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COUNTRY AND INTERNATIONAL DONOR
FINANCING STRATEGIES FOR
SUSTAINABILITY OF THE EPI IN AFRICA:

EXPERIENCE FROM THE USAID
HEALTH FINANCING
AND
SUSTAINABILITY (HFS) PROJECT

Background Paper for presentation at a conference to address
"Consequences for EPI Sustainability in Africa of New Immunization
Strategies and of the Evolution of the World Vaccine Market"

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1.0 INTRODUCTION

Confronted by severe resource constraints over the last decade, many African governments have been debating significant economic changes that raise fundamental issues about financing and providing health services in their countries. These constraints and controversies have heightened the need for information that helps make difficult choices in allocating scarce resources. They have also increased the importance of identifying more precisely the contribution that investment in improving these services is likely to make to longer term increases in economic productivity and development.

Although most African governments have now adopted or publicly announced policy changes in these areas, many issues remain on which they seek information and assistance related to implementing those policies. Conflicts also often exist between policies recommended by outside experts and donors and the governments' own long-standing policies — such as cost recovery policies to address resource constraints vs. traditional government policies of free care in health and education.

Both African and international donor policy makers and program managers are seeking practical, politically feasible, and financially sustainable solutions to these issues. They are looking for specific means to improve the efficiency, effectiveness, equity, and quality of health services. They also recognize that "solutions" in any one of these aspects of the health system almost always have implications for other aspects of the health system, for development more generally, for the economy, and for households.

As true for health services in general, these economic and budgetary constraints have forced consideration of the sustainability of the EPI in Africa. Sustainability issues are heightened by recent recommendations of the EPI Global Advisory Group of the World Health Organization for the addition of new and improved vaccines and specific targets for the eradication of polio, elimination of neonatal tetanus, and control of measles. There is concern about the economic burden that these additional initiatives would place on the already strained health resources of African countries. Many countries still need to make substantial progress on reaching the basic immunization coverage and disease control goals.

2.0 PURPOSE OF THIS PAPER

The purpose of this paper is to identify key problems related to the financial sustainability of EPI, suggest feasible strategies and options countries can consider to promote sustainability, and identify possible donor roles. Given the focus of the CIE conference, this paper considers sustainability of the EPI in the context of new immunization strategies and the changing supply and price factors of the vaccine market. It also addresses these issues in the context of broader African economic conditions and efforts to reform financing of the health sector as a whole.

Ideas presented here draw on the experience of the USAID-supported Health Financing and Sustainability (HFS) project. HFS is a five-year project, begun in 1989. It provides technical assistance, conducts applied research, and

disseminates information about health financing and organization in developing countries. The project's purpose is to promote policy improvements, assist in policy implementation, and demonstrate and evaluate the effects of alternative policies and mechanisms for financing health services. HFS activities focus on cost recovery; cost-estimating for health services; public-private collaboration; resource allocation, use, and management; and health insurance.

3.0 FINANCING AND SUSTAINABILITY ISSUES

Under many people's definition of sustainability, one of the key issues for sustainability of immunizations programs in Africa is the affordability of the programs, that is: how much can each country afford to spend on the EPI using its own resources. For many African countries, whose EPI programs receive 40 percent or more of their funding from international donors, the practical issue is whether the country can pay more, or all, of the costs that donors are now paying in their contribution to the EPI effort. The issue of affordability applies, as well, within the country. That is, what is an equitable and feasible share that each of the various possible sources of funds — government, consumers, communities and other private groups — might contribute.

In this context, evaluating whether a country can afford the full costs of an immunization program involves estimating the cost of the resources needed and the strategies available to the country to finance these costs.

4.0 RESOURCES NEEDED AND AFFORDABILITY

When assessing the financial sustainability of a health service program such as immunization, the HFS project often asks several standard questions about the resources needed, such as:

- How much does the program cost (how much is now spent) for the current coverage level and what is the amount that each of the sources of funding is paying?
- How much more would it cost to expand the program for greater coverage?
- Could available resources be used more effectively to achieve the same coverage at lower cost? for example,
- Could transport for supervision, outreach, vaccine and medicine distribution be more efficient?
- Is local production of vaccines cost-effective?
- What is the most cost-effective combination of service delivery strategies (mobile, fixed facility, campaign) for urban, rural, and isolated populations?

4.1 Affordability in General

To assess whether countries can afford to pay for the costs of EPI with its own resources, estimates of the amount required also need to be placed in a broader context. Estimated costs need to be compared with the total funds available to help policy makers reach decisions about allocating resources to immunization compared with other health services. Some measures for this purpose include analyses of

- how EPI costs compare with the country's overall economic resources and with total government spending;
- how EPI costs compare with the cost of other health services and with the total Ministry of Health (MOH) budget;
- how costs per fully immunized child compare with per capita government health spending and with per capita GNP;
- the costs of vaccines, supplies, fuel and other goods that must be imported in relation to the country's foreign exchange earnings and spending;
- the costs of vaccines compared with the MOH total budget for medicines and pharmaceuticals.

Table 1 shows the GNP and government spending on health for francophone African countries in 1990. Most estimates of these countries' total spending for the costs of EPI in 1990 range from \$1-2 million (check). These costs include the costs of vaccines, supplies, fuel for refrigerators and transportation, salaries for health workers attributable to EPI, and related operating costs. As Figure 2 shows, an EPI that cost \$1-2 million represents a very small portion of GNP (less than .1 - .2 percent in all cases), about 7 - 14 percent of government spending on health for those countries at the lowest health spending levels, and less than 1 percent for those at the highest end of the scale of government health spending.

On average, African countries achieved about 40 immunization coverage (as measured by the number of fully immunized children) in 1990, the target year for Universal Childhood Immunization. If it cost twice the 1990 spending to achieve 80 percent or higher coverage, that amount would still represent a very small portion of GNP. The increased amount would, however, represent a more substantial portion of government health spending. To achieve these higher immunization targets, francophone African countries with the lowest levels of government health spending might have to increase their total health spending by more than 20 percent, if all EPI costs at the higher coverage levels were covered by government.

With respect to per capita costs, Figures 3 and 4 show the per capita GNP and estimates of per capita government health spending for francophone African countries. Typical average costs for a fully immunized child range from \$10 to \$15. In many African countries, costs per fully immunized child are ranging from

\$20-\$45. These average costs would probably decline with higher numbers of children vaccinated — e.g., with 60 - 80 percent coverage. Even at \$10 for a fully immunized child, EPI unit costs would exceed what most of the francophone African governments are now spending, with their own resources, for all the health services they provide. An amount of \$10 or \$20 would represent more than 10 percent of per capita GNP for all but two of these countries.

4.2 Affordability of Vaccine Costs

This conference is especially intended to address resource issues related to the cost and quantity of vaccines needed to maintain and to expand current coverage levels. With regard to this specific resource, one of the main obstacles that many African governments face is that vaccine purchase requires foreign exchange. Most of the donor contributions to the EPI budgets of francophone African countries has been devoted to paying these foreign exchange costs. And donors have been funding 40 -100 percent of the foreign exchange costs of EPI in these countries.

For example, in assessing the resource needs of the EPI in the Central African Republic (C.A.R.), the HFS project separated the total expenditures into foreign exchange and local currency. This analysis showed that about 90 percent of the total investment and 45 percent of the annual recurrent (operating) costs in 1990 required foreign exchange. Other cost analyses of EPI programs in Africa reveal similar, or slightly smaller percentages.

One approach to evaluating whether the foreign exchange costs for vaccines are affordable for francophone African countries is to compare them with the foreign exchange earned from exports and the foreign exchange spent for imports. Figures 5 and 6 show these amounts for francophone countries in 1990.

As Figure 5 shows, total export earnings for these countries ranged from \$75 million to \$4.2 billion in 1990. Most estimates of amounts spent for vaccines in 1990 for EPI in francophone African countries are less than \$1 million. This amount is one percent or less of export earnings in all cases. Similarly, Figure 6 shows that the foreign exchange needed to purchase vaccines represents .5 percent or less than foreign exchange these countries spent for imports in 1990. It would be up to 4 percent compared with food imports for a few countries; but in general is also less than 1 percent of food imports for the majority of countries.

The following section outlines financing strategies that might be examined in the context of these resource analyses.

5.0 FINANCING STRATEGIES

5.1 General Options

In addition to evaluating whether in general a country can afford the costs of EPI, it is important for sustainability that appropriate financing options be used to pay these costs. The HFS project typically conducts analyses to answer the following kinds of questions in this regard:

- Can the Ministry of Health budget pay all the costs of EPI without jeopardizing other priority health services that it provides?
- What proportion of immunizations could the private sector (e.g., church health facilities, private clinics) provide?
- What is the capacity and feasibility of communities to mobilize resources to cover some of the costs of EPI ?
- Does the country have a policy for charging people for any services that the Ministry of health provides?
- Are people willing and able to pay a fee for immunizations?

Most African countries have come to realize that the government cannot afford to cover the full costs of all the health services the population needs. Many different experiments and pilot studies have been undertaken to explore possibilities for greater involvement of the private sector in providing services, for charging fees for services and for medicines in the public sector, and for mobilizing communities to finance and manage portions of local health services. Most of these experiments and the main strategies are by now quite familiar to policy makers and program managers in African Ministries of Health.

For example, the Bamako Initiative represents one of the major initiatives in this regard. Although each country has made specific adaptations to its own situation, in general, this Initiative provides the opportunity to raise local revenues that can be used to support either costs of specific services or medicines and/or to support the general costs common to a range of primary care and preventive services. With respect to immunization specifically, the most common strategy that African countries have adopted for raising revenues has been to charge a small fee for an immunization card.

In the HFS project's experience in developing countries,

- sustainability of financing strategies is improved if the strategy is developed for a range of health services, such as primary health care or hospital services, rather than a single service, such as immunization.

For example, a strategy to introduce fees for immunizations where no other primary health care or preventive service fees exist would likely be less sustainable than charging fees for immunization along with fees for other health services.

Similarly,

- the financial sustainability of immunization is likely to be better assured if financing for the other health services is also relatively secure.

This principle applies especially to all the aspects of providing immunizations that rely on common Ministry of Health resources and that are integrated with other health services. Funding for salaries of health workers, health facility maintenance costs, vehicles and fuel to transport medicines and vaccines are clear examples of these kinds of common resources that all health services rely on at the primary care level.

Because of these linkages,

- integrated services usually need an integrated financing strategy.

In many African situations, this often means relying on a combination of government funding and fees charged to users of the services. And it often means developing a system that involves consideration of the resource needs of a "package of services" in combination with using the fees that might be charged for some of these services, or for some population groups, to "cross-subsidize" the cost of other services.

For example, an option that HFS considered for recommendation in the C.A.R. proposed that fees for immunization might be charged to cover the local currency costs of EPI, in the context of other financing reforms concerning fees for health services. The proposal suggested that immunization fees might be higher in urban areas than in rural areas to accommodate the different ability to pay of those populations. The higher fees in the urban areas would thus cover more of the cost than necessary and could be used to help cover costs in rural areas that would not be covered by the lower fees there. Alternatively, efforts to improve efficiency and reduce costs might offset the need for fees in the rural areas by generating savings equal to the amount that lower fees in rural areas would produce.

HFS is also working with Pakistan to help develop an innovative financing strategy for rural health services. Under this proposal, the Pakistan Ministry of Health is considering an experiment under which they would contract with private providers for rural health services. The private providers could supplement the funds received under the government contract with revenues from fees. They would negotiate with the local health officials and communities to decide what fees to charge for what services.

5.2 Options for Financing Vaccines

This conference is particularly concerned with identifying financing strategies to assure an adequate supply of vaccines and related supplies. Because of the foreign exchange requirements for vaccines, they require some additional, specialized financing approaches.

This conference will be considering various options for alternative ways to assure vaccine supply. Local production, choosing lowest cost brands, and joining together on a regional level to buy in bulk, at a discount, are three options often reviewed. In addition, data presented above with respect to Francophone African countries' export earnings indicate that greater flexibility may exist for some countries to purchase more vaccines than at present with their own foreign exchange resources.

The latter option, use of a country's own foreign exchange for vaccines, would in many cases require a specific policy decision about priorities. For example, Figure 7 shows an estimated cost of vaccines compared to the overall balance of payments situation for francophone African countries. Although all countries have export earnings which in theory could finance the purchase of vaccines, most countries have a balance of payment deficit. The deficit would only be increased by additional spending for vaccines and in some cases would prevent the country from obtaining additional credit.

On the other hand, substituting vaccines for some other items currently imported (e.g., luxury goods) would leave the situation neutral. Alternatively, depending on the longer range economic prospects and the credit condition of the country, a small additional amount for vaccines may not be too large a debt burden in the short run for countries with smaller balance of payments deficits. In contrast, one criteria for continued donor funding for immunization might be to target assistance for vaccine supply on countries where balance of payments deficits are the highest.

Any of the possible approaches to financing and assuring vaccine supply need to be analyzed, alone or in combination, in each country's situation to determine which may be most cost-effective and reliable. Choosing among these alternatives also requires policy decisions about priority uses for scarce foreign exchange. Ministries of Health could promote such decisions in negotiations with Finance in favor of immunization by assembling country-specific data to demonstrate the cost-effectiveness of immunization and the population's demand for immunizations.

6.0 SUMMARY

Experience has taught us something about the general questions we need to ask when assessing the sustainability of health services, and about the measures to use in assessing appropriateness of financing strategies. The exact criteria, however, are less clear and are usually a matter of policy perspective in each country.

For example, technicians can calculate that it would only cost one percent of the foreign exchange earnings to purchase all the vaccines needed each year to fully immunize 80 percent of the eligible children. But policy makers must decide whether or not one percent is "too much" of the scarce foreign exchange, or whether a 5 percent increase in the Ministry of Health Budget is "too much" for purposes of maintaining or improving immunization coverage. Advocates of various priority efforts may promote their cause by citing costs at an amount

that could be considered relatively small when considered by itself, such as \$10 per fully immunized child or \$3 per child for ARI treatment and control. But at some

point, policy makers must decide when the total of all of these desired health services is more than Ministries of Health or families can pay.

In making these policy decisions countries will need to

- establish priorities among their health services;
- identify the levels of immunization coverage and other services that they can afford to maintain;
- consider which services, and what role is most appropriate for the Ministry of Health and the public sector, vis-a-vis consumers, private sector and communities;
- make the most effective use of available resources through management improvements; and
- monitor and evaluate the impact of priority health services and present the findings in official and public settings to maintain support and assure continued financing.

Donors can help in this process by

- reducing the international pressures to give priority simultaneously to many individual diseases;
- focus technical assistance on strengthening practical planning, budgeting, and management skills and processes;
- planning phased, rather than sudden, withdrawals of funding support to allow sufficient time for countries to develop appropriate responses and mechanisms to address financing and sustainability issues; and
- establishing priorities for scarce donor funds to permit clear commitments and criteria for assistance (e.g., work with countries to identify those for whom foreign exchange may be most necessary for the survival of an EPI).

APPENDIX

TABLE 1: Basic Economic Indicators and Government Finance of Health Care
in Francophone African Countries (1990)

	GNP*	GNP per Capita**	Gov't Expend.*	Total Gov't Expenditure as Percent of GNP	Total Gov't Expenditure on Health*	Gov't per capita Expenditure on Health**	Populat.***
Benin	1,662	362	332	20	16.62	3.62	4.59
Burkina Faso	2,877	328	575	20	28.77	3.28	8.77
Burundi	1,120	211	224	20	11.20	2.11	5.31
Cameroon	10,878	941	2,263	20.8	113.13	9.79	11.56
Central African Republic	1,159	393	303	26.1	15.13	5.13	2.95
Chad	1,047	189	209	20	10.47	1.89	5.54
Congo	2,225	1,007	445	20	22.25	10.07	2.21
Cote d'Ivoire	8,551	729	1,710	20	85.51	7.29	11.73
Gabon	3,590	3,234	718	20	35.90	32.34	1.11
Guinea	2,680	482	667	24.9	33.37	6.00	5.56
Mali	2,228	271	644	28.9	32.19	3.92	6.22
Mauritania	962	501	322	33.5	16.11	8.39	1.92
Morocco	23,245	948	4,649	20	232.45	9.48	24.52
Niger	2,292	308	458	20	22.92	3.08	7.44
Rwanda	2,143	311	429	20	21.43	3.11	6.89
Senegal	5,105	708	1,021	20	51.05	7.08	7.21
Togo	1,422	405	284	20	14.22	4.05	3.51
Zaire	7,857	228	1,021	13	51.07	1.48	34.46

* Millions of U.S. Dollars ***Millions

** U.S. Dollars

Sources: African Development Indicators, UNDP & The World Bank, 1992.

World Development Report 1992, The World Bank.

Notes: For countries for which data was not available, total government expenditure is estimated at 20% of GNP and government expenditure on health is estimated at 5% of total government expenditures; per capita expenditure on health is derived from population and the estimated government health expenditure.

TABLE 2: Imports and Exports of Francophone African Countries (1990)
(millions of U.S. Dollars)

	Exports Total	Imports		Balance of Payments	
		Total	Food		Fuel
Gabon	2,471	760	129	15	236
Benin	93	483	77	24	-153
Congo	1,130	570	103	11	-197
Mauritania	468	248	55	15	-199
Burundi	75	235	42	21	-205
Togo	300	700	154	42	-208
Rwanda	112	279	25	45	-224
Niger	435	230	48	35	-247
Central African Republic	130	170	34	3	-260
Cameroon	1,200	1,300	195	13	-278
Chad	200	450	63	63	-298
Mali	347	640	128	173	-364
Burkina Faso	160	480	110	82	-383
Senegal	783	1,620	437	259	-481
Morocco	4,263	6,918	830	1,038	-520
Zaire	999	888	178	71	-860
Cote d'Ivoire	2,600	2,100	336	462	-1210

Source: World Development Report 1992, The World Bank.

Figure 1. Gross National Product
of Francophone African Countries, 1990

Billions of U.S. Dollars (1990)

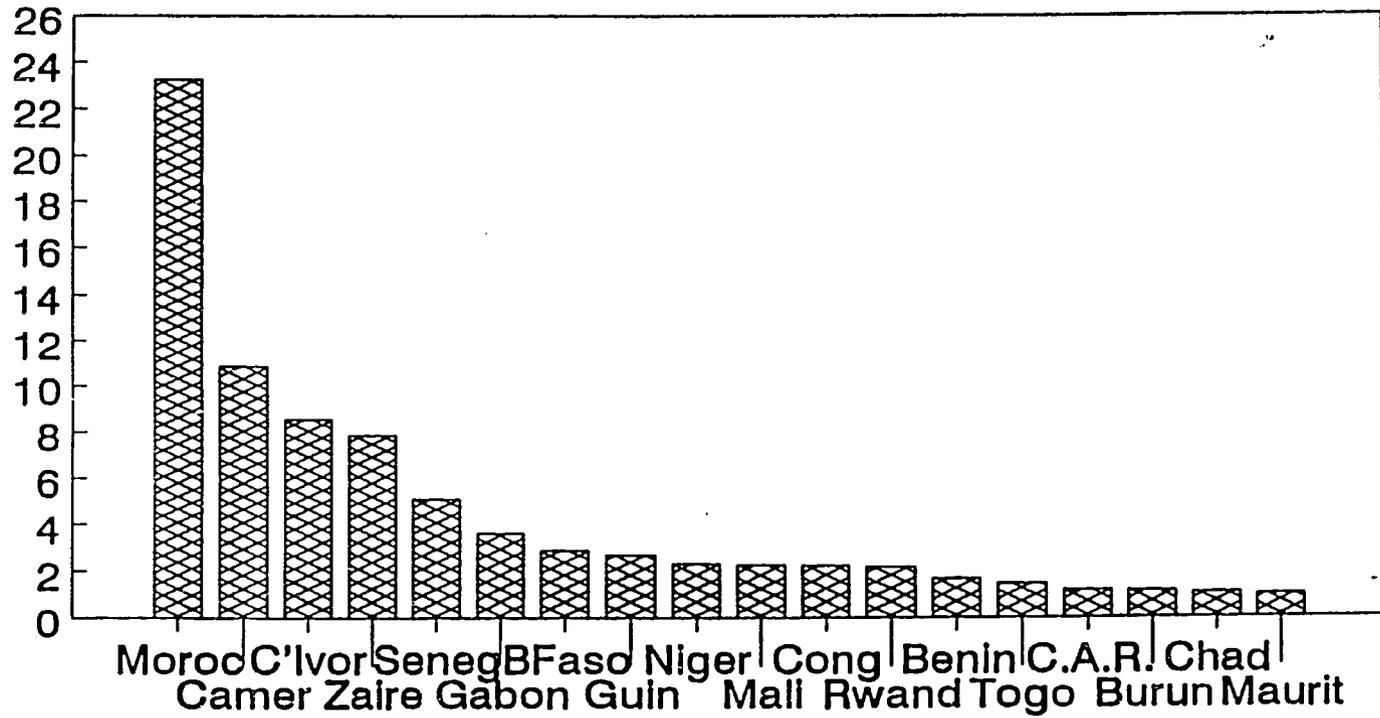


Figure 2. Government Health Spending
Compared with Costs of EPI, 1990

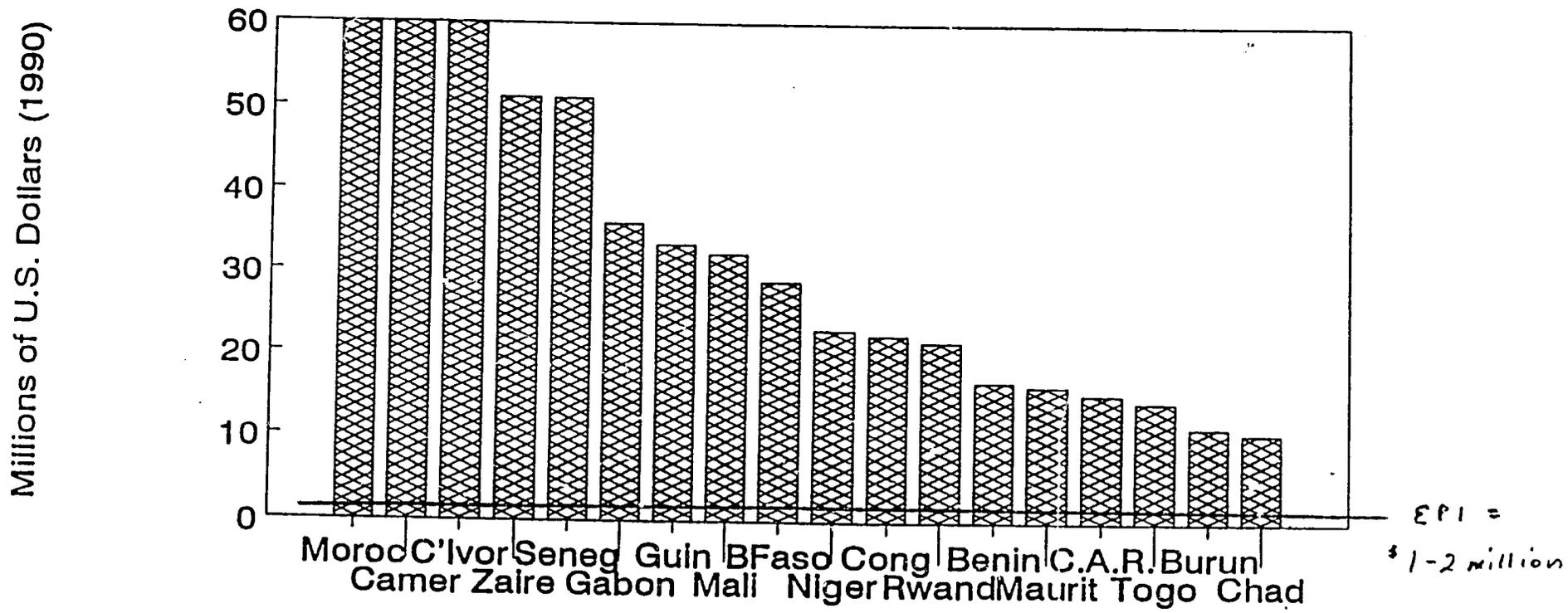
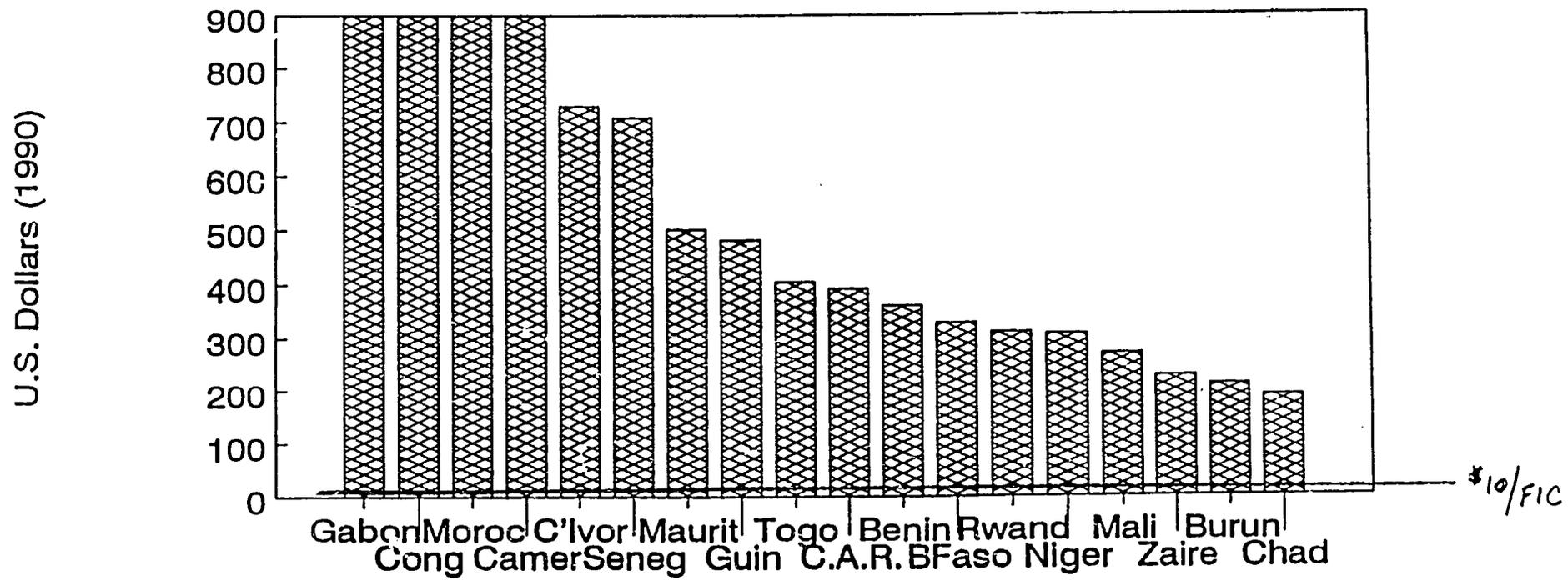


Figure 3. GNP Per Capita
Compared with Costs of EPI, 1990



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U.S. Dollars (1990)

Figure 4. Government per capita Spending on Health, 1990

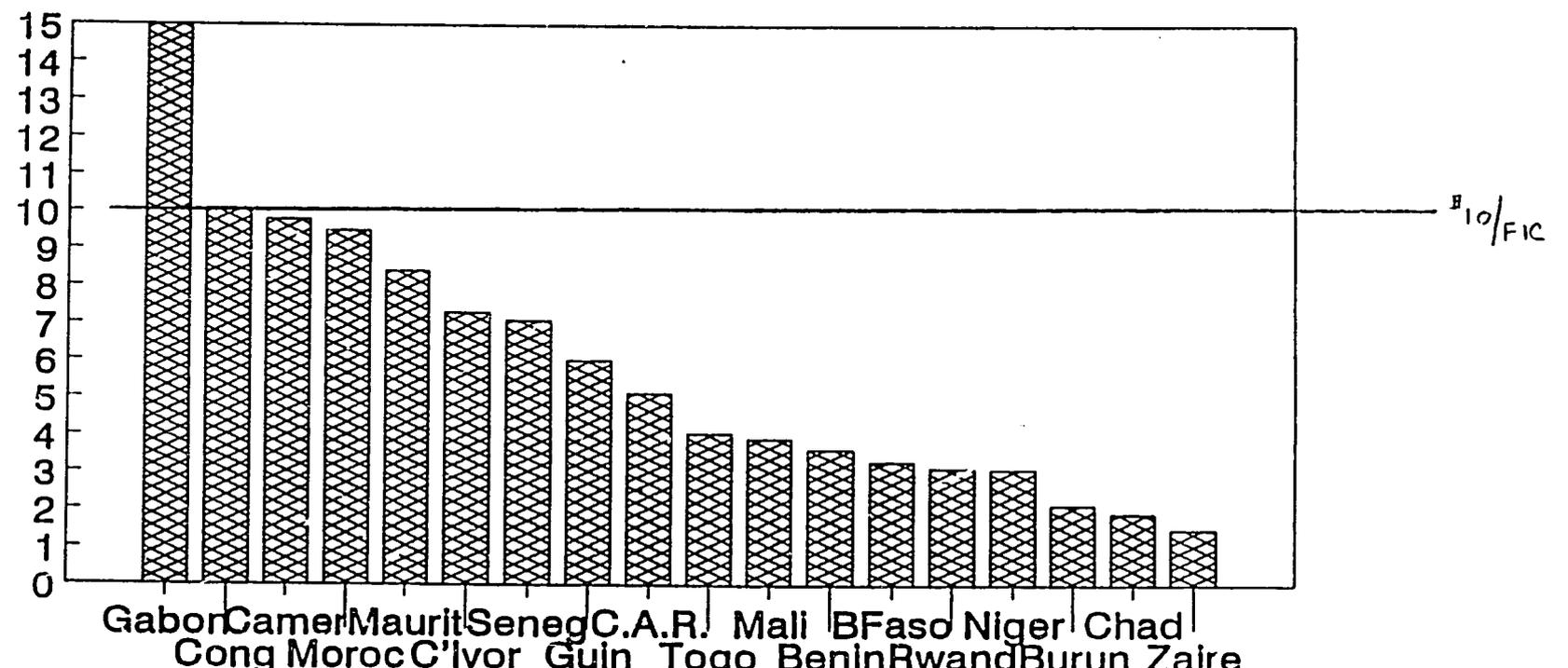
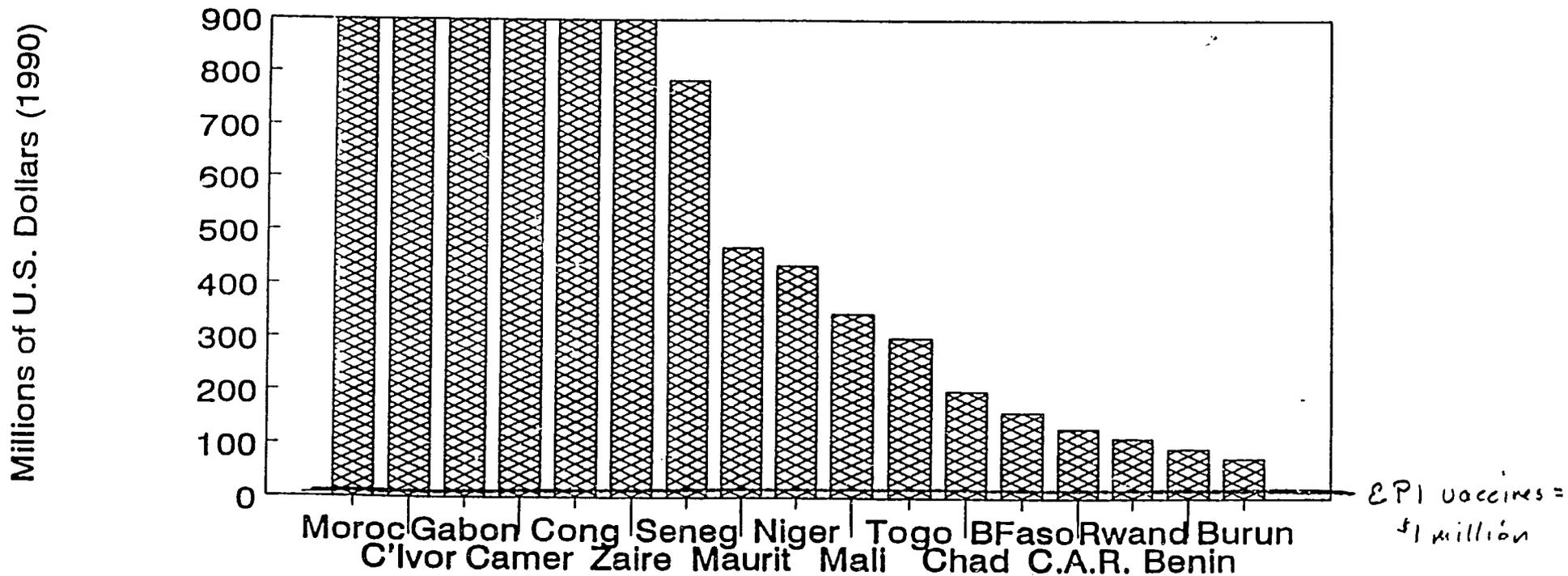
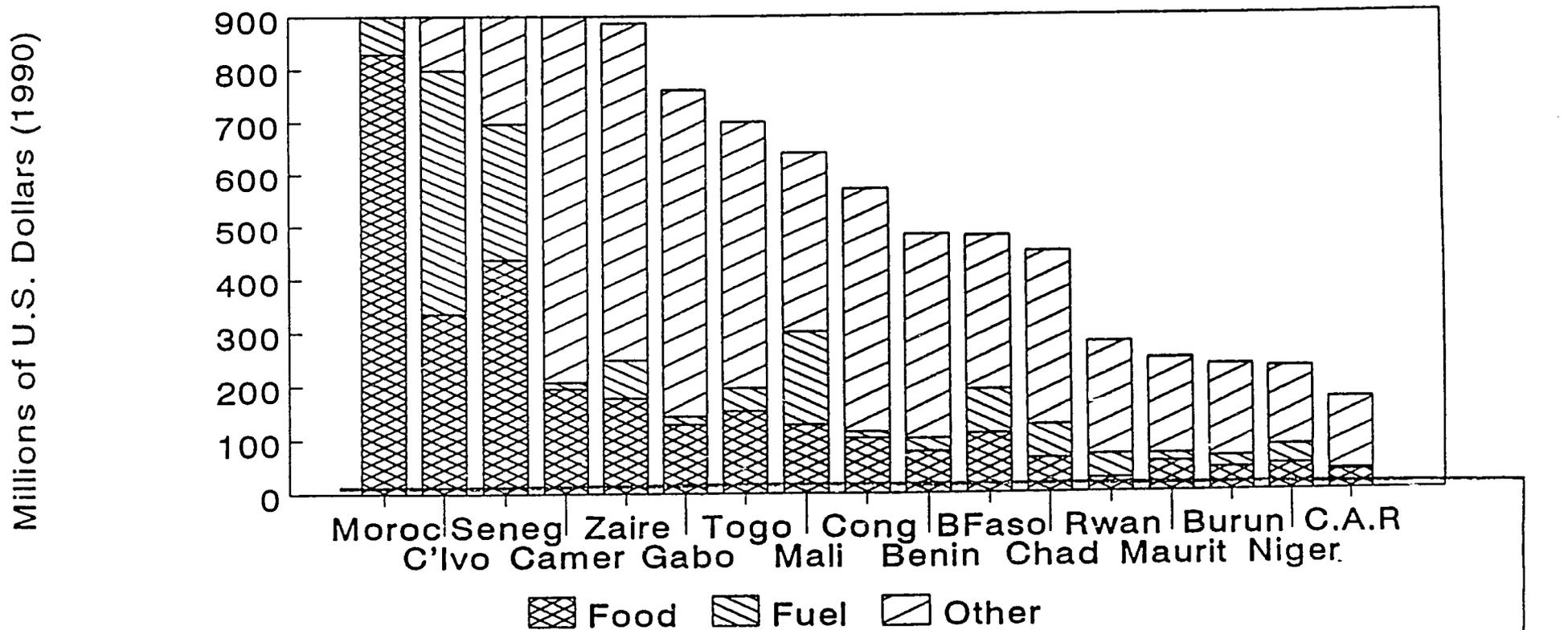


Figure 5. Total Exports
Compared with Costs of EPI, 1990



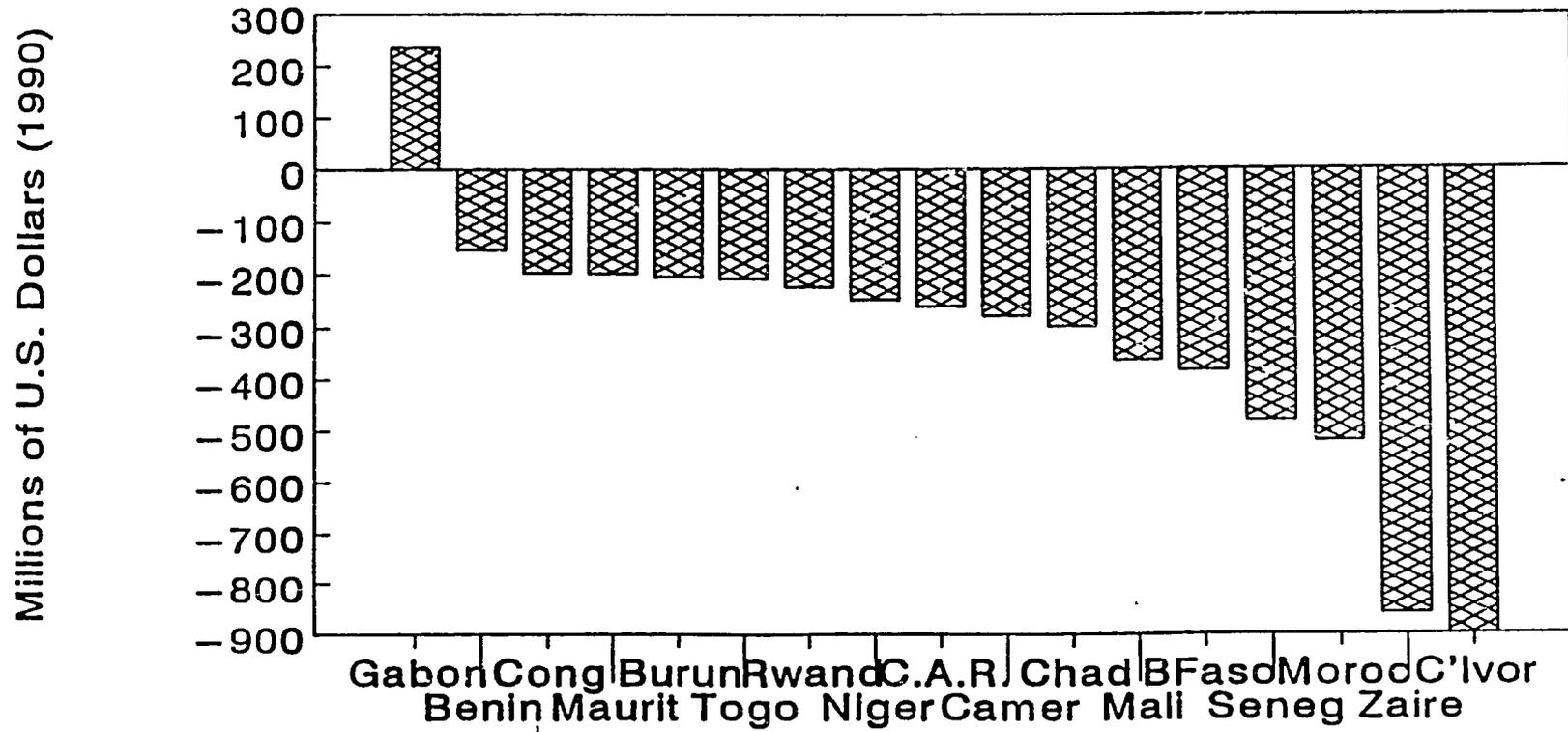
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Figure 6. Total Imports
Compared with Costs of EPI, 1990



EPI vaccines = 5 million

Figure 7. Balance of Payments
(Before Official Transfers)



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