PRELIMINARY DOCUMENT

DISCUSSION SERIES VOL. 2
REFORM OF HEALTH FINANCING: POLICY OPTIONS

Convergence Towards Universal Coverage

CHANGES IN THE PERFORMANCE OF THE HEALTH FINANCING SYSTEM IN PERU: 2000-2009

PERU
2011

CONVERGENCE TOWARDS UNIVERSAL COVERAGE

CHANGES IN THE PERFORMANCE OF THE HEALTH FINANCING SYSTEM IN PERU: 2000-2009

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PERFORMANCE OF THE HEALTH FINANCING SYSTEM

1. PURPOSE

The reforms implemented during 2000-2009 affected directly or indirectly the functioning of the health financing system. However, there are no assessments as to whether such policies are aimed in the right direction; i.e., if they are contributing to achieving the health system's objectives. With an aim to throw light on this matter, this study provides statistical information about the changes in the performance of the health financing system in 2000-2009 that can allow the health authorities to make policy decisions (on financing) based on evidence.

The study is important from several viewpoints. From and INSTRUMENTAL PERSPECTIVE, the study proposes a set of parameters and indicators that are relevant for assessing performance and that can be quantified, monitored, and evaluated over time. From an ANALYTICAL PERSPECTIVE, the study uses a systemic approach to evaluate the changes in the performance of the health financing system, i.e., it assesses the interrelations between the financing system's sub-functions and how these are linked to the health system's general objectives.The study emphasizes the role of the financing system's institutional design and organizational practices as a key performance determinant.

Finally, from a POLICY PERSPECTIVE, an exploratory analysis is performed for the critical areas affecting the performance of the system; i.e., institutional design problems (lack of rules, inadequate rules, conflicting rules or policies) or the organizational capacity to implement or enforce rules, among other factors. Along these lines, this analysis seeks to provide inputs to policymakers as guidance for potential changes in financing policy.

This study on the changes in the performance of the health financing system in Peru is organized as follows. Section 2 presentsa brief summary of the ANALYTICAL AND METHODOLOGICAL FRAMEWORK used to clarify the objective and criteria to assess performance, including a description (technical specifications) of the indicators and information sources used. Section 3 describes the EVALUATION CONTEXT, i.e., the economic and fiscal environment in which the health sector operated in 2000-2009 and the health reforms introduced in that decade, and presents the statistical evidence for the performance of the financing system in line with the analytical dimensions established in the previous section.Finally, section 4identifies some causal factors explaining the results and reflects on the challenges to advance the process towards universal

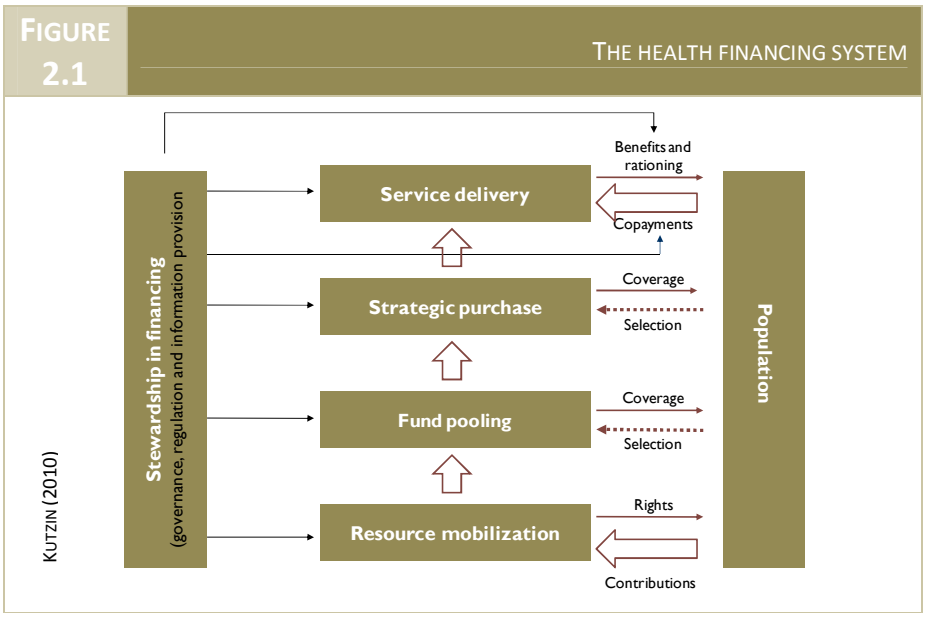
coverage, mainly regarding public financing. The emphasis on this kind of financing responds to the government's role in ensuring financial coverage for the more vulnerable segments of the population.

2. ANALYTICAL FRAMEWORK

2.1 OBJECT OF EVALUATION: WHAT IS A FINANCING SYSTEM?

The health financing system is made up of the institutions, i.e., the formal rules regulating resource mobilization, fund pooling, and strategic purchase sub-functions; their interaction with other functions of the health system (service delivery, resource generation, and stewardship);and the organizations associated with the system in charge of implementing such rules and enforce them (Figure 2.1).

FIGURE 2.1 THE HEALTH FINANCING SYSTEM



The RESOURCE MOBILIZATIONsub-function refers to the manner in which resources are obtained or created to finance health activities, involving aspects related with contribution mechanisms, financing sources, and the agents in charge of collecting resources. In Peru, financing is a shared function, as there are multiple financing sources, i.e., different agents making financial contributions to the health system.

Table 2.1 shows that, as of 2009, 97% of resources came from threeSOURCES:households (38%), the Public Treasury (30%),and employers (29%). Other less important sources include externalsources (foreign cooperation).It should be indicated that CONTRIBUTION MODALITIESare differentiated according the kind of source: households contribute to the system through direct payments to health providers (out-of-pocket expenditure) for individual health care services and/or voluntary payment of and insurance premium. The latter represents 2.6% of total household financing.

At the same time, the Treasury conveys to the health system a fraction of general taxes collected by the National Superintendency of Tax Administration (SUNAT) to subsidize, partially or totally, both the vulnerable population's individual[1] health needs, as well as services considered as public goods or with high externalities[2](e.g., immunization programs, health care for TB patients, or vector control in endemic areas). Finally, employers make mandatory Social Security contributions (based on income) to finance formal workers' individual health needs. The responsibility to collect such contributions has been delegated to SUNAT.

[1]Individual health services refer to outpatient care, emergencies, surgery, hospitalization, and diagnosis provided directly to individuals to meet their health needs through health promotion interventions, prevention, diagnosis, treatment, and rehabilitation. These kinds of services are provided individually in response to a person's health care needs; therefore, use of such services by the population is influenced by a person's individual risk of falling sick and her/his payment capacity, among others.

[2].Health services considered public or quasi public goods, such as those associated with sectoral stewardship, knowledge creation derived from sanitary research, health services targeted to collectivities (epidemiologic vigilance, disaster care, and vector control) and immunization programs. These kinds of services are characterized by not creating rivalry in consumption; i.e., the available amount is not exhausted when consumed by an individual or a group of individuals, as their consumption does not exclude consumption by other persons. Finally, they create externalities, as the service delivered not only creates a benefit for the individual who receives it, butfor the community as a whole.

TABLE 2.1

HEALTH FINANCING BY SOURCE AND AGENT 2000-2009 1/

SOURCES	2000	2005	2007	2008	2009	2000	2005	2007	2008	2009
	% OF GDP					PERCENT STRUCTURE				
HOUSEHOLDS	2.1%	1.6%	1.7%	1.8%	1.9%	38%	34%	37%	35%	38%
OUT-OF-POCKET EXPENDITURE	2.0%	1.6%	1.7%	1.8%	1.9%	37%	33%	36%	35%	37%
PREMIUM PAYMENT	0.0%	0.0%	0.0%	0.0%	0.0%	1%	1%	1%	1%	1%
PUBLIC TREASURY	1.3%	1.4%	1.3%	1.7%	1.5%	24%	31%	28%	33%	30%
EMPLOYERS	1.9%	1.4%	1.4%	1.4%	1.5%	35%	31%	31%	28%	29%
OTHERS	0.2%	0.2%	0.2%	0.2%	0.2%	4%	5%	4%	3%	3%
TOTAL	**5.4%**	**4.7%**	**4.6%**	**5.1%**	**5.1%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**
MEMO:										
POOR HOUSEHOLDS	*0.3%*	*0.3%*	*0.2%*	*0.2%*	*0.2%*	*6.4%*	*5.5%*	*3.8%*	*3.2%*	*3.2%*

1/ FIGURES FOR 2000 AND 2005 WERE TAKEN FROM THE HEALTH NATIONAL ACCOUNTS 1995-2005, MINSA (2008). ESTIMATES WERE MADE FOR OTHER PERIODS BASED ON INFORMATION REPORTED BY ENAHO-INEI, SIAF, AND ESSALUD.

TABLE 2.2

POOLED RESOURCES BY FINANCIAL AGENT 2000-2009 1/

AGENTS	2000	2005	2007	2008	2009	2000	2005	2007	2008	2009
	% OF GDP					PERCENT STRUCTURE				
GOVERNMENT	1.3%	1.4%	1.3%	1.7%,	1.5%	39.7%	42.8%	41.8%	49.6%	44.2%
SIS	n.a.	0.1%	0.1%	0.1%	0.1%	n.a.	3.1%	3.1%	3.5%	3.5%
REGIONAL GOVERNMENT	n.a.	0.6%	0.5%	0.9%	0.7%	n.a.	16.8%	14.5%	26.8%	19.1%
NATIONAL GOVERNMENT	1.3%	0.8%	0.8%	0.7%	0.7%	39.7%	23.0%	24.2%	19.4%	21.6%
INSURANCE FUNDS 2/	2.0%	1.9%	1.8%	1.7%	1.9%	60.3%	57.2%	58.2%	50.4%	55.8%
SOCIAL SECURITY	1.7%	1.5%	1.5%	1.4%	1.6%	50.7%	45.6%	47.4%	40.9%	46.0%
PRIVATE	0.3%	0.4%	0.3%	0.3%	0.3%	9.6%	11.6%	10.8%	9.4%	9.8%
TOTAL	**3.3%**	**3.3%**	**3.1%**	**3.4%**	**3.4%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**

1/ FIGURES FOR 2000 AND 2005 WERE TAKEN FROM THE HEALTH NATIONAL ACCOUNTS 1995-2005, MINSA (2008). ESTIMATES WERE MADE FOR OTHER PERIODS BASED ON INFORMATION REPORTED BY ENAHO-INEI, SIAF, ESSALUD, SEPS AND SBS.

2/ INCLUDES ADMINISTRATION OF INSURANCE FUNDS AND FINANCIAL INCOME.

The FUND POOLINGsub-function refers to the buildupand management of resources by different agents in charge of managing the collected financial resources (National and Regional Government, Public Health Insurance (SIS), EsSalud, private insurance) to meet the health financing needs of their beneficiary populations in line with the benefit plans in place.

It should be stressed that his sub-function involves aspects associated with: (a) the mechanisms governing the allocation of collected resources to the agents in charge of managing them; (b) the fund pooling modality among pool members (cross-subsidies between groups with different health risks or income levels) to ensure a balance between needs and resource adequacy; and (c) the risk pooling modality among different resource managers, to prevent adverse selection problems.

Table 2.3 shows that, in Peru, total resources assigned to financial agents or resource managers is equivalent to 3.4% of GDP (62% of total health financing in 2009, similar to 2010). It should be emphasized that 44% of pooled resources are collected through compulsive tax-based mechanisms and channeled to the health system through the National or Regional Governments (under supply subsidy arrangements) and the SIS (under demand subsidy arrangements). The rest of pooled resources is collected through compulsive (based on employers' contributions) or voluntary mechanisms, and are channeled through Insurance Funds (Social Security or private insurance companies).

It is important to stress that international evidence (Wagstaff,1999; OMS, 2003) shows that health financing through agents in charge of managing collected resources (tax-based or Social Security contributions) jointlyis the most equitable and efficient way to distribute the health financial burden among the population, vis-à-vis financing mechanisms based on out-of-pocket expenditure or voluntary contributions to a private insurance fund.

This is so because, under direct financing through out-of-pocket expenditure, the moment of the contribution is not independent from the occurrence of the disease event, thus creating an economic access barrier to services and renders the population vulnerable to impoverishment due to lack of solidarity mechanisms. At the same time, financing based on voluntary contribution mechanisms alone is not recommendable, due to the limited size of the pool created and adverse selection problems typical of this kind of financial mechanisms.

In spite of this, the country has a diversified financing structure where out-of-pocket expenditure is an important share of total health financing.This structure responds fundamentally to problems in the government's collection capacity, resulting in high tax evasion, Social Security contribution arrears, and informal employment, as well asin informal employment mechanisms among dependent workers, all of which create inflexibilities in the

ability to increase resources and channel them to the health system through compulsive contribution mechanisms.

In this regard, it should be noted that, as of 2010, the VAT tax evasion index was equivalent to 38% of the tax base, while total tax collections as a percent of GDP were only 14.9%. Additionally, EsSaludstatistics showed that arrears were above 10% of annual collections, with an estimated cumulativedebt of NS/ 2,000 million (equivalent to 40% of annual collections); and that there are approximately one million contractless employees working in medium and large enterprises.

Finally, the STRATEGIC PURCHASESsub-function is associated with mechanisms to allocate pooled funds to health providers to guarantee service delivery to affiliates according to their benefit plans. It should be noted that this sub-function involves aspects related with the definition of the payment modality and payment of compensations to health providers by financial agents. In the case of the government's financial agent, SIS reimburses public health providers retrospectively based on the tariff, while the Social Security employs more sophisticated payment mechanisms, based on capitatedor overall budget arrangements, depending on the complexity of health services. The payment mechanism is an important risk management instrument with implications for the efficiency in the use of health system resources.

In this analytical framework, the availability of resources is a necessary but not sufficient condition for good performance. The latter will also be influenced by the way the financing flow between sub-functions and the service flow from the system to the users are managed.

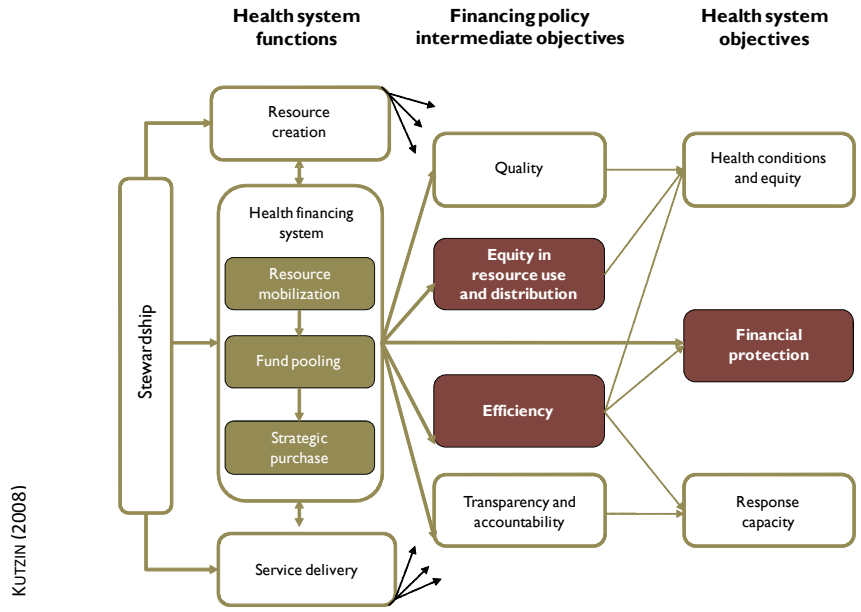
2.2 PERFORMANCE CRITERIAAND PARAMETERS

The complexity of the financing system and the multiplicity of arrangements and actors involved introduce a certain degree of difficulty in performance follow-up and evaluation. In this context, the performance of the financing system will be measured in this study according to its contribution to the attainment of the Peruvian health system's objectives. Such objectives have been established by selecting from a wider set of health system objectives —described in the 2000 World Health Organization (WHO) report—those affected or influenced by financing policies.

Specifically, the policy objectives used as evaluation criteria for the performance of Peru's health system can be classified in two groups. The first one is made up of financing policy objectives that are coincidental with the objectives of the health system, in line with the WHO's classification (Figure 2.2), such as FINANCIAL PROTECTION. The second group is made up of policy

objectives that are instrumental in achieving the health system's objectives, such as EQUITY IN THE DISTRIBUTION OF RESOURCES, EQUITY IN THE USE OF SERVICESand EFFICIENCY IN THE USE OF RESOURCES.

FIGURE 2.2 LINKAGES BETWEEN FINANCING FUNCTIONS AND SYSTEM OBJECTIVES



Finally, an additional criterion associated with RESOURCE ADEQUACY AND SUSTAINABILITY was included. Although the latter is not a policy objective, and represents a budgetary restriction that is not strictly controllable by the system's agents, its inclusion is justified by its direct influence on the attainment of policy objectives and by the risk of creating tradeoffs between such objectives in a restrictive environment[3].

CRITERION 1: MOBILIZE ADEQUATE AND SUSTAINABLE RESOURCES

Absent a reference parameter or target, according to this criterion the health financing system would be considered to have a good performance if it satisfies two conditions. The first one isthat during the period of analysis the health financing level should increase (as percent of GDP), especially pooled resources. Additionally, a good performance would be considered to

[3]Other relevant policy objectives, such as improving the efficiency in the administration of the health financing system and the transparency and accountability regarding health financing, will not be addressed in this document for lack of information that can support robust results.

have been attained if during the reference period the financing gap is reduced in a sustainable manner, i.e., without affecting the country's fiscal position.

TABLE 2.3 PERFORMANCE CRITERIA AND PARAMETERS

Evaluation Dimension	Parameters
1 Resource mobilization	• Reduce the financing gap in a sustainable manner
2 Financial protection	• Reduction in the population's impoverishment risk from the use of health services
3a Equity in resource distribution	• Improvement in resource allocation for regions with greater needs
3b Equity in utilization (horizontal equity)	• Relative increase in the use of services by the population with greater care needs
4 Efficiency	• Improvement in the use of resources

CRITERION 2: FINANCIAL PROTECTION

Performance regarding this objective is associated with the financing system's ability to protect the population financially against financial risks associated with disease events; i.e., prevent families from becoming poor (or aggravating their poverty level) due to the use of health services or from being forced to choose between their health conditions and their economic welfare.

Impoverishment risks will be lower depending on the system's ability to extend population coverage to financing modalities based on public subsidization or insurance (through Social Security contributions by employers or voluntary payment of health insurance premiums),as well as the benefit coverage or service delivery to which the population is entitled. This would alleviate the financial burden on households, reducing the (absolute and relative) share of out-of-pocket expenditure in the financing structure.

CRITERION 3A: EQUITY IN RESOURCE DISTRIBUTION

Performance regarding this objective is associated with the financing system's capacity to allocate health resources to regions with greater financial needs. In this regard, the financing system will be considered to have a good performance according to this criterion if the

allocation of resources is progressive with respect to the regions' financial needs and/or progressivity has improved during the period of analysis.

This study uses a comprehensive approach to the concept of financial need, considering not only aspects associated with individual healthCARE NEEDSin the region (morbility, mortality), but also with SOCIAL RISKSwith an impact on the demand for health services, theRESOLUTION AND MANAGERIAL CAPACITY GAP, and the REGIONAL COSTSof individual health care and transportation to health facilities[4].

CRITERION 3B: EQUITY IN THE USE OF HEALTH SERVICES

Performance in achieving this objective is associated with the financing system's ability to link access to services to the population's health needs, and not to payment capacity. In this framework, there will be equity in the use of services if there are no significant differences in the utilization rate of health services among different socioeconomic levels. Alternatively, the financing system will be considered to have a good performance in terms of equity in the use of health services if, given similar health care needs, there are equal opportunities for accessing or using health services (HORIZONTAL EQUITY).

CRITERION4: EFFICIENCYIN THE USE OF RESOURCES

Performance in attaining this objective is associated with the financing system's ability to make an efficient use of resources; i.e., apply cost-effective procedures with the least use of production factors (technical efficiency) or produce better sanitary results with available resources (allocative efficiency). It should be pointed out that achieving this objective depends not only on the financial incentives in place, but also on policy measures associated with other functions of the system, such as service delivery, the creation of productive health resources, and stewardship.

2.3 ROLE OF INSTITUTIONAL DESIGN AND ORGANIZATIONAL PRACTICE

Universal coverage is a process with multiple DIMENSIONSinvolving several ACTORS, of which health financing policy is an important reform axis in achieving this objective (Figure2.3). At the same time, it is not sufficient to attain universal coverage*per se*, and therefore the process should be tackled from a comprehensive and systemic perspective, i.e.:

- ☐ Considering the regulatory, financial, service delivery, and management dimensions of the process;and

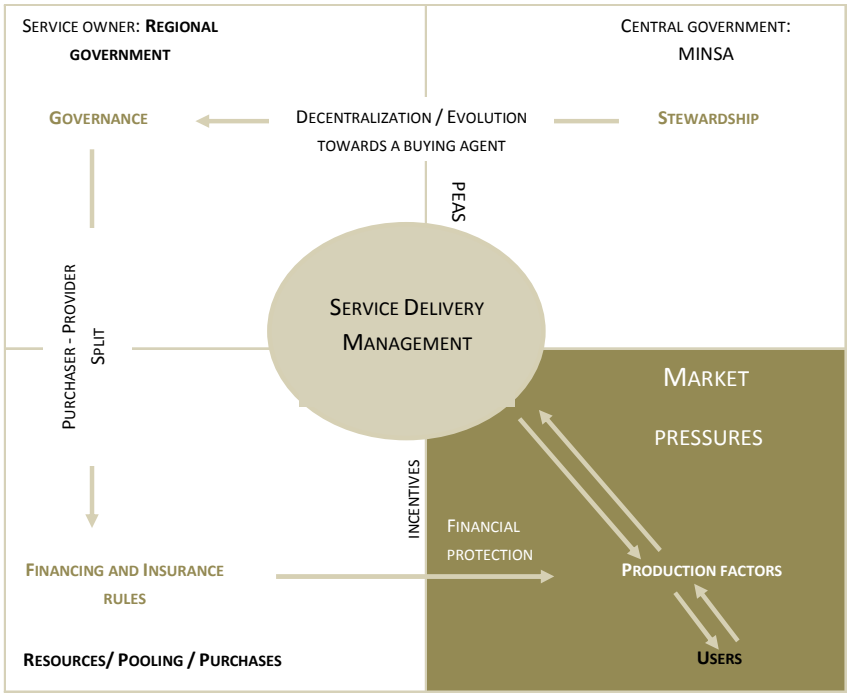
[4]See Mooney, G., et al. (2004) about the foundation for a resource assignment formula basedon the capacity to benefit the population and the Management Economic Social Human Infrastructure (MESH).

- Ensuring policy consistency among the latter. This implies ensuring that policy changes that are likely to be introduced in each reform axis regarding processes and incentives, are sinchronized and aligned,so as to enhance population and service coverage in an equitable and efficient manner.

In this respect, it should be noted that it is not enough to affiliate the entire population to an insurance regime, so that all, especially the most vulnerable segments, have access to health services and are financially protected. If the Government is incapable of mobilizing, in a sustainable and predictable manner, adequate resources to cover financially the service demands considered in the insured population's benefit plan, as well as new affiliates to the subsidized and semi-contributive regimes, for example, a mismatch could emerge between available resources and the volume of affiliates that could affect adversely the convergence process towards universal coverage.

Therefore, the risk of INCONSISTENCY BETWEEN THE FINANCING AND INSURANCE POLICIESwould not only lengthen the convergence period, but would also create incentives for the public health provider to rationalize demand by charging users, enlarging waiting lists, or reducing the insured population's benefit coverage. This would tend to aggravate the inequity in access and the inequalities in the population's health conditions.

FIGURE 2.3 CONVERGENCE TOWARDS UNIVERSAL COVERAGE



At the same time, even if the Government has the necessary financial resources to cover the demand for services from the population affiliated to the subsidized and semi-contributive regimes, the convergence process towards universal coverage would be affected if the public health provider networks do not adapt their service portfolios to offer the services considered in the benefit plan, at both the primary and hospitalization levels.

This can happen due to problems associated with investment management, scarcity of human resources, lack of incentives to redeploy health professionals over deficit areas (especially rural), or the way in which subsidies for health financing among the vulnerable segments of the population are intermediated (allocation mechanisms based on demand or supply subsidies, for example). The risk of INCONSISTENCY BETWEEN FINANCING AND SERVICE MANAGEMENTcould not only limit the insured population's service coverage, but also create inefficiencies in resource allocation, if there is no correspondence between the financing level and the expected expenditure productivity in each region.

Moreover, even if economic barriers to access are eliminated and there is an improvement in the resolution capacity of public health facilities to provide the services and deliveries contained in the benefit plan, if service organization and the economic incentives to health

providers are not aligned, there could be distortions affecting the quality of user coverage.For instance, the introduction of differentiated payment mechanisms according to complexity levels in the public sub-sector may create incentives for a better ranking of health system users' income through primary health care facilities and a greater efficiency in the use of resources. However, if not accompanied by an adequate reference and counter-reference system, there could be incentives to retain patients at lower-complexity levels, thus affecting the quality of user care[5] (INCONSISTENCY BETWEEN PAYMENT POLICY AND SERVICE ORGANIZATION).

The opposite is also applicable. If differentiated incentives for health providers are not in place, as in the public sub-sector, reference systems may not be effective in preventing patients from seeking direct care in hospitals and in creating greater efficiency in the use of available resources.

Finally, a key aspect in the convergence process towards universal coverage is the role of institutions.If there is no clear definition and separation of functions between different institutional actors, such as health providers (in charge of SERVICE PRODUCTION), financing agents (in charge of service PURCHASE FUNCTIONSto guide production decisions and RISK TRANSFERto encourage an efficient use of resources), Regional Governments (in charge of SERVICE ORGANIZATION in their jurisdictions) and the Ministry of Health (in charge of STEWARDSHIP AND SYSTEM REGULATION), risks of conflicting interests, inarticulate interventions, and policy inconsistencies will be high, potentially creating perverse effects on the system's capacity to improve the conditions of access to health services and enhance the population's financial protection.

The above highlights the importance of good institutional design, i.e., ensuring adequate and transparent rules, policy consistency, and organizational capacities to implement such rules and supervise their enforcement.This would guarantee the progressive and sustainable expansion of the population's health entitlements, thereby enhancing the health system's credibility and response capacity[6].

2.4 PERFORMANCE INDICATOR SYSTEM

This section collects and reviews available information to assess the financing system's performance according to the four dimensions proposed in the previous sections(resource mobilization, financial protection, equity in service use and resource distribution, and efficiency

[5]Thailand implemented policies to order patients'entrance to the system, encouraging the use ofprimary health care facilities. However, due to payments to health providers, in many cases patients with heart conditions were not sent for care at the hospital level (S. Pitayarangsarit et al., 2008).

[6]Financing is considered a common-use resource due to subtractability and rivalry in consumption and high exclusion costs. In this regard, it is key toput in place a good institutional design and good organizational practices to prevent a disaccumulation of health rights (tragedy of the commons). See Ostrom (2011).

in the use of financial resources). Table 2.4shows a proposal to operationalize the evaluation parameters through 9 performance indicators, which can be quantified, monitored, and assessed over time[7].

It should be pointed out that three main criteria have been considered in selecting these indicators: (a) AVAILABILITYof information for future estimations; (b) RELEVANCE;i.e., they should be linked to the financing policy objectives;and (c) they should be CONTROLLABLE by the sector; i.e., it should be possible to modify their level as a consequence of sectoral policy decisions.

The technical specifications for each of the 9 indicators that make up the measurement system for the performance of the health financing system are presented next. These technical specifications are useful for future measurements and for follow-up purposes. They contain the following information: (1) the indicator's operative definition; (2) the calculation methodology and formula; (3) the justification for the indicator or the relationship with performance; (4) the scope of the measurement; i.e., whether it is national/regional or sectoral/sub-sectoral; (5) guidance for interpreting the results; (6) the information source;and (7) the recommendable frequency of measurement.

[7]The soundness and robustness of conclusions on the performance of Peru's health financing system basedon this simple indicators system will be discussed in section 3.

TABLE 2.4 **SUMMARY OF PERFORMANCE INDICATORS**

	DIMENSION	INDICATORS	SPHERE OF EVALUATION
1	RESOURCE MOBILIZATION	1.1 INDICATOR OF FISCAL SPACE APPROPRIATION	PUBLIC SUB-SECTOR
		1.2 INDICATOR OF POOLED RESOURCE LEVEL	SECTORAL
2	FINANCIAL PROTECTION	2.1 EFFECTIVE COVERAGE OF SIS AFFILIATES	PUBLIC SUB-SECTOR
		2.2 FINANCIAL COVERAGE OF POOR POPULATION	PUBLIC SUB-SECTOR
		2.3 EXPOSURE TO CATASTROPHIC HEALTH EXPENDITURE	SECTORAL
3b	EQUITY IN DISTRIBUTION	3.1 ALLOCATIVE PROGRESSIVITY INDEX	PUBLIC SUB-SECTOR
3b	EQUITY IN THE USE OF HEALTH SERVICES	3.2 RATE OF SERVICE USE BY SOCIO-ECONOMIC GROUP	SECTORAL
		3.3 RATE OF UTILIZATION BY CARE NEED	SECTORAL
4	EFFICIENCY IN THE USE OF RESOURCES	4.1 FINANCING EFFECTIVENESS	PUBLIC SUB-SECTOR

2.4.1 RESOURCE MOBILIZATION INDICATORS

TABLE 2.5

INDICATOR 1.1 FISCAL SPACE APPROPRIATION

Dimension	Resource mobilization
Operative indicator	Percent of the fiscal space for health used to finance the health activities of the public sub-sector
Scope	Nationwide
Application	Public sub-sector
Definition	Summary measure of the health authorities' EFFORT in mobilizing resources to finance the public sub-sector's health activities. It also provides a more realistic measure for ADEQUACY AND SUSTAINABILITY of public sub-sector resources, as it reflects financing coverage in terms of the budget margin for the sub-sector (fiscal space) and not in terms of financial requirements. The fact that the resources available for the sub-sector represent 40% of resource requirements does not imply a poor performance in terms of mobilizing enough resources to bridge the financing gap, as this result is the product of two elements: 1. The budget cap, determined by the percent of required financing that can potentially be covered by the fiscal space for health (e.g., 50%), and that is not controllable by the sub-sector. 2. The appropriation of the fiscal space for health by the public sub-sector, which depends on the health authorities' negotiation capacities and policy priorities. If the health authorities are successful in appropriating the entire budget cap, the performance regarding resource mobilization would be favorable, in spite of not having the resources needed to cover the financing requirements.
Calculation methodology	The following are required to quantify the indicator: 1. The cumulative variation of ordinary and earmarked resources for the financing of the public sub-sector's health activities over a given period (as % of GDP) = $\sum F^{SP}{}_{T}$ 2. The cumulative fiscal space for health over a given period (as % of GDP)= $\sum EF_{T}$. The fiscal space for health represents the budget margin created by higher economic growth and better tax administration (USAID, 2010).
Formula	$\frac{\sum F^{SP}{}_{T}}{\sum EF_{T}} * 100$
Unit	The indicator is expressed as a numeric value greater than 0, and may exceed 100. In the latter case, resources greater than the fiscal space for health are channeled to the sub-sector.
Interpretation	A decrease (increase) in the value of the indicator implies a deteriorating (improving) capacity to mobilize adequate and sustainable resources for the public sub-sector.
Source	MEF-SIAF, BCRP and SUNAT.
Frequency	Information gathered annually.

TABLE 2.6

INDICATOR 1.2 LEVEL OF POOLED RESOURCES

Dimension	Resource mobilization
Operative indicator	Total resources available to finance health sector activities via public subsidies or insurance mechanisms (mandatory or voluntary).
Scope	Nationwide
Application	Sectoral
Definition	Measure of the sector's effort to mobilize resources in a "healthy" manner; i.e., via mechanisms aimed at distributing the financial burden more equitably among the population and contributing to enhance households' financial protection.
Calculation Methodology	The following are required to quantify the indicator: 1. Total ordinary and earmarked resources assigned to the Ministry of Health, SIS, and Regional Governments' implementation units to finance individual and collective health = T 2. Value of fund managed by Social Security = SS 3. Value of funds managed by private insurance companies = SP
Formula	[illegible]+ [illegible]+ [illegible]
Unit	The indicator is expressed as: 1. Percent of GDP 2. 1995 nuevos soles 3. Constant per capita nuevos soles
Interpretation	The higher (lower) the indicator, the higher (lower) the effort in mobilizing resources to the sector in a "healthy" manner, and the higher (lower) the capacity to widen health coverage, both in population and service delivery terms.
Source	Health National Accounts, MEF-SIAF, EsSalud, SBS
Frequency	Information gathered annualy

2.4.2 FINANCIAL PROTECTION INDICATORS

TABLE 2.7

INDICATOR 2.1 EFFECTIVE COVERAGE OF SIS AFFILIATES

Dimension	Financial protection
Operative indicator	Percent of SIS affiliates using public health services and receiving full subsidization.
Scope	Nationwide and regional
Application	Public sub-sector
Definition	Under normal conditions, the SIS affiliation coverage indicator approximates the percentage of the poor population for whom the delivery of health services considered in the benefit plan in force is publicly financed. However, under conditions of budgetary restraint or implicit demand rationing, SIS affiliates may be forced to make informal payments to obtain service or otherwise be discriminated by the public provider, which deteriorates their financial protection. The proposed indicator reflects the probability for an affiliate to obtain full financing when requesting service at a public health care facility.
Calculation methodology	The following are required to quantify the indicator: 1. Total SIS affiliates using public health services over a given period = $(A^{SIS}{}_{T})^{U}$ 2. Total SIS affiliates using public health services over a given period and whose expenses are fully covered via public financing (subsidies) = $(A^{SIS}{}_{T})^{US}$
Formula	$\frac{(A^{SIS}{}_{T})^{U}}{(A^{SIS}{}_{T})^{US}} \times 100$
Unit	The index is expressed as a numeric value between 0 and 1.
Interpretation	A decrease (increase) in the indicator implies a deterioration (improvement) in the degree of financial protection of public insurance affiliates.
Source	INEHI-ENAHO
Frequency	Information gathered annually

TABLE 2.8

INDICATOR 2.2 FINANCIAL COVERAGE OF THE POOR

Dimension	Financial protection
Operative indicator	1. Percent of individual health expenditure among the poor covered by public financing 2. Individual health financing per SIS affiliate using health services
Scope	Nationwide and regional
Application	Public sub-sector (individual health)
Definition	Both indicators approximate the degree of financial protection to the poor, from the perspective of service coverage. Protection to poor individuals or SIS affiliates will be greater the greater the share of their demand for health services financed by the government (first indicator), or the greater the government's capacity to expand service benefits (second indicador).
Calculation methodology	The following are required to quantify the indicator: 1. Total ordinary and earmarked resources channeled to finance public subsector individual health activities = F^{SI}_{T} 2. Total poor households' out-of-pocket health expenditure = GB^{SI}_{T} 3. Total SIS affiliates using public health services over a given period = $(A^{SIS}_{T})^{U}$
Formula	*First indicator*: $\frac{F^{SI}_{T}}{F^{SI}_{T}, GB^{SI}_{T}}$ 100 Second indicator: $\frac{F^{SI}_{T}}{(A^{SIS}_{T})^{U}}$ 100
Unit	The first indicator is expressed as a numeric value between 0 and 1. The second indicator is expressed as a positive numeric value.
Interpretation	A decrease (increase) in the indicator implies a deterioration (improvement) in the degree of financial protection to public insurance affiliates.
Source	INEHI-ENAHO, MEF-SIAF
Frequency	Information gathered annualy

TABLE 2.9

INDICATOR 2.3 EXPOSURE TO CATASTROPHIC EXPENDITURE

Dimension	Financial protection
Operative indicator	Index of household exposure to catastrophic health expenditure
Scope	Nationwide and regional
Application	Sectoral
Definition	Summary measure of households' risk of becoming poor or aggravating their poverty level from fully assuming the care cost of a disease event. According to international literature (Baeza, 2006; Gottret, 2008), a household is considered to be under impoverishment risk if its out-of-pocket health expenditure exceeds 10% of total family expenditure.
Calculation methodology	The index considers both the incidence and the intensity of the impoverishment risk: 1. INCIDENCE: Percent of households in a country or region where out-of-pocket expenditure exceeds 10% of family expenditure (HEADCOUNT) 2. INTENSITY: Mean excess relative to the 10% threshold (percent)
Formula	Risk incidence x Risk intensity
Unit	The index is expressed as a numeric value between 0 and 1.
Interpretation	Values close to 0 represent a low percentage of households under impoverishment risk; values close to 1 indicate a high percentage of the population under impoverishment risk. A decrease (increase) implies an improvement (deterioration) in households' degree of exposure to catastrophic expenditure or impoverishment risk.
Source	INEHI-ENAHO
Frequency	Information gathered annually

2.4.3 INDICATORS OF EQUITY IN RESOURCE ALLOCATION

TABLE 2.10

INDICATOR 3.1 ALLOCATIVE PROGRESSIVITY INDEX

Dimension	Equity in resource distribution
Operative indicator	Index of progressivity in the allocation of health resources to regions (K Index)
Scope	Nationwide and regional
Application	Public sub-sector
Definition	Measure of progressivity in the distribution of public health resources to regions; i.e., if regions with greater financial needs are assigned more resources.
Calculation methodology	Based on the methodology for the calculation of Kakwani's Progressivity Index. Estimation of the following is required: 1. The area of the concentration curve for the ACTUAL DISTRIBUTION of resources to the regions = C 2. The area of the Lorenz curve for a TARGET DISTRIBUTION based on financial needs = G The target distribution is based on a proposed resource allocation aimed at: 1. Compensating for the differences in individual health care needs between regions (morbility). 2. Compensating for the regional differences regarding the social risks affecting the demand for health services. 3. Compensating for the differences in resolution and managerial capacities between regions. 4. Compensating for the differences in regional individual health care costs and the cost of transportation to health care facilities. (See Chapter 6 for further details on the calculation of the target distribution)
Formula	K Index = 2 x (C-G)
Unit	The progressivity index is expressed as a numeric value between -2 and 1.
Interpretation	Negative (positive) values indicate that the distribution of public sub-sector resources is regressive (progressive); i.e., a lower (higher) share of resources is oriented towards regions with higher financial needs. A decrease (increase) in the index implies a deteriorating (improving) degree of progressivity in the resource allocation system.
Source	INEHI-ENAHO, INEI-ENDES, MEF-SIAF
Frequency	Information gathered annually

2.4.4 INDICATORS OF EQUITY IN HEALTH SERVICE UTILIZATION

TABLE 2.11

INDICATOR 3.2 UTILIZATION RATE BY POVERTY LEVEL

Dimension	Equity in health service utilization
Operative indicator	Differential between the health service utilization rate in poor and non-poor segments
Scope	Nationwide and regional
Application	Sectoral
Definition	Measure of the health financing system's degree of horizontal equity. It establishes if households' payment capacity is an access barrier for the utilization of health services in lower-resource segments. Under equity conditions, the differential between socioeconomic groups is expected to be low or null.
Calculation methodology	It is required to calculate the percentage of each socioeconomic group using: 1. Outpatient services: TU^{C} 2. Hospitalization services: TU^{H}
Formula	$\frac{(TU^{C})^{Poor}}{(TU^{C})^{No\text{-}poor}}, \frac{(TU^{H})^{Poor}}{(TU^{H})^{Non\text{-}poor}}$
Unit	The indicator is expressed as a positive numeric value.
Interpretation	Values below 1 indicate lack of equity in service utilization; i.e., poor segments use relatively less services than non-poor segments. A decrease (increase) in the indicator suggests deteriorating (improving) equity conditions.
Source	INEHI-ENAHO
Frequency	Information gathered annually

TABLE 2.12

INDICATOR 3.3 UTILIZATION RATE BY NEED

Dimension	Equity in health service utilization
Operative indicator	Differential between the health service utilization rate of regions with higher health needs
Scope	Nationwide and regional
Application	Sectoral
Definition	Measure of the health financing system's degree of horizontal equity. It establishes if differences in health needs have an influence on the level of health service utilization. Under equity conditions, a higher utilization rate would be expected in regions with greater health needs.
Calculation methodology	Regions are classified by their health needs, based on child mortality and chronic malnutrition, among other sanitary results. For each kind of region, it is required to calculate the percent of the population using: 1. Outpatient services: TU^C 2. Hospitalization services: TU^H
Formula	$\frac{(TU^C)^{\text{Higher need}}}{(TU^C)^{\text{Lower need}}}, \frac{(TU^H)^{\text{Higher need}}}{(TU^H)^{\text{Lower need}}}$
Unit	The indicator is expressed as a positive numeric value.
Interpretation	Values below 1 indicate lack of equity in service utilization; i.e., segments with higher health needs use relatively less services than segments with lower needs. A decrease (increase) in the indicator suggests deteriorating (improving) equity conditions.
Source	INEHI-ENAHO
Frequency	Information gathered annually

2.4.5 INDICATORS OF EFFICIENCY IN THE USE OF RESOURCES

TABLE 2.13

INDICATOR 4.1 FINANCING EFFECTIVENESS

Dimension	Efficiency in the use of resources
Operative indicator	1. Increase in life expectancy from greater factor productivity (in life years gained) 2. Number of child deaths prevented by greater factor productivity (x 1000) 3. Reduction in the malnutrition rate from greater factor productivity (in pp)
Scope	Nationwide and regional
Application	Sectoral
Definition	In the field of health policy, financing effectiveness refers to the population's health condition (or any sanitary result) in a certain period, given the assigned financing volume and the prevailing institutional, political and physical resource conditions. Variations in financing effectiveness between two periods can be attributed to changes in: (a) factor intensity; (b) productive factors; and y (c) determinants. The indicator measures changes strictly attributable to variations in the productivity of factors (a and b).
Calculation methodology	See Chapter 3 for further details on the calculation methodology.
Formula	See Chapter 3 for further details on the formula.
Unit	The indicator is expressed as a numeric value for: 1. Life years gained 2. Child deaths prevented 3. Variations in the chronic malnutrition rate
Interpretation	The higher (lower) the reference indicator in absolute values, the greater (smaller) the changes in factor productivity leading to improving (deteriorating) sanitary results.
Source	INEHI-ENAHO, INEI-ENDES, MINSA, MEF-SIAF
Frequency	Information gathered annualy

3 CHANGES IN PERFORMANCE: 2000-2009

3.1 CONTEXT

3.1.1 ECONOMIC AND SOCIAL CONTEXT

Economic conditions in the country were favorable during 2000-2009. However, there were two distinct sub-periods in terms of economic momentum. In 2000-2004 the economy expanded at a slower pace (2.4% per year) than during 2005-2009 (4.4% per year) (Figure3.1).

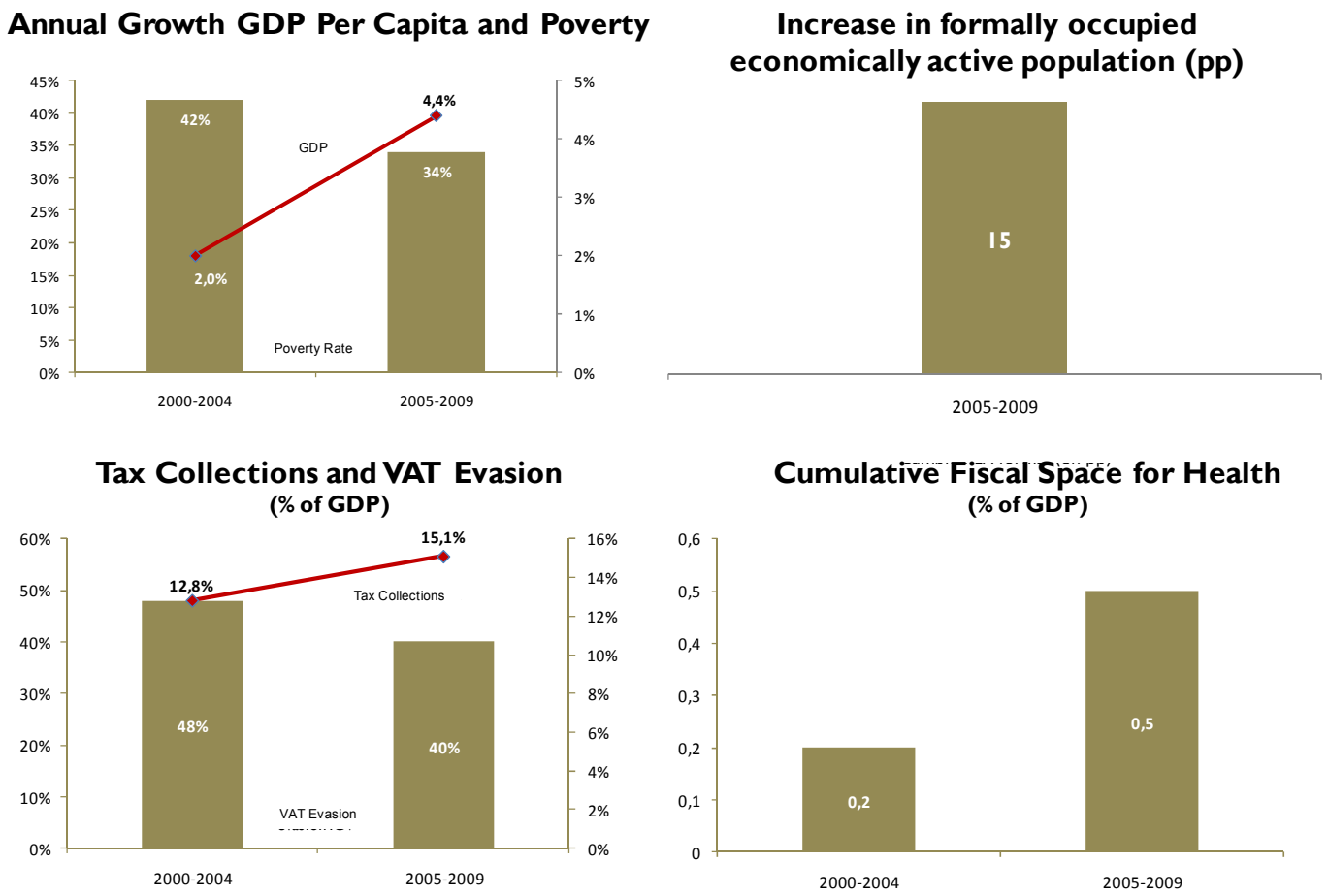
The acceleration of growth during the second half of the decade reflected favorable developments in poverty reduction, employment, and tax performance. The poverty rate decreased 8percentage points (p.p.), to 34%. The formal Economically Active Population (EAP) grew 15 p.p. vis-à-vis 2000-2004;and tax collections as percent of GDP increased by 2.3 p.p., to 15.1% of GDP on average. Good tax performance reflected a decrease in evasion, especially an average decrease of 8 p.p. in VAT evasion.

How did improving economic conditions affect health public finances? In this respect, it should be emphasized that the fiscal space for health expanded 0.2 p.p. of GDP in 2005-2009, as a result of a higher pace of growth and tax administration improvements. It should be specified that the fiscal space for health refers to the budget margin to convey resources to the health sector without affecting the country's fiscal position (USAID, 2010).

The impact on the fiscal space suggests that potential resources for financing the public sub-sector's health activities grew during the second half of the last decade. At the same time, this does imply that this margin was appropriated by the sector. The latter would have depended on the negotiation capacity of the health authority, political priorities, and implementation capacity, among other factors. How effective were the authorities in appropriating the fiscal space? We will try to answer this question in the section about the assessment of the performance of the health financing system.

FIGURE 3.1

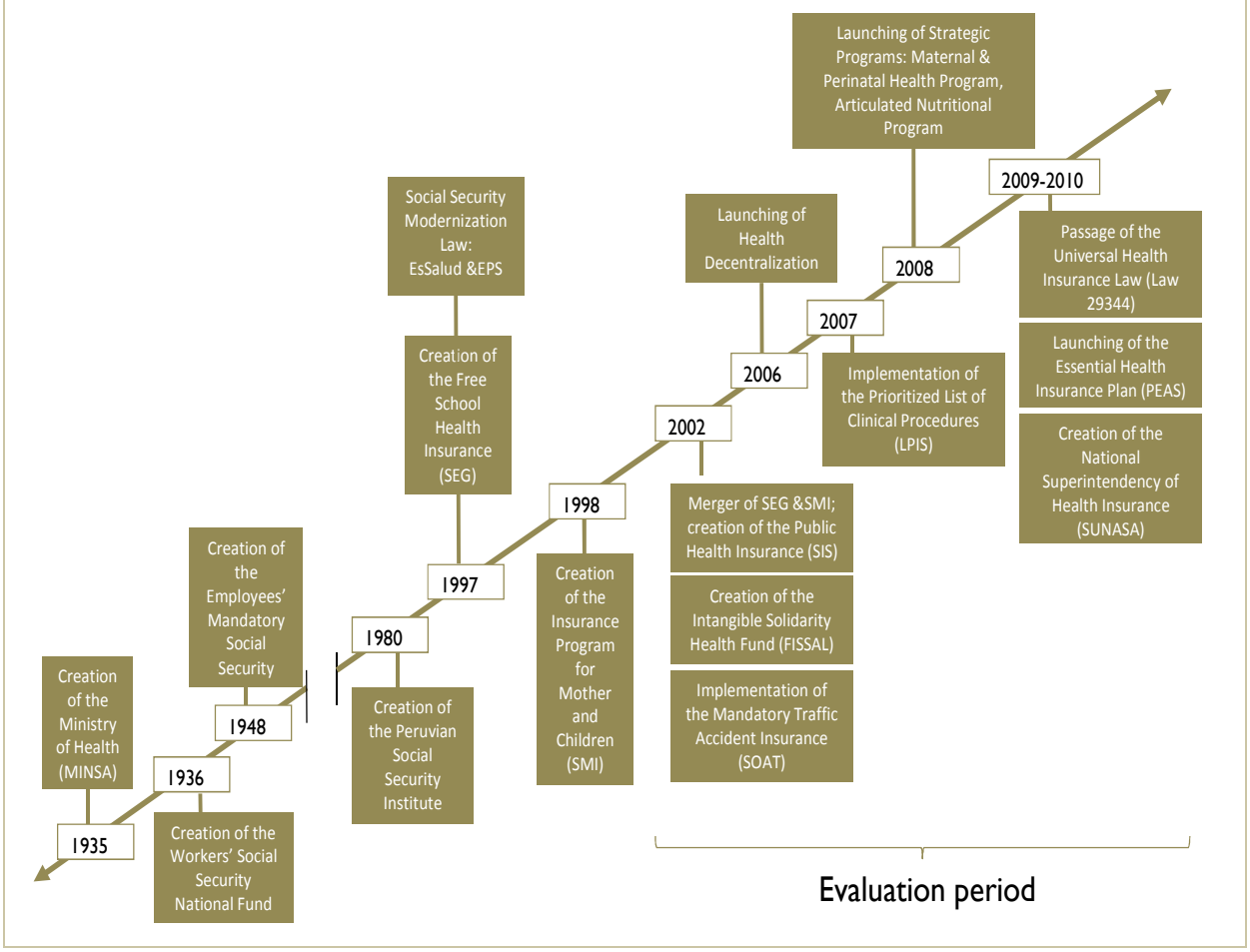
ECONOMIC INDICATORS 2000-2009



3.1.2 HEALTH SECTOR REFORMS AND COVERAGE DECISIONS

During 2000-2009, successive governments carried on the long process towards universal coverage (Figure3.2);i.e., access to health care for all without creating financial difficulties associated with the use of such services or forcing the public to choose between their health conditions and their economic welfare (financial protection).

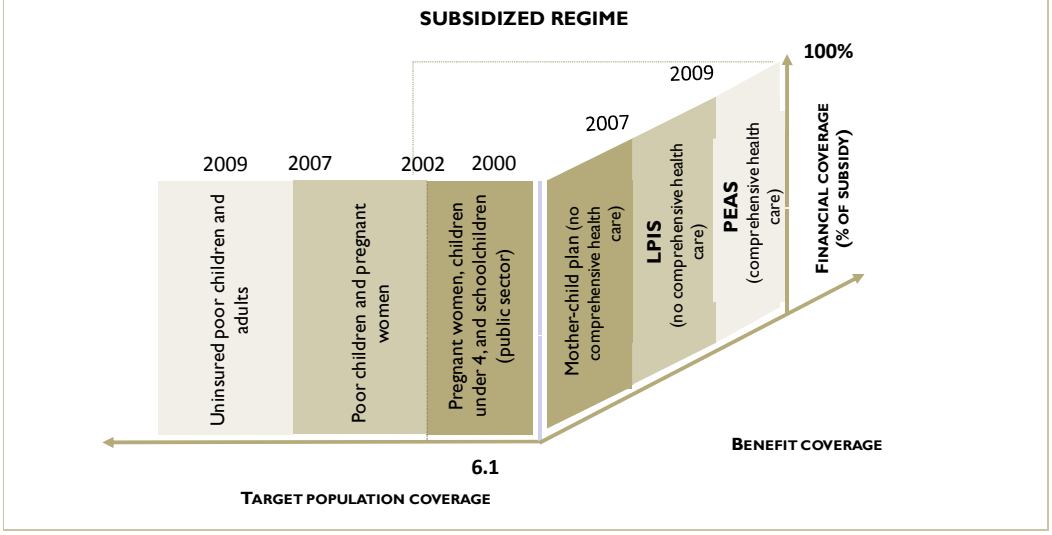
FIGURE 3.2 TIMELINE OF HEALTH REFORM IN PERU



In the said period several financing reforms were introduced, thus reinforcing the foundation for universal care, among them the creation of the SIS (2002), a merger of the Free School Health Insurance (SEG) and the Insurance Program for Mother and Children(SMI); the devolution of health functions to Regional Governments as part of the sector's decentralization

process; the financial shielding of the strategic Maternal and Perinatal Health Program and the ArticulatedNutritional Programs through the implementation of results-based budgeting; and the enacting by Congress of the Universal Health Insurance Law (Law 29344) in April 2009, among others.

FIGURE 3.3 CHANGES IN COVERAGE DECISIONS



Some of these reforms have implied changes in population, service, and financial coverage,which have progressively increased resource needs, mainly those associated with public financing. Thus, between 2000 and 2009, both the population eligible to receive government subsidies and the service content of the benefit plan financed by the SIS have been enhanced gradually by law (Figure3.3).

In this regard, it should be noted that in 2000 the SEG aimed at providing comprehensive health care to children between 3 and 7 years of age from public schools; whereas the SMI financed care for women during pregnancy and puerperium and for children under 4. With the launching of SIS operations in 2001, public financing focused on the poor pregnant and children population according to a mother-child benefit program. In 2007, SIS's target population expanded to all poor age groups and new services, established in the Prioritized List of Clinical Procedures (LPIS), were included in the benefit plan.

With the passing of Law 29344 in 2009, the government sought universal coverage through a mixed strategy aimed at expanding not only population coverage: in addition, affiliation to any

of the three insurance systems (subsidized, semi-contributive, and contributive) became MANDATORY[8].

Moreover, the Essential Health Insurance Plan (PEAS) established a comprehensive service package (including prevention, diagnose support, cure, and rehabilitation) to address 140 insurable conditions over the life cycle[9]. Such plan contains explicit opportunity and quality guarantees for all beneficiaries, associated with quality standards for service delivery and maximum waiting lists that the entire health service network is obliged to provide to users. It should be noted that the approved PEAS covers approximately 65% of the burden of disease at the national level and represents a substantial improvement over the LPIS, the benefit plan in force for SIS affiliates as of the date of approval of the PEAS.

I SUMMARY OF PEAS CONTENTS

1. 140 INSURABLE CONDITIONS (AND OVER 1100 CLINICAL VARIANTS), ASSOCIATED WITH:
   - HEALTHYPOPULATION (5),
   - GYNECOLOGICAL AND OBSTETRICALCONDITIONS (28),
   - PEDIATRICCONDITIONS (23),
   - NEOPLASTICCONDITIONS (7),
   - TRANSMISSIBLECONDITIONS (31),
   - NON-TRANSMISSIBLECONDITIONS (41),
2. 490 MEDICAL PROCEDURESAND
3. 34 QUALITY AND OPPORTUNITY GUARANTEES FOR MOTHER-CHILD CONDITIONS.

The passing of the PEAS was an important step forward not only in defining and guaranteeing the population's health entitlements, but also in reducing the considerable service coverage inequalities in Peru's fragmented health system.

However, it is fundamental to analyze if the changes in coverage decisions have been consistent with the evolution of the financing level; and if the resources are sufficient to guarantee the health entitlements established by law. If not, what are the implications for the health system and what distortions could be evolving within the health system? We will attempt to answer these questions in the next section on the evaluation of the performance of the health financing system.

[8]The subsidized regime is directed towards the poor population, with the Government in charge of fully covering the health needs of this segment according to the benefit plan in place. The semi-contributive regime is directed towards the independent population with low contributive capacity and/or under the Special Labor Regime, who gain the right to cover their health needs via a partial premium payment. Finally, the contributive regime finances the needs of the formally employed population via compulsory contribution to the Social Security system by the employer. The latter regime also includes the population with capacity to contribute voluntarily to public or private insurance (See Appendix I: Eligibility Criteria).

[9] Insurable conditions are health states sought to be preserved (in the case of a healthy population), or recovered (in the case of a sick population), and that can be financed via insurance schemes. Additionally, interventions are understood to be the health services or group of services of a promotional, preventive, recuperative, and rehabilitation nature aimed at the management of insurable conditions.

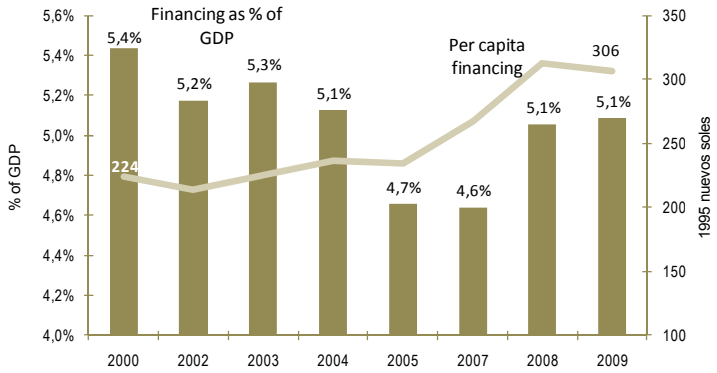
3.2 PERFORMANCE OF THE HEALTH FINANCING SYSTEM

3.2.1 IN TERMS OF REDUCING THE FINANCING GAP

CHANGES IN THE LEVEL OF AVAILABLE RESOURCES

Figure 3.4shows the evolution of the financing level assigned to the health sector from all financing sources during 2000-2009, as percent of GDP and in per capita real values. As mentioned in section 2.4.1, these values are indicative of the evolution of the resource level available to finance health sector activities.

FIGURE 3.4 TOTAL AND PER PERSON HEALTH FINANCING



1/ Figures for 2000 and 2005 were taken from the Health National Accounts 1996-2005, MINSA (2008). For other periods, estimations were made based on information reported by ENAHO-INEI, SIAF, EsSalud, SEPS, and SBS.

The results show that, in per capita terms, there has been a trend towards improving the level of available resources. Total financing per person increased 36%, from NS/ 224 in 2000 to NS/ 306 in 2009. It should be pointed out that the improvement in adequacy was concentrated mainly in the second five-year period, as a consequence of better economic and fiscal conditions in that sub-period, which contributed to creating a greater fiscal space for health. In this respect, Table 3.1 shows that the annual growth in the level of financing per person was 0.6% in the 2000-2004 sub-period, considerable below the 5% rate in the 2005-2009 sub-period.

TABLE 3.1

TOTAL HEALTH FINANCING

INDICATOR	2000-2004	2005-2009	VARIATION
% OF GDP	5.2	4.9	-0.3 PP.
PER CAPITA (NS/ 1995)	224	280	+25%
% ANNUAL VARIATION	0.6	5.0	4.4 PP.

1/ Figures for 2000 and 2005 were taken from the Health National Accounts 1996-2005, MINSA (2008). For other periods, estimations were made based on information reported by ENAHO-INEI, SIAF, EsSalud, SEPS, and SBS.

Comparing growth in the financing level relative to economic growth, in the first five-year period available resources grew at a slower pace than GDP. This situation was reverted in the second five-year period. As a result, health financing as a percent of GDP showed a growing trend during the 2000-2004 sub-period, reaching an inflection point in 2005, when a favorable trend shift the took place. However, the financing level as a percent of GDP in the second five-year period did not regain the maximum reached in 2000 (5.4% of GDP).

The evolution of available resources shows a clear PROCYCLICAL behavior, as it fluctuates in line with the dynamics of the economy and the fiscal context. This introduces instability and uncertainty in the health financing policy and hampershealth sector resource programming and planning.

The improvement in the indicators for available resources does not reflect information about the efficiency of such resources in covering the financing gap or the system's effort in mobilizing resources to bridge it. For this reason, the performance analysis in this dimension is complemented by the adequacy and resource mobilization effort indicators presented in section 2.4.1.

CHANGES IN FINANCING GAP COVERAGE

According to technical studies based on the analysis of the supply of demand of health services in Peru, it can be established that, as of 2005, the requirements gap to cover the care needs of the entire population was 1.9% of GDP. Had this gap been covered, health financing would have increased from 5.1% of GDP currently to 7.0% of GDP, closer to the average for the region. In the case of the public sub-sector, the financing gap was 1.3% of GDP in the same year (USAID, 2010).

TABLE 3.2 **FINANCING GAP COVERAGE**

SECTOR	GAP 2005	ADDITIONAL FINANCING 2005-2009	GAP COVERAGE
	PERCENT POINTS OF GDP		
TOTAL SECTOR	1.9	0.1	21%
PUBLIC SUB-SECTOR	1.3	0.4	20%

Sources: MEF-SIAF, USAID (2010)

How much of this gap has been covered with the flow of additional resources obtained during 2005-2009? Table 3.2 shows that, thanks to higher financing in that period, it was possible to cover 21% and 20% of the total and public sub-sector financing gaps, respectively. This shows that the higher available resources were nonetheless INSUFFICIENTto address the population's health needs.

CHANGES IN THE RESOURCE MOBILIZATION EFFORT

Bridging the public sub-sector's financing gap depends mainly on two factors. The first one, which is not controllable by the health authorities, refers to the magnitude of the fiscal space created in the period. The second one, which is controllable by the health authorities, refers to the ability to appropriate the fiscal space; i.e., the percentage of the fiscal space effectively channeled to the sub-sector to finance health activities. This indicator reflects the health authorities' resource mobilization effort, which depends on the ability to negotiate and put health priorities in the political agenda.

TABLE 3.3 **APPROPRIATION OF THE FISCAL SPACE FOR HEALTH**

INDICATOR	2000-2004	2005-2009	VARIATION
COVERAGE OF PUBLIC SUB-SECTOR FINANCING GAP (1 X 2)	N.A.	20%	N.A.
1. VARIATION OF PUBLIC SUB-SECTOR FINANCING / FISCAL SPACE (%)	0%	51%	51%
2. FISCAL SPACE / PUBLIC SUB-SECTOR GAP	N.A.	38%	N.A.

Own estimations.

Table 3.3shows two aspects of interest. First, the fiscal space created in 2005-2009 (0.5 points of GDP) imposed a budget cap, which made it less viable to cover the total gap: in that period, the accumulated fiscal space represented 38% of the total subsector's gap. Second, the health authorities managed to channel 51% of the total fiscal space to the subsector, reflecting a considerable resource mobilization effort compared to the first five-year period.

REFLECTIONS ON PERFORMANCE REGARDING RESOURCE MOBILIZATION

Table 3.4summarizes the performance indicators regarding resource mobilization. In general, it can be established that: the favorable economic and fiscal context in the period, the political commitment with the sector, and the improving negotiation capacities of the sector's authorities have been key in creating a greater availability of resources in the sector. However, the higher resource flow has been insufficient to bridge both the total and public sub-sector gaps.

TABLE 3.4

CHANGES IN RESOURCE MOBILIZATION PERFORMANCE

	PERFORMANCE INDICATOR	2000-2004	2005-2009	VARIATION	
	RESOURCE AVAILABILITY				
1.	TOTAL HEALTH FINANCING				
	% OF GDP	5.2%	4.92%	-0.3 PP	
	PER CAPITA (NS/ 1995)	224	280	+25%	
	RESOURCE ADEQUACY				
2.	VARIATION OF FINANCING (% OF GDP) AS % OF THE FINANCING GAP				
	SECTOR	N.A.	21%	N.A.	
	PUBLIC SUB-SECTOR	N.A.	20%	N.A.	
	RESOURCE MOBILIZATION EFFORT				
1.	FISCAL SPACE FOR HEALTH AS % OF THE VARIATION IN PUBLIC SUB-SECTOR FINANCING	0%	51%	+ 51 PP	

There are multiple factors, different from those associated with the economic cycle and tax administration, which are likely to have limited the bridging of the financing gap. They are mainly associated with problems of institutional design and organizational practices. In the case of the financing of the public subsector, the following limiting factors can be mentioned:

1. ABSENCE OF CLEAR AND TRANSPARENT RULESfor the formulation of budget caps, which are defined inertially; i.e., basedon historical behavior, without consideration of the potential demand for health public services or the sector's fiscal space.

2. EXISTENCE OF DISCRETIONARY RULESin the allocation of resources to the sector, which is influenced by the Ministry of Finance's (MEF) fiduciary risk concerns; i.e., the risk that resources may be assigned to other ends or spent in a lower proportion than assigned. This is reflected, for example, in the continuous changes in the staff in charge of budget implementation.

3. ORGANIZATIONAL CAPACITY PROBLEMSin eliminating supply restrictions, thereby allowing a greater absorption and resource implementation (see Chapter 3 for further details on this problem and its implications for health financing).

In the case of financing channeled through social security, the following can be mentioned:

1. EXISTENCE OF RULESthat limit the capacity to control arrears or defaults in payments to EsSalud, as collection functions have been assigned to SUNAT for efficiency reasons.

2. ORGANIZATIONAL CAPACITY PROBLEMS at the Labor Ministry in reducing the high number of contractless employees working in medium and large enterprises (approximately 1 million employees).

3.2.2 IN TERMS OF REDUCING IMPOVERISHMENT RISKS

As mentioned in section 2.4.2, the objective of financial protectionrefers to the health system's capacity to prevent families from becoming poor (or aggravate their poverty condition) from using health services or being forced to choose between preserving their health conditions and their economic welfare. The impoverishment risk depends on:

1. How many people have some kind of insurance, be it public or private? (INCIDENCEOF FINANCIAL PROTECTION);and

2. How protected is the population that has insurance coverage? That is, how ample are the health benefitsfor which financing is actually provided (INTENSITY OF FINANCIAL PROTECTION).

CHANGES IN POPULATION COVERAGE: INCIDENCE ON FINANCIAL PROTECTION

Table 3.5shows thatthe percentage of the population with some kind of insurance doubled from 32% in 2000 to 61% in 2009. The situation is similar for SIS affiliates, which increased by approximately 100% during the period of analysis.

As a consequence of the accelerated affiliation process, 73% and 80% of the target population for the subsidized and contributive regimes now has insurance coverage. In contrast, insurance in the semi-contributive regime is low: as of2009, only 2.4% of the target population was affiliated to the SIS due to weak incentives to promote insurance in this segment[10]and failure to correct certain market failures, such as a low insurance culture, insufficient risk awareness, high aversion to monetary loss, and adverse selection, among others.

[10]The relevant pieces of legislation in this field are DL 1086 (medium and small enterprises) and DS 034-2010-SA (explicit mechanisms regarding the compulsive nature of health insurance).

TABLE 3.5

CHANGES IN POPULATION COVERAGE

INDICATORS		VARIATION
1.% OF INSURED POPULATION	61%	29PP
2.NUMBER OF SIS AFFILIATES 1/	11,013	101%
3. INSURANCE COVERAGE	% OF TARGET POPULATION	
• SUBSIDIZED REGIME	73%	N.A.
• SEMI CONTRIBUTIVE REGIME	%	N.A.
• CONTRIBUTIVE REGIME 2/		N.A.

1/ 2004
2/ INCLUDES ONLY SOCIAL SE

CHANGES IN THE LEVEL OF SERVICE COVERAGE: INTENSITY OF FINANCIAL PROTECTION

While the number of insured people has increased during 2000- 2009, overall financial protection has not necessarily grown. The latter will depend on an effective expansion of health entitlements; i.e., if the capacity to finance a greater volume of benefits or service deliveries to the insured population increases.

A referential indicator is the variation in the level of resources pooled under financing arrangements based on public subsidies or insurance (through Social Security contributions by employers or voluntary payment of health insurance premiums). An increase in the level of pooled resources would tend to improve financial protection, as it would alleviate the financial burden on households by reducing the (absolute and relative) weight of out-of-pocket expenditure in the financing structure.

Table 3.6shows that the level of pooled resources diminished from 3.2% of GDP in 2000 to 3% of GDP in 2009. As a result, during that period the heavy financial burden on households created by health financing could not be reduced: out-of-pocket expenditure was 38% of total financing. It should be noted that these levels are considerably above those in countries like Chile, Colombia, and Costa Rica, where out-of-pocket expenditure is less than 25% of total financing.

TABLE 3.6

CHANGES IN BENEFIT COVERAGE

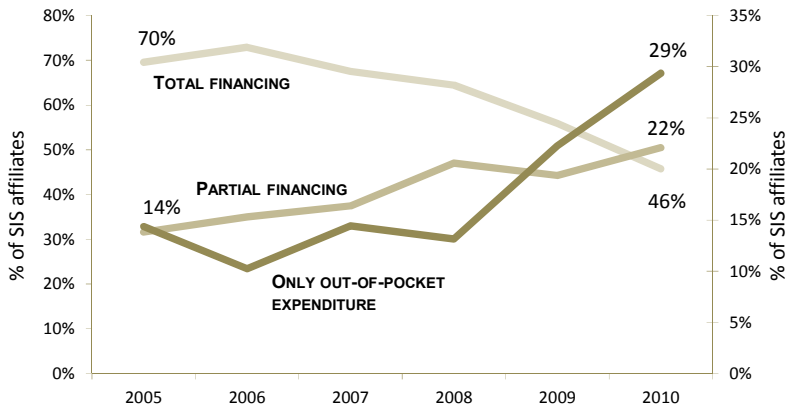
PERFORMANCE INDICATOR	2009	VARIATION 09 / 05
• %		
• % OF TOTAL FINANCING		
• % OF F INDIV CO		
•		
10% OF FAMILY EXPENDITURE		
b. MEAN EXCESS OVER 10%	74 %	7 PP

This result exposes a conflict between the pace of affiliation and the level of financing, as pooled resources have not been growing at the same speed as the insured population, particularly in the public subsector: In 2004-2009, the volume of SIS affiliates increased by 100%, while financing for individual health service deliveries expanded only by 50% (USAID, 2010).

The policy misalignment may have been creating financial imbalances on the side of the public health provider, forcing implicit demand rationing practices (via informal charges, expansion of waiting lists, and discrimination of SIS members), causing a significant decrease in financial protection for SIS members and an aggravation of social exclusion.

Regarding the reduction in financial protection, Table 3.6 shows that not all SIS affiliates that used public health services received free treatment. Part of them made some kind of copayment or provided full financing from their own resources.It should be pointed out that his percentage increased in the last five-year period, from 30% in 2005 to 44% in 2009; while those who received a full subsidy diminished from 70% to 56% over the same period (Figure3.5).

FIGURE 3.5 DISTRIBUTION OF SIS USERS TO HEALTH SERVICES BY FINANCING MODALITY



The lower financial protection for the poor population is also reflected in the decrease in the financial coverage indicators for poor households.The percentage of individual health expenditure in these households covered through public financing decreased from 75% in 2005 to 67% in 2009. Additionally, public financing per SIS affiliate contracted by 34% between 2000 and 2009, reflecting the government's lower capacity to provide greater service coverageto affiliates.

Finally, the stability of pooled resources generated a downward inflexibility in the impoverishment risk: approximately 8% of households (equivalent to 560 thousand households) are exposed annually to the risk of falling into poverty or aggravating their poverty level (Table3.6), a share that remained stable during the period of analysis[11]. The risk is concentrated in the areas with a lower poverty level(Table3.7).

[11]This value results from considering two effects: risk severity and intensity. The former refers to the percentage of households where health expenses represent more than 10% of the consumption basket (up to 11% of households in Peru). The latter measures the average excess expenditure in these households above the 10% threshold. From Table 6.3, these households spend 74% above the threshold on average. The product of both effects indicates the percentage of the population exposed to risk.

TABLE 3.7

INDEX OF EXPOSURE TO CATASTROPHIC EXPENDITURE BY REGION

Region	Headcount [1/]			Mean excess above 10%			Index of exposure to catastrophic expenditure		
	2002	2005	2009	2002	2005	2009	2002	2005	2009
Amazonas	10%	12%	11%	112%	99%	119%	11%	11%	13%
Ancash	7%	7%	7%	75%	65%	80%	5%	4%	6%
Apurimac	5%	6%	6%	63%	64%	102%	3%	4%	6%
Arequipa	11%	10%	12%	74%	77%	69%	8%	8%	8%
Ayacucho	8%	4%	8%	90%	57%	78%	7%	2%	6%
Cajamarca	15%	10%	11%	91%	95%	103%	13%	10%	11%
Callao	10%	8%	11%	65%	49%	64%	7%	4%	7%
Cuzco	8%	5%	7%	87%	71%	72%	7%	4%	5%
Huancavelica	6%	2%	3%	84%	110%	86%	5%	2%	3%
Huanuco	9%	5%	4%	103%	45%	57%	9%	2%	2%
Ica	8%	9%	10%	61%	59%	62%	5%	6%	6%
Junin	11%	9%	11%	85%	65%	97%	10%	6%	10%
La Libertad	14%	14%	11%	83%	84%	86%	12%	11%	10%
Lambayeque	11%	10%	12%	62%	74%	68%	7%	7%	8%
Lima	12%	10%	14%	61%	50%	66%	8%	5%	9%
Loreto	7%	4%	5%	117%	40%	74%	8%	2%	4%
Madre de Dios	8%	7%	4%	61%	57%	67%	5%	4%	2%
Moquegua	7%	9%	5%	77%	99%	73%	5%	9%	4%
Pasco	7%	9%	8%	69%	80%	71%	5%	7%	5%
Piura	11%	8%	12%	88%	99%	75%	10%	8%	9%
Puno	6%	4%	4%	76%	71%	74%	4%	3%	3%
San Martin	15%	12%	16%	99%	79%	85%	15%	10%	14%
Tacna	6%	9%	10%	73%	78%	81%	4%	7%	8%
Tumbes	9%	8%	8%	89%	91%	47%	8%	7%	4%
Ucayali	5%	6%	8%	111%	66%	64%	6%	4%	5%
Peru	***11%***	***9%***	***10%***	***76%***	***67%***	***74%***	***8%***	***6%***	***8%***

1/ Percent of families with health expenditure above 10% of family expenditure.

REFLECTIONS ON THE PERFORMANCE OF FINANCIAL PROTECTION

Evidence shows that the health financing system has not been effective in improving financial protection, mainly for low-income segments;on the contrary, it worsened. Among the factors explaining this low performance, the following can be mentioned:

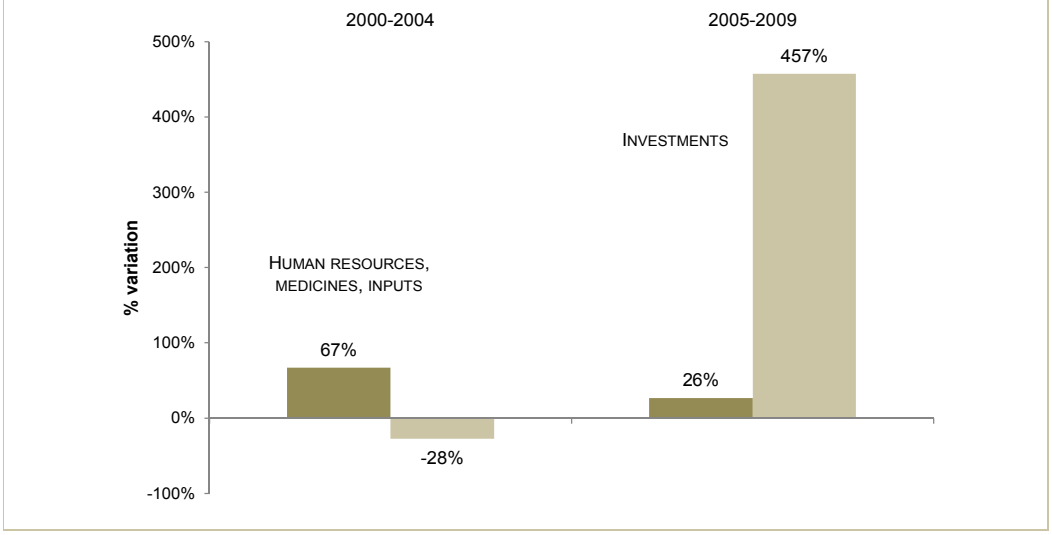
1. CONFLICTING RULESormisalignment between financing and insurance policies, which led public health providers to implicit rationing practices with SIS members.

2. ORGANIZATIONAL CAPACITY PROBLEMSatthe steward entity level in harmonizingthe financing and insurance policies through:(a) clear orientation or signaling to regional governments or health providers;(b) monitoring of consistency between policies; (c) implementation of affiliation control measures, among others.

3. COORDINATION PROBLEMSamong third-party government agencies in programming and implementing health expenditure in a rational and balanced manner. In this respect, it should be noted that the composition of public financing in recent years has been channeled to financing capital more than current expenditures. Thus, expenditure in human resources, medicines, and inputs grew 67% in 2000-2004, but decelerated to a cumulative 27% in 2005-2009. This behavior contrasts with the performance of investment expenditures, which decreased by 28% during the first five-year period and reverted to a cumulative 457% in 2005-2009.

   As a consequence, capital expenditure grew from 5% of the health budget in 2000-2004to 14% in 2005-2009. On the other hand, expenditure in human resources and medical inputs decreased from 63% to 54% over the same period.

FIGURE 3.6 AVERAGE REAL ANNUAL GROWTH BY EXPENDITURE ITEM



4. INADEQUATE RULESorweak incentives to deepen the insurance market, mainly regarding the contribution regime, leading to failure in alleviating the financial burden on the population.

3.2.3 IN TERMS OF IMPROVING EQUITY IN ALLOCATION

HEALTH NEED PRIORITIZATION PERSPECTIVE

Evidence shows that in Peru there is still a high differential between poor and non-poor regions regarding health conditions and per capita public expenditure. However, this gap has been decreasing over time. Evidence also shows that the distribution of benefits from public financing is considerably unequal and pro-non-poor.

TABLE 3.8

INDICATORS OF INEQUITY IN HEALTH

TYPES OF REGIONS	LIFE EXPECTANCY AT BIRTH (YEARS)		CHRONIC MALNUTRITION RATE		CHILD MORTALITY RATE		PER CAPITA INDIVIDUAL HEALTH EXPENDITURE 1/		INDIVIDUAL HEALTH EXPENDITURE PER POOR PERSON 1/	
	2000	2009	2009	2009	2000	2009	2000	2009	2000	2009
5 POOREST REGIONS	70	69	42	28	57	33	33	98	46	116
5 LESS POOR REGIONS	76	76	14	6	24	11	87	124	315	519
EXCLUDING LIMA	75	73	16	6	25	20	36	111	127	343
DIFFERENCIAL BETWEEN REGIONS										
LESS POOR AND POOREST	1.08	1.09	0.3	0.2	0.4	0.3	2.6	1.3	6.9	4.5
LESS POOR AND POOREST 2/	1.07	1.05	0.4	0.3	0.4	0.6	1.1	1.1	2.8	3.0

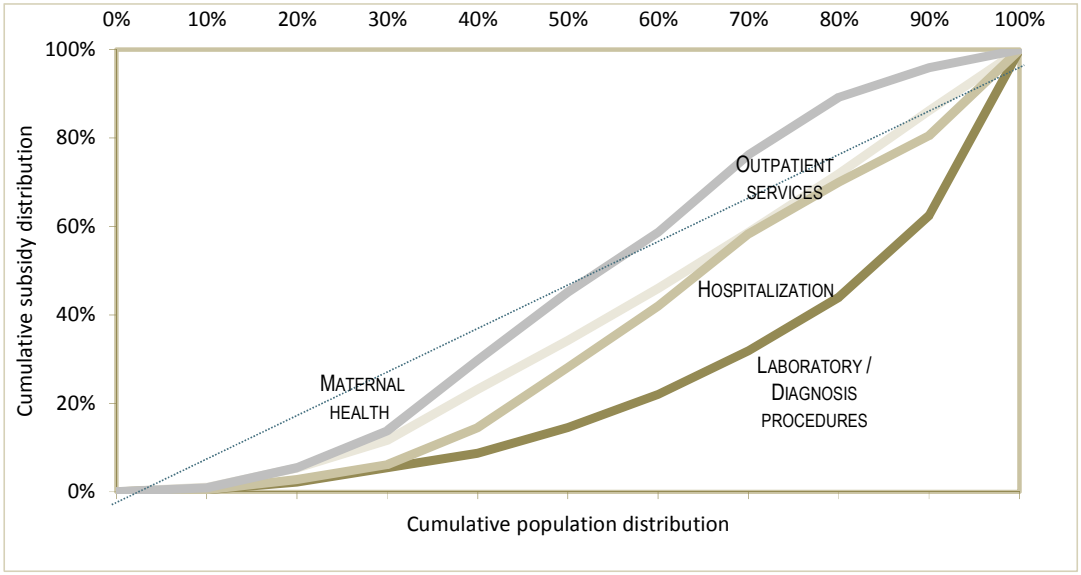
1/ 2009 NUEVOS SOLES
2/ EXCLUDING LIMA

Table 3.8shows the child mortality and chronic malnutrition rates, as well as per capita health expenditure in the 5 poorest and less poor regions.The results suggest that, despite an improvement in sanitary results, there are still disparities in the population's health conditions, with a clear association between poverty and poor health condition. In this regard, in the poorest regions the mortality rate is almost 1.7 times the rate for lower relative poverty areas (excluding Lima). Additionally, in the poorest regions, the probability of a child suffering chronic malnutrition is almost three timesgreater than for a child residing in lower relative poverty areas.

In terms of public expenditure per poor person, there has not been a substantial modification in the geographical distribution of resources, and the latter have been allotted independently of health needs. Thus, between 2000 and 2009, public expenditure increased at a similar rate, both in higher and lower poverty areas, keeping expenditure in the lowest relative poverty areas (excluding Lima) at approximately 3 times that in the highest relative poverty areas. If Lima is included, the differential diminishes, reflecting certain decisions to prioritize areas outside Lima.

FIGURE 3.7 SUBSIDY ASSIGNMENT CONCENTRATIONCURVE (2009)

IN URBAN AREAS



IN RURAL AREAS

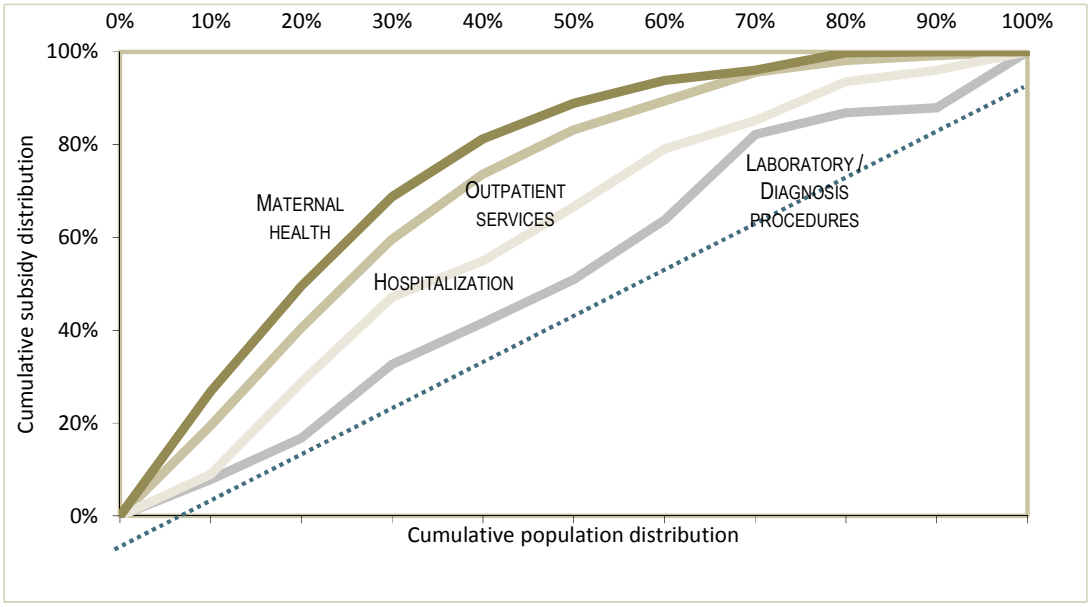


Figure 3.7 also shows that the distribution of subsidies assigned by the government to the health sector has a differentiated distributional effect according to the geographic area and the kind of service used. Thus, in urban areas there is a greater subsidy concentration on the

higher-income population using hospitalization and diagnosis procedures(non-poor distribution) and,to a lesser degree,outpatient services and those related with maternal health care.

This result reflects the existence in these areasof: (a) a differentiated utilization pattern in health service deliveryfor different socioeconomic groups;and (b) persistent targeting problems. Regarding the latter, estimations made by the Ministry of Health (MINSA) show that20% of the population affiliated to SIS does not comply with the eligibility criteria for admission to the subsidized and semi-contributive regimes.In contrast, in rural areas there is a more equitable distribution favorable to the lower-resource population in all kinds of services.

FINANCIAL NEEDS PERSPECTIVE

Using a more comprehensive approach for the assignment of the public subsector's resources;i.e., considering factors other than health needs prioritized by the Government (infant mortality and chronic malnutrition), such as the epidemiological profile in each region, the social risks, the supply gap, and cost differentials, a target distribution was estimated to approximate financial needs in each geographic area. Table 3.9 shows the comparison between the target and actual distribution of resources for 2000 and 2009[12].

These distributions were used to calculate Kakwani's progressivity index and establish if there is an allocation pattern directed towards areas with greater financial needs. The estimated value for the progressivity index is negative in both years, suggesting that the allocation criteria used are regressive; i.e., resources are being oriented in a greater proportion towards areas with lower relative needs. However, the index for 2009 is slightly lower than for 2000, reflecting a small equity improvement in resource allocation.

[12]Metropolitan Lima is not considered, as it includes resources assigned to Hospitals' and National Institutions' Implementing Units (UnidadesEjecutoras de los Hospitales e InstitutosNacionales) and resources assigned to Health Ministry (MINSA) management.

TABLE 3.9

TARGET DISTRIBUTION ACCORDING TO FINANCIAL NEEDS[1/]

Regions	Target Distribution	Actual Distribution	Target Distribution	Actual Distribution
	2000		**2009**	
Amazonas	3.1%	1.0%	2.7%	1.3%
Ancash	4.1%	3.1%	4.5%	3.3%
Apurimac	3.1%	1.8%	2.2%	2.3%
Arequipa	1.6%	4.1%	3.5%	4.5%
Ayacucho	3.0%	2.7%	3.0%	2.9%
Cajamarca	9.2%	2.8%	8.7%	3.0%
Cuzco	7.1%	3.0%	6.4%	3.4%
Huancavelica	2.9%	1.1%	2.6%	1.5%
Huanuco	5.2%	2.1%	5.0%	2.9%
Ica	1.0%	2.7%	1.0%	2.4%
Junin	5.3%	3.2%	5.9%	3.6%
La Libertad	5.3%	3.5%	5.9%	4.0%
Lambayeque	4.3%	1.7%	4.2%	2.0%
Loreto	9.5%	2.1%	8.4%	3.2%
Madre de Dios	0.2%	0.7%	0.6%	0.9%
Moquegua	0.2%	0.8%	0.2%	1.0%
Pasco	1.0%	1.0%	1.6%	1.0%
Piura	6.8%	3.0%	7.5%	3.7%
Puno	8.0%	3.6%	8.1%	4.3%
San Martin	3.9%	2.3%	5.1%	2.0%
Tacna	0.4%	2.0%	0.4%	1.4%
Tumbes	0.4%	0.5%	0.8%	0.8%
Ucayali	4.2%	1.5%	2.8%	1.1%

1 / Excluding Metropolitan Lima and Callao.

TABLE 3.10

CHANGES IN EQUITY IN ASSIGNMENT

PERFORMANCE INDICATOR	2000	2009	VARIATION
I. ALLOCATIVE PROGRESSIVITY INDEX (K INDEX)	-0.43	-0.38	0.05 P

REFLECTIONS ON PERFORMANCE REGARDING EQUITY IN RESOURCE ALLOCATION

The evidence shown suggests the existence of serious problems of inequity in resource allocation, as resources tend to concentrate in areas with lower relative needs. However, there is a slight improvement in equity conditions between 2000 and 2009 due t the implementation of results-based budgeting, which prioritizes certain strategic programs (Maternal and Perinatal Health Program and the Articulated Nutritional Program) focused on higher child mortality and malnutrition areas.

However, there are still some factors that prevent a substantial progressivity improvement in the mechanisms for the geographical assignment of the public sub-sector's health resources, among them:

1. THE ABSENCE OF CLEAR AND TRANSPARENT RULES regarding the criteria to assign health resources among regions, especially for activities that are not part of the strategic programs.

2. CONFLICTING RULESfor the decentralization of the health sector and the insurance policy, resultingin an inadequate distribution of public financing that favors arrangements based on supply-side subsidization. It should be noted that the latter represent around 88% of total health public financing, which tends to perpetuate financing inequities.[13]

3.2.4 IN TERMS OF IMPROVING EQUITY IN THE USE OF SERVICES

Figure 3.8shows the rate of utilization of outpatient and hospitalization services, according to socioeconomic level and health needs (classified according to the incidence of child mortality and chronic malnutrition in the regions). For both services, evidence shows that:

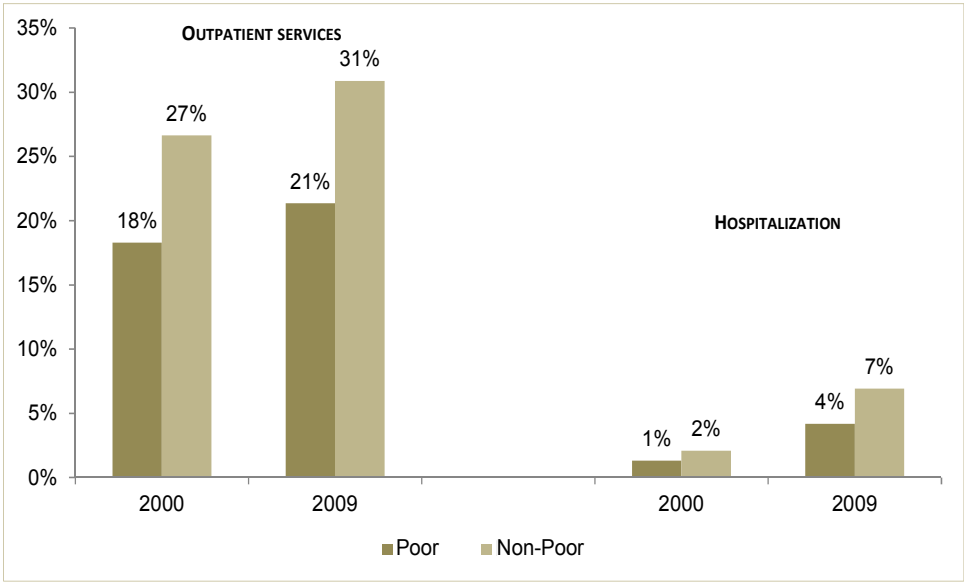
1. The rate of utilization is not equitable; i.e., it is higher for groups with higher economic resources and regions with lower health needs.

2. Between 2000 and 2009, the rate of utilization for both services increase for all socioeconomic groups and all regions. However, the increase was not homogenous. In the case of lowercomplexity services, the increase has been greater for lower resource segments or areas with higher health needs. On the contrary, higher complexity services show the opposite result.

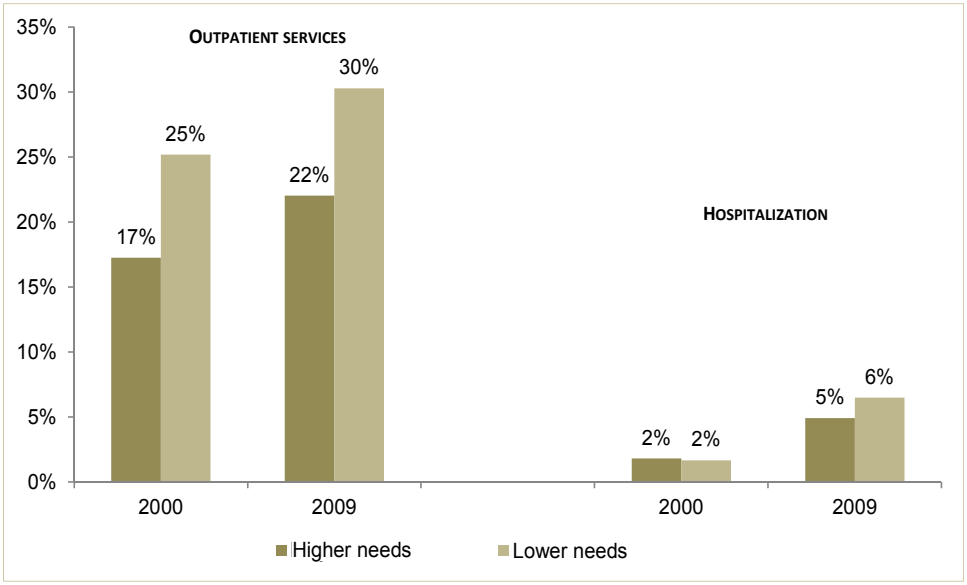
[13]For further discussion, see Chapter 4.

FIGURE 3.8 SERVICE UTILIZATION RATE (AS % OF POPULATION)

BY SOCIOECONOMIC GROUP



BY HEALTH NEED



3. Differential changes in the rate of service utilization have reduced inequities in the use of outpatient services and aggravated them for hospitalization services. This is reflected in

the shift in utilization ratios between less poor and poorer groups and between regions with higher and lower care needs (Table3.11).

TABLE 3.11 CHANGES IN ASSIGNMENT EQUITY

PERFORMANCE INDICATOR	2000	2009	VARIATION	
1. RATIO OF POOR TO NON-POOR POPULATIONS' HEALTH SERVICE UTILIZATION RATES				
a. OUTPATIENT SERVICES	0.69	0.69	0 PP.	
b. HOSPITALIZATION SERVICES	0.63	0.60	-3 PP.	
2. RATIO OF HIGHER- TO LOWER-NEED REGIONS' HEALTH SERVICE UTILIZATION RATES				
a. OUTPATIENT SERVICES	0.68	0.73	5 PP.	
b. HOSPITALIZATION SERVICES	0.90	0.75	-18 PP.	

REFLECTIONS ON EQUITY PERFORMANCE IN THE USE OF SERVICES

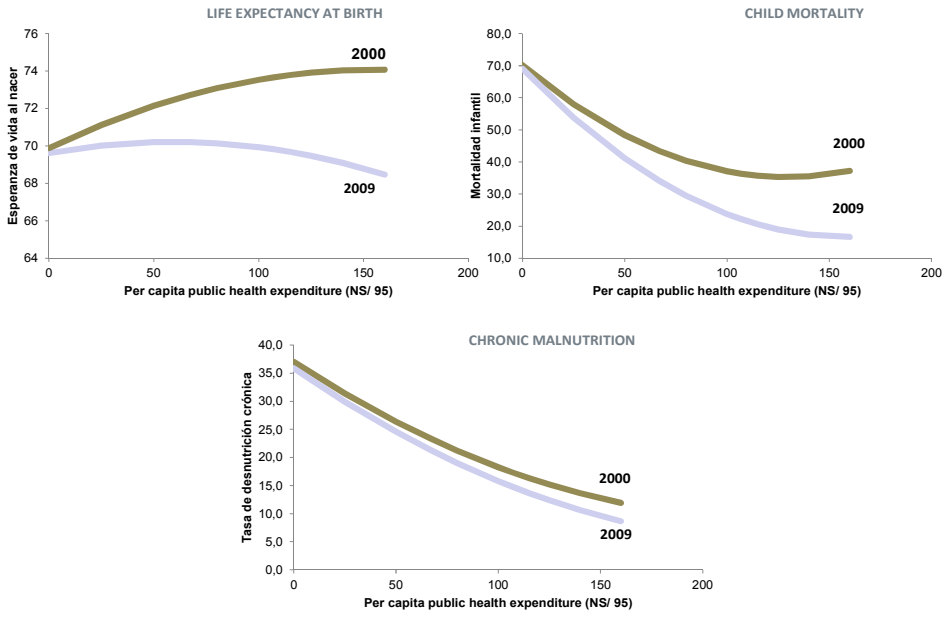
The expansion of coverage, in population terms, is a factor that has contributed to a greater utilization of health services between 2000 and 2009, mainly in groups with lower resources and higher health needs. However, in the case of outpatient care, persistent inequities (despite an improvement over the period) may reflect the existence of other barriers (e.g., geographic and cultural) that are limiting access to services.

Additionally, the deterioration of equity conditions in the use higher complexity services (hospitalization) is consistent with the decrease in financial protection for the population under public insurance, as a consequence of the misalignment between the financing and insurance policies during 2005-2009 (see previous section). The latter encouraged an implicit rationing of demand by public health providers (through charges and prioritization in service provision, among others).

3.2.5 IN TERMS OF IMPROVING FINANCING EFFECTIVENESS

Figure 3.11presents estimations for the health production frontiers of three sanitary results (life expectancy, child mortality, and chronic malnutrition in children) for 2000 and 2009.The health production frontiers, estimated using the methodology described in the methodological appendix, indicate for a given year the possible sanitary results, associated with the financing volume, factors linked with the health system (governance, policies, and management capacities), and health determinants in that year. The financing-sanitary result combination for a given year is known as financing effectiveness, health social return, or expenditure productivity[14].

FIGURE 3.9 FINANCING EFFECTIVENESS BY SANITARY RESULT 2000-2009



The performance analysis considers the changes in effectiveness attributable to a greater financing volume and to the strengthening of the health system as a consequence of: (a) greater quality in health governance and policies;and (b) higher resource management capacity.

[14] The USAID document (2011) further elaborates on the concept of financing effectiveness and its scope.

Figure 3.11 shows that, between 2000 and 2009, there have been favorable changes in effectiveness levels. However, these changes have been differentiated according to the kind of sanitary result. In the case of life expectancy at birth and child mortality, the variations have not only responded to a greater expansion in public subsector financing, but also to other factors such asan improvement in: (a) the subsidy allocation policy (favorable to demand subsidies), which has reduced economic access barriers; and (b) the population's welfare level. However, it should be stressed that, in these results, governance qualities and management capacity have been limiting factors that have affected financing effectiveness negatively and neutralized the positive impact of health determinants on sanitary results.

In aggregate, the direction of the changes in these factors has contributed to putting nationwide effectiveness levels in 2009 on a more efficient frontier than in 2000[15]. This result is reflected in the upward shift (below) of the production frontier for life expectancy (child mortality rate). In this respect, it should be notedthat, in the case of life expectancy, these changes have prevented a shift towards decreasing ranges in the production frontier. The latter would have implied not only reductions in the effectiveness levels, but also increases in marginal production costs.

The greater financing volume and improvements in financing policy have contributed to explaining 91% of the increase in life expectancy at birth, as well as 95% of prevented child deaths during the period of analysis (Table 3. 12).

In contrast, the production frontier for chronic malnutrition showed a slight shift between 2000 and 2009, suggesting that the improvement in this result responds more to a greater financing volume than to changes in the other factors. This heterogeneous behavior may be reflecting:

1. The differences in the maturity period of mother-child and malnutrition eradication strategies, of which the latter has a long-term timeframe.This is so due to the relevance of non-sanitary and non-clinical factors in determining chronic malnutrition, such as education and poverty levels, among others.

2. The relatively short period since the strategy against malnutrition was launched, during which high transaction costs, in terms of inter-sectoral coordination (education, health, and sanitation), supervision, and monitoring, among others, needed to be addressed.

3. The high promotional component in interventions against malnutrition, requiring a substantial volume of human resources to achieve an effective implementation of the strategies against malnutrition.

[15]The following section analyzes which factors that have facilitated most the improvement in these two sanitary results and in what magnitude they have contributed to this variation.

In all, the greater financing volume and the improvementsin financing policy have contributed to explaining 87% of the reduction in the chronic child malnutrition rate between 2000 and 2009 (Table 3.12). It should be emphasized that the impact of the improvement in health determinants on this sanitary result has been offset by the deterioration in the quality of governance and management capacity. As mentioned earlier, these limiting factors have affected negatively the effectiveness of financing on chronic malnutrition levels.

TABLE 3.12 CHANGES IN FINANCING EFFECTIVENESS

SANITARY RESULT		IMPROVEMENT PARAMETER	VARIATION 09/ 00	
LIFE EXPECTANCY	1.	INCREASE IN LIFE EXPECTANCY FROM GREATER FINANCING EFFECTIVENESS (IN YEARS GAINED)	3.0	
	•	CONTRIBUTION TO TOTAL INCREASE IN YEARS DURING THE PERIOD	91%	
CHILD MORTALITY	2.	NUMBER OF CHILD DEATHS PREVENTED BY GREATER FINANCING EFFECTIVENESS (X 1000)	21.9	
	•	CONTRIBUTION TO CHILD MORTALITY REDUCTION DURING THE PERIOD	95%	
CHRONIC MALNUTRITION	3.	REDUCTION IN MALNUTRITION FROM GREATER FINANCING EFFECTIVENESS (IN PP)	6.2 PP	
	•	CONTRIBUTION TO OVERALL MALNUTRITION REDUCTION DURING THE PERIOD	87%	

REFLECTIONS ON FINANCING EFFECTIVENESS PERFORMANCE

Evidence shows that, although increases in public financing have had a positive effect on the period's sanitary results, their contribution has been low, mainly regarding improvement in life expectancy and the reduction in chronic malnutrition. In the case of child mortality there was an important contribution. This differentiated performance reflects the following problems:

1. WEAK INCENTIVES to improve the inter- and intra-region distribution of human resources, the main limiting factor in health service production.

2. ABSENCE OF RULES AND MECHANISMSto promote innovation and encourage a better use of resources, mainly the imbalance in the public subsidy structure, and low budgetary flexibility in health expenditure management.

3. LACK OF ORGANIZATIONAL CAPACITY in Regional Governments to supervise and monitor the management of public health services.

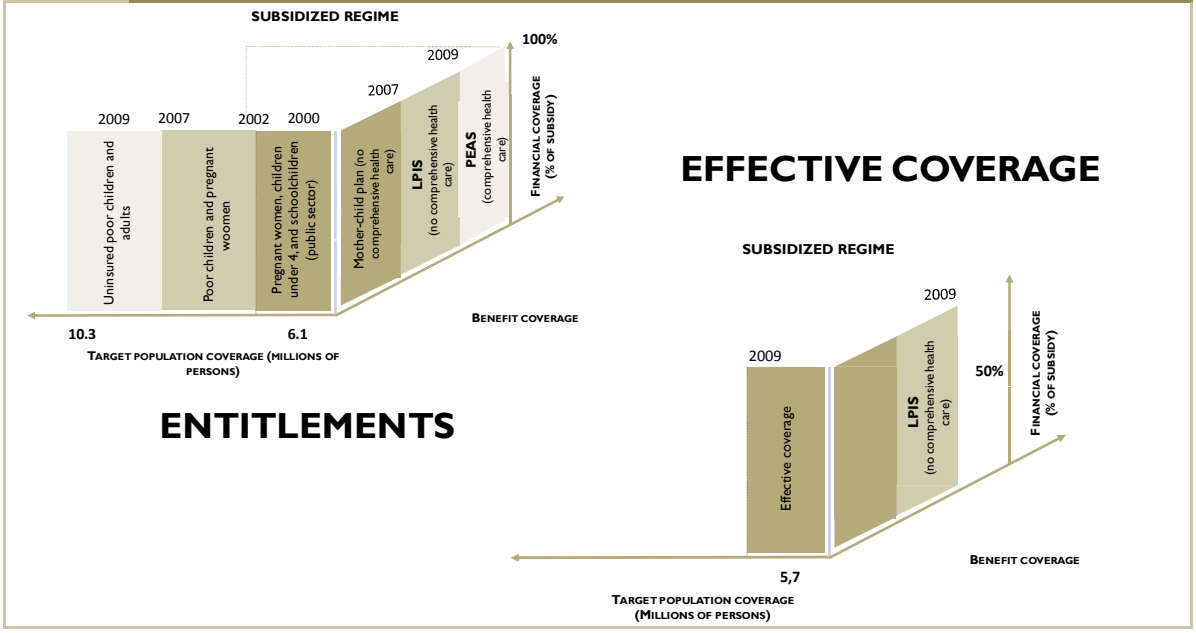
4. LACK OF ORGANIZATIONAL CAPACITY in Regional Governments to implement investments that can contribute to improving resolution capacities in public health facilities to meet the growing demand for health services, in a context of epidemiologic transition.

5. ABSENCE OF CLEAR AND TRANSPARENT RULESin the allocation of resources between strategic and non-strategic programs, reflected in a discretionary management favorable to the former.

4. The paradox in the performance of the financing system

The analysis of the shifts in the performance of the health financing system during 2000-2009 reveals improvements that have translated in a greater sectoral effort to mobilize resources and expand health financing.It also suggestsfavorable equity changes in resource assignment and health service utilization. However, this has not translatedinto greater financial protection for the population, mainly lower resource segments.On the contrary, financial protection has decreased, limiting the system's capacity to guarantee these segments'health entitlementsof (Figure3.10).

FIGURE 3.10 IMPLICATIONS OF HEALTH SYSTEM PERFORMANCE



This contradiction puts into perspective problems that are not strictly monetary or financial, but associated with a set of problems regarding institutional design and organizational arrangements in the financing system, which are preventing the greater resources channeled to the system from translating into an improved financial protection to the population. Thus, problems associated with the ABSENCE OF CLEAR AND STABLE RULESfor public financing and its distribution;CONFLICTING RULESor the misalignment between financing and insurance policies;INADEQUATE RULESto improve the financial burden among the population; or the ORGANIZATIONAL CAPACITYto improve the resolution capacity of health facilities, are contributing to damaging the population's health entitlements.

BIBLIOGRAPHY

Australian Government Commonwealth Grants Commission. 2000. Measuring needs- primary health care. [Online] 2000. www.cgc.gov.au/__data/assets/pdf_file/0014/.../04_Health_Chapter_3.pdf.

An alternative approach to resource allocation: weighted capacity to benefit plus MESH infrastructure. **Mooney, G and Houston, S. 2004.** 2004, Applied Health Economics and Health Policy, 3, 1, pp. 29-33.

Baeza, Cristian C. and Packard, Truman G. 2006.*Beyond Survival .* Washington D.C. : Stanford University Press & The World Bank, 2006.

Barrett, Raphael D. and Lalta, Stanley. 2004.*Health Financing Innovations in the Caribbean: EHPO© and the National Health Fund of Jamaica.* Washington DC : Inter-American Development Bank, 2004.

Belli, Paolo Carlo. 2004.*The Impact of Resource Allocation and Purchasing Reforms on Equity.* Washington DC : Health, Nutrition and Population (HNP) Discussion Paper, World Bank, 2004.

Berg, Servaas van der, et al. 2010.*Financial implications of a National Health Insurance Plan for South Africa.* s.l. : Econex, 2010.

Bernasconi, Jean-Luc and Tediosi, Fabrizio. 2007.*Fiduciary Risk Assessment & Financial Management – Issues Note.* s.l. : Swiss Centre for International Health, 2007.

Bourguignon, François and Sundberg, Mark. 2006.*Absorptive Capacity and Achieving the MDGs.* Washington D.C. : World Institute for Development Economics Research, 2006.

Browning, David. 1992. [Online] 1992. www.psi.org.uk/publications/archivepdfs/.../BROWNING.pdf.

Carlin, Tyrone M. 2003.*Victoria's Accrual Output Based Budgeting System Delivering as Promised? Some Empirical Evidence.* Sydney : Documento de trabajo Nro 23 Macquarie Graduate School of Management, 2003.

Clemens, Michael and Radelet, Steven. 2003. Absorptive capacity: How much is too much? [book auth.] Steven Radelet. *Challenging foreign aid: A policymaker's guide to the Millennium Challenge Account.* Washington D.C. : Center for Global Development, 2003, pp. 125-143.

Commission on Macroeconomics and Health. 2002.*Mobilization of domestic resources to health.* Geneva : World Health Organization, 2002.

Deolalikar, Anil B. 2008.*Lessons from The World Bank's public expenditure reviews 2000-2007 for the improving of the public expenditure.* Washington DC : The Brookings Institution, 2008.

Department of Health Finance and Operations Directorate. 2008.*, Resource allocation: weighted capitation formula (sixth edition).* London : Department of Health , 2008.

Ensor, Tim. 2003.*Consumer-led Demand Side Financing for Health and Education: An International Review.* Bangladesh : World Health Organization, 2003.

Fiscal Decentralization and Local Resource Mobilization in Nepal. **Shrestha, Buddhi Man. 2009.** 2, Nepal : Nepalese Journal of Public Policy and Governance, , 2009, Vol. 25.

Gottret, Pablo and Schieber, George. 2006.*Health financing revisited.* Washington : World Bank, 2006.

Gottret, Pablo, Schieber, George and Waters, Hugh, [ed.]. 2008.*Good practices in health financing.* Washington DC : The International Bank for Reconstruction and Development / The World Bank, 2008.

Gupta, Indrani, Joe, William and Rudra, Shalini. 2010.*Demand Side Financing in Health: How far can it address the issue of low utilization in developing countries?* s.l. : World Health Report (2010) Background Paper, No 27 World Health Organization, 2010.

Hanson, K., et al. 2001. Constraints to scaling up health interventions: A conceptual framework and empirical analysis. [Online] 2001. www.cmhealth.org/docs/wg5_paper14.pdf.

Health Insurance In Mexico: Achieving Universal Coverage Through Structural Reform. **Knaul, Felicia Marie and Frenk, Julio. 2005.** 6, 2005, Health Affairs, Vol. 24, pp. 1467-1476.

Hutchison, Brian, et al. 1999.*Capitation formuale for integrated health system: a policy synthesis.* Ottawa, ON : Canadian Health Services Research Foundation, 1999.

—. 1999.*Capitation formulae for integrated health system: a policy synthesis.* Ottawa, ON : Canadian Health Services Research Foundation, 1999.

Impacts and Constraints of Universal Coverage in Thailand's Public Health: A Survey Study in the Northeast Region. **Chamchan, Chalermpol. 2007 .** 2007 , Southeast Asian Studies Vol.45 Nro 2, pp. 229-271.

Mathauer, Inke, et al. 2009.*Evaluación Institucional del Sistema de Financiamiento de Salud Nicaragüense y propuestas para Mejorar y Fortalecerlo.* s.l. : Organización Mundial de la Salud, Organización Panamericana de la Salud, 2009.

Mathauer, Inke, et al. 2010.*Health financing challenges and institutional options to move towards universal coverage in Nicaragua.* Geneva : World Health Organization, 2010.

Mills, Anne. 2007.*Strategies to achieve universal coverage: are there lessons from middle income countries?* s.l. : World Health organization, 2007.

Ministerio de la Protección Social Dirección General de Gestión de la Demanda en Salud. 2009.*Estudio de suficiencia del Plan Obligatorio de Salud - Unidad de pago por capitación 2008 y de los actuales mecanismos del riesgo determinsantes del gasto de la unidad de capitación.* Bogotá : Ministerio de la Protección Social, 2009.

Ministerio de Salud. Oficina General de Planeamiento y Presupuesto / Consorcio de Investigación Económica y Social. Observatorio de la Salud. 2008.*Cuentas Nacionales de Salud. Perú, 1995-2005.* Lima : Ministerio de Salud, 2008.

Mossialos, Elias, et al. 2002.*Funding for health care: options for Europe.* s.l. : World Health Organization, 2002.

NERA Economic Consulting. 2007.*The Importance of Incentives in Health Care Systems.* London : NERA Economic Consulting, 2007.

Noriega, Carlos, Huitrón, Patricia and Matamoros, Miriam. 2006.*Financiamiento al Sistema de Salud en México.* México D.F. : Serie Documento de trabajo 3, Fundación Mexicana para la Salud, A. C & ,Instituto Nacional de Salud Pública, 2006.

NSW Department of Health. 2005.*NSW Health funding approach: equity and efficiency.* Sydney : NSW Department of Health, 2005.

—. 2005.*Resource Distribution Formula.* Sydney : NSW Department of Health, 2005.

Organización Mundial de la Salud. 2005.*Financiación sostenible de la salud, cobertura universal y seguro social de enfermedad Informe de la Secretaría Técnica.* s.l. : 58ª Asamblea Mundial de la salud Organización Mundial de la Salud, 2005.

Peacock, Stuart, et al. 2001.*Techniques for measuring efficiency in health services.* s.l. : Productivity Commission Staff Working Paper, 2001.

Pearson, Mark. 2002.*Allocating public resources for health: developing pro-poor approaches.* London : DFID Health Systems Resource Centre, 2002.

Pitayarangsarit, S., et al. 2008.*Local level responses to budget allocation under the Universal Health Care Coverage policy in Thailand.* Thailand : Consortium for Research on Equitable Health Systems, 2008.

Preker, Alexander S. and Langenbrunner, John C. 2005.*Spending Wisely Buying Health Services for the Poor.* Washington D.C : Banco Mundial, 2005.

Resource allocation and purchasing in the health sector: the English experience. **Smith, Peter C. 2008.** 2008, Bulletin of the World Health Organization, Vol. 86, pp. 884–888.

Roberts, Marc J., et al. 2002.*Getting health reform right.* s.l. : Oxford University Press, 2002.

Robinson, Marc and Brumby, Jim. 2005.*Does Performance Budgeting Work? An Analytical Review of the Empirical Literature.* Washington DC : Documento de Trabajo Nro 5 International Monetary Fund, 2005.

Robinson, Marc. 2002.*Output-Driven Funding and Budgeting Systems in the Public Sector.* s.l. : Discussion Paper No. 101 Queensland University of Technology, 2002.

Savedoff, William. 2004.*Tax-Based Financing for Health Systems: Options and Experiences.* Geneva : World Health Organization, 2004.

Scaling up in international health: what are the key issues? **Mangham, Lindsay J and Hanson, Kara. 2010.** 2010, Health Policy and Planning, pp. 1-12.

Schieber, George, et al. 2006. Financing Health Systems in the 21st Century. [ed.] Dean T Jamison, et al. *Disease Control Priorities in Developing Countries, 2nd edition.* Washington DC : World Bank, 2006, pp. 225-242.

Secretaría de Salud. 2005.*Sistema de Protección Social en Salud: Elementos conceptuales, financieros y operativos.* México D.F. : Secretaría de Salud, 2005.

Smith, Peter. 2008.*Formula funding of health services: learning from experience in some developed countries.* Geneva : Discussion Paper 1 World Health Organization, 2008.

Street, Andrew. 1994.*Purchaser/Provider and Managed Competition: Importing Chaos?* Melbourne : Centre for Health Program Evaluation, 1994.

Tandon, Ajay and Cashin, Cheryl. 2010.*Assessing public expenditure on health from a fiscal space perspective.* Washington DC : World Bank, 2010.

The prospects of creating 'fiscal space' for the health sector. **Heller, Peter. 2006.** 2, s.l. : Health Policy and Planning, 2006, Health Policy and Planning Vol. 21 Nro. 2, Vol. 21, pp. 75-79.

—.**Heller, Peter. 2006.** 2, s.l. : Health Policy and Planning, 2006, Health Policy and Planning , Vol. 21, pp. 75-79.

The Rockefeller Foundation. 2010.*Catalyzing changes: The System Reform Costs of Universal Health Coverage.* New York : The Rockefeller Foundation, 2010.

Thomson, Sarah, Foubister, Thomas and Mossialos, Elias. 2009.*Financing health care in the European Union.* Copenhagen : World Health Organization, 2009.

Universal coverage of health services: tailoring its implementation. **Carrin, Guy, et al. 2008.** 2008, Bulletin of the World Health Organization, Vol. 86, pp. 857-863.

World Bank. 2005.*A guide to competitive vouchers in health.* Washington DC : World Bank, 2005.

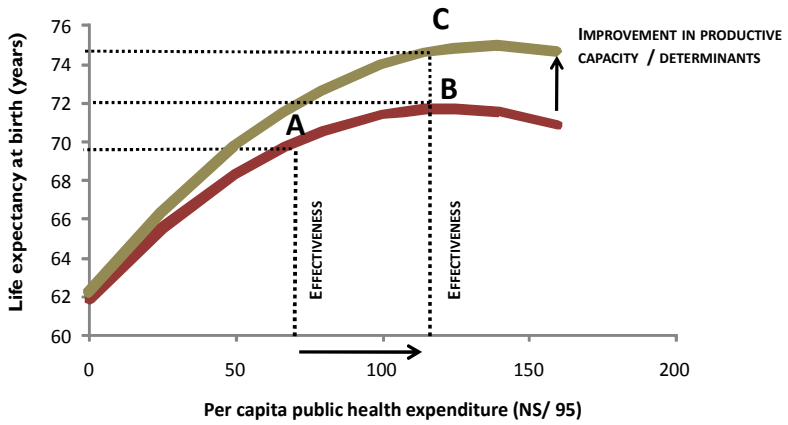
World Health Organization. 2010.*Implementing health financing reform: Lessons from countries in transition.* [ed.] Joseph Kutzin, Cheryl Cashin and Melitta Jakab. Geneva : World Health Organization, 2010.

—. 2010.*The world health report: health systems financing: the path to universal coverage.* Geneva : World Health Organization, 2010.

METHODOLOGICAL APPENDIX

FINANCING EFFECTIVENESSrefers to financial resources' *social or economic environment*at a certain point in time. In the area of health, financing effectiveness can be interpreted as the population's health condition (measured through a certain indicator for sanitary result) achieven in a period, given the assigned financing volume and the prevailing institutional, political, and physical resource conditions. Financing effectiveness is represented in Figure A.1 by the height of each of the points forming the health production frontier. Thus, the effectiveness in channeling an amount of resources equivalent to NS/ 67 (1995 soles) is represented by the life expectancy that would be attained (70 years, point A). If financing to the health sector is increased to NS/ 106 to expand productive resources without modifying expenditure rationale and form, financing effectiveness would reflect a 2-year gain in life expectancy at birth (point B), given the prevailing institutional, structural, and political conditions.

FIGURE A.1 FINANCING EFFECTIVENESS



The improvement in the capacity to manage public sub-sector resources (via contracting more qualified health professionals; improvements in the medicine distribution processes or investment implementation capacities; and changes in the kind of services financed, for example) is an important element that contributes to raising the efficiency in the use of resources and potentiating the sector's capacity to transform additional resources into better sanitary results. In Figure 4.2, an improved management capacityis reflected in an upward shift in the production frontier. In this new scenario, higher effectiveness levels can be obtained with the same disposable resources (NS/ 107)in terms of life expectancy at birth (represented by point C).

Measuring financing effectiveness involves estimating the sanitary production frontier using life expectancy (LE), the child mortality rate (MR), and the chronic malnutrition rate (CM) for children under 5 as reference indicators. The reduced form of the production frontier for these sanitary results can be approximated from the following functional relationship:

$$LE_t^i = \alpha_1 + \beta_1 F_t^i + \delta_1 (F^2)_t^i + \phi_1 (F \times R)_t^i + \lambda_1 (F \times P)_t^i + \eta_1 D_t^i$$

$$MR_t^i = \alpha_2 + \beta_2 F_t^i + \delta_2 (F^2)_t^i + \phi_2 (F \times R)_t^i + \lambda_2 (F \times P)_t^i + \eta_2 D_t^i$$

$$CM_t^i = \alpha_3 + \beta_3 F_t^i + \delta_3 (F^2)_t^i + \phi_3 (F \times R)_t^i + \lambda_3 (F \times P)_t^i + \eta_3 D_t^i$$

Variable F_t^irefers to the per capita health financing level aimed at covering current and capital expenditures in region i in period t; while the quadratic element $(F_t^i)^2$is included in the model to assess if health production follows a nonlinear behavioral pattern in line with diminishing returns to scale.

Variable $R_t^i$is a summary measure of factors conditioning financing effectiveness associated with management capacity, health governance, and access barriers to health services. High values are characteristic of weak health systems in terms of stewardship, supervisory capacity, service organization, and resource management capacity. P_t^i is a multiplicative fictitious variable, included in the model to capture changes in public policies during a given period.

It should be noted that both variables are included in the model through a term reflecting interaction with the financing variable(F x R, F x P), with the purpose of assessing if these variables are facilitating or restrictive factors in the value-for-money generation process. Finally, variable F_t^irefers to the set of health determinants that have an influence on the functional abilities attained by persons and communities.

The expected signs of the parameters for each explanatory variable will differ according to the reference sanitary result. Thus, the expected signs of the production frontier parameters for life expectancy will be the opposite of those for mortality's or chronic malnutrition's explanatory variables (Table A.1).

TABLE A.1 EXPECTED SIGNS BY SANITARY RESULT

Variables and parameters		Financing effectiveness			Absorption capacity	Saturation point
		Life expectancy	Child mortality	Chronic malnutrition		
Public financing (F)	β	Direct	Inverse	Inverse	Inverse	
Diminishing returns (F^2)	δ	Inverse	Direct	Direct		
System drivers (F x R)	η	Inverse/Direct	Inverse/Direct	Inverse/Direct	Inverse	Inverse
Public policies (F x P)	ε	Inverse	Direct	Direct	Inverse	Inverse
Determinants (D)	ϕ	Inverse	Direct	Direct		

Taking life expectancy as reference, the parameter for the financing variable (β) is expected to be positive. This may indicate that life expectancy at birth would increase in response to a higher flow of financial resources, *ceteris paribus*, policies and management and governance capacities. These changes in financing effectiveness will diminish if the sign of the parameter (δ) for the quadratic term is negative.

Additionally, negative interaction terms (ϕ ,λ) may indicate that injecting additional resources into health systems that are weak or governed by poor policies will not be effective and may actually contribute to deteriorating sanitary results. In contrast, positive signs may indicate that these factors are facilitating the value-for-money generation process in the health system. Finally, the sign for the ηparameter is expected to be positive, indicating that favorable changes in health determinants will tend to raise life expectancy at birth.

Table A.2 shows the results for the estimation of the production frontier according to the proposed functional relationship,corresponding to the three sanitary results analyzed (life expectancy, child mortality, and chronic malnutrition rate). First, the estimated value for the correlation coefficient is greater than 0.5 in all cases, suggesting that the goodness of fit is

acceptable; i.e., there is a linear association between sanitary results and the set of explanatory variables.

Second, the significance levels for the estimated parameters suggest that these values are significantly different from zero; i.e., each variable selected is relevant to explain the behavior of sanitary results during 2000-2009.

Third, the signs of the estimated parameters are as expected. In this respect, injecting greater financial resources into Peru's health system tends to enhance effectiveness and improve the country's sanitary results. However:

1. The sign of the quadratic terms (F^2) confirmsthat health productionin Peru operates with diminishing returns to scale, and therefore the system is susceptible to reaching a saturation point in case institutional and structural changes in the production process are not pursued.

2. The sign of the parameters for the interaction between the financing level and the conditioning factors (F x R) confirms that injecting greater financial resources into a weak health system in terms of stewardship, supervision capacity, service organization capacity, and resource management tends to limit financing effectiveness, potentially contributing to a deterioration in sanitary results.

Additionally, the sign of the parameters for the interaction between the financing level and the analyzed public policies (creation of the SIS and the "Juntos" program) suggests that an injection of resources under financing schemes based on demand subsidies contributes to enhancing effectiveness.

TABLE A.2

ESTIMATION RESULTS FOR THE PRODUCTION FRONTIER

Variables and parameters		Financing effectiveness					
		Life expectancy $R^2 = 0,60$		Child mortality $R^2 = 0,55$		Chronic malnutrition $R^2 = 0,79$	
Constant	α	69,8	(0.00)	69,5	(0.0)	36,4	(0.00)
Public financing (F)	β	0,2	(0.00)	-0,8	(0.0)	-0,808	(0.00)
Diminishing returns (F^2)	δ	-0,0002	(0.10)	0,002	(0.0)	0,0005	(0.10)
System drivers (F x R)	η	-0,4	(0.00)	0,7	(0.0)	1,2	(0.00)
Interaction (F x P)	ε	0,04	(0.00)	-0,1	(0.0)	-0,026	(0.10)
Determinants (D)	ϕ	-8,9	(0.00)	39,6	(0.0)	38,4	(0.00)

1/ Values in parentheses indicate the significance level.

Finally, the sign of the parameter for health determinants validates the causal relationship between the population's quality of life and health conditions.Thus, lower poverty levels or a decrease in the percentage of the population with no access to basic services would tend to improve the country's sanitary results by raising life expectancy at birth and/or child deaths or reducing the child malnutrition rate.