countries government education expenditures and school enrollment fell.

Thus, in general, the results of even the most careful studies are mixed, underscoring the difficulties of disentangling cause (adjustment policies or unsustainable economic policies) and effect (social outcomes). And the debate continues. The recently published *Oxfam Poverty Report* (Oxfam, 1995), for example, concludes:

In cities and villages of Latin America and Africa... structural adjustment has become a euphemism for suffering...For people in the South, the argument provokes the almost universal response that there must be an alternative. Oxfam believes that they are right—and that there *is* an alternative (p. 73).

However, Demery and Squire (1995), basing their study on comparable household survey data for six African countries, conclude unambiguously: "effective reform programs are associated with reducing overall poverty, inadequate ones with worsening poverty" (p. 1).

The debate is complicated by the half-hearted commitment of some countries to the adjustment process. For instance, Lipton and van der Gaag (1993) conclude:

The problem is not that adjustment packages were anti-poor... Rather, the problem is that [in many cases] the adjustment policy package was not really structural enough...where the poor failed to gain from adjustment, it is usually because adjustment fails, not because successful adjustment fails the poor (pp. 23–24).

In terms of social policy in general, there is some consensus. Investing in people is necessary for successful adjustment. To this extent, government expenditures on health and education must not only

be protected but also be rationalized so as to expand services to the poor. In the early years, the World Bank did not include much social conditionality in adjustment loans. However, since the mid-eighties, the 'social dimensions of adjustment' received greater attention (see World Bank, 1987). For health care, for example, 62% of the Structural Adjustment Loans (SALs) approved between FY 1987 and FY 1993 in Sub-Saharan Africa included at least one health sector related policy. Beginning in FY 1991, all SALs contained at least one health sector conditionality.

Unfortunately, social conditionality proved not always to be enforceable. The 1995 *Oxfam Poverty Report* recognizes that:

To its credit, the World Bank has attempted to establish agreements with governments, both to protect social expenditure, and to improve its distribution. In practice, these agreements have proved difficult to enforce, and non-compliance has been tolerated in a manner which would be inconceivable were it repeated in relation to, say, money supply or credit control. Yet removing barriers to primary education and health care is no less important to the long-term outcome of structural adjustment than restoring macro-economic imbalances (p. 82).

David Sahn, in his paper 'The Impact of Macroeconomic Adjustment on Incomes, Health and Nutrition: Sub-Saharan Africa in the 1980s' (Sahn, 1994), asks a similar question: 'Has adjustment changed the priorities of the state?'. His response is in accordance with Oxfam:

Reviewing the evaluation of budgetary priorities in the social sector in Africa provides little encouragement in response to this question. While there is some evidence that social sector adjustment programs, such as in Ghana, Niger, Malawi and Zimbabwe, have been successful in reorienting social services toward the poor as a component of their efforts at economic reform, their accomplishments stand in contrast to most of the experience which demonstrates that economic reform has failed to effectively tackle the technical inefficiencies in health and education spending (p. 280).

He differs from Oxfam regarding the ability of structural adjustment programs to properly address the need to improve health and education policy. Instead he states that when:

...considering how to revitalize the social sector, it is important not to lay blame on the process of adjustment for the dismal condition of the health and education systems extant in African countries. Rather it is better to recognize the scope for, and limitations of, the adjustment process in ameliorating the institutional deficiencies in the social welfare system. Realizing that the inadequacy of the social sector is the result of years of neglect and rent-seeking, and that years of restructuring will be required to rectify distortions...the biggest constraint to massive restructuring is political, since the gains in technical efficiency will come at the expense primarily of the elite who were responsible for, and have benefited from, existing distortions (p. 281).

The World Bank is aware of these problems. A recent report, *Social Dimensions of Adjustment:*

*World Bank Experience 1980-1993* (Jayarajah *et al.*, 1996), states:

...with few exceptions, most countries have made little effort to shift resources into primary education and basic health care services...[also] non-wage recurrent spending for supplies and maintenance has been severely underfunded...Political and technical difficulties notwithstanding, the structure of public expenditures also failed to improve in most adjustment programs...most programs focused on mitigating the transitional costs of adjustment, while neglecting the more fundamental issue of public expenditure restructuring and long-run growth and poverty reduction...a more balanced approach is needed in future operations to fuse the short-run objectives of poverty alleviation and long-run growth and social development. Determining the level and composition of expenditures should form an integral part of the policy package in adjustment and related development programs (p. 94).

There can be no doubt that when government spending is under severe constraints, there is a risk that the health care sector will suffer. Whether this happens more in countries that are in the process of adjusting their economies to the new international economic realities, or in countries that continue to pursue unsustainable policies that lead to massive debt accumulation, is an empirical issue, to be addressed in the next section.

Whether the adjustment process can be used to address existing structural problems in the health sector is a different question. Experience shows that excessive conditionality is unenforceable. Still, when the social dimensions of adjustment are adequately addressed, the adjustment process becomes more politically sustainable. However, policies that might mitigate the social costs of adjustment usually do little to reform the social sectors in a way that reduces inefficiencies and, sometimes gross, inequities. Structural changes within the social sectors are necessary to focus spending on cost-effective interventions that are most beneficial to the poor.

Such structural changes in social policy are best pursued not through general (macro-economic) adjustment, but through sector specific policies and projects, as well as through other means of raising international awareness. A good example of the latter, regarding the importance of social development, was present at the 1995 Social Summit in Copenhagen. In particular the so-called 20/20 initiative showed the remarkable consensus within the international development community on the vital importance of investing in people, as a *sine qua non* for overall development (UNDP *et al.*, 1994). It is likely that, in the long run, this type of international 'pressure', if accompanied with practical prescriptions for policy (see, for instance, the World Bank's, *World Development Report 1993: Investing in Health*, World Bank, 1993b), will do more to improve the status of the health care systems in the developing world than any micro-type of conditionality attached to macro-economic adjustment loans.

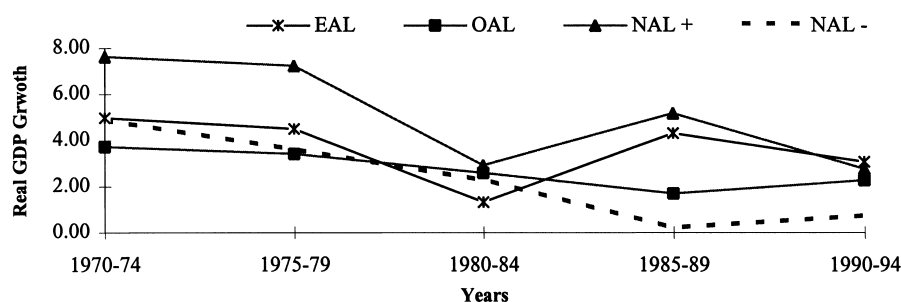


Fig. 1. Trends in real GDP annual growth, 1970–1994. Source: authors calculations; real GDP data from IMF, Government Finance Statistics.

In sum, the development community continues to debate the impact of adjustment lending on social development in general, and on the health care sector, in particular. In 1992 we joined this debate and concluded:

The review of trends in social indicators did not reveal a discernible difference between adjustment lending and non-adjustment lending. As [for] health indicators, although the within-group variation was large, the overall trends in health indicators improved in all country groups: there were continuing declines in the rates of infant and child mortality; immunization coverage was increasing; and by and large the nutrition indicators were positive with the notable exception of the Africa region (Van der Gaag and Maasland, 1992, p. 60).

We will now revisit this study, armed with data that covers a longer time-span.

#### PUBLIC HEALTH EXPENDITURES

As stated in the introduction, the concern that adjustment policies may cause problems for the health care system is understandable. The government is a major player in the health care system in most countries. Any reduction in the size of the government, relative to the size of the economy, may therefore have negative consequences for public health care expenditures. However, whether or not per capita public health care expenditures decline during adjustment is an empirical question. It depends on (i) whether or not the economy

returns to a sustainable growth path; (ii) whether or not government expenditures as a percentage of GDP decrease; (iii) whether or not the share of health expenditures as a percentage of total government expenditures decreases; and (iv) whether the resulting changes in resources available for health care (after correction for inflation) can keep up with population growth. We will look at these questions one by one.\*

#### Real GDP growth

During the seventies, the group of EAL countries registered, on average, almost 5% growth in the early years, and 4.5% in 1975–1979. This performance dropped to 1.3% in the early eighties. By then 13 out of the 37 countries had negative real growth (as compared to only one country during 1970–1974, Bangladesh). The average for the next five years (1985–1989) shows a remarkable turn around: only one country with negative growth (Cote d'Ivoire), and an average growth rate of 4.3%. This positive performance was maintained in most countries in this group during the last four years for which we have data, though some countries again saw their economies shrinking.† On average the group grew 3.1% annually in 1990–1994 (Fig. 1).

This performance is in stark contrast to the NAL– group. On average, this group of 16 countries saw a steady decline in growth performance, from 4.9 in 1970–1975, to 0.8 in 1990–1994. For each period after 1980, five or six countries registered negative growth.‡

The OAL countries showed mixed results. While average growth for this group of 27 countries was positive in every period, the number of countries with negative growth rates increased from four in the early eighties, to seven in the early nineties.§

A complete analysis of the determinants of growth in each of these groups of countries is beyond the scope of this paper. For our purposes, it is sufficient to look at the overall picture. EAL countries out-performed all other groups during the

\*One drawback of our current approach is that we have to rely on official government statistics in order to have a large enough sample for the comparative analysis. A word of caution regarding the quality of these data is therefore in order. We identify sources of all data and refer to these sources for further discussion of the reliability and scope of the information.

†Burundi, C.A.R., Cote d'Ivoire, Madagascar, Malawi, and Togo, all had negative growth during this period.

‡It should be noted that this group is very heterogeneous, including Oman, with +6.42% growth in 1991–1994, and Rwanda, with a –18.6 decline.

§Cameroon, Congo, Algeria, Gabon, Hungary, Niger, Zaire.

1990s. The next question then is: what have these countries done with their growing resources?

#### *The size of the central government budget*

During the seventies, governments in EAL countries spent an average of 21.8% of GDP (Table 1). This rose to 23.2% in 1981–1984, and subsequently declined to 22.3% in 1985–1988, and 21.8% in 1989–1993 (almost identical to the seventies). Thus, for EAL countries as a group, the fear that government expenditures as a share of the overall economy would drastically fall, appears to be unwarranted.

For some this may be read as a sign of failure. After all, a reduction in the size of the government was one of the means by which countries would 'adjust' their economies. On average, this adjustment did not take place. For others, these developments should take away some of the fear that adjustment policies, through cuts in government spending, would necessarily be detrimental to social development.

Of course, the average for EAL countries does not show the wide variety within this group. For instance, during the seventies Brazil's government spent 19.7% of GDP. By 1989–1993 it was 33.3%. For Chile the numbers are almost reversed: 32.8% vs 20.7%. Zambia decreased its share from 33.5% to 23.7%, but in Kenya the share increased from 23.9% to 29.8%. As we will see throughout this paper, the within-group differences are sometimes at least as large as between-group differences.

Table 1 also shows a clear picture for other adjusting countries and the good performers (NAL+): the percentage was highest in the early eighties, declined slightly during 1985–1988, but in 1989–1993 exceeds the share during the seventies. During the seventies, NAL– countries outspent all other groups. However, since then, the share has decreased steadily, from 33.7% to 26.1%. What is important here is the fact that only NAL– countries were forced to reduce their government expenditures to a level well below that reached in the seventies (but in line with that of other groups).

#### *Health expenditures as a percentage of total central government expenditures*

The next question is whether health expenditures were 'protected' during the various periods when overall public expenditures declined.

Table 2 shows country group averages of public health expenditures as a percentage of total central government expenditures.

EAL countries show a small decline during the late eighties, but a strong recovery in the 1989–1993 period. A similar pattern emerges for OAL countries. The NAL countries show opposite trends but of a surprising nature. The good economic performers (NAL+) show a slight reduction, but NAL– countries show a steady increase.

Overall, the data show a smaller share in the early eighties, but a larger share in the most recent period. One could speculate that the strong consensus among major development agencies—The United Nations Development Program (UNDP),

Table 1. Central government expenditures as a percentage of GDP

	1970–1980	1981–1984	1985–1988	1989–1993
EAL	21.8	23.2	22.3	21.8
OAL	25.9	31.5	31.0	29.1
NAL+	21.8	23.7	21.8	22.3
NAL–	33.7	30.8	28.5	26.1

Table 2. Central government health expenditures as a percentage of total central government expenditures

	1970–1980	1981–1984	1985–1988	1989–1993
EAL	5.7	5.7	5.5	6.5
OAL	7.0	6.1	6.8	8.4
NAL+	6.1	5.8	5.6	5.9
NAL–	4.6	5.0	5.5	6.3

Source: IMF, Government Finance Statistics.

Table 3. Ratio of debt to GNP

	1970–1980	1981–1984	1985–1988	1989–1993
EAL	33.3	66.5	98.4	99.4
OAL	34.9	70.6	104.4	137.4
NAL+	23.6	41.6	57.2	53.2
NAL–	26.1	52.7	86.0	138.1

Source: The World Bank, World Debt Tables.

Table 4. Central government health expenditures as a percentage of total central government spending net of interest payments

	1970–1980	1981–1984	1985–1988	1989–1993
EAL	6.2	6.7	6.7	8.2
OAL	7.6	6.8	7.4	9.7
NAL+	6.4	6.4	6.1	6.5
NAL–	6.1	7.0	7.4	7.7

Source: IMF, Government Finance Statistics.

Table 5. Real per capita public expenditures on health care, percentage change

	1970–1980 to 1981–1984	1981–1984 to 1985–1988	1985–1988 to 1989–1993
EAL	22	4	24
OAL	13	5	14
NAL+	27	–8	22
NAL–	17	–9 <sup>a</sup>	12

<sup>a</sup>Romania not included.

Source: IMF, Government Finance Statistics.

UNICEF, World Bank, NGOs, as well as bilateral aid agencies—on the importance of social development (including health) may have paid off and is reflected in these larger shares in the later years. Whether this is the case or not, the fear that the health sector would be squeezed out under adjustment policies appears to be ungrounded.

This point can be made even stronger when one looks not at the overall central government budget, but at the ‘discretionary’ budget, defined as overall spending minus interest payments on the debt. One of the reasons why it is so difficult to disentangle the impact of adjustment (at least that part that results from a reduction in the size of the government) from that of not adjusting is that the latter usually results in ever growing government deficits. Debt-servicing will subsequently have the same result as reducing overall government spending: the discretionary part of spending declines, and therefore resources for the health sector may be squeezed out.

As Table 3\* displays, all groups of countries show a growing debt burden, but especially those in the OAL and NAL– groups. Growing interest payments greatly reduce a government’s ability to spend adequately on social development.

In Table 4 we look at the share of health care spending as a percentage of total government spending, net of interest payments.

The picture shows cause for optimism: despite the pressure imposed by either growing debt-servicing or the adjustment process, the share of health care spending is highest in 1989–1993, for every group of countries. It is particularly worth noting that both the group of early intensively adjusting countries (EAL) and those that should have but have not adjusted (NAL–), show steady increases over the entire period. It appears that for all groups, greater recognition of the importance of investing in health has resulted in higher central government health spending (relative to all other sectors), despite tight overall budget constraints.

#### *Real per capita public expenditures on health*

Given the trends in GDP, central government spending, and the share of total spending that goes to the health sector, we are almost ready to look at what really counts: real per capita public spending on health. Before we can present these results, we have to decide on a suitable deflator to transform nominal expenditures into real terms. This is a very difficult and badly understood issue.

The vast majority of public health expenditures are for salaries for doctors, nurses, and bureaucrats who work at the ministry of health—a large group in many countries. It would be wrong to claim that if the salaries of all these workers were doubled (thereby almost doubling the budget for health care), the population would enjoy twice as much public health care. Similarly, we should be careful to claim that when inflation gradually erodes the real value of public sector salaries, access to public health care is reduced at the same rate. Still, there is a link between the remuneration of public health workers and the quantity and quality of health care provided. When public salaries fall, clinics will be

\*As stated in Appendix 1, our country groupings are the same as in Corbo *et al.* (1992) and World Bank (1992) to facilitate comparability. However, as one reviewer has pointed out, it may be preferable to change the cut-off dates in the definitions of the current groupings, from 1990 to 1992. We re-analyzed the data and found basically the same results, with one important exception. The debt/GDP ratio of EAL countries goes up significantly for 1989–1993, while the ratio for NAL– countries decreases. This is the result of the reclassification of a few highly indebted countries (such as Guyana, Nicaragua, Mauritania, Honduras).

Table 6. Private expenditures as a percentage of total spending on health care; by region

Region	Private expenditure
Established market economies	38.92
Middle Eastern Crescent	42.80
Formerly socialist economies of Europe	29.12
India	78.36
China	40.94
Other Asian countries	60.58
Sub Saharan Africa	46.63
Latin America and the Caribbean	49.97

Source: Murray *et al.* (1994, 1995).

open fewer hours, doctors will spend more time in the private sector, and the quality of care provided will deteriorate.

Another problem emerges if a large share of a country's pharmaceuticals are imported. When the country devalues its currency, as is the case during many adjustment programs, the price of imports, including drugs, rises proportionally. Inflation in drug prices can be countered in a number of ways, many of which are laid out in *Essential Drugs: Price List* (UNICEF, 1996). One way to compensate for the increase in price is to buy drugs in a more affordable generic form. To aid this process, The World Health Organization has compiled a model list of 250 essential drugs and vaccines specifying the generic name where possible. UNICEF also assists with the procurement of generic drugs, through consultations and its global tendering system.

The January 1994 devaluation of the African franc by 50% provides a good example. Since 90% of drugs in the Communauté Financière Africaine (CFA) franc zone countries were imported, the devaluation should have translated into a doubling of drug prices. There was no one common way of dealing with this problem. Some of the short term measures included freezing drug prices or setting them at a fixed level. The World Bank helped subsidize drugs to be bought through international competitive bidding procedures. A dialogue on policy reform was initiated and many of the constraints within the private sector to importing generic drugs were addressed. A year after the devaluation, the generic drug market had dramatically increased in most CFA countries, with private sector drug sales playing a greater role in many of the countries. To be sure, prices of pharmaceuticals in the private sector did go up, but they did not double (WHO, UNESCO, 1995, p. 17).

In sum, price fluctuation greatly complicates the task of interpreting health budgets. There is, as of yet, no credible deflator for public health expenditures. For want of a better alternative, we shall use the GDP deflator. Table 5 shows the percentage

change in the real per capita public expenditures on health care for each group of countries.

Real per capita spending during the early eighties was much higher, in all groups, than in the seventies. It continued to grow for adjusting countries, albeit slowly, during the 1985–1988 period, but declined in the NAL countries. This is an important result. As we stated in the introduction, there is good reason to fear that public health spending would be reduced during the adjustment process. Fortunately, when comparing the groups of adjusting and non-adjusting countries, this fear appears unwarranted. The favorable growth performance, a smaller reduction than expected in the overall government budget, and the relative protection of the health sector, especially during the late eighties and early nineties, all combined in adjusting countries to maintain and even increase real per capita public spending on health care.

As before, this 'average' result masks significant within-group differences. Indeed the very slow growth in per capita public spending on health care in the EAL countries during the second half of the eighties is the result of a reduction in the share of the central government budget allocated for health care in 12 out of the 25 countries in this group. For 1989–1993, however, only three countries (Kenya, Mexico, Zambia) show lower spending. This result is similar to that of Yazbeck *et al.* (1995).

Noteworthy is that whereas spending in the recipient [of adjustment lending] countries started by 1985 to rise again, exceeding the decade mean by US\$3 (in 1991 prices) in 1990, spending in the non-recipient countries remained flat around the decade mean between 1985 and 1990 (p. 8).

What is perhaps most remarkable, is the fact that all groups of countries show significant growth in real per capita health spending in the period 1989–1993. It appears that the greater awareness regarding the importance of social development, as emphasized by the international development community, is paying off.

#### PRIVATE HEALTH EXPENDITURES

We now turn to an often overlooked part of the health care system, the private sector or, more precisely, private financing. Given the large role that the government plays in the health sector in almost every country, the discussion of the impact of adjustment policies, or any other government policy, on health care is often restricted to publicly financed care. However, recent studies show that globally more than 40% of health care is financed privately, through voluntary private insurance, out-of-pocket payments, or charities and other NGOs (Murray *et al.*, 1994). Table 6 shows the percentage of private expenditures for different regions. Estimates on a country-by-country basis show that



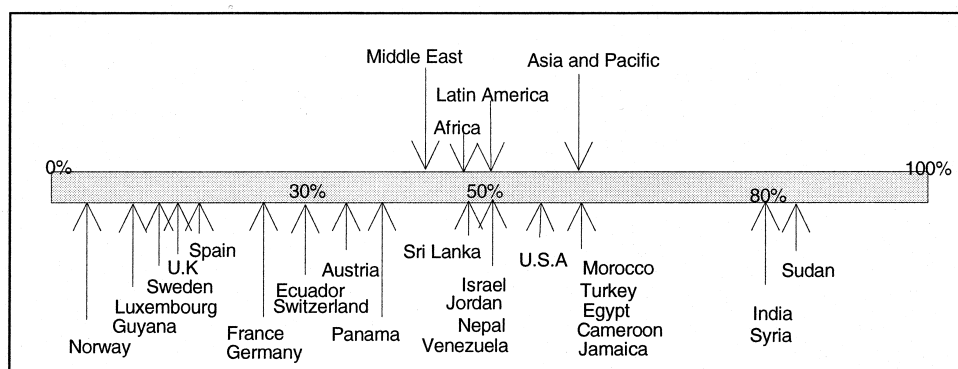


Fig. 2. Private spending as a share of total spending; selected countries. Source: Van der Gaag (1995).

Table 7. Real per capita private consumption; index 1980 = 100

	1970-80	1981-84	1985-88	1989-93
EAL	95	97	101	109
OAL	92	105	100	98
NAL+	91	99	100	105
NAL-	101	97	94	92

Source: The World Bank, National Accounts.

Table 8. Share of per capita health expenditure in total per capita household expenditure, by quintile, in selected countries

Country	Total	I (poorest)	II	III	IV	V (richest)
Cote d'Ivoire	10	10	13	10	10	9
Ecuador	6	8	7	5	6	5
Ghana	16	29	28	13	10	9
Guyana	8	9	8	11	9	5
Jamaica	11	12	13	14	10	6
Nicaragua	7	5	5	6	7	10
Pakistan	17	22	18	19	14	13
Peru	14	14	12	15	16	12
South Africa	13	15	10	8	11	22
Tanzania	5	6	4	4	5	6
Uganda	22	13	16	16	21	33
Vietnam	16	20	16	19	16	13

Source: authors' calculations.

for some countries, private expenditures cover as much as 80% of total health care costs.

Thus another way in which adjustment policies could influence access to health care is through a contraction of private income. Indeed, one would expect that at the early stage of adjustment\* tight monetary policies and a reduction in government spending may lead to a decline in income, in preparation of a return to a more sustainable growth path.

In Table 7 we show trends in private real per capita consumption for the four groups of countries.

\*Or before adjustment, i.e. during stabilization.

As was to be expected from the growth analysis, private consumption has gone up in EAL countries and down in NAL- countries. The results for OAL countries are surprising. They stem from the fact that some middle-income countries in this group (Algeria, Cameroon, Gabon) have done particularly poorly.

When private consumption declines, the consequences for health care for the poor could be severe, since it would be a mistake to assume that private expenditures for health care are concentrated among the higher income groups. As Musgrove has shown in a cross-country comparison, when countries grow richer, the share of private financing actually decreases (Musgrove, 1996). In other words, private spending for health care is

Table 9. Type of health facility consulted, by quintile, in selected countries (percentages)

Country	Type of facility	Total	I (poorest)	II	III	IV	V (richest)
Cote d'Ivoire	Public	91	96	91	96	91	84
	Private	9	4	9	4	9	16
Ecuador	Public	47	59	52	51	44	35
	Private	53	41	48	49	56	65
Ghana	Public	54	57	53	57	53	49
	Private	46	43	47	43	47	51
Guyana	Public	48	61	52	43	47	40
	Private	52	39	48	57	53	60
Jamaica	Public	42	69	45	34	45	25
	Private	58	31	55	66	55	75
Nicaragua	Public	72	88	88	79	72	57
	Private	28	12	12	21	28	43
Pakistan	Public	22	23	22	22	22	19
	Private	78	77	78	78	78	81
Peru	Public	57	63	69	62	56	44
	Private	43	37	31	38	44	56
South Africa	Public	46	28	37	45	53	72
	Private	54	72	63	55	47	28
Tanzania	Public	56	68	66	56	50	42
	Private	44	32	34	44	50	58

Source: authors' calculations.

more important in poor countries than in richer ones (See Fig. 2).

Within countries too, not all private spending comes from the higher income groups. Table 8 shows that the poorest quintile in this sample of countries spends from 5% (Nicaragua) of their total per capita household expenditure on health, to 29% (Ghana). In nine out of the 12 countries the poor spend a greater proportion of their per capita household expenditure than the rich. Obviously user fees do exist and the poor are paying them, even in countries that claim to provide 'free' medical care to the entire population.

Unfortunately, these private resources are not always used on the most effective interventions. Reform of the health sector that leads to a better use of both public and private resources is therefore a priority in many countries (see World Bank, 1993b). In addition, as Table 9 shows, though the poor mostly use public facilities, in many countries large proportions of the rich also rely on public facilities. As a result, they too benefit from public subsidies for hospital care, drugs, and out-patient care. Greater awareness of the skewed distribution in favor of the rich of these implicit benefits of public expenditure, should lead to reforms that redirect government resources towards expansion of access to health services for the poor (Van der Walle and Nead, 1995).

We have no data on how private health care expenditures actually responded to the trends in government spending and in private consumption. However, given the importance of private health care financing, especially in poor countries and in poor households, it is clear that when discussing the impact of adjustment, one should not overlook

what happens to private incomes. Income growth and subsequent poverty reduction is as least as important for access to health care as change in the level of public health care financing.

In the next section, we will turn to health outcomes and see whether trends in the child mortality indicators differ by adjustment status.

#### TRENDS IN CHILD MORTALITY

The benefits of productive investments in the health sector should be seen in the improvement of health outcomes. However, trying to interpret the cause of changes in health outcomes and relate these to structural adjustment can be difficult for a number of reasons:

- (i) Links between the level of expenditures on health care and health outcomes are often difficult to make due to inefficiencies within the health care system. Increasing the level of health care expenditures in a country that focuses its budget on curative urban hospitals, for example, may do little to improve life expectancy or infant mortality. Having good social policies is more important and will have greater impact on the health of the population than changing the level of government expenditure.
- (ii) Changes in the level of government expenditures on health may have a delayed effect on health outcomes. For example, an increase in health spending in the late 1970s may show up as improved health indicators in the early 1980s, when health spending was relatively low.

Table 10. Infant mortality rate and index

Country classification	Number of countries	Infant mortality rate (per thousand)					Performance index			
		1972	1977	1982	1987	1992	1972–1977	1977–1982	1982–1987	1987–1992
EAL	35	112	100	89	81	74	15	16	12.3	12.0
OAL	24	114	101	92	83	76	13	11	12.4	11.9
NAL+	15	90	80	69	56	48	15	20	24	17
NAL–	16	111	95	82	70	61	17	16	19	15

Source: The World Bank, Social Indicators.

(iii) Most indicators of health appear to be more associated with overall measures of well-being (such as income) than with particular health care activities.

Bearing this in mind, we will now examine the affect of structural adjustment on health outcomes by looking at data on child mortality over the time period 1970–1992.\*

#### *Infant mortality rate*

One often used indicator of social progress is the Infant Mortality Rate (IMR). Table 10 displays the IMR from 1972 to 1992 and its performance index (see Appendix B for explanation). In a technical sense it is easier to reduce the IMR from 110 to 80 than from 80 to 50. The right-hand side of Table 10 presents a performance index that accounts for this.

There are two noteworthy points that emerge from the data. First, if we add the performance indices for the 1972–1977 and 1977–1982 periods together, we get the value of the performance index for the 1970s. The same can be done for the 1980s. Doing this we find that the performance index for the groups are, respectively, 31, 24, 35 and 33 for the 1970s, and 24.3, 24.3, 41 and 34 during the 1980s. Thus the rate of decline in IMR was *faster* for all groups in the 1980s than in the 1970s, with the exception of the EAL countries, which showed a slight decline in the pace of progress.

Second, the rate of improvement in the 1980s is greater for the non-adjusting lending countries than for the adjusting countries. However, unlike the adjusting countries, the NAL countries did experience a decline in the performance index during the last period, 1987–1992, while the EAL and the OAL countries' indexes were steady.

Finally, it is worth mentioning that four countries experienced an *increase* in the IMR during one or more time periods. Three of the countries, Uganda, Mozambique and Zambia are EAL countries and

the fourth, Ethiopia, is an NAL+ country. The IMR in Uganda increased from 114 in 1977 to 120 in 1987 and declined again to 114 by 1993. Mozambique and Zambia both experienced an increase in IMR from 155 and 88 in 1982, to 156 and 109 in 1987, respectively. In both cases the IMR regained its downward trend after 1987. The IMR increased in Ethiopia from 149 in 1977 to 161 in 1982.

The rise in IMR in Uganda, Mozambique and Ethiopia is explained by periods of unrest; Uganda faced civil strife from 1971 to 1985 and Mozambique was engaged in civil war which started in the early 1980s. Ethiopia experienced political instability in the late 1970s/early 1980s. The country also suffered from a period of severe drought, which peaked in 1984. Zambia, on the other hand, faced economic decline due to deteriorating terms of trade, unproductive and unsustainable public sector spending of which an increasing amount was going to wages and price controls. As a result, health budgets and incomes declined. By early 1993 health care reforms were well under way in Zambia, in an effort to address the declining health status of the population.

Thus, with the notable exception of these four countries, the overall picture is one of steady and mostly accelerating decline in the IMR. The apparent slow down in the rate of improvement in EAL countries seems to contradict the more favorable results of per capita health spending and growth in private consumption. One possible explanation may be that the response of the IMR to unfavorable economic developments is delayed by five or more years. That would explain the relatively poor performance of the EAL countries during the early eighties, about five years after the decline in economic performance during the late seventies. If true, it should also be cause for worry for those countries that have not yet seen any economic recovery. Despite these worries, we should not forget that the data show a monotonic decline in IMRs, for all country groupings, over the 20-year period.

#### *Under 5 mortality rate*

UNICEF considers the Under 5 Mortality Rate (U5MR) to be the best indicator of social develop-

\*The authors also examined the affects on immunization of infants under 12 months old against measles and DPT, as well as nutrition. As with IMR and U5MR, no direct association with adjustment could be found. The analysis was not included, however, as the data was incomplete and questionable.

Table 11. Under 5 mortality rate and index

Country classification	Number of countries	Under 5 mortality rate						Performance index			
		1960	1970	1980	1985	1990	1992	1960–1970	1970–1980	1980–1985	1985–1990
EAL	31	199	172	131	116	105	101	17	37	18	16
OAL	20	219	181	136	122	110	103	23	40	19	20
NAL+	11	160	134	105	87	64	59	22	31	24	26
NAL–	9	223	189	148	126	113	109	18	28	18	15

Source: Hill and Yazbeck (1994); Ghana Demographic and Health Survey 1993.

ment because ‘it reflects the nutritional, health and health knowledge of mothers, the level of immunization and of oral rehydration therapy use, the availability of maternal and child health services, income and food availability in the family, the availability of clean water and safe sanitation and the overall safety of the child’s environment’ (UNICEF, 1989, p. 82). It is also felt to be more robust than the IMR by some demographers, because the IMR reflects the differences in weaning practices across countries.

Data for U5MR were compiled by Hill and Yazbeck (1994) in a background paper for both the *World Development Report 1993: Investing in Health* and UNICEF report *The Progress of Nations 1993*. That background paper is an extension of earlier work by Hill and Pebley (1989). In Table 11 we use these data to present both the level of the U5MR and the performance index, for our four groups of countries.\*

When examining the performance index, it is important to note the difference in time span of the periods for which we have data. If the indices for the periods 1980–1985 and 1985–1990 are added, this gives the figures for the 1980s. These results reveal a significant acceleration of progress during the 1980s, relative to the 1960s and 1970s, in the NAL+ and NAL– countries. There was a small decline in the pace of progress for the OAL and EAL countries but the differences between the pace of progress in the seventies and eighties are very small (40 vs 39 for OAL countries, and 37 vs 34 for EAL countries). Comparing the pace of change during the early and late eighties shows steady progress during the entire period.

There are two countries that experienced an increase in the levels of U5MR. U5MR in Uganda rose from 177 to 185 between 1980 and 1985 and has remained at that level since. In Zambia it rose from 144 in 1980, to 202 in 1992, for reasons already mentioned above.

\*Due to lack of data not all countries are included in the group averages. This data is not based on UN projections, but comes from a current World Bank study in which the most recent country surveys were employed in the analysis.

Thus the results are inconclusive, similar to those from the IMR: broad progress in each group of countries in each time period, but no clear relationship with adjustment lending.

Part of the explanation for the overall progress is the steady increase in immunization coverage in virtually all countries, which is the result of the Expanded Program of Immunization. By 1990, an estimated 80% of children worldwide received their scheduled vaccination in their first 12 months of life (WHO, 1993). This is a major accomplishment, especially in light of the economic conditions during this period (Henderson, 1994).

#### CONCLUSION

In this study we first looked at trends in real per capita central government expenditures on health care in four groups of countries, sorted by their adjustment status. Before summarizing the result, we restate the caveats: (1) the grouping of countries contains a measure of arbitrariness, and (2) within-group variation is large. Furthermore, (3) central government expenditures provide only part of the picture. Private expenditures and regional or local government expenditures on health care could not be observed directly.

With these caveats in mind, the result can be summarized as follows: real per capita central government expenditures on health care were higher in the early eighties than in the seventies. They continued to grow for adjusting countries during the period 1985–1988, but declined for non-adjusting countries. All groups of countries significantly increased government spending on health care during the period 1989–1993.

As for private expenditures, we have only indirect results, based on trends in overall private consumption data. Real per capita private consumption increased in all periods for EAL and NAL+ countries. It decreased in all periods for NAL– countries. The results are mixed for OAL countries.

Thus in sum, being ignorant on regional and local government spending, the results show that the fear about possible declines in health care spending in adjusting countries is unwarranted for EAL countries—those that started the adjustment

process early and took it seriously. Government spending on health care increased, and increasing private consumption levels have made increased private spending possible.

Government health care expenditures also continued to increase in OAL countries, but mixed GDP growth performance has left little room for increased private spending.

Countries that showed negative growth in the late eighties and did not start an adjustment process, fared worse throughout: real per capita public health care spending declined during the late eighties (and increased less than in the other countries during 1989–1993), while private consumption has declined steadily.

The trends in health indicators show tremendous and continuing progress during the past two or three decades. With few exceptions, there were no discernible differences among the four country groupings. One notable exception is the apparent slow down in the pace of progress for EAL countries during the eighties, though the differences between the seventies and eighties are small. Lagged responses to the economic crises during the seventies may be behind this observation.

Overall, the study confirms earlier findings: group averages for adjusting and non-adjusting countries tend to show both a more favorable economic environment and a better social performance for the adjusting countries. In the early eighties, adjustment policies failed to give adequate attention to the social implications. Subsequently, 'protection measures' were included in virtually all adjustment projects, to mitigate the direct impact of specific adjustment measures. Such social components, however, failed to address the systemic inefficiencies and inequities in the health sector in many developing countries. Such systemic problems are still pervasive. On the basis of this study, it appears that the adjustment process can produce the favorable economic environment in which the system-wide health care problems can be addressed adequately.

#### REFERENCES

- Berg, E. and Hunter, G. (1992) *Social Costs of Adjustment: The Case of Latin American and the Caribbean*. DAI, Bethesda, M.A.
- Bourguignon, F., de Melo, J. and Morrison, C. (1991) *Poverty and Income Distribution During Adjustment*. Policy Research Working Papers WPS 810. World Bank, Washington D.C.
- Corbo, V., Fischer, S. and Webb, S. B. (1992) *Adjustment Lending Revisited: Policies to Restore Growth*. World Bank, Washington, D.C.
- Cornia, G. A., Jolly, R. and Stewart, F. (eds) (1987) *Adjustment with a Human Face*. 2 volumes. Clarendon Press, Oxford.
- Cornia, G. A. and Helleiner, G. K. (eds) (1994) *From Adjustment to Development in Africa*. St Martin's Press, New York.
- Demery, L. and Squire, L. (1995) *Macroeconomic Adjustment and Poverty in Africa: An Emerging Picture*. World Bank, Washington, D.C.
- Diop, F., Hill, K. and Sirageldin, I. (1991) *Economic Crisis, Structural Adjustment, and Health in Africa*. Policy, Research, and External Affairs Working Paper, 766. World Bank, Washington D.C.
- Henderson, R. (1994) Global Perspective on Immunization. In *Achieving Health: New Perspectives on Integrated Services and Their Contributions to Mid-Decade Goals*. The Task Force for Child Survival and Development, Feb. 2–4, 1994, New Delhi: Proceedings, pp. 105–106.
- Hill, K. and Pebley, A. R. (1989) Child mortality in the developing world. *Population and Development Review* 15(4), 657–688.
- Hill, K. and Yazbeck, A. (1994) *Trends in Child Mortality, 1960–90: Estimates for 84 Developing Countries*. Background Paper No. 6 for World Development Report 1993: Investing in Health. World Bank, Washington D.C.
- Jayarajah, C., Branson, W. and Sen, B. (1996) *Social Dimensions of Adjustment: World Bank Experience, 1980–93*. World Bank, Washington D.C.
- Kakwani, N. (1993) Performance in living standards. *Journal of Development Economics* 41(2), 307–336.
- Larsson, K.-A. (1994) *Structural Adjustment Aid and Development*. SIDA, Stockholm.
- Lipton, M. and van der Gaag, J. (eds) (1993) *Including The Poor*. World Bank, Washington, D.C.
- Mosley, P. and Weeks, J. (1993) Has recovery begun? 'Africa's adjustment in the 1980s' revisited *World Development* 21(10), 1583–1606.
- Murray, C., Govindaraj, R. and Chellaraj, G. (1994) *Global Domestic Expenditures in Health*. Background paper No. 13 for World Development Report 1993: Investing in Health. World Bank, Washington D.C.
- Murray, C., Govindaraj, R. and Chellaraj, G. (1995) *Health Expenditures in Latin America*. World Bank Technical Paper No. 274. World Bank, Washington D.C.
- Musgrove, P. (1996) *Public and Private Roles in Health: Theory and Financing Patterns*. Mimeo, Human Development Department, World Bank, Washington, D.C.
- Oxfam (1995) *The Oxfam Poverty Report*. Oxfam, U.K.
- Reimers, F. and Tiburcio, L. (1993) *Education, Adjustment and Reconstruction: Options For Change*. UNESCO, Paris.
- Sahn, D. (1994) The Impact of Macroeconomic Adjustment on Incomes, Health and Nutrition: Sub-Saharan Africa in the 1980s. In *From Adjustment to Development in Africa: Conflict, Controversy, Convergence, Consensus*, eds G. A. Cornia and G. K. Helleiner, pp. 273–297. St Martin's Press, New York.
- Summers, L. H. and Pritchett, L. H. (1993) The structural adjustment debate. *American Economic Review* 83(2), 383–389.
- UNICEF (1996) *Essential Drugs: Price List*. UNICEF, Copenhagen.
- UNICEF (1989) *The State of The World's Children 1989*. Oxford University Press, Oxford.
- UNDP, UNESCO, UNFPA, UNICEF, WHO (1994) *The 20/20 Initiative: Achieving Universal Access To Basic Social Services For Sustainable Human Development*, UNICEF, New York.
- Van der Gaag, J. (1995) *Private and Public Initiatives: Working Together for Health and Education*. World Bank, Washington D.C.
- Van der Gaag, J. and Maasland, A. (1992) World Bank-Supported Adjustment Programs and Living Conditions. In *Adjustment Lending Revisited: Policies to*

- Restore Growth*, eds V. Corbo, S. Fischer and S. Webb. World Bank, Washington, D.C.
- Van der Walle, D. and Nead, K. (eds) (1995) *Public Spending and the Poor: Theory and Evidence*. World Bank, Washington D.C.
- Vivian, J. (ed.) (1995) *The European Journal of Development Research: Adjustment and Social Restructuring* 7 (1).
- WHO (1993) *Protocol for Assessment of Quality of Surveillance and Control of EPI Diseases*. WHO, Geneva.
- WHO, UNESCO (1995) *Réunion Technique de Synthèse: L'Impact de la Dévaluation du Franc CFA sur la Santé et L'Éducation un An après Bilan Pour L'Action*, 21–24 Février 1995, Genève, Rapport de Synthèse, WHO, Geneva.
- World Bank (1994a). *Adjustment in Africa: Reforms, Results, and the Road Ahead*. Oxford University Press, New York.
- World Bank (1993b) *World Development Report 1993: Investing in Health*. World Bank, Washington D.C.
- World Bank (1992) *Adjustment Lending and Mobilization of Private and Public Resources For Growth*. Policy and Research Series 22. World Bank, Washington D.C.
- World Bank (1987) *Operational Manual Statement 2.01 Circular No. OP 87/06*. World Bank, Washington D.C.
- Yazbeck, A. S., Tan, J. P. and Tanzi, V. L. (1995) *Public Spending on Health in the 1980s: The Impact of Adjustment Lending Programs*. Background paper No. 16 for the World Development Report 1993: Investing in Health. World Bank, Washington D.C.

## APPENDIX A

### Country Classification

Since the objective of this report is to assess the impact of World Bank adjustment loans, the categories used in the analysis to classify countries are based on how intensively a country used World Bank adjustment operations. For comparability, the definitions given below are similar to those in Corbo *et al.*, 1992 and The World Bank, 1992.\*

The World Bank adjustment operations consist of two types of loans: Structural Adjustment Loans (SALS) and Sector Adjustment Loans (SECALS). Four groupings of countries are identified for the purpose of comparison.

1. Early Adjustment Lending Countries (EAL): countries that received at least two SALS or three or more adjustment operations (SALS and/or SECALS) effective by June 1990.†

EAL Countries  
( $n = 37$ )

Argentina	Gambia, The	Malawi	Senegal
Bangladesh	Ghana	Mauritius	Tanzania
Bolivia	Guinea	Mexico	Thailand
Brazil	Guinea-Bissau	Morocco	Togo
Burundi	Indonesia	Mozambique	Tunisia
C.A.R.	Jamaica	Nepal	Turkey
Chile	Kenya	Nigeria	Uganda
Colombia	Korea, Republic of	Pakistan	Uruguay
Costa Rica	Madagascar	Philippines	Zambia
Cote d'Ivoire			

\*For lack of data, we do not consider to what extent EAL and OAL countries have actually implemented adjustment policies and complied with Bank conditionalities. See World Bank (1994a) for further discussion of this issue.

†Only countries with several loans are included because one loan type is typically not enough to support continuous policy reform.

2. Other Adjustment Lending Countries (OAL): countries that had at least one adjustment operation effective by June 1990.

OAL Countries

( $n = 27$ )

Algeria	Dominica	Lao, P.D.R.	Sri Lanka
Benin	Ecuador	Mali	Sudan
Burkina Faso	Gabon	Mauritania	Trinidad and Tobago
Cameroon	Guyana	Niger	Venezuela
Chad	Honduras	Panama	Zaire
China	Hungary	Sierra Leone	Zimbabwe
Congo, People's Rep.	Jordan	Somalia	

3. Non-Adjustment Lending Countries, Positive Growth (NAL+): countries that had received no adjustment operations as of June of 1990 and that had positive real per capita growth during the 1985–90 period.

NAL+ Countries

( $n = 15$ )

Botswana	Ethiopia	Malaysia
Bulgaria	Guatemala	Mongolia
Dominican Republic	Greece	Paraguay
Egypt	India	Portugal
El Salvador	Lesotho	Vietnam

4. Non-Adjustment Lending Countries, Negative Growth (NAL–): countries that had received no adjustment operations as of June of 1990 and that had negative real per capita growth during the 1985–1990 period.

NAL– Countries

( $n = 16$ )

Albania	Namibia	Rwanda
Comoros	Nicaragua	Romania
Haiti	Oman	Saudi Arabia
Iran	Papua New Guinea	South Africa
Liberia	Peru	Syria
Myanmar		

## APPENDIX B

### The Performance Index

The performance index used in Section 3 looks as follows:

$$P_{t,0} = \ln(S_{op} - S_0) - \ln(S_{op} - S_t)$$

where

$P_{t,0}$  = performance from period 0, to period  $t$

$S_0$  = social indicator value at period 0

$S_t$  = social indicator value at period  $t$

$S_{op}$  = optimal value of indicator

and  $\ln$  denotes the natural logarithm

For the Infant Mortality Rate  $S_{op} = 0$ , thus

$$P_{t,0} = \ln(S_t/S_0)$$

This means that the performance index is approximately equal to the percentage improvement in  $S$ , for a small change in  $S$ . For the derivation of the performance index and its properties see Kakwani, 1993.