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Globalization and Health: A Survey of Opportunities and Risks for the Poor in Developing Countries

Authors

Eugenio Diaz-Bonilla
Research Fellow, International Food Policy Research Institute, 2033 K Street N.W., Washington D.C. 20006-1002, USA.
e.diaz-bonilla@cgiar.org

Julie Babinard
International Food Policy Research Institute, 2033 K Street N.W., Washington D.C. 20006-1002, USA.
j.babinard@cgiar.org

Per Pinstrup-Andersen
Director General, International Food Policy Research Institute, 2033 K Street N.W., Washington D.C. 20006-1002, USA.
p.pinstrup-andersen@cgiar.org

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GLOBALIZATION AND HEALTH: A SURVEY OF OPPORTUNITIES AND RISKS FOR THE POOR IN DEVELOPING COUNTRIES.

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I. INTRODUCTION

The phenomenon of globalization has attracted enormous interest during the last decade, and is the center of a heated debate about its possible benefits and costs, particularly for the more vulnerable countries and groups. Part of the reasons for the current debate is that globalization is a complex and multidimensional phenomenon, with different analysis highlighting varied components of it (see section II).

For the health community, globalization offers opportunities but also poses important challenges. Despite the revolutionary gains in health status achieved on average during the 20th century, health outcomes have varied significantly across countries. Today, most developing countries share a disproportionate burden of avoidable mortality and disability problems, primarily attributable to preventable infectious diseases, malnutrition, and complications of childbirth. Furthermore, persistent health problems largely affect populations that are poorest. Overall, the poor not only have shorter lives than the rich, a bigger part of their lifetime is affected by disabilities.

As globalization proceeds, its likely impact on the global health situation should be assessed, including whether it will worsen or improve the health of the poor in particular. Will globalization help reduce (or exacerbate) the economic and social inequalities around the world, thereby narrowing (or widening) the disparities in the distribution of the global burden of diseases? What is the impact of globalization on the international movements of risk factors? Will globalization blur the distinction between national and international health, and would this undermine governments' ability to

prevent and control diseases? Can globalization of health also lead to a transformation of health care systems in developing countries, possibly linked to expanded trade in health commodities, to increased internationalization of health insurance, health services, and migration of health workers, or to the implementation of patents for medicines and other changes in Intellectual Property Rights as agreed in the WTO?

This paper discusses those issues and other linkages between globalization and health, focusing mostly on developing countries and the poor. The objective is to provide a perspective on policy issues and alternatives, as an input to the Working Group 4 (WG4), of the Commission on Macroeconomic and Health (CMH).

This paper is organized as follows. First we discuss the notion of globalization (Section II), trying to characterize the different aspects of globalization, and highlighting those relevant for health issues. The emphasis will be on the impact on developing countries and poor and vulnerable groups within them. In Section III we briefly comment on the main global health challenges in that context. Then, in Section IV, we will try to connect the globalization processes, trends and impacts (described in Section II) with the health problems (identified in Section III). Based on the previous analysis, in the concluding section we will explore possible policy and institutional responses, mostly at the international level, that could potentially enhance the positive effects of globalization on health while reducing its risks, particularly for the poor and the most vulnerable. Given that globalization is a multifaceted phenomenon, and that health is not a univocal term but also has different dimensions (Hsiao, 2000), the analysis presented here does not pretend to cover the full range of issues. Also many of the aspects mentioned here will be addressed in greater detail by specific studies commissioned by the WG4 of the CMH.

II. WHAT IS GLOBALIZATION? [1]

In a general sense globalization can be considered as coterminous with human experience: since prehistoric times humans have been growing in number, expanding

[1] This section is based on Diaz-Bonilla, 1999 and Diaz-Bonilla and Robinson, 2001

spatially, interacting with other groups, peacefully or not, building larger economic, social and political organizations, discovering and utilizing (and, at time destroying) the resources of the planet, while generating new knowledge and technologies. That process showed in the emergence of ancient empires and the different ebbs and flows over centuries of crusaders, merchants, explorers and missionaries. In terms of health issues, that greater interaction led on the one hand, to exchanges in goods (including plants and animals) and information, which enriched diets and improved medicine, but also led to spread of diseases where they did no exist before, badly affecting vulnerable populations.[2]

The level of world integration and interaction reached a high point during the powerful globalization wave in the second half of the 1800s and beginning of the 1900s. Some have argued, however, that there are important differences between this process and everything that happened before. Basically, the distinction is between the old process of trade expansion driven by booming demand and supply within the trading economies (which is linked to population growth), and the more recent processes where trade expansion has been driven by the integration of markets across trading economies, leading to convergence in commodity and even factor prices, as a central manifestation of globalization (O'Rourke and Williamson, 2000). In this analysis, there is no evidence supporting the view that the world economy was globally integrated prior to the discovery of America, but "there is abundant evidence supporting the view that the 19th century contained a very big globalization bang" (O'Rourke and Williamson, 2000).

Like other expansions of common economic and political spaces before, the 19th century globalization ended with pain and disintegration, in this case in the form of two

[2] For instance, Lee (1999) refers to the age of exploration since the 15th century as a significant event in the geographical spread of disease across continents: typhus and influenza were transported via trading routes from Asia to Europe; syphilis is believed to have arrived from the Americas to Europe via explorers; the Europeans introduced measles, plague, smallpox and poliomyelitis to the Americas; and the slave trade brought hookworm, yaws, filariasis, leprosy and, possibly, schistosomiasis and malaria to the Americas. She notes that later, "increasing intensity of human interaction from the 16th century, the steady and at times rapid growth of human populations, growing urbanization, frequent military conflict and the process of industrialization beginning in Europe from the 18th century, offered many communicable diseases opportunities to spread more widely (spatial dimension) and frequently (temporal dimension)".

world wars and a great economic depression between them. The world emerged in the 1950s divided politically and militarily, but soon, another pervasive wave of economic, political and social integration was rolling forward. That process has been driven by important changes in technology generation and adoption, including communications and transportation. It has been further promoted and accelerated by the end of the Cold War (which eliminated some of the geopolitical barriers to world integration), and by the process of economic deregulation and liberalization in many countries. The increase in world population, by itself, is also causing the multiplication and "densification" of economic, social, and environmental interactions and linkages.

We take here a broad view of what is globalization, which, it could be argued, includes at least three general ideas, each one with possible economic and non-economic subcomponents. First, the most obvious meaning of globalization refers to the multiplication and intensification of economic, political, social, and cultural linkages among people, organizations, and countries at the world level. This notion in itself has different economic and non-economic components, from larger trade and financial flows, to expanding cross-border communications and interactions among political groups, NGOs, and other members of the civil society, to increased levels of tourism, telephone communications and internet flows.

A second dimension is the real or perceived tendency toward universalization of some economic, institutional, legal, political, and cultural practices. Again it has economic and non-economic dimensions. The codification of trade practices in the WTO (and before GATT), common approaches to banking supervision, accounting or corporate governance, are just some examples in the economic arena. But there are other aspects to be considered such as the spread of democracy at the political level, the increase in the number and coverage of environmental treaties, or even the possibility of cultural homogenization in entertainment, food and health habits. This second dimension is of course related to the first one: to the extent that there is more interaction, there appears the need to have institutions and rules to frame that interaction (to reduce transaction

costs, for example); and such interaction may lead to some convergence in technology, institutions, and cultural perspectives.

Finally a third related notion is globalization as the emergence of significant spillovers to the rest of the world coming from the behavior of individuals and societies. This includes global warming, financial contagion and crises, spread of HIV/AIDS, drug trafficking, and violence and war, to name some examples. Again, this third meaning is also related to the other two. Spillovers occur in part because there are more channels of interaction, and then common norms and institutions are needed to better handle those interactions and spillovers.

Usually, from those different dimensions, the economic aspects receive special attention, and particularly trade. In fact some analysis focusing on developing countries tend to narrowly equate globalization with market liberalization and fiscal adjustment, basically in the form of structural adjustment or stabilization programs financed by international organizations (Hong, 2000). Here we take a broader view, but, obviously, the economic dimension remains at the center of the discussion.

At the economic level, the most important manifestations of globalization include increased international capital flows and the integration of financial markets (Obstfeld, 1998; Knight, 1998); the expansion of international trade in goods (Feenstra, 1998) and services (Daniels P. W. 1993); the role of foreign direct investment and multinational corporations (Riker, 1997), but also the internationalization of small and medium enterprises (Acs Z., 1997); and international migration and the operation of labor markets (Williamson, 1998; Lansbury, R., Yun, H. and Jamieson S. 1998; Ehrenberg,R. 1994).

The analysis of economic integration at the world level has a long history. Adam Smith and David Ricardo argued the benefits that freer trade domestically and internationally would bring to individuals and societies. A different view, anchored in economic mercantilism and power politics, emphasized the need to accumulate power by the State, and the subordination and manipulation of the economy towards that end.

From a different perspective, the tendency of capitalism to expand worldwide was clearly articulated by Karl Marx, who saw that expansion as an implacable and harsh modernizing force of backward societies. In that sense, it could be argued that Marx did share with other classical economists not only a general economic focus, but also the notion that the process generated benefits, although they were mostly in the future, when the working classes would take over the wealth-generating machinery created by capitalists worldwide. But also within Marxism, the line of thought exemplified by V.I. Lenin, mostly anchored on the mercantilist-realist tradition, basically interpreted capitalist expansion as a negative process leading inevitably to imperialism and war.

After World War II, the debate on the expanding trade and financial linkages among countries, from the developing countries' perspective, included different views on the costs and benefits of the process of integration into world markets. More negative evaluations came from the literature on colonialism and neo-colonialism (Nkrumah, 1965), the notion of the secular decline of the terms of trade of developing countries (Prebisch, 1950; Singer, 1950) and the theory of dependency (Dos Santos, 1970; Cardoso and Faletto, 1979). Mainstream development economics emphasized the importance of greater participation in the world economy, particularly through financial and trade flows, to improve welfare in developing countries (Little et al, 1970, Balassa, 1971, Little, 1982). An expanding subset of the literature on international economic developments during the 1970s focused on multinational corporations, both in developing and developed countries, with very different interpretations on the welfare implications of the emergence and expansion of big international firms (Servan-Schreiber, 1968, and Vernon, 1971). Most of these arguments are being echoed again in current discussions on globalization.

A broader view of the expansion and intensification of linkages among countries, encompassing more than just economic variables, was the idea of interdependence. Although the analysis focused mainly on the consequences of that new interdependent reality for the conduct of foreign policy by the main world powers (Kehoane and Nye, 1977; Jones, 1995), some studies (Cooper, 1980) also identified limitations that

interdependence would impose on the economic policies pursued by the industrial nations.

Currently, the debate on globalization is far reaching, including economic and non-economic aspects, both in developed and developing countries, and considers the implications for foreign and domestic policies of nations, the operation of their social and political institutions, and the functioning of civil society. In addition to the economic issues mentioned earlier, globalization has been analyzed in its interaction with other dimensions such as, (i) legal and regulatory frameworks; (ii) politics, governance, and institutions; (iii) the environment; (iv) cultural and social aspects; and (v) conflict, war, and peace (see among others Rodrik, 1997; Shaw T. and Quadir F. 1997; Schaeffer, 1997; Barbieri and Schneider, 1999). Some of the dimensions of globalization are presented in Table 1.

The outline of the framework utilized here is presented in Chart 1. The different dimensions of globalization (e.g. trade, capital flows, labor issues, and so on, at the top of Chart 1; see also Table 1) affect the government, civil society, markets, and the environment in developing countries (second level in Chart 1). In turn, these changes affect several key dimensions, such as growth and poverty, the health system, food security and others, determining health outcomes. This framework will be discussed in detail in section IV. But previously, in the next section, we briefly comment on some of the main world health challenges.

III. GLOBAL HEALTH: WHAT ARE THE CHALLENGES?

Dramatic progress has been made in the area of health over the past forty years, allowing life expectancy to increase from about 50 years to around 64 years and infant and child mortality to fall by more than half during the same period (see Tables 2 and 3). However, improvements have been unequally distributed across regions, with the burden of disease disproportionately affecting populations that are the poorest, and clear stagnation (Eastern Europe), or even lost ground (sub Saharan Africa), in some regions.

Of the total global disease burden, 92 percent is concentrated in low and middle-income countries, even though their populations represented less than 80% of total world population. While developed countries accounted for less than 1 percent of the annual toll for maternal and child deaths worldwide in 1998, South Asia alone contributed to 36 percent of the world's children and maternal deaths. Despite its smaller population, Sub-Saharan Africa contributed to a similar number of child mortality, and to 41 percent of maternal deaths.

In addition to huge disparities that exist between developed and developing regions, there are also marked health inequalities within countries, with the burden of disease disproportionately afflicting populations that are the poorest. Compared to those who are not poor, those living in poverty are estimated to have a 4.3 times higher probability of death between birth and the age of 5 years, and 2.2 times higher probability of death between the ages of 15 and 39 years. Women who are poor have a 4.8 times higher probability of death between birth and the age of 5 years, and a 4.3 times higher probability of death between the ages of 15 and 59 years. Poverty is also an especially important reason for differences in child mortality, with infant mortality being typically higher in poorer segments of urban populations than in richer segment. Data drawn from Bolivia, Côte d'Ivoire, and India show that infant mortality rate in the bottom population quintile is roughly two to four times higher than it is in the top population quintile (Table 4). Similarly, as many as half of the children under five are malnourished in the poorest countries, compared with fewer than 5 percent in rich countries (World Bank 2001). A study of 19 countries found that the main indicators of malnutrition, stunting (low weight for age), wasting (low weight for height), and being underweight (low for age) are higher among poor people in almost all countries (World Bank 2001).

Worldwide, one of the main cause of death remains infectious diseases, killing 13.3 million people in 1998 (WHO, 1999). Only 6 conditions - respiratory infections, HIV/AIDS, diarrhoeal diseases, tuberculosis, malaria, and measles- account for close to 90 percent of the deaths (Figure 1). In developing countries, these diseases cause 28 percent of the deaths and about 32 percent DALY (disability- adjusted life year) loss in 1998, compared with 5.4 percent of deaths and 4.1 percent of DALY loss among the

richest of the globe.[3] Children are also particularly affected by these diseases, for which either preventive or low-cost curative interventions exist. Approximately 12 million children younger than 5 years of age die every year and more than 50 percent of these deaths are attributed to diarrhea, acute respiratory illness, malaria or measles (Rice WHO 2000 paper). While infectious diseases have plagued mankind throughout history, these diseases have been brought under control in most developed countries due to vaccines and antibiotics. In developing countries, the average child is 10 times more likely to die of a vaccine-preventable disease than a child in the developed world (GAVI web site).

In addition to being most vulnerable to diseases, poor people have the least financial means to cope with diseases and are most likely to be excluded from access to essential drugs and health services. In 10 developing countries between 1992 and 1997, only 41 percent of poor people suffering from acute respiratory infections were treated in a health facility, compared with 59 percent of the nonpoor. During the same period, only 22 percent of the births among the poorest 20 percent were attended by medically trained staff, compared with 76 percent among the richest 20 percent (World Bank 2001). While progress towards universal access to health care of an acceptable quality has been substantial in this century, the distribution of services in most countries of the world also remains highly skewed in favor of the better off. In many developing countries, health systems fail to prevent death and unnecessary illnesses because they are often poorly structured, inefficiently organized, and inadequately funded. Also, health system staff in developing countries tends to be inadequately trained, poorly paid, and work in obsolete facilities with chronic shortages of equipment (WHO 2000b).

In most developing countries, 90 percent of medicines are paid "out-of-pocket," usually when people are sick and most in need of it. When hit with sudden emergencies, families without a health insurance safety net may have to pay more than 100 percent of their income for health care. In general, low-income countries and poor households pay larger percentages of their health expenses directly ("out-of-pocket" payments) as opposed through insurance schemes, as in more developed countries (see Section IV.2).

[3] As explained in (WHO 1999), "DALYs express years of life due to premature death and years lived with a disability, adjusted for the severity of the disability. One DALY is one lost year of healthy life. A 'premature' death is defined as one that occurs before the age to which the dying person could have

Health problems for the poor do not only erode their income-generating capabilities, but also become a direct cause of indebtedness (WHO…).

Another fundamental problem in developing countries is the difficulty to maintain health staff in rural areas. In countries as diverse as Brazil, India, Indonesia, and Zambia, staff vacancies in health posts are much more numerous and last longer in poor and rural areas than in richer and urban ones (World Bank 2001).

Repeated episodes of illness and long-term disabilities have tremendous economic impact on developing countries, often perpetuating underdevelopment. The economic burden of malaria alone has cost Africa billions of dollars this decade. It was recently estimated that malaria slows economic growth in Africa by up to 1.3 percent each year and that Sub-Saharan Africa's GDP would be up to 32 percent greater this year if malaria had been eliminated 35 years ago (WHO/28 2000). In addition to the cost of lost working days, the treatment for repeated bouts of malaria can also be a huge burden for the poorest families. In Nigeria, it has been estimated that subsistence farmers spend as much as 13 percent of total household expenditure on malaria treatment (WHO Removing obstacles report 1999). Other disease like HIV/AIDS are increasingly making individuals less productive once AIDS emerges due to a series of opportunistic infections, of which tuberculosis is the most frequent. The epidemic leaves behind shattered families, further crippling the prospects for development. Once an adult becomes sick, spending for health care generally increases and higher demands on time for care results in the decreases in the ability to work. Children might be forced to discontinue their schooling as the household needs their help and can no longer afford school expenses. A 1997 study carried by the FAO showed that in the mid-west of Côte d'Ivoire, care for male AIDS patients cost an average of about US$300 a year, representing a quarter to a half of the net annual income of most small-scale farms (UNAIDS 2000). In a study done on commercial farms in Zimbabwe, where most death of farm workers are attributed to AIDS, 48 percent of the orphans of primary-school age who were interviewed had dropped out of school and not one orphan of secondary school age was still in school (UNAIDS 2000).

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expected to survive if he or she was a member of a standardized model population with a life expectancy at birth equal to that of the world's longest-surviving population, Japan."

In the future, the global burden of diseases caused by infectious diseases, maternal deaths, and nutritional deficiencies is expected to decline due to projected overall improvements brought by increased income, greater literacy, and progress in the development of antimicrobials, and vaccines. Despite the expected declines, emerging health challenges are likely to add to the burden of premature mortality and disability. Noncommunicable diseases, such as depression and heart diseases, are expected to account for an increasing share of disease burden, rising from about 43 percent of all DALYs globally in 1998 to 73 percent in 2020 (WHO report 1999). The expected increase is likely to be particularly rapid in developing countries, where these diseases have already started to replace infectious diseases as the leading causes of disability and premature deaths. In India, deaths from communicable causes are projected to almost double from about 4.5 million in 1998 to about 8 million in 2020 (World Health Report 1999). While it is difficult to precisely predict their impact, the most likely factors to contribute to the increase in non-communicable diseases include an increasing number of drug-resistant strains of important microbes such as Mycobacterium tuberculosis and the increasing use of alcohol and illicit substances.

Population growth and rapid urbanization in developing countries will also place a heavy burden on health care and social services. By 2020, the number of people living in developing countries will grow from 4.9 billion to 6.8 billion, and ninety percent of this increase will be in rapidly expanding cities and towns. While more than three-quarters of Latin Americans already live in urban areas, more than half the population of Africa and Asia will also live in urban areas by 2020 (Garrett and Ruel 2000). Large cities in developing countries typically combine the traditional environmental health problems of poverty such as respiratory problems with those of poor quality housing and sanitation, unsafe drinking water, dangerous roads, polluted air, indoor air pollution and toxic wastes. While efforts have been made to serve an ever-increasing population, around a quarter of the 4.8 billion people living in developing countries are without access to improved sources of water, while half of them are without access to improved sanitation services (WHO 2000). The combination of fast population growth with accelerated urbanization, and low levels of water supply and sanitation coverage will make populations in developing countries especially vulnerable to the risk of water-related disease.

The global nutrition situation is improving but the nutritional status of several countries is concurrently deteriorating, further triggering illnesses and debilities. Of the world's 6 billion people, 2.8 billion live on less than $2 a day and 1.2 billion on less than $1 a day to meet food, shelter, and other basic needs. Poorer populations usually consume few animal products, so their intakes of vitamin A, iron, zinc, riboflavin, vitamin B-12, vitamin b-6, and calcium are inadequate (Flores and Gillespie 2001). Poor diets may also contain few fruits and a limited variety of vegetables and, therefore, low amounts of B-carotene, folic acid, and vitamin C. While the global extent of these micronutrient deficiencies remains unknown, it has been estimated that about 2 billion people suffer from anemia, mainly due to iron deficiency, and nine out of ten anemia sufferers live in developing countries. For pregnant women, anemia contributes to 20% of all maternal deaths. In many developing countries, iron deficiency anemia is aggravated by worm infections and malaria. For children, health consequences include premature birth, low birth weight, infections and elevated risk of death. Some 30 million infants are born each year with impaired growth due to poor nutrition during foetal life, representing 24 percent of all newborns in these countries. Later physical and cognitive developments are impaired, resulting in lowered school performance. Low birth weight at term affects 21 percent of the newborns in South Central Asia, and is also common in Middle and Western Africa, where 15 percent and 11 percent of infants are born undernourished. Research shows that about 33 percent of preschool children in the developing world, or 182 million children under the age of five, are stunted (Pinstrup-Andersen, Pandya-Lorch, and Rosegrant 1999). The highest levels of stunting are estimated for Eastern Africa, where on average 48 percent of preschool children are affected, up from 47 percent ten years ago. This trend is further amplified by the high population growth rates in the region, leading to an increasing number of stunted children each year (ACC/SCN 2000). Stunting is widespread in South Central Asia where the estimated prevalence for the region as a whole is 44 percent.

Reducing hunger and malnutrition will continue to remain a challenge. Results from IFPRI's global food model, the International Model for Policy Analysis of Commodities and Trade (IMPACT) projects that food and malnutrition will persist in 2020 and beyond. Under the most likely scenario, IMPACT projects that 135 million children under five years of age will be malnourished in 2020 (Pinstrup-Andersen, Rosegrant, and Pandya-Lorch 1999). This represents a decline of only 15 percent from 160 million in 1995. Hence, one out of every four children in developing countries will still be malnourished in 2020 compared with every third child in 1995. Child malnutrition is expected to decline in all major developing regions except Sub-Saharan

Africa, where the number of malnourished children is forecast to increase by about 30 percent to reach 40 million by 2020. In South Asia, despite a reduction in the number of malnourished children by 18 million, as many as two out of five children will still be malnourished in 2020. With more than 77 percent of the developing world's malnourished children in 2020, up from 70 percent in 1995, Sub-Saharan Africa and South Asia will remain "hot spots" of child malnutrition and food insecurity. Many of the countries in these two regions are among the least-developed countries in the world; they will require special assistance to avert widespread hunger and malnutrition in the years to come.

In summary, health indicators have improved over the last decades, but still important disparities exist across countries and social groups, and some new issues are emerging precisely because of the advances achieved. Who, 1999 has characterized the situation as fighting the "double burden" of disease: the increased life expectancy recorded in recent decades, together with changes in lifestyle stemming from socioeconomic development, have increased the importance of non-communicable diseases and injuries (first burden); while at the same time, as many as a billion people in the world still suffer from infectious diseases, undernutrition, and complications of childbirth, conditions not seen among the non-poor and that are largely avoidable because inexpensive and effective tools exist to deal with much of it (second burden) (Who, 1999). Many developing countries will have to confront both burdens, although for the poorest is the second front that will matter most in the next years, including HIV/AIDS which is shaping as the deadliest menace. This double threat imposes the need for difficult decisions about the allocation of scarce resources, and is the source of distributive conflict of funds across rich and poor countries and households.

What is the link between globalization and these problems? Some of the main issues are discussed in the next section.

IV. THE IMPACT OF GLOBALIZATION ON HEALTH

Throughout history human health has been influenced by a variety of social, economic, political, and technological changes. In order to impose some structure on a vast set of issue, we consider four broad areas of issues linking globalization and health (Chart 1, lower section): first, is the relationship between globalization and the level of economic growth and its quality (i.e. its variability, social inclusiveness and health and environmental properties.) (section IV.1); a second aspect is the impact of globalization on access, coverage and quality of public and private health and health-related goods and services and related infrastructure, including the policy, regulatory and institutional issues affecting the health system (section IV.2); a third component is how globalization may affect food security and nutrition issues (section IV.3); and finally, some general political, social, and environmental aspects of the interface between globalization and health are explored (section IV.4).

IV.1 Growth, poverty and health

(a) General Background

The relationship between globalization, and economic growth, income distribution and poverty, provides the general background for health outcomes. Growth generates incomes at the individual level to access health and health-related goods and services, and also provides societal resources to supply those goods and services. In particular, globalization may affect government revenues, directly (as collection of trade taxes, for example), and indirectly through the impact of the rate and quality of growth on general tax collection. The level of government revenues affects the possibility of implementing transfer policies (like food subsidies or other poverty-oriented programs) and to finance public services and investments in health, education, and related areas. In any case, the link between higher incomes and better health outcomes, at the country and individual levels, although with some variations, seems a strong one (WHO, 1999). Moreover, the causality goes not only from higher incomes to better health but there is also a strong link going from improved health conditions to higher economic growth (WHO, 1999).

Of course, not only the average growth rates (or income levels) must be considered, but also the distributional patterns: while poverty declines rapidly with high growth that is distributionally neutral, deviations from neutrality may wipe out part of those gains (Lipton and Ravallion, 1993). Furthermore, even with neutral growth at higher rates, if its variability also increases along with a greater likelihood of crises, then the poor may face significant additional downside risks, with the prospect of long-lasting damage to their low levels of human and physical capital (i.e. crises may force poor families to sell productive assets, increase the possibility of illness, or have their children drop out of school) (see for instance, Addison and Demery, 1989; Lipton and Ravallion, 1993).

Then, a main concern is how the process of globalization may affect households and individuals (particularly poor and vulnerable ones) in their economic and non-economic assets and capabilities, net full income and consumption/savings opportunities (the latter also defined in broader terms including economic and non-economic aspects). Chart 2 disaggregates the household/individual level, showing different economic and non-economic assets and capabilities, which may belong to the private, public, and societal domains, and the possibilities they confer to consume or utilize different goods and services, and to actively participate in the functioning of the society in a fulfilling manner.

Non-economic assets and capabilities may include social capital (contacts, networks, and institutions of the civil society) and political assets and capabilities, leading to voice, participation, and empowerment for the poor. Important issues in this regard include the protection of life and personal security, the construction of democratic institutions, accountability and honesty in governance, and the rule of law. Globalization can also affect the legal, political, and civil society institutions and practices, as well as the environment, in ways that may help or hurt the poor and health outcomes in general.

The evaluation of the impact of globalization on poverty and health in general, must consider the heterogeneity of poor households and individuals, trying to distinguish groups that may be affected differently by the diverse dimensions of globalization (Pinstrup-Andersen, 1989, 1990; Lipton and Ravallion, 1993).

Here we focus on the economic aspects of the links between globalization, growth and poverty.

(b) A quick view of some economic indicators of globalization

A common indicator of globalization is the value of trade as a percentage of GDP. Because total value added includes a sizable amount of services, which are, in many cases, non-tradables, and whose participation in total GDP has been increasing, a more adequate measure should exclude value added in services, if the objective is to gauge the increased internationalization of tradable production (Feenstra, 1998). Figure 2 shows the ratio of the average of export and imports ((X+M)/2) over GDP without services, for developing and industrial countries, during the period 1968-1997. Trade includes both agricultural and non-agricultural items, and the variables are measured in current dollars.

Three points can be observed. First, during the entire period the trade openness ratio was larger in the industrial countries. Second, for both types of countries, the ratios increased by a factor of more than two during the period, but trade openness grew somewhat faster in industrial than in developing countries. Therefore, trade openness ratios diverged more by the end of the 1990s (it was a little more than 50% in developing countries against 70% in industrial ones) than at the beginning of the period (the values were 22% and 27%, respectively). Third, within a basically upward trend, three phases can be differentiated for both types of countries: the ratio grew faster during the 1970s, stagnated or declined during the first half of the 1980s, and began to increase again after the second half of that decade. This pattern reflects the impact of the 1980-82 recession, linked to the change in macroeconomic policies in the US and other industrialized countries from the expansionary monetary and fiscal policies during the 1960s and 1970s,

to the monetary contraction and fiscal adjustment that took place in the 1980s (Díaz-Bonilla, 1999; Díaz-Bonilla and Robinson, 1999).

Looking at capital flows measured in percentages of the GDP (Figures 3, 4 and 5), there are also some special patterns: capital flows increased during the 1970s for all regions and declined during the debt crisis period of the 1980s. For Asia and Latin America, but nor for Africa, capital flows began to climb back up again during the 1990s. When compared to the peak at the end of the 1970s, capital flows reached even higher levels for Asia until the 1997 crises, but for Latin America remained below the previous high point. Therefore, for Latin America and even more clearly for Africa, the peak of the globalization experience, as measured by the ratio of capital flows to GDP, seems to have happened during the 1970s, while for Asia it occurred at the end of the 1990s. A more adequate measure would be to extend the work by Feldstein and Horioka (1980) to the different developing countries to see how integrated are domestic investment and savings. They found both variables highly correlated during the 1970s and 1980s in a sample of industrialized countries, which implied that those countries were not very integrated to world capital markets. Recent work by Obstfeld and Rogoff (2000) shows that the correlation between both variables has decreased (i.e. countries are more integrated with world markets) for OECD countries and that it is smaller in lower income countries than in industrialized ones. In order to have a more general view of the integration with world markets, it would be necessary to consider more than quantity indicators alone, and to look at changes in the policy stance (that may have filtered in different degrees the events in world markets) and at the convergence of price indicators (see the discussion in Knetter and Slaughter, 1999, focusing on industrialized countries).

A preliminary conclusion is that although globalization seems to have increased, at least as measured by these quantity indicators, the process was more pronounced for industrialized than for developing countries, and there are clear differences across

developing regions and over time.[4] A full exercise should also include analysis of policy changes and price convergence, at least for key markets.

In any case, when looking at aggregate globalization trends, including both developed and developing countries, the extent of global economic integration in the 1990s, mostly in trade and capital flows, but not necessarily in labor markets, has reached high levels, at least similar to those in the late 19th century, (Bordo, M, B. Eichengreen and D. Irwin, 1999; Kohl and O'Rourke, 2000). However, there are also important differences:

-Trade in the previous globalization wave was between central countries exporting manufactures and peripheral countries selling primary products, while now the composition of trade from developing countries has shown important jumps in manufacturing, and, increasingly, in services, along with primary products; within manufacturing, trade has shifted from resource-based and labor intensive to skill and technology intensive goods, comprising two-way trade in manufactures, often intra-industry or even intra-firm trade, and trade in differentiated products (Kohl and O'Rourke, 2000)

-Capital flows in the 19th century were mostly towards the periphery and oriented to infrastructure, while now a larger percentage of capital flows takes place among industrialized countries, and the percentage going to developing countries shows a larger component going to manufactures (as compared to infrastructure) than in the past globalization wave, as well as financial investments. The effects of these diversified capital flows on growth, income distribution, and poverty are more difficult to evaluate, with different, and possibly conflicting, impacts (Kohl and O'Rourke, 2000)

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[4] Looking specifically at agricultural production and trade, Diaz-Bonilla, 1999, also shows (a) that, in general, the rate of globalization of agriculture in developing countries (measured by the simple trade ratios utilized here) is, still lower than in industrialized countries; (b) that although that ratio has increased since the 1960s, domestic production for domestic utilization is the dominant characteristic for the agricultural sector of developing countries as a whole; (c) that the ratios do not appear to have a uniform trend upwards, as there are clear differences depending on periods, products, and regions; looking at Africa in particular, it appears to have been more "globalized" on the export side during the 1960s, and on the import side in the late 1970s and beginning of the 1980s, while, in the 1990s, both indicators declined from their previous peaks.

-Labor flows are far smaller in this globalization wave; do not go from the center to the periphery, as in the 19th century but move the other way; and tend to have a larger component of skilled labor (operating as a "brain drain") (Kohl and O'Rourke, 2000).

In consequence there is much greater diversity across developing countries in terms of the degree and nature of their economic integration with the world economy when compared with the 19th century globalization. An implication is that simple Stolper-Samuelson results in 2 factor-2 product HO models cannot capture the income distribution and poverty implications of the current process of globalization; the notion of factor intensity is made complex by the need to consider different factors: land and natural resources, capital (with different levels of sector specificity), and various types of labor (skilled, unskilled, rural, urban), all of it under different technological specifications. The effects of globalization are more difficult to isolate, and they may vary much more widely across countries (Kohl and O'Rourke, 2000).

(c) What is the record, in terms of growth, poverty and income distribution?

Taking 1950 as the beginning of the last wave of globalization it is clear that aggregate growth in developing countries increased when compared to previous periods (see Table 5) leading to higher levels of incomes per capita [5] (Crafts, 2000). Even more important, human development, as measured by the Human Development Indicator of UNDP (which includes incomes per capita, life expectancy and literacy), also improved considerably since the 1950s (Crafts, 2000).

Given the changes in income and other physical indicators of well-being since the 1950s, the incidence of poverty (i.e. the percentage of poor population over total population) has declined during the last wave of globalization. Advances appear particularly important during the decades from the 1960s until the first half of the 1980s.

[5] This is of course even more the case for current developed countries.

According to the World Bank's WDR 1990, in that period " the evidence suggests that there has been considerable progress in reducing the incidence of poverty, a more modest reduction in the number of poor, and achievement of somewhat better living standards for those who remained in poverty" (WB, WDR, 1990, pp. 40). Household surveys available for those years [6] showed that the incidence of poverty (i.e. the number of poor people over total population) had declined significantly from an (un-weighted) average of 46% to 24%, and more importantly, the number of poor in the countries covered had declined by almost 60 million during that period (Table 3.2 pp.41 WDR, 1990).

Yet, although growth rates for the whole second half of the 20th century are higher than anything experienced before, they have slowed down for Africa and Latin America since the mid 1970s, although that is not the case for Asia (Table 6). Also the variability of the growth rate has increased in the 1980s for Africa and Latin America, but not for South Asia, and only lately has gone up for East Asia. Variability of growth has come down some in the 1990s, but it is still higher than the 1970s, except for South Asia and North Africa (Table 6).

Additionally, and although the data is less consistent, world income distribution, appears to have worsened since the 1980s. For the global aggregates it seems that between-country inequality (product of differential growth rates) matters more than within-country changes in income distribution. Milanovic, 1999 calculates that ¾ of the worsening in income distribution (measured by the world Gini index) from 1988 to 1993 is due to the divergence in growth performances across countries. Advances in real incomes in developing countries have not lead, in general, to reductions in the gap with industrialized countries except for Asian countries, at least when measured in US dollars without corrections for purchasing power (PPP adjustments). Cornia (1999), the World Bank Development Report 2000-2001, UNDP Human Development Report (1999), and

[6] They covered 11 countries (Brazil, Colombia, Costa Rica, India, Indonesia, Malaysia, Morocco, Pakistan, Singapore, Sri Lanka, and Thailand) representing 50 percent of the poor in developing countries. They used country-specific poverty lines as compared to the more recent studies mentioned below that utilized world-wide poverty lines, as well as country-specific ones.

Pritchet (1997) find divergence in growth rates between developing and industrialized countries leading to increases in world income inequality, measured in non-PPP-adjusted US dollars.

However, other studies utilizing PPP-corrected data, suggest that the ratio of the top to bottom decile has not changed and that the world Gini coefficient has actually decreased (while the other studies find increases in both the ratio and the Gini index) (see the discussion in Khol and O'Rourke, 2000). Additionally, material indicators of well-being such as HDI (Crafts, 2000), show developing countries catching up with richer countries. Figures 6 and 7 show that trend for life expectancy, a specific component of the HDI. However, it should be noticed that SSA as a region, as well as a group of transition economies, have seen their life expectancy decline in the last years. In total, 33 countries have suffered declines in life expectancy since 1990, most of which as a consequence of the AIDS epidemics. Of those countries, 9 lost most than 3 years of life expectancy (WB, December 2000 Voices of the Poor) [7]

Leaving aside between-country comparisons, it appears that, in general, inequality within developing countries has also changed during this wave of globalization, basically following a U pattern: declining during the 1960s and 1970s and increasing afterwards, going in several cases above the previous levels. But the database is weak (Kohl and O'Rourke, 2000).

As mentioned before, the behavior of poverty indicators is related to the average level, variability and "inclusiveness" (i.e. pro-poor nature) of growth. Therefore, the period before the 1980s with higher and less variable growth, as well as improving income distribution, helped to ameliorate the situation of the poor in developing countries. Vice-versa, the uneven growth performance in the developing world (with several poor countries, particularly in Sub Saharan Africa, experiencing lower growth

[7] The list includes Namibia (-3.1 years), Central African Republic (-3.2 years), Cote D'Ivoire and Kazakhstan (-3.7 years), Uganda (-4.9 years), Zimbabwe (-5.2 years), Kenya (-6.1 years), Zambia (-6.6 years), and Botswana (-10.7 years) (WB, Voices of the Poor)

rates with higher variability) and a (possibly) worsening global income distribution, was reflected in small or non-existent improvements for a good section of developing countries since the second half of the 1980s.

Detailed and careful calculations of incidence of poverty and number of poor for the period 1987-1998 by Chen and Ravallion (2000) show that the incidence of poverty continued to decline, but the actual number of poor actually increased. Utilizing the 1dollar/day definition of poverty [8], they calculated that the percentage of poor over total population declined from 28.3% in 1987 to 24% in 1998 (28.5% to 26.2% excluding China). They find declines also for other two definitions of poverty: a fixed poverty line of 2dollars/day and a relative poverty line (which combines a fixed poverty line –reflecting absolute deprivation-, and a country-specific component that increases with mean consumption in that country –reflecting relative or "social" deprivation). The only clear case of increases in the incidence of poverty is Eastern Europe and Central Asia while for Latin America and sub-Saharan Africa it declined only slightly from 1990. On the other hand, there were solid improvements in East Asia, even excluding China, and Middle East and North Africa, and respectable advances in South Asia.

The absolute number of poor, however, increased during that period, reflecting the expansion of total population: utilizing the 1dollar/day measure, the number of people living below that line increased by 15 million, from 1183 million in 1987 to almost 1199 million in 1998, and excluding China the number of poor jumped by about 105 million, mostly due to larger poor populations in Sub Saharan Africa and South Asia. Overall, the absolute number of poor in 1998 compared with 1987 declined in China, East Asia [9], and Middle East and North Africa (comprising about 24% of total poor population as measured by the 1dollar/day standard), but increased in the rest of the developing world.

[8] In fact is 1.08$/day in 1993 PPP prices.

[9] The preliminary numbers reported by Chen and Ravallion, 2000, include the impact of the 1997 crisis. Although the number of poor has increased in 1998 compared to 1996 (i.e. pre-1997 crisis), it is still lower than in 1987, reflecting the strong growth of the 1990s in the region.

In summary it seems that growth during the last wave of globalization raised incomes and standards of living in the developing world (including health) to levels not seen before. Yet, since the 1980s growth has been slowing down in SSA and LAC, collapsed in the former economies of the USSR, and has become more volatile in general. Also inequality may have been increasing within and between countries, and poverty, although declining in relative terms, has not come down, except mostly in East Asia, when measured by the actual number of people affected. The project Voices of the Poor by the World Bank also reflect the sense, that in the experience of the poor interviewed, poverty conditions seem to have worsened, rather than improved, over the last years.

(d) What is the impact of globalization on growth, income distribution and poverty?

Empirical analysis of the relationship between globalization, growth, income distribution and poverty differ on the nature and level of the cross effects.

The link between LDC trade policies and economic performance has been a key issue in the development literature for a long time. Various studies have pointed out the limitations of a development strategy based on import-substitution industrialization through closed trade regimes, with its tendency to generate macroeconomic imbalances and recurrent balance of payment crises, and to foster low-employment, capital-intensive growth patterns, with its negative impact on poverty (Little, et al., 1970; Balassa et al., 1971; Balassa, 1984, 1986, 1989; Krueger, 1978, 1981; Corden, 1984). But the process of industrialization under import substitution was not only criticized in economic terms. Protectionism was considered to nurture a system of patronage in favor of some privileged domestic groups, leading to rent-seeking activities and corruption (Krueger…), and, even more disturbing, the capture of the government by private interests usually under authoritarian governments (see for instance Hisrchman, …)

While that early work relied mainly on case studies, more recent empirical literature on growth based on cross-section regressions also suggests that there is a

positive correlation between trade (and, in general, economic) openness, and growth (Sachs and Warner, 1995; Sala-i-Martin, 1997). Dissenters like Rodrik (1999, 2001) have argued that openness per se does not necessarily lead to higher growth. Rather what counts is investment, which requires macroeconomic and political stability. And in his view, openness may hurt both. Yet it can argued that, at least for the original studies, part of the criticisms to the ISI were that inward, protectionist development strategies not only generated a static and dynamic misallocation of resources (Bhagwati and Srinivasan,), but that it also suffered from built-in macroeconomic instability, and a bias toward corruption and rent-seeking activities which undermined political institutions and the rule of law.

On the other hand, it must be also noticed that the process of liberalization and privatization also created opportunities for the capture of rents by well-positioned private actors (see Schamis, 1999) and the strategy of outward orientation did not immunize the economic decision-making from cronyism. Yet, at the same time, the last two decades of expanded globalization have also seen important movements towards democracy in the developing countries (see Section IV,4 (a)), placing increasingly stricter limits to the possibility of the capture of the public sector by small groups.

In summary, increased access to international trade and other economic opportunities is usually associated with higher growth rates for the economy, in general. Vice-versa, closed economies relying on the dynamics of small domestic markets have tended to show slower and halting growth rates. In turn, high and stable growth rates have been commonly associated with reductions in poverty rates. Yet, higher growth rates would not be enough if globalization is, at the same time, worsening income distribution.

Empirical analysis looking at the relationship between openness and income distribution show mixed results. Some find that openness worsens income distribution at least initially in a Kuznets fashion (Lundberg and Squire (1999); Barro, 2000 – with openness having the greatest effect on inequality in poor countries-, Morley…); others

find little evidence of Kuznets' effects (Deininger and Squire (1998),. Edwards….); while finally others find that openness may improve income distribution after controlling for demographic factors, although the size of this effect is modest (Higgins and Williamson, 1999).

Other papers explain inequality in incomes as related to factors other than openness, such as inequality of land distribution, lack of education and civil liberties (Li et al,.1998); demographic transitions (Higgins and Williamson, 1999); the nature of technological change; the type of endowments, with primary exporters appearing more associated to rising inequality (Galbraith et al. (1998), and Kohl and O'Rourke 2000), or other domestic policies and institutions.

Also, for poverty, it is the relationship between growth and income distribution what matters. As indicated, Lundberg and Squire (1999) find openness negatively correlated to income distribution in developing countries but positively associated with growth, but the last effect is stronger, so openness leads to higher income growth also for the poor (low income quintile). Dollar and Kraay (2000a) find that average income growth translates almost 1-1 into growth for the poor, but there is a long controversy around the growth elasticity of poverty (see, among others, Eastwood and Lipton, 2000).

Kohl and O'Rourke (2000) succinctly summarize this literature arguing that the existing cross-country studies appear to leave many open questions regarding the links between openness and inequality, and that the results vary with either equation specification or to the choice of openness indicator. They conclude that more research is needed, "although to date the finding that openness has at most a modest impact on inequality (in either direction) seems fairly robust." They suggest that this indetermination may be due to the diversity of country experience and the fact that there are many dimensions of openness besides trade, such as capital and labor flows. It has been already shown that at least in terms of capital flows, Africa and Latin America appeared more globalized in the period ending at the beginning of the 1980s (which also coincided with the best growth decades, but led to the debt crisis at the beginning of the

1980s), while Asia's indicators show more globalization of capital flows in the last two decades (which also coincided with better growth performances, and ended with a debt crisis as well).

A separate issue from whether developing countries are getting more integrated in international markets is the nature of the world economy they may be increasingly joining. Diaz-Bonilla (1999) speculates that in the case of the agricultural sector in developing countries, the concerns about globalization in the 1990s may be less related to important increases in the ratios of trade to agricultural production (on which the record is mixed), than to the collapse of world prices in the mid 1980s, linked mainly to changes in macroeconomic and agricultural policies in industrialized countries. In this view for individual developing countries the main issue, and what determines their individual performance in terms of growth and poverty, would not only be whether they are more integrated into global markets, but how the international economy is performing (Diaz-Bonilla, 1999). During the 1960s and 1970s, higher growth, negative real interest rates, and higher inflation, helped mostly the relatively resource-abundant, primary exporters of Africa and Latin America, which also received much of the capital flows. The collapse in commodity prices, since the 1980s, affected less, and eventually benefited, the relatively more resource-constrained and increasingly primary importers of Asia, which were gradually specializing in manufacturing goods and over time became the main recipients of capital flows. African and Latin American countries, on the other hand, since the 1980s went through a painful process of fiscal adjustments to reduce the public sector imbalances and external debt accumulated during the previous decades. The discussions around structural adjustment programs, which unilaterally or as a condition of loans by international financial institutions reduced public expenditures in many developing countries during the 1980s and 1990s, can be viewed as part of the efforts to confront deteriorated circumstances in world macroeconomic variables (Diaz-Bonilla, 1999).

Another important determinant of international economic conditions for developing countries is the behavior of capital flows. They can accelerate growth and

help finance additional investments; but they also tend to expand domestic money supply and increase the price of non-tradables relative to tradables. Consequently, there may be a positive growth and investment effect on the first type of goods, but a negative one on the latter ones. In the case of developing countries that reduced tariffs and other trade barriers protecting import-substitution products, the appreciation of the domestic currency due to capital flows added to the pressure of trade liberalization on those products.

Additionally, expanded capital flows seem to have led lately to a more volatile world economic environment, with the sequence of crises in Mexico in 1995, Asia in 1997, Russia in 1998, and Brazil in 1999. The negative effects of those crises have been highlighted by the recent events in East Asia. Until 1997, developing countries in the region were benefiting from both reductions in poverty and improvement in the health and nutrition of their populations. The sudden emergence of financial crises and the subsequent disruption of the economies of many Asian and South American countries had both direct and indirect effects on health --impacts that may play out well beyond the upturn in GDP per capita.

Recent evidence from Indonesia illustrates the health implications of the economic crisis. The large devaluation of the domestic currency caused by the crisis led to overall price increase, shortage of commodities, rise in unemployment, activation of social unrest and even political turmoil, all of which affected the health of people. Poor and other vulnerable populations, but also middle-income groups, had difficulty paying for basic commodities as well as for the rising costs of medicines and health care. Nutritional and health indicators appear to have deteriorated. Surveys show that four-fold increases in anemia are likely, as well as increasing in wasting, night blindness and diarrhea in children, adolescents, and women (ACC/ SCN 2000). Also, one of the significant shortages experienced during the crisis was that of raw materials for drug production, leading to increases in the cost of drug and other medical supplies. Compressed public spending because of reduced tax revenues and higher cost of interest payments on external debt, also led to a reduction in health budget, with budget cuts

affecting preventive programs, and increasing financial risks for the poor who tend to be more reliant on public health services and facilities. In many countries where local currencies collapsed, budgets set for vaccines priced in foreign currency could no longer be met, creating short-term shortages and delays in getting enough vaccines to protect children from life-threatening infections (WHO 1998 press release 'global financial crisis').

A question here is the influence of the macroeconomic and regulatory policies in industrialized countries and their counterpart in developing countries, particularly policies linked to banking supervision, on the ups and downs of international capital flows and on their impact on developing countries.

In summary, the relationship between globalization, growth, income distribution and poverty, is a complex one. In general, higher incomes and poverty reduction are obviously associated with better health indicators, but how globalization affect incomes across different groups in society, is less clear. Besides the nature and components of the patterns of integration in the world economy by developing countries, it seems important to also consider both the behavior of the international economy they are getting increasingly immersed into, as well as the type of domestic complementary policies, institutions and conditions that ultimately determine the impact on the poor. In what follows we discuss an important component of those internal conditions: the domestic health system.

IV. 2 Health Systems

(a) General Background

While the previous section focused on the impact of globalization on growth and poverty as the general setting for the analysis of health issues, this section shifts to the

health systems [10], broadly understood, and the impact of globalization process on it. Chart 3 presents an outline of the main components of the health system. At a general level, there are policy, regulatory, and institutional issues that affect the health inputs, operations, and outputs. It is important to also consider the quantity and quality of human endowments, health-related capital, infrastructure and equipment, medicines, and other inputs that may be available for their use by the health services. Another crucial aspect is the financing and organization of the public and private health services, and related infrastructure, which in turn define the quantity, quality and coverage (distribution) of their outputs. Health-related infrastructure, including sanitation, potable water, quality of housing, roads and communications, are important contributors to the overall health status of a population, both directly (as in the case of sanitation) or indirectly (by facilitating access to health services such as roads and telephones). The focus of this section is primarily on the "supply- side" aspects of health and health-related goods, services and infrastructure, and how globalization may impact on them. "Demand-side" issues, such as household incomes, women status, and access to political assets and opportunities, are discussed in other sections of this report.

The objectives of the health system (WHO, 2000, Hsiao, 2000) should include (a) an optimal level of health status distributed equitably among the population; indicators should go beyond averages and consider the distribution of health outcomes that differ significantly between rich and poor (Gwatkin and Guillot, 1999); (b) an adequate degree of risk-protection for all, acknowledging that spending on health care strains household and government budgets and that the costs of serious illness are an important cause of poverty in many developing countries; (c) the highest attainable level of user satisfaction; and (d) efficiency in the use of the resources.

The issue is how to address the special nature of health as a basic need, and the functioning of health markets, which suffer from possible market failures in several key components such as financing (because of asymmetric information and moral hazard),

[10] WHO, 2000 defines health systems as "comprising all the organizations, institutions and resources that are devoted to health actions. A health action is defined as any effort, whether in personal health care,

health service provision (where health practitioners may enjoy monopolistic powers) and pharmaceutical and medical equipment (where, depending on how patent laws are drafted, different degrees of competition and technical innovation may result). The intervention of the government to try to address these market failures may help, or may also create public sector policy and institutional failures of its own, such as corruption, waste of resources, anti-poor biases in services mostly concentrated on urban middle classes, and so on (Hsiao, 2000; World Bank 1993 WDR).

How countries define their priorities and how they organize their health resources to try to attain their health objectives should be defined within a democratic political process in those societies. Countries differ significantly in the way they balance public and private sector participation in the financing, insuring and delivering of health services and the funding and construction of health-related infrastructure. Investments in education and training of physicians, nurses, and other health practitioners; the structure and operation of the manufacturing of medicines, and medical instruments and equipment; and the organization and functioning of basic and applied research in health, also show important variations across countries in terms of the private-public balance. This balance may change with the level of per capita incomes, but there are also important variations even at the same levels of economic development, reflecting different historical traditions and societal values.

Table 7, from Hsiao (2000), shows the different organization of health services depending on four income categories (poor, low-income, middle income and high income), and the percentage of population in each segment.

Poorer countries have an important participation of government financed and delivered health services (50-60%), but also the largest percentage of self-pay (35-45%). One of the main globalization problems for those countries relates to shocks to the prices of the commodities they export and, in general, to the terms of trade, which affect government revenues, availability of foreign currency reserves, and economic activity in

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public health services or through intersectoral initiatives, whose primary purpose is to improve health"

general. Also, the issue of indebtedness and the HIPC Initiative are important for them. Another area of concern is how to best approach negotiations and operations with international financial organizations and donors, which provide needed funds, but that may create problems of parallel organizations for the execution of specific projects, competition for resources, and divergent policy advice and conditionality (WHO, 2000). Brain drain issues, competition between public-private services, and WTO issues such as TRIPs, negotiation of services and government procurement, may have less implications for these countries due to the exceptions they have under Special and Differential Treatment in trade negotiations.

In terms of the "double burden" of disease discussed before (WHO, 1999), these countries would be mostly concerned with the second one, the impact of communicable diseases, what WHO calls the "unfinished agenda" of preventable health problems.

For the next category of developing countries, globalization issues may differ somewhat. Globalization in the form of shocks from terms of trade, interest rates, and capital flows may remain important, but other issues arise. For instance, with increases in incomes, the percentages of private and social insurance go up, as is the provision of private medicine. How to balance public and private sector functions, as well as how to deal with the market failures mentioned, may become more immersed in the internationalization of those economies. Some concerns that may become more important include: international migration of health workers and brain drain of health practitioners; expanded trade in health commodities (equipment and inputs), perhaps as a result of the reduction of tariffs and trade liberalization; increased internationalization of health insurance and health services, possibly related to the negotiations on Services under the WTO; the implementation of patents for medicines and other changes in Intellectual Property Rights as agreed in the TRIPs agreement of the WTO; and other WTO issues such as government procurement.

The general health context for those countries is the greater presence of the full "double burden", with demands to attend both the emergence of non-communicable

diseases, while at the same time still struggling, although in different degrees, with the unfinished agenda of infectious diseases and malnutrition. Health services in those countries are pulled in two directions by the built-in tension between demands by social groups with higher incomes to address the health problems of the new agenda, and the requirements to attend the unfinished agenda of diseases mostly affecting the poor.

A related process is that, in several of those developing countries, increases in incomes are leading to the formation or expansion of markets for private health services (Sbarbaro, 2000). This demand-side element interacts with constraints on the supply of public health services in developing countries, where governments face higher demands on limited resources, due to population increases and other causes. The public sector has to attend public health issues such as immunizations, controls of infectious diseases and vectors, health education, water and food safety, and basic health services with those limited funds, leaving uncovered the demand for higher levels of individual medical care. Except for the potential link between globalization and growth and income distribution, and globalization and government revenues (see Sections IV.1 and IV.4 (a)), this tension between public and private health services, can be analyzed irrespective of whether the system is closed to, or allows the presence of, foreign providers of health services (see below IV.2 (d)).

Therefore, the important problems of the development of a dual market structure and of escalating costs, all of which would affect negatively the poor (Chanda, 2000; Sbarbaro, 2000) may happen whatever the nature (domestic or foreign) of the firms involved in the private health system, to the extent that this tension mostly depends on the nature of the "double burden" created by the epidemiological transition in those countries. Under any type of private firms it may happen that the best human, financial and technological resources are absorbed by the high-end segment catering to a healthier and most affluent clientele, while the poor and the greater health risks may be excluded. The public sector may get burdened with the most difficult cases, in terms of health and incomes, straining further public budgets that still have to attend nation-wide health problems and reinforcing the image of low-quality public services, eroding support for

the public health system. Regarding costs, the introduction of insurance reduces the financial barriers to getting access to health care services, and consumer demand may then be determined less by cost considerations and more by quality concerns. This may lead to the introduction of expensive, high-tech health services into developing countries, contributing to the escalation of health costs and the diversion of scarce funds away from public health programs and the targeting basic diseases, such as the 10 main diseases identified by WHO [11] as having the greatest impact on the poor (Sbarbaro, 2000).

With this background in mind the next sections focus on several specific issues linking globalization and health.

(b) International trade agreements and access to essential drugs

An important dimension of globalization for public health is the adoption of international trade agreements and the effects of their provisions on the development, production, and access to pharmaceuticals, particularly in developing and least developed countries. Among these agreements, TRIPS (the Trade-Related Aspects of Intellectual Property Rights) has the greatest significance with respect to pharmaceuticals. Under the intellectual property regime, which was negotiated during the Uruguay Round of the WTO and concluded in 1994, all member countries are required to recognize patents for inventions in all fields of technology (with some limited exceptions); not to discriminate regarding the availability or enjoyment of patent rights; to provide patents for a period of at least twenty years from the date of application; to limit the scope of exceptions to patent rights and to grant compulsory licenses only under certain conditions (including adequate compensation); and to effectively enforce patent rights (Correa, 2000).

Obligations should be divided into two categories (Wajtal, 2001): (i) those related to the introduction of product patent protection for pharmaceutical products in those

[11] Malaria, HIV/AIDS, tuberculosis, acute respiratory infections, diarrheal diseases, vaccine-preventable illness, mother and infant care, tropical parasites and helminthic infections, nutritional deficiencies, and tobacco-related illnesses.

developing and least developed countries which do not grant it by the time of the Uruguay Round Agreement; and (ii) obligations regarding process patents for this group of countries and all patent protection obligations for other developing and least developed countries, as defined by the United Nations (LDCs). With respect to the first case, those developing countries have until 1 January 2005 to apply product patent protection to pharmaceutical products and the least developed countries until 1 January 2006. With respect to the second category above, developing country Members had until 1 January 2000 and least developed country Members have until 1 January 2006 to meet the WTO obligations. At that time, the rules of the TRIPS Agreement will apply not only to new patent applications but also to patents still under protection in their territories (Wajtal, 2001).

IP regimes face the inescapable trade off between providing protection to intellectual property, which is expected to lead to larger creation of knowledge and knowledge-based goods and services [12] in the future, and not providing such protection, which will facilitate current access. The trade off has been posed in terms of future versus present consumers (Maskus, 1999). The counterpart to the granting of patent protection is that holders must provide adequate disclosure of the invention, making publicly available important technical information which may help society to advance technology, even during the patent term (depending on how broadly patent claims are defined; see Maskus, 1999), but certainly after the patent term ends (Wajtal, 2001)

The design of an adequate IP regime is even more complicated regarding medicines and poor people because, given that the recovery of the invention under IP regimes takes place in the market, it is not clear that the future development of treatments for the "diseases of poverty" will be forthcoming, given the limitations of the potential market. This has led to suggestions of public funding for the development and production of medicines to confront the health problems of the poor (Sachs,1999, Helping the world's poorest, Aug 12th 1999, The Economist).

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[12] Including artistic expressions.

In addition, the trade-off between present and future consumers is made more dramatic by the current state of poverty and the immediate and direct implications of higher access costs to vulnerable populations. In this regard, there is growing concern that the application of strengthened patent rules to medical products will further hinder access of poor people to vital medicines and at affordable prices. This is a significant problem in the face of the AIDS epidemic and the inability of poor people to pay for the expensive cocktail of drugs, even if available at lower costs than to patients of developed countries. A notorious example of the IP trade off has been the legal dispute over HIV/AIDS drugs involving the government of South Africa and international pharmaceutical companies, until the latter, under the pressure of public opinion, decided to withdraw their legal challenges to South African laws.

This whole debate has been evolving rapidly since the US government modified, during the year 2000, its policy of support to pharmaceutical companies that were basically requesting countries to undertake obligations that were clearly beyond what the WTO required.

To place the discussion on patents and pharmaceutical products in context it is important to stress some key points regarding the current IP regime under the WTO (Correa, 2000; Wajtal, 2001):

-First, patents are national and depend on national laws and procedures. There is no such a thing as an international patent. Different countries have currently, and will have in the future even after implementing WTO's TRIPs, different patent systems.

-Under the WTO system patents will only be available for products for which a patent application was filled after January 1995, unless national laws decide otherwise. Most developing and least developed country Members of the WTO already provided for

product patent protection for pharmaceuticals, so the new obligations apply mostly to about 20 countries [13].

-The TRIPS Agreement does not require bringing under protection pharmaceutical inventions that were in the "pipeline" in these countries at the time of entry into force of the WTO.[14] Wajtal (2001) notes that of some 300 drugs listed in WHO's Model List of Essential Drugs, fewer than 20 are under patent protection anywhere in the world, although some patented products that could be considered essential are not in the list because affordability is one criterion in deciding their inclusion. However, looking forward, patents may make a difference in pricing, with estimates of higher costs from 12% to 200% over prices without patents in different developing countries (the estimates change depending on the assumptions regarding the nature of the patent regime and the competitiveness of the markets involved) (Wajtal, 2001)

-WTO allows an important degree of latitude in determining what is the exact nature of the desired system, including the exceptions to patentability (articles 27.2 and 8.1 of TRIPs); the treatment of elements existing in nature (for example genes, which can be considered discoveries and not inventions, are therefore non patentable); how to deal with new uses of existing products; the possibility of excepting from patentability diagnostic, therapeutic, and surgical methods for the treatment of humans (art 27.3.a); the use of broad or narrow scope of claims in the definition of the patent; the extent of the patentability requirements regarding the novelty of the claim, whether it reflects an "inventive step", and its industrial applicability; the extent of the disclosure requirements to grant a patent; the definition and treatment of the possible exceptions to the exclusive

[13] Wajtal, 2001 mentions that according to the best knowledge of the WTO Secretariat, these countries were Angola, Argentina, Bangladesh, Brazil, Cuba, Egypt, Guatemala, India, Kuwait, Madagascar, Morocco, Pakistan, Paraguay, Qatar, Tunisia, Turkey, United Arab Emirates and Uruguay.

[14] The "pipeline" refers to the backlog of inventions of new pharmaceutical products that were no longer patentable on that date, because disclosed, but not yet on the market because pending marketing approval. However, after the entry into force of the WTO (1 January 1995), country members are under the obligation to provide a special system to consider applications for patents for pharmaceutical product inventions and give some marketing rights, even though the consideration of the patentability, and the full patent protection, if the application is accepted, occurs only after the transition period expires (in general, January 1, 2005 for developing countries or January 1, 2006 for LDCs) (Wajtal, 2001).

rights conferred by a patent, such as experimental use, government use for non-commercial purposes, and parallel imports (the latter being a key issue in the South African dispute; the WTO allows the possibility of parallel imports); compulsory licensing; and the control of anti-competitive practices, among other issues (Correa, 2000).

The conclusion is that although there are constraints under TRIPs, developing countries still have considerable room to design their own national laws to address public health concerns, particularly how to develop patent rules that promote competition in the pharmaceutical industry and do not hinder access to medicines, specially by the poor (Correa, 2000). But developing countries, and particularly the poorest ones, will need technical and financial support to establish IP systems that really address their health and, more generally, development objectives. The research undertaken in the WG4 of the Commission on Macroeconomics and Health (see Wajtal, 2000), will certainly contribute to this end.

Another important issue is that industrialized countries should refrain from trying to force on developing countries, using threats such as the withdrawal of access under the Generalized System of Preferences, obligations that go beyond WTO requirements. A related point is the regulatory and administrative costs of those regimes for poor countries (Finger and….). It seems relevant to calculate the cost for developing countries of implementing those obligations, and to measure it as percentage of the GDP. It would not be a balanced outcome of the WTO process to request that developing countries spend financial and human resources on the administration and enforcement of those obligations that exceed what industrialized countries are spending as percentage of their own GDP (Diaz-Bonilla et al, 2001).

Still the problems of high and possibly even higher prices of medicines, and of access by developing countries to affordable drugs, need to be confronted. Those issues include but go beyond the discussion of the IP regime. As mentioned before, health care in the poorest developing countries has a larger component of private payments than in

richer developing countries and certainly more than in industrialized countries. Drugs are typically the principal component of health expenditures by poor household, reaching up to 50–90% of out-of-pocket spending, while prices for newer medicines in developing countries are sometimes equal to, or higher than, those in industrialized countries (WHO, 2001).

According to WHO (2001) the four factors that affect access to medicines include rational selection of medicines (which requires defining what drugs are most needed and ensuring that they are used as intended); sustainable financing (based on all viable financing mechanisms, including public revenues, social health insurance, adequate use of direct spending by individuals, and international financing through grants, donations, and loans); reliable health and supply systems (including an efficient mix of public and private roles in pharmaceutical supply systems and effective drug regulation and quality assurance); and affordable prices of medicines (which depend on several things, including , transparent price information for healthcare providers and consumers; the levels of producers costs and profits, related to the degree of competition in the industry; in the case of drugs under patents, the impact of the IP regime applied in the country; the level of import and sales taxes, and distribution margins at the wholesale and retail levels).

The implications of globalization for affordability relate mainly to TRIPs (already discussed), reduction of border protection (i.e. trade liberalization), competition policies, government procurement, and financing, including the issue of trade in health insurance services.

High tariffs and low competition in the industry can maintain prices of drugs high even in the absence of patents. Wajtal, 2001 documents some of those cases. Affordability would then improve with reduction of tariffs and greater competition. Also, in the case of public or quasi-public health systems the issue of government corruption and waste must be confronted. For instance a more transparent method of government procurement, as is being negotiated in the WTO, may help in this regard. Some concerns have been voiced regarding the possible impact of a WTO negotiated regime for government procurement, which in this view may hurt and displace domestic producers of supplies to the public sector (Hong 2000; Pollock and Price, 2000). In general,

however, under the WTO there are exceptions for small firms suppliers of the public sector. And more transparency in government procurement is essential if domestic consumers are to be protected from cozy arrangements that maintain domestic prices of medicines high for the benefit of a small number of firms and government employees.

Within this complex subject, a recent WTO/WHO workshop (March 2001) has explored the specific idea of establishing a world mechanism, including alternatives to finance it, to allow price differentiation in favor of developing countries according to some criteria of eligibility [15], and for certain essential drugs. This is an initiative that requires further analysis and support.

Finally, an emerging issue seems to be the expansion of drug development in developing countries. Like most other manufacturing businesses and many services, the pharmaceutical industry has globally expanded the development, testing, and production of drugs (Washington Post article; DFID). For example, the percentage of drug approval applications to the Food and Drug Administration based on human tests in foreign countries has tripled since 1995, and the number of researchers and doctors in Latin America, Eastern Europe, and southern Africa testing drugs for the U.S. market has risen from 8 to 1,148 since 1991 (Washington Post December 24, 2000). On the one hand, this may help to develop human resources in developing countries and to retain personnel that may have otherwise migrated from those countries ("brain drain"). Also, the process may help increase the availability of new medicines in developing countries. However, serious ethical problems should also be considered. In some cases recently documented in the Washington Post, companies whose applications for human trials in the United States had been turned down by the FDA have simply exported the tests to countries with lower testing standards, then used the results in their subsequent applications for full FDA approval. Not only the companies also use the lower standards as an excuse not to

[15] The issue of modulating WTO obligations according to comparable quantitative profiles has been explored for the case of food security issues in Diaz Bonilla et al, 2000. The paper applies cluster analysis to 167 countries and classifies them into food insecure, food neutral and food secure groups. The implications for WTO obligations were discussed there and in Diaz-Bonilla et al, 2001.

provide potentially life saving treatment to some test subjects, but also rarely do the poor people who test the new drugs have access to them once they are commercialized.

More generally, development of new drugs, even if done in developing countries, may not benefit larger percentages of their population, not only because of problems of affordability and access, but simply because those new medicines do not target health the main health problems in developing countries, such as TB and malaria. Indeed, while the vast geographic expansion of the pharmaceutical industry has greatly increased the number and diversity of people available to try out new drugs, bringing some medicines to market more quickly and spreading their benefits more widely, it is also clear that it has failed to generate the new drugs and vaccines needed in developing countries. The proposal to create an international fund to competitively finance private and/or public R&D in the "diseases of poverty" seems the best approach to address the lack of effective demand from the population suffering from those health problems (Sachs, 1999). Some examples are venture capital funds such as the Medicines for Malaria Venture and the Global Alliance for TB Drug Development, which finance the development of new medicines that normally would not have a market potential that would make pharmaceutical companies invest in them (Heymann, 2001)

(c) International Public/Private Partnerships

With globalization, the role of the state is being transformed and transnational social and political movements becoming more and more important. For the health sector, the process can mean a diminished role of the public sector to operate health services, and in parallel, the increasing intervention of the private sector to take over some of the services. Since the 1970s, Ministries of Health in many developing countries have contracted out various hospital services such as laundry or cleaning; or contracted private hospitals, and clinics to provide particular services. Some of the issues involved for domestic health systems are discussed in the following subsections. Here the focus is on international public/private partnerships and their contribution to new systems of global governance.

The number of non-for-profit institutions responding to global health needs has expanded over the last years, while pharmaceutical companies are increasingly involved in direct support to global health programs. Over the past few years, public private partnerships between UN agencies, governments, industry, and both new and old foundations have sprung up (Walt 2000). Some of these are donation programs, where pharmaceuticals have provided doses of a particular drug to help eliminate a particular disease. For example, through the Mectizan Donation Program, the Merck company donated ivermectin to address the problem of onchocerchiasis (river blindness) in many African countries. In the last few years, Glaxo-Wellcome offered Malarone as a second-line treatment against malaria in Kenya; Pfizer donated zithromax to tackle trachoma; and SmithKline Beechman donated albendazole to help eliminate lymphatic filariasis. Other partnerships are looking for, or testing drugs. Currently, there are about 10 public-private partnerships working to develop drugs or vaccines for global diseases, such as the International AIDS Vaccine Initiative and the Medicines for Malaria Venture, and another half dozen seeking better distribution of existing drugs in the developing world to combat the effects of trachoma, AIDS, and a variety of parasitic diseases. The pharmaceutical industry and the 'new philanthropists' who have made large profits from computers, communications, and the global media business are also increasing their contribution to the health sector at the international level[16]

These new partnerships have come to play an increasingly important role in health, both in financing terms, and as a resource to counter the shortfall in services and research and development opportunities. At the same time, those partnerships need to consider issues about representation and accountability (Walt 2000). Although both public-private sectors have well established mechanisms for accountability for their actions, there is always the risk of some distance emerging, or expanding, between global partners and beneficiaries, raising questions about how the global health agenda should

[16] As en example, among others, the Bill & Melinda Gates Foundation recently donated US$750 million over five years to establish the Global Fund for Children's Vaccines. The Fund is one of the financial tools the Global Alliance for Vaccines and Immunizations (GAVI) to finance improved immunization among children.

be established. Including developing countries in governing boards and in early planning appears central in this regard.

A related issue is that international donor agencies, while bringing to the table funds, knowledge, technical, and management expertise, and leadership, they can also burden the developing countries recipient of their initiatives with inappropriate projects, advice, equipment, and the administrative complexity of their procedures (WHO, 1999).

(d) Internationalization of health services

International trade in services can occur in different forms. The General Agreement on Trade in Services (GATS) defines four main ways, known as "modes of supply": (i) services supplied from one country to another (known as "cross-border supply"); (ii) consumers from one country making use of a service in another country (known as "consumption abroad"); (iii) a company from one country setting up subsidiaries or branches to provide services in another country (known as "commercial presences"); and (iv) individual traveling from their own country to supply services in another (known as "movement of natural persons") (WTO, …). Examples of those "modes of supply" in international trade of health services include diagnostics utilizing telemedicine ("cross border supply"); the movement of patients to the host country for medical treatment ("consumption abroad"); a health service provider establishing health care facilities in other countries ("commercial presence"); and through the movement of health personnel across countries ("movement of natural persons") (Chanda, 2000).

Developing countries have the potential to participate on the export side of that trade with services such as providing clerical services for administration of patients' records over the Internet, or offering lower-cost, but standard, treatments and procedures to patients from industrialized countries, where those same services may be more expensive.

The movement of natural persons to provide health services in foreign countries is another possibility, but, of course, if the movement becomes permanent it is no longer an

export of services but "brain drain". While globalization may help countries that need skills to recruit personnel from abroad, the process may also lead to shortages of skills in some of the countries that produce them. The "brain drain" of health professionals from low-income countries to more developed economies is considered to be a serious problem. However, since there is no database on net flows of health professionals between countries, it is difficult to determine the extent of the problem. Also, sometimes the negative effects of the "brain drain" can be offset by macroeconomic benefits such as foreign remittances from nationals working abroad (Bettcher 2000), although most likely the offset would only be partial.

More controversial issues, involving ethical problems, may be donation of organs (perhaps linked to the provision in developing countries of services to foreign patients) and the testing of pharmaceutical products and medical devices in developing countries where the costs may be lower (Chanda, 2000).

On the import side, providers of health services may bring benefits in terms of increased competition and efficiency, and improved quality of health care due to better infrastructure, standards, and training (Chanda, 2000).

The main concerns regarding these possibilities appear to center in the proper balance between the public health system and the private sector providers. Some of the issues, as mentioned before, may not necessarily depend on the nature, national or foreign, of the firms involved in the provision of those private services. They include concerns such as the emergence of dual and exclusionary health systems or the escalation of health costs, which may or may not take place with the expansion of private health services, irrespective of the nationality of the firms involved.

More pertinent to the discussion of the internationalization of health services are the continuation of the negotiations in trade services as agreed by the member countries of the WTO during the Uruguay Round. Those negotiations were resumed at the beginning of 2000, and gathered speed with the adoption of the negotiating guidelines

and procedures, and the completion of the stocktaking exercise by the Special Session of the Services Council during the meeting of March 28-30, 2001. Several additional meetings are scheduled for May, July, October and December 2001, and further reviews of the negotiations in March 2002. Some have voiced concerns that the WTO and the trade negotiations may lead to further privatization of health services in developing countries (possibly against their will) and, even worse, to increasing difficulties for the national authorities to regulate the provision of health services according to national health objectives (Hong 2000; Pollock and Price, 2000). To evaluate the validity of those claims it is important to understand the nature of the WTO and of the negotiations in services. As a general background it seems important to notice the following points:

First, member countries decided during the Uruguay Round that GATS does not cover services provided in the exercise of governmental authority. So countries can retain their public health systems if they wish.

Second, member countries alone (and not the WTO which only can do what the member countries want) may decide to allow foreign presence in some sectors, or may decide against that possibility.

Third, if a member country decides to allow foreign firms in a specific sector it may or may not include that commitment in its schedule of obligations under the WTO. If it includes the obligation in the WTO is presumably because that country wants to obtain for its own firms similar opportunities in other countries, or because it expects additional benefits in its own markets in the form of new foreign investment attracted by the greater legal stability of the regime, once it is part of the WTO system.

Fourth, the member country does not have to open the whole service sector being negotiated (in this case the health service sector) and, on the contrary, may decide to open to foreign providers only a sub-sector within the health system (or any other service).

Fifth, there is no requirement under GATS to grant national treatment[17] (as in the case of goods) and therefore there may be special conditions that foreign, but not national, firms must comply with. The obligation under GATS is that of the most favored nation, i.e. that all foreign services are treated equally; and there are some exceptions to this also (see WTO, 2001).

Sixth, member countries retain their immanent right (as could not have been otherwise) to promulgate and enforce regulations that must be observed by all health service providers, irrespective of whether they are national or foreigner. If a member country decided to allow the presence of foreign providers of services, and it has committed itself to specific access obligations, there are some requirements of transparency in the promulgation and notification of regulations, and with respect to the drafting of regulations so that, given that the expected objective of such regulations are attained, they be the least trade distorting and do not act as a disguised barrier to trade. However, the WTO as such cannot review regulations to judge whether those requirements are fulfilled. Only other member country (call it A), which presumably exchanged commitments regarding access with country B, can object if A believes that it is being discriminated by the regulations drafted by B, negating what was supposed to be a reciprocal concession. In that case, country A may ask for consultations first, and, if those consultations failed, a process of arbitration or dispute resolution follows.

In analyzing these issues is important to consider separately several decisions because they are completely different: first is the decision to increase or not the participation of the private sector in the provision of health services; second, a country may decide to allow or not, the presence of foreign firms within the private sector providing services in that country; and, third, there is the issue of the regulatory framework for the provision of those services. As indicated there is nothing in the WTO negotiations that force country to privatize health services (or other services), or to allow foreign companies as service providers, and, even less, to deregulate the provision of those services. Still a country may decide to privatize, allow foreign firms, and

[17] National treatment means that national and foreign services must be treated equally.

deregulate for other reasons such as lowering costs, improving efficiency, upgrading technology and management, or because those policy decisions are linked to funding by international organizations and foreign donors.

Further research on the proper balance of the different public-private sector functions, and on the role of trade in health services in that context, appear crucial. The research proposals of the WG4 of the CMH on these topics (see Chanda, 2000) will help to elucidate the facts and policy implications in this complex area.

In addition to income growth and distribution, the incomplete epidemiological transition (with the polarization of the "double burden" of health problems), and the trade negotiations, another important cluster of issues in the internationalization of helath services revolve around technology developments in communications.

The globalization of the major advances in communications, transport, and new technologies can contribute to health improvements. While the role played by traditional infrastructure, channels of communications, and other logistics services remain important for the delivery of health services, the new information and technological improvements that have occurred in the last two decades hold great potential. Most developing countries lag behind in power, transport, and telecommunications, leaving them at a competitive disadvantage in world markets (Pinstrup-Andersen and Babinard 1999). Many national transport systems fail to deliver the logistical support that firms need, and poorly maintained roads add to the already high transport costs. Only 30 percent of the roads in developing countries are paved compared with about 91 percent in developed countries. While the number of telephones per 100 people in developing countries rose from one to two between 1975 and 1985, and jumped to six by 1997, disparities in telephone access between developed and developing countries remain important. New wireless technologies offer quick ways to bring more telephones to developing countries and are particularly adapted to remote locations (Brown et al. 1999).

The rapid technological developments and innovations that facilitate globalization by promoting worldwide interactions are also helping to share a wide range of health

information rapidly. Modern communication and information networks can provide a vehicle for developing global public awareness regarding health issues, trade, and health problems, and the health repercussions of health system reforms. Recent years have seen explosive growth in public health and medical information on the Internet. At present, there are more than 10,000 health sites available to individuals, families, the health profession, and the health industry (WHO/72 2000). Improvements in communications can also augment interactions among health professionals, allowing doctors and medical researchers to communicate with each other, and access medical libraries and health experts throughout the world. Several endeavors are beginning to link the health care community in developing countries with the rest of the world. One of them, SatelLife, an international not-for-profit organization based in Boston, has developed a network of satellites with simple ground stations and radio-based and telephone-based computer networks to allow physicians the ability to exchange information through several peer reviewed electronic discussion groups such as ProMED, a global early warning and reporting system for emerging infectious diseases; ProCAARE, a group focusing on the clinical aspects of HIV/AIDS and sexually transmitted diseases launched by Harvard AIDS Institute; ProCor, an access to critical information on cardiovascular disease; and E-Drug, which facilitates discussion on essential drugs, rational prescribing, financing, registration and management (Mitka 1998).

In the same way improved electronic communications can help medical researchers improve their capacity to do research and share their knowledge on health issues, greater diffusion of technology can help nations and communities increase their access to care. For example, also known as telemedicine, medical care is now practiced using interactive audio, visual and data communications, to provide medical care delivery, consultations, diagnosis and treatment, as well as education and the transfer of medical data (Walt 2000). While it is still relatively limited, there are already a few commercial enterprises providing services across a number of developed and developing countries. In India, a 50-bed telemedicine center has been developed where doctors using special software and hardware can scan, convert, and send data images several hundred kilometers away to specialty hospitals. The project is scheduled to extend this cover to

125 primary health centers, 25 district hospitals, and three tertiary centers in five states (Sharma, 2000).

(d) Internationalization of insurance services

As it was shown in Table 7 the proportion of health expenditures that, under different schemes, is "risk-pooled" (i.e. not paid by individuals directly to the health service provider) increases with the level of development. Different forms of managing risk include national health services funded by general taxation, social security systems based on salary-related contributions, and private health insurance relying on voluntary contributions paid by the individual or by the employer (Sbarbaro, 2000).

As it has been already mentioned, with increases in incomes in different developing countries, markets for private health insurance are forming or expanding in several of them. As people move into income brackets that allow them to purchase private health insurance, they may prefer the flexibility and (presumably) better-quality services to which private health insurance may provide access. Governments in developing countries, burdened with other demands, may leave higher levels of individual medical care, and the related insurance services, for the private sector (Sbarbaro, 2000). Again as noticed before, except for the potential link between globalization, growth, income distribution and government revenues, several of the pro and cons of this process can be discussed irrespective of whether the system is closed to, or allows the presence of, international providers of insurance services.

For example, the possible benefits of greater flexibility for consumers, access to higher-quality health services, greater competition, support of technological innovation, and freeing some public resources for other health uses, do not necessarily require that foreign providers are allowed to operate domestically, although international companies may have access to more financial, managerial, and institutional resources to perform the expected insurance functions. As for the costs, the potential problems of creating a dual market structure and of escalating costs (Chanda, 2000; Sbarbaro, 2000) may happen

irrespective of the domestic or foreign nature of the firms involved in the private health insurance system (see also section IV.2 (a)).

If a country decides to allow, or to expand, private health insurance services, the need for an appropriate regulatory framework is paramount whatever the domestic or foreign nature of the private firms involved. The rules for the selection of the insured, the treatment of pre-existing conditions, the health services included and excluded, the structure of the premiums paid by the insured and of the payments to health providers, the selection and interaction with health service providers, reporting requirements, adherence to national guidelines of treatment, among other aspects, must be carefully analyzed and included in the regulations (Sbarbaro, 2000).

Yet there is also a global dimension to this process. International companies that offer health insurance may get increasingly interested in the expanding markets of some developing countries. Multinational companies operating in developing countries may want to expand to their workforce there, the health insurance system that they have in place for their employees in industrialized countries. The World Bank (see for instance, (World Bank, 1993), and other regional banks have been advocating and financing changes in health and health insurance systems with greater private participation (Sbarbaro, 2000). Finally, some others have argued that the trade negotiations in the WTO may lead to further privatization of health and health-insurance systems in developing countries (Hong 2000; Pollock and Price, 2000). The issue of the WTO negotiations was discussed above, where it was argued that governments are not required to privatize health systems and can impose the regulations they considered needed to attain health objectives. The central point, as in many other issues of importance for developing countries, is the need for financing and technical assistance to support programs that have been democratically debated and approved, and where the voices of the poor have been listened to and heeded.

Further research appears necessary to sort out the full implications of increased private sector insurance, and the internationalization of the providers, as suggested in the research proposals of the WG4 of the CMH on those topics (see Sbarbaro, 2000).

(e) Globalization and the Spread of Disease

With globalization the international movement of people and food has increased dramatically, as well as the dissemination of lifestyles and diets through advertisements. The latter can lead to increases in heart disease, diabetes and cancer, as well as the growth in tobacco consumption. WHO calculates that if the growth in tobacco use goes unchecked, the numbers of deaths related to its use will nearly triple, from four million each year today, to 10 million each year in thirty years time, and more than 70% of those deaths, will take place in developing countries (Brundtland….).

Leaving aside the globalization of lifestyles, the other two facts (i.e. more people traveling and more food being traded internationally), mean that bacteria and viruses can travel fast to almost everywhere in the world, with important consequences for the expansion of infectious diseases and foodborne health-problems. The implication is that there are no health sanctuaries, that an artificial separation between domestic and international health problems is no longer useful, and that concerted international efforts are needed to face those problems.

-Infectious diseases

During the 1990s, emerging infectious diseases have become a major public health concern. Some 30 new and highly infectious diseases have been recorded in the last 20 years (WHO, 1997). This is in part related to the globalization of travel, especially by plane: the number of international airline passengers has skyrocketed from two million a year in 1950 to over 1.4 billion today (Heyman, 2001). Airborne diseases such as pneumonic plague, influenza and TB can easily spread in airports and airplanes, and by passengers after their return home if they do not comply with sanitary requirements for their travel or simply got infected abroad. Heyman reports several examples such as cases of influenza, TB, typhoid and yellow fever In the United States since the late 1970s; polio in Canada; TB in Western Europe; yellow fever in Switzerland and

Germany; malaria in the UK (where 1 000 new cases of malaria are brought in each year from malaria-endemic countries), in northern countries and near airports in cities such as Brussels, Geneva and Oslo; and cholera in Peru, imported from Asia, which spread rapidly throughout South and Central America, with a death toll of about 11 000 people. HIV/AIDS has also been spread by sexual tourism and, in Sub-Saharan Africa, by migrant workers and truck drivers.

Also, there are important mass movements of people linked to wars and civil strife, The number of refugees and displaced people has increased nine-fold over the past two decades. In 1996, as many as 50 million people worldwide had been uprooted from their homes - 1% of the world's population. Refugees and displaced persons living in overcrowded, unsanitary conditions are at risk of outbreaks of cholera and other waterborne diseases (Heyman…). An example was the cholera epidemic in Goma, Democratic Republic of the Congo, which killed thousands of people in a short period of time during 1994.

In summary, human transmission could become the predominant way in which diseases are spread quickly, even across continents, by airborne and droplet spread, sexual transmission, bloodborne transmission or direct contact (WHO, 1998; Heymann, 2001).

Insects and other animal vectors can also travel globally, as it was the case of the Asian tiger mosquito (capable of transmitting yellow fever, dengue and other diseases), which entered the US in 1985, in a shipment of used tires from Asia and got established in portions of that country. Pathogens may also be carried by the wind; cross oceans in birds, as apparently the West Nile virus did; and they may move with ocean currents, as the 1998 example of toxic algae in California's Monterey Bay shows (Silbergeld, Washington Post, Sunday, March 18, 2001)

Compounding the problem is the rapidly developing resistance of bacteria, viruses and parasites to drugs once highly effective against infections, with a deadly impact on the control of diseases such as tuberculosis, malaria, cholera, dysentery and pneumonia. In the case of malaria there is a double threat: the malaria parasites are resistant to antimalarial drugs, and malaria-carrying mosquitos are becoming resistant to insecticides.

The organisms that cause salmonellae and enterococci bacteria, are also developing resistance. As a result people with infections are ill for longer periods and are at greater risk of dying, and epidemics are prolonged. At the same time, there has been a decrease in the speed of development of new drugs, in part due to the cost of their development, and a decline in resources available to fund disease surveillance, diagnosis and control systems, based on the perception, prevalent in the 1970s, that communicable diseases had been controlled (WHO, 1997, 2000).

During the last two decades, this complacency has been shattered, and there is a renewed appreciation of the importance of communicable disease. They account for more than 13 million deaths a year, equivalent to one in two deaths in developing countries, affecting mostly children and the young. Almost 90% of these deaths are caused by just six infectious diseases: tuberculosis, malaria, AIDS, pneumonia, diarrhoeal diseases and measles. Malaria affects between 300-400 million people at the world level, killing at least one million, mostly children, and gravely complicating pregnancy in women; pneumonia and other acute respiratory infections kill almost 3.5 million people every year, mostly children and almost 100% in developing countries; tuberculosis kills 1.5 million people annually, 0.5 million more in combination with HIV/AIDS and nearly two billion people have latent TB infection; diarrhoeal diseases (including cholera, dysentery, and typhoid fever) kill nearly two million children under five every year, and generate 1.5 billion cases of illness a year among children, but also affecting adults; the AIDS virus, predominantly transmitted sexually, has already infected up to 34 million individuals worldwide, mostly in Sub-Saharan Africa, and has left over 11 million children orphaned; and measles, the most contagious disease known to man, is responsible for about 900 000 deaths of children a year, but it also interacts with complications from pneumonia, diarrhea and malnutrition. (Heymann, 2001…).

According to WHO studies, effective, low-cost interventions are available: DOTS (Directly Observed Treatment, Short-course) for TB; insecticide impregnated bednets for malaria; prevention strategies for HIV/AIDS; and Integrated Management of Childhood Illnesses (IMCI) (covering pneumonia, diarrhea, malaria, measles,

malnutrition and other infectious diseases); and childhood vaccination with the whole package of six basic childhood vaccines (diphtheria, whooping cough, tetanus, polio, measles and BCG). WHO and other international organizations have estimated the additional cost of effective implementation as about US$15 billion over five years, with the following breakdown (Heymann, 2001)

" **-Bednets** With $1.5 billion for insecticide-treated nets, every African child could be protected from malaria by the year 2005. Potential: 600,000 child deaths prevented per year.

-Anti-Malarials With $4 billion, a blister packet of effective antimalarial drugs could be quickly available to 100 million children in malaria endemic areas by the year 2005. Potential: 25% reduction in mortality due to malaria.

-Anti-TB Drugs With $1 billion for anti-TB drugs provided to NGOs and governments using the DOTS strategy, 70% of all new TB cases could be provided with effective treatment by the year 2005. Potential: 50% reduction in deaths due to TB.

-Treatment for Sexually Transmitted Infections With $1 billion for antibiotics, an additional 70 million STI cases could be treated. Potential: Up to 30% reduction in HIV transmission in high risk countries.

-Oral Rehydration Therapy and **Antibiotics for Pneumonia** With $1 billion for antibiotics, oral rehydration salts and training materials, access to IMCI care for diarrhoeal diseases and acute respiratory illness could be increased 10-fold. Potential: 50% reduction in mortality due to diarrhoeal disease and ARI.

-Measles Vaccines With $2.9 billion, measles vaccination coverage could be increased to 95% in low income countries. Potential: 579,000 child deaths averted per year.

-Obstetric Treatment With $3.2 billion invested in equipment, drugs, supplies, and training materials for skilled birth attendants, safe deliveries could be extended to 80% of women in low income countries. Potential: 75% reduction in maternal mortality by 2015." (Heymann, 2001)

These interventions require a concerted effort by public, private-for-profit, and voluntary organizations, at the national and international levels, possibly linked to other actions such as debt reduction under the Highly Indebted Poor Countries Initiative, and peace efforts in countries affected by war and civil conflict.

In opposition to that international approach, two common defensive reactions in developed countries to the risks of the global spread of communicable diseases have been characterized as "burn the witch" and “shutting the castle gates” (Silbergeld, 2001). The first approach, in a world perceived as swarming with pathogens, is to try to kill them all by the widespread use of antibiotics and antimicrobials in almost everything. The problem, of course, is the clear increase in antibiotic resistance in those pathogens. The second approach is to try to cut links and “relocalize” economic activity (Colin Hines, Localisation: A Global Manifesto, Earthscan, 2000). However, both humanitarian and economic reasons call for the world community to invest the needed funds to solve the “second burden” where it is still present, rather than try to fence it off.

An integrated effort at the international level is crucial for the affected countries, where not only avoidable human loses occur (which must be the main humanitarian concern), but where valuable economic opportunities, specially for the poor, are also squandered. But it should be as important for industrialized countries, which could take advantage of the window of opportunity offered by the fact that the agents of those infectious diseases have not yet developed sufficient resistance to the available medicines, and aim for complete elimination in the next decades. The costs seem modest compared to the benefits, and waiting more time may mean that the curative impact of currently available medicines may be eroded or eliminated through increasing drug resistance (Heymann, 2001). Controlling infectious diseases is a global challenge that requires a global response.

-Food Safety

Food safety has been always a problem in developing countries, where WHO estimates that world-wide almost 2 million children die every year from diarrhoea, most of this caused by microbiologically contaminated food and water. In industrialized

countries, on the other hand, the ratio of population dying from food-borne disease every year maybe 20 per million people (WHO…). Yet food safety is growing as a concern in industrialized countries, particularly in Europe, mainly linked to the emergence of BSE, and other food-related problems.

As consumers become more aware of the international nature of trade in food and farm products, a reaction, as was pointed out in the case of infectious diseases, is to close the links with the rest of the world and "relocalize" production, in some cases calling for a return to primitive agrarian communities that consume only what they can locally grow.

From the point of view of the developing countries it is important to notice that food trade worldwide is dominated by industrialized countries: they have the largest export shares in cereals (about 80%), dairy (90%), meat (80%), sugar (+50%) and fruits and vegetables (60%); only in oilseeds and vegetable oils are developing countries the main exporters (close to 60%) (data for the second half of the 1990s; see Diaz-Bonilla and Reca, 2000). Also, as the DG of the WHO remarked in a recent speech in Europe on the subject "all the major food scares in Europe over the past decade or two have originated here at home" (Bruntland, 2000).

Another globalization issue raised in this regard is whether the rules agreed by member countries in the WTO may compromise food safety standards. In fact, WTO member countries, and before GATT contracting parties, have a general exception under GATT Article XX to impose certain measures that may affect free trade, provided the measures "are not applied in a manner which would constitute a means of arbitrary or unjustifiable discrimination between countries where the same conditions prevail, or a disguised restriction on international trade". Article XX enumerates 9 measures including those "(b) necessary to protect human, animal or plant life or health".[18]

[18] The others exemptions included relate to public morals; trade in gold or silver; laws or regulations related to customs enforcement, monopolies, the protection of patents, trade marks and copyrights, and the prevention of deceptive practices; products of prison labour; protection of national treasures of artistic, historic or archaeological value; conservation of exhaustible natural resources if such measures are made effective in conjunction with restrictions on domestic production or consumption; obligations under any intergovernmental commodity agreement; "restrictions on exports of domestic materials necessary to ensure essential quantities of such materials to a domestic processing industry" under certain conditions; and

This exemption is further elaborated in the Sanitary and Phytosanitary Agreement. Article 2 defines "the right to take sanitary and phytosanitary measures necessary for the protection of human, animal or plant life or health" (Article 2.1). But those measures must be applied (Article 2.2) "only to the extent necessary to protect human, animal or plant life or health", must be "based on scientific principles and … not maintained without sufficient scientific evidence" (with the exception of Article 5.7 discussed below). Finally Article 2.3 indicates that the WTO member must "ensure that their SPS measures do not arbitrarily or unjustifiably discriminate between Members where identical or similar conditions prevail, including between their own territory and that of other Members", and, furthermore, that those measures "shall not be applied in a manner which would constitute a disguised restriction on international trade".

Other important obligation is defined in Article 3, called "Harmonization". It suggests the "use of international standards when possible" (Article 3.1) and if an international standard is utilized the WTO member is "presumed to be consistent with the relevant provisions of this Agreement and of GATT 1994 (Article 3.2). However, WTO members "may use higher standards if there is a scientific justification, or as a consequence of the level of sanitary or phytosanitary protection a Member determines to be appropriate", but must comply with the relevant provisions of Article 5, and in general cannot be "inconsistent with any other provision of this Agreement" (Article 3.3)

Therefore, WTO members can have standards for food safety (or protection of animal and plant health) higher than those accepted by international organizations, but they have to comply with Article 5 which requests a risk assessment. Of course, other WTO principles, such as non-discrimination between foreign and domestic producers, must also be observed when applying higher standards.

"essential to the acquisition or distribution of products in general or local short supply" also under specific conditions.

As an example, suppose that the Codex Alimentarius (the main body for international standards for food items, which includes the Food and Agriculture Organization and the World Health Organization), has established limits for residues of chemical product "X" in certain food items, based on the impact of that product on an average person. Suppose further, that a country wants stricter limits on residues, based, say, on the impact on infants. The WTO regime absolutely allows the use of such higher levels of protection. It requires only a study showing that the residue levels applied are in fact based on the level of protection desired (i.e. based on the tolerance of infants).

Articles 3 and 5 of the SPS, related to the issues of international standards and risk assessment, are at the core of the complaint on beef hormones presented by the US and Canada against the EU ("Measures Affecting Meat and Meat Products" or the "Hormones" case; see WTO…). The issue was that the EU since the 1980s has prohibited the use of hormones for growth promotion in cattle, and banned imports of beef from countries utilizing that practice. The concern was the possible carcinogenic effect of ingestion of hormones. The US and Canada, argued that the EU prohibited only the use of hormones for growth promotion in cattle production, while allowing the use of those or similar products either for other purposes in beef production or for other meat products. Also, because there were international standards defined by the Codex Alimentarius for the effective use of most those hormones banned in the EU, the way to maintain stricter levels of protection, recognized in SPS Article 3.3, would have been with a risk assessment study showing why the chosen approach (i.e. a ban on some products only for some purposes) was necessary to protect the consumers. However, after about a decade of applying those measures, the EU did not produce it. The WTO dispute settlement bodies ruled on the key complaints in favor of the US and Canada. But the EU, also within its rights under the WTO agreement, chose not to change its ban. Because the European Union and the complaining countries could not reach agreement on possible compensations in other products, the United States and Canada (not the WTO) withdrew trade concessions equivalent to the value of beef exports negated by the hormone ban.

The other main issue is the precautionary principle. Contrary to many common interpretations, the same Article 5, in its paragraph 7 allows the possibility of taken provisory measures in cases where "relevant scientific evidence is insufficient". The article further indicates that a "Member may provisionally adopt sanitary or phytosanitary measures on the basis of available pertinent information, including that from the relevant international organizations as well as from sanitary or phytosanitary measures applied by other Members. In such circumstances, Members shall seek to obtain the additional information necessary for a more objective assessment of risk and review the sanitary or phytosanitary measure accordingly within a reasonable period of time".

This precautionary approach was further elaborated in the case "Measures Affecting Agricultural Products" presented by the US against Japan (see WTO, ….), where it was interpreted that four cumulative elements must be present for a measure to be consistent with Article 5.7: 1) that the relevant scientific evidence is insufficient; 2) that the provisory measure is adopted "on the basis of available pertinent information"; 3) that the WTO member invoking Art. 5.7. is seeking to obtain the additional information necessary for a more objective assessment of risk ; and 4) that the WTO member reviews the sanitary or phytosanitary measure accordingly within a reasonable period of time (see "The SPS Agreement as it relates to scientific justification" by Erik Wijkström (WTO Secretariat, in WTO SPS Risk Analysis Workshop 19-20 June 2000, Geneva; and Document G/SPS/GEN/209, 3 November 2000).

Therefore the problem for food safety at the world level is not trade or trade-rules but the need to develop a global food system based on adequate standards that apply throughout the world. In May 2000, World Health Assembly passed a food safety resolution focusing on the need to develop sustainable, integrated food safety systems for the reduction of health risk along the entire food chain. WHO and FAO are working together, particularly within the FAO/WHO Codex Alimentarius Commission. To ensure global food safety, the participation and input of developing countries in that process is crucial. Developing countries should be assisted technically and financially to reach those standards, for the sake of their own population and also to allow them to develop

and expand markets in food products. Already for many developing countries fruits and vegetables represent one of the main net food exports, and a growing one (Diaz-Bonilla and Reca, 2000).

(f) Sanitation, Water resources, and Urbanization

Increasing globalization, insecurity about the availability of food in rural areas, the search for refuge from conflict and environmental damage and the lure of jobs will all lead to rapid urbanization. The proportion of the world's population living in large towns or cities has grown from around 5 to 50 percent over the past centuries. Between 2000 and 2025, the urban population of the developing countries is projected to double, while the rural population is expected to increase by only 2.7 percent (UNCHS 1996). In Asia, the rural population is projected to fall, while the urban population will almost double. The urban population of Africa will increase by 160 percent while the rural population increases by only 33 percent. With business as usual, the number of poor, malnourished, and sick people will likely increase rapidly in urban areas.

In developing countries, the pressures of industrialization, poverty, crowding, and the breakdown of traditional ways of living will require the use of new sanitary technologies, public borrowing, transformed sewage, and water services from private enterprises to public services (McMichael 2000). Urbanism can create many changes in human behavior that affect disease risks. For example, high levels of tobacco smoking, traffic injuries, fatalities, and adult obesity characterize cities. Individuals have easier access to energy-dense processed foods while reducing their levels of activity at work, home, and recreationally (McMichael 2000). To make matter worse, large cities in developing countries typically combine the traditional environmental health problems of poverty, particularly respiratory infections, with those of poor quality housing and unregulated industrialization. Residents therefore are at risk from diseases and injuries associated with poor sanitation, unsafe drinking water, dangerous roads, polluted air, indoor air pollution, and toxic wastes. Although considerable progress has been made since 1990 in improving housing conditions for low-income groups in certain cities and more effective approaches are now being widely applied, the number of people suffering

from serious environmental health burdens in urban areas probably increased significantly during the 1990s. This is in part because urban populations continue to grow rapidly in most of Africa, Asia, and Latin America; in part because of weak and ineffective urban governance; and in part because of continued increases in urban poverty in many countries of the developing world (McMichael 2000).

Planning and management of water supply can make a difference in health status. Yet, for example, sanitation is not normally considered a priority in development projects. Currently, only 60 percent of the global population has access to some sort of sanitation system (WHO 2000 water supply and sanitation). Quality of service is also a problem. It is estimated that over one-third of the urban water supplies in Africa, and in Latin America and the Caribbean, and more than half those in Asia, operate intermittently. Many urban water systems do not disinfect the water. The lack of treatment of wastewater is another health hazard. The discharge of untreated sewage is especially hazardous to health where the receiving water bodies are rivers or lakes, and where, as in some developing countries, these may be untreated sources of drinking water. In such cases, conventional treatment methods do not necessarily provide the requisite degree of pathogen removal for health protection. In practice, inappropriate technologies are often used.

The links of this cluster of issues to globalization are several and have been mostly covered in other sections. They include the impact of international forces on growth patterns (including income distribution), on government revenues, on the possibility of maintaining public services (because of trade negotiations or other influences), as well as the relationship between globalization, democracy and decentralization, which will be discussed in the section IV.4.

IV. 3 Globalization and nutrition[19]

In general, under-nutrition and related problems are an important component of health problems in developing countries, and particularly among the poor. Nutritional

[19] Based on Pinstrup-Andersen and Babinard (2000) and Pinstrup-Andersen and Babinard (2001).

deficiencies and diarrheal diseases represent above 15% of the DALYs for the poorest 20% of the world population, while maternal and perinatal conditions add another 13%. This compares with 2.1% and 3.3%, respectively for the 20% richest percent of the world population (Gwatkin and Guillot, 1999; Table B2, data for 1990)

The different dimensions of globalization can improve or worsen the current nutrition situation, thereby also affecting the health of poor people in developing countries. Here we discuss the implications for nutritional outcomes of some dimensions of globalization, such as trade, capital flows, advances in technology, improved access to information and easier communications, and the increasing integration of labor markets. Many of those factors are also related, as discussed elsewhere in this paper, to health outcomes.

One of the most immediate dimensions of globalization with implications for nutrition is, of course, trade. Food products are moving more rapidly than ever before and are now produced, handled, processed, and packaged in a number of complex ways, using a variety of techniques. A single source of food from a developed or developing country may be used in over 100 different products, which in turn are sold thousands of kilometers away (ACC/SCN 2000a; ACC/SCN 2000b). An inevitable consequence is that the adequacy of food intake for millions of people hinges increasingly on the ebb and flow of the world economy and on the response of their own local economies to it (Timmer, Falcon, and Pearson 1983).

Increasing trade plays a central role in food security and human nutrition: it can ensure stability in food supplies and consumption: food consumption variability in individual countries is far smaller than food production variability shows the contribution of trade to food security (Tables 8, 9 and 10, from Diaz-Bonilla et al, 2001). Increasing trade can allow food supplies to meet consumption needs and prevent variability in food supplies. Increasing trade also has the potential to foster economic growth by permitting agricultural and food products to be exported for foreign exchange earnings. This is particularly relevant for reducing food insecurity and reducing malnutrition as most of the

world's food insecure are rural-based and rely on farm and non-farm employment for income, which depends in one way or another on agriculture. In about 25 percent of the developing countries, agricultural commodities exceed two-thirds of total exports, while in a further 20 percent the share exceeds one-third. More generally, the expansion of trade in goods and services over the last decades, along with the decline in food prices resulting from technological advance, has led to sharp reductions of the incidence of the total food bill of all developing countries as percentage of total exports from about 20% to about 6% (Figure 8). For Least Developed Countries and Net Food Importing Developing Countries the ratios, although higher than the average for the developing countries have come down from the 1980s (Figure 8; see the discussion of these trends in Diaz-Bonilla et al, 2001)

Another feature of globalization related to increasing trade is the acceleration of a major shift in the structure of the diet, resulting in a growing epidemic of the so-called "diseases of affluence" (Darnton-Hill and Coyne 1997). Once restricted to the rich industrialized nations, high fat diets and Western eating habits are now increasingly entering the diet of low-income countries and fostering new nutrition problems. Traditional diets, rich in fiber and grain, are being replaced with diets that include a greater consumption of sugars, oils, and animal fats, giving rise to increasing rates of overweight, obesity, and associated chronic diseases in all regions, and affecting children and adults alike (Drewnowski and Popkin 1997). As a result, undernutrition and overnutrition now coexist in many countries, creating a double nutritional burden, parallel to the similar double burden of disease already mentioned: patterns of disease are now shifting away from infectious and nutrient deficiency diseases toward higher rates of coronary heart disease and some types of cancer. A 1999 United Nations study found increasing incidence of obesity in all developing regions, and growing rapidly, even in countries where hunger persists. In China, for example, the share of adults who are overweight jumped from 9 to 15 percent between 1989 and 1992. In several Latin American nations, such as Brazil and Colombia, the prevalence of overweight people –at 36 and 41 percent, respectively-approaches the share in some of Europe (Gardner and Halweil 2000).

Another manifestation of the globalization process is the increasing integration of financial markets. As capital moves more freely internationally due to modern communications and a sophisticated banking system, billions of dollars can be now moved anywhere in the world at a moment's notice. These flows of international capital affect foreign exchange rates. With more flexible exchange rates and interest rates than in the past, changes in international prices and trade flows ultimately affect the real incomes of producers and consumers whose real incomes are very sensitive to prices of traded goods, such as farmers who produce food and consumers who buy it (Timmer, Falcon, and Pearson 1983). The effects of the globalization of finances have been highlighted by the recent East Asian financial crisis of 1997 and 1998: while until 1997 capital inflows helped sustain high growth rates that led to both reductions in poverty and improvement in the nutrition and health of their children and adults, the sudden reversal in capital flows led to the financial crises and subsequent disruption of the economies of many Asian countries, threatening to eradicate the gains in nutritional status made over the last decade (ACC/SCN 2000).

The globalization of the major advances in communications, transport and new technical opportunities can help developing countries improve market efficiency and food security. As in health issues, while traditional infrastructure remains important, the new information and technological improvements that have occurred in the last two decades hold great potential (Pinstrup-Andersen and Babinard 1999). New wireless technologies, which offer quick ways to bring more telephones to developing countries, was already mentioned (Brown et al. 1999). Also, access to global information systems (GIS), global positioning systems (GPS), and remote sensing could help agricultural sectors in developing countries. Likewise, the current developments in modern biotechnology can contribute to the achievement of food security and better nutrition. The new techniques of genomic and molecular breeding can be applied in the search for sustainable advances in crop and farm-animal productivity and quality.

The globalization of information technology provides several opportunities for accelerating the reduction in malnutrition. First, a vast amount of food and nutrition information and data is already available to anyone via access to the Internet. Such

information can be fairly easily accessed to find out about new nutrition initiatives, determine the latest thinking on existing nutrition problems, obtain best practices, and map food production and undernutrition by country and region within country. The Internet also provides a forum for debate on issues that require discussion. Third, the wide availability of information makes organization based on the centralized control of information much harder to sustain. Easier access to information also makes it easier to hold institutions and public officials accountable for their actions. Finally, the expansion of the ability to gather, analyze, and share knowledge can guide future initiatives to increase access to food for all (ACC/SCN 2000a).

Despite its opportunities for nutrition, globalization also presents risks and new challenges. In addition to potentially harmful dietary changes, speculative financial trading and the huge cross-border flows have, as discussed before, important effects on national financial markets and currency valuations. Losses in foreign exchange for example can reduce income, which in turn can reduce a country's capacity to buy food imports. This may also result in increasing dependency on aid, which is itself under pressure. Further, the fate of developing countries and the positive impact of globalization depend on the domestic policies of industrialized countries. In response to the Uruguay Round Agreement on Agriculture (URAA) and structural adjustment, a large number of developing countries have liberalized foreign trade in food and agricultural commodities. Unfortunately, the opening up of markets in developing countries has not been matched by market openings in Europe, the United States, and Japan. A lot remains to be done to liberalize trade in agriculture and improve market access by developing countries (Pinstrup-Andersen and Babinard 2000). The EU, like the rest of the OECD countries, are reluctant to open up their domestic markets for imports from developing countries of high-value commodities. This failure to reciprocate increasing openness may well produce a situation that denies developing countries to benefit from trade liberalization and increasing globalization (Josling 1997).

In addition, different standards of food safety between importers and exporters may lead to concerns about the safety of imported food, influencing public perceptions and policies regarding the production, processing, transportation, storage, international

trade, and preparation of food products (Pinstrup-Andersen 1999). In Western societies, growing epidemics of food poisoning associated with huge changes in the distribution and use of farm products are in part triggering these fears. Animal foods are seen as a particular problem, with for example, *bovine spongiform encephalopathy* (BSE), Salmonella, and listeria becoming increasing threats to the food systems in many countries. Efforts to combat these epidemics may however restrict market access for meat products from many developing countries, which do not have adequate animal health surveillance systems. In developing countries however, while safety concerns are not as prominent, increased concerns in developed countries will have an impact. First, exports of food commodities from developing countries will be exposed to new and more demanding food safety standards partly through multilateral changes in the Codex Alimentarius, which is designed to ensure the quality and safety of the world's food supply, and partly through unilateral demands by importers (Pinstrup-Andersen 1999). Also, it is likely that changing attitudes and new legislation for food safety in developed countries will spill over into developing countries. As a result, positive effects of globalization on increasing exports by developing countries may be hindered, either because reasonable standards cannot be met, or because food safety will be used as nontariff barriers by importing countries.

Despite its numerous benefits, improved access to information can likewise have negative effects on efforts to eliminate malnutrition. As the generators of much of the information available on the Web reside in industrialized countries, there is a danger that proprietary concerns will restrict public access to that information. Second, information may be incorrect. Misleading information from advertising or poor training about breastfeeding or HIV prevention, for example, could prove fatal. Also there will be imbalances in the content of that information, if it is generated solely by people who are removed from direct experience with poverty and malnutrition.

IV. 4. Broader Societal Issues

(a) Democracy and Good Governance, National and International

Different studies show the relation between democracy and good governance, on one hand, and social welfare, on the other. Democracy and good governance include notions of freedom of association and speech, effective voice and political participation, the rule of law, transparency, accountability, and control of corruption. Those issues matter directly and indirectly for the welfare of the people in any country, and particularly for the poor. Bad governance not only affects growth overall, but also worsens income distribution and appear to have a special negative impact on the poor through different channels (Thomas, et al, 2000). For instance, budgets are allocated to big investment projects (where there are more opportunities for graft), instead of badly needed operational and maintenance expenditures. A health-related example may be modernly equipped hospitals built mostly in urban centers, while rural health facilities (where usually the poor are located), salaries for health staff, and medicines, may not receive enough budgetary appropriations. Also, access to public services may be distorted by payment of bribes, which then would mimic a market allocation based on capacity to pay. Another example is corruption in government procurement of medicines and equipment, which leads to inflated prices and/or low quality products, thus substantially diminishing the welfare impact of a given budget allocation. Regarding health outcomes, Figure 9 (from Kaufman, Kraay and Zoido-Lobaton, 1999) shows the negative impact of bad governance on infant mortality, and Smith and Haddad (2000) documented the positive impact of democracy, among other variables, on declining child malnutrition.

Since the end of the 1980s there has been a clear advance of democratic rule in the world (see Figure 10 upper panel). What is the relationship of this trend with globalization in any of its dimensions? Some have argued that the spread of democracy has been strongly influenced by the globalization of communications (Giddens, 1999). The information monopoly, on which those political systems are based, has been eroded by an open framework of global communications. Also, authoritarian governments do not have the flexibility and dynamism necessary to operate in the global electronic

economy (Giddens, 1999). Advances in the technology of communications, which allowed corporations to operate more effectively all over the world, is also increasing the links across societies, as well as changing the dynamics of the interaction between markets, the state and civil societies, within each country and internationally. Different political and social alliances are formed across countries to confront global concerns, from violation of human rights, to environmental problems, to access to affordable drugs, and similar causes (see, among others, Diamond, 2000; Boli and Thomas, 2000)

Better communications and information have begun to also expose the abuses of power and cases of corruption that before went unnoticed. While this may have led to some cynicism because of the perception that corruption has increased (even though the change may have only been that now it is getting exposed in ways that did not happen before), at the same time the communications revolution offers the means to better control corruption. The Internet is utilized to increase the flow of communication between public institutions and the general public, as much as among different groups in civil society.

While globalization of communications may be fostering democracy and the rule of law, some have argued that economic globalization may be weakening democratic rule and the nation state. First, economic globalization may be leading to more macroeconomic shocks. Second, because increased external competition, domestic economic change may be faster, which increases the need to help with the adjustment process of affected populations. But this may not be possible if, as some suggest, governments are losing resources because of the mobility of capital and high-income individuals, while at the same time are forced to cut welfare expenditures to reduce costs and maintain a competitive economy.

However, it has been already mentioned that the original criticisms to closed developing economies was that, paradoxically, they ended being more prone to drastic balance of payment crises (Balassa, 1986). It was also argued that those closed countries, where the state holds substantial power over the fate of firms, fortunes, and people tended

to be captured by elites and vested interests, undermining political institutions and the rule of law and leading to corruption and waste of resources. In this regard, some considered that a silver lining in the otherwise cloudy horizon of the Asian crisis has been the movement towards greater democracy and transparency in some of the affected countries. Still, the fact that growth in developing countries appears to be more volatile lately (see Section…) requires a careful consideration of the causes: as mentioned before, the volatility may be caused by more macroeconomic and environmental shocks emanating from industrialized countries, rather than by the policy changes in developing countries.

Tanzi, (2001) looked into the issue of tax erosion. He did not find much in OECD countries so far: the total tax burden of the member countries of the Organization for Economic Cooperation and Development (OECD) has increased substantially over the past three decades, from 26 percent of GDP on average in 1965 to 37 percent of GDP in 1997. However, he enumerates different issues that can lead to future erosion of the tax base: electronic commerce; electronic money; more trade within multinational corporations increasing the problem of "transfer prices"; offshore financial centers and tax havens; derivatives and hedge funds; and the growing inability or, often, unwillingness of countries to tax financial capital and the incomes of persons with highly tradable skills. On the other hand, he also notes that advances in computers and telecommunications provide the means for better cooperation and coordination among tax authorities in different countries, even leading to the more distant, and probably utopian, alternative of a world tax organization to develop and coordinate solutions (Tanzi, 2001). Globalization and the Work of Fiscal Termites, Vito Tanzi, Finance and Development, March 2001, Vol 38, Number 1.

For developing countries, trade liberalization may reduce government revenues in the form of trade taxes, although it depends on the form it took: if trade liberalization was a move from quantitative barriers to tariffs, revenues may increase. Another channel influencing the fiscal position in developing countries is the operation of capital markets that in the context of the opening of capital accounts may limit the range of applicable

macroeconomic policies. This discipline has positive consequences if it reduces the ability of governments to undertake unsustainable expenditure programs. On the other hand, some have argued that the discipline imposed by the bond market, or the policies advocated by international organizations as part of financial rescue packages, may lead to overly restrictive fiscal policies in developing countries, creating deflationary pressures in their economies and curtailing needed investments in human capital and infrastructure. Others have raised the point that changes in financial markets have led governments to follow pro-cyclical fiscal policies, exacerbating the phases of boom and bust. Those are empirical points that need further analysis.

In any case, although, the process of liberalization and privatization also created opportunities for the capture of rents by well-positioned private actors (see Schamis, 1999; and Joel S. Hellman, Geraint Jones, and Daniel Kaufmann, 2000), the trends towards the expansion of democracy is expected to increasingly put limits to cronyism and corruption. However, it is also possible that if difficult economic conditions persist in many developing countries, while global communications continue to show images of affluence in privileged groups, disenchantment with democracy may grow in the future.

The question then is what to do to cope with those global challenges. One vision is to deepen the process of global integration with better institutions of global governance. The limits of the nation state were pointed out to in the 1970s (see Keohane and Nye, 1977, and Cooper, 1980) regarding both the military and economic autonomy of governments. What was then called interdependence seemed to require more coordinated efforts of collective action among nations.

Others, however, have resisted what they see as limits to the autonomy of the Nation-State through the evolution of international legal frameworks and institutions. The debate is whether these international regimes help improve public policies by facilitating cooperation among countries, or do they impinge upon sovereignty and the functioning of democracies in ways that harm the attainment of those societal objectives.

The current discussion echoes much of the same arguments when at the end of WWII, having experienced the horror of two global wars in less than half a century, the United States, its allies and, in fact, the whole world, had to face the pressing task of establishing an international political, military and economic architecture to prevent similar tragedies, and to facilitate global economic prosperity [20]/. The vision was that of a peaceful and prosperous world built upon a set of politico-military alliances and an increasingly integrated world economy in which freer trade and capital flows would expand, supported by multilateral cooperation among nations conducted through international organizations.

This vision was not without opposition in the US and the UK (the main architects of the post-war international system), and elsewhere as well. Just looking at economic issues, there were different criticisms. Strong laissez-faire advocates opposed those organizations as interferences in the operation of free markets. On the other side of the spectrum, economic nationalists wanted protectionist policies. The left did not like the vision of an increasingly integrated world economy either. In the Leninist tradition, the expansion of capitalism worldwide could only lead to crises and war among the imperialist powers. In this view, to believe that world economic integration could proceed simply by establishing some multilateral institutions to alleviate the problems markets create or to manage the conflicts among competing economic powers was, at best, naïve. In addition, a world of capital mobility and freer trade flows conflicted with the then more prevalent notion of a centrally planned economy as the only way to achieve equity and efficiency.

On the political side of the objections, nationalists considered that rather than furthering international integration and then setting up global institutions to manage the expanded interaction, it was better to cut or at least reduce foreign ties. These groups,

[20] The political and military components were based on different alliances and organizations, like NATO in Europe. The economic element was to be anchored on three main institutions: the International Bank for Reconstruction and Development (better known later as the World Bank), the International Monetary Fund (IMF) and the International Trade Organization (ITO). The most complete discussion of the political, diplomatic and technical developments of this process is in Richard Gardner's "Sterling-Dollar Diplomacy

with a stronger tradition in the US but also present in other industrialized countries, would advocate isolationism as the general rule, and unilateralism (i.e. the right to intervene alone in foreign affairs), when deemed appropriate. All in all, they were opposed to using taxpayers' money for international organizations and foreign aid, and were always fretting about possible losses of sovereignty. Outside the US, there were also different voices criticizing an international system that was perceived as an instrument of political and economic domination by the United States, the only superpower emerging from the rubbles of WWII (Diaz-Bonilla, 2000).

Most of the arguments discussed about half a century ago, have reappeared in the debates on globalization. At the same time, societies are changing around the world with increasing demands for more democratic forms of government and greater devolution of the management of public resources to local governments and organizations. The nature of many public goods is changing, as are the options for supplying them. There is a need to reconfigure the roles of the public and private sectors and of civil society in providing many public goods and services so as to make them more cost-effective and efficient and to meet the changing needs of rural people, particularly the poor. But global problems require global approaches and institutions. Isolationism and unilateralism will not solve them.

(b) Gender

Gender issues are at the core of health problems, particularly among the poor. Maternal and perinatal conditions represent about 13% of total DALY losses for the poorest 20% of the world population, while for the 20% richest percent of the world population is about 3% (Gwatkin and Guillot, 1999; Table B2, data for 1990). But it is not only women's health that is affected: they are also the most immediate health care providers for children, and also the elderly. Childhood cluster diseases (encompassing pertussis, polio, diphtheria, measles, and tetanus) represent more than 8% of all DALY losses, while nutritional deficiencies and diarrheal diseases represent above 15% of the

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DALY losses, all measured for the poorest 20% of the world population. This compares with 0.4% and 2.1%, respectively, for the richest 20%. Women's role is key to nutrition outcomes (UNICEF, 1990; Smith and Haddad, 2000), as well as the general health status of the family. Nutrition and health problems may occur at different stages of the lifetime of individuals, but as a cycle they usually begin at the key mother/child level and then persists throughout the life. Inadequate care for mothers and children (usually linked to the role and status of women), insufficient health services and an unhealthy environment, are usually the immediate reasons for health problems.

At a more general level, it has also been indicated that world poverty has a women face (UNDP, 1995; ILO, 1995). But considering gender issues is more than addressing the current problems of a vulnerable group: it has been shown that restricted opportunities and discrimination against women reduce not only current economic growth for the whole society, but also future development, to the extent that the task of rearing children (which determines human capital in the next generation) falls largely on women (WB WDR 2000/1, Chapter 7).

The question is what is the impact of globalization on women's current status and future opportunities. Fontana and Wood, 1998, looking at trade liberalization issues, concluded that this component of globalization has differentiated effects between women and men, as well as between different groups of women, depending on several factors and preconditions: gendered patterns of rights in resources, female labor force participation rates, education levels and gaps by gender, patterns of labor market discrimination and segregation, and, in general, the socio-cultural environments.

They found evidence that in some parts of the developing world (particularly Asia, but also Latin America and the Caribbean), the expansion of export production has been associated with the feminization of the industrial labor force, at least in its initial stages. Women have been drawn into paid work for the first time in export industries, with positive implications for their well-being and autonomy, although controversy

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remains about the current terms and conditions of female employment, and the future of those employment opportunities. The impact of trade expansion on women's economic activity has wider human resource development as well as gender benefits. It gives women greater control of income, and as women tend to have more family oriented expenditure patterns than men, child nutritional status and other human resource development indicators may be expected to rise. In particular, improvement in women's demonstrated income-earning capability strengthens the incentive for investment in the human capital of girls, with all the wider benefits that the education of girls brings. The counterpart may be the job-related health implications for women, as well as the fact that they may have less time to care about children. IFPRI is currently analyzing this issue through household data in specific countries [21]

However, the implications of trade liberalization in agriculture and services are less clear. Fontana and Wood (1998) surveying basically Sub-Saharan Africa (SSA), found that women often do not benefit directly from increased export production of traditional crops since their property rights in land are limited and smallholder export production is based on unpaid family labor. They argue that the situation may be more favorable to women in non-traditional agricultural exports (such as fruits, vegetables and floriculture), where, in some countries, they appear to be participating both as workers and as small producers. Finally, the lack of information within the highly heterogeneous service sectors, both formal and informal, does not allow many conclusions.

[21] See, for instance, Paolisso, Hallman, Haddad, and Regmi, 2001. In this analysis of increased production of fruits and vegetables in rural Nepal, the authors find that for households with more than one preschooler (more than 60% of the sample), participation in the production of F&V did not seem to affect women's time for the care of children under 5 years. For the rest of the households with one preschooler, the trade-offs seem more important, although leisure time increased in men and did not decrease in women, which would show some scope for protecting childcare time by reducing time to leisure. The study concludes that in the medium run, benefits may accrue to unborn preschoolers if participation in production of F&V empowers women and offers them opportunities to earn and retain income without leaving the community. The authors argue that this may have far-reaching impacts on the ability of women to exert their own preferences in a wide range of activities, including an increased allocation of resources to children. But they also indicate that the current data set does not permit a longer-run analysis of those impacts.

In general, it seems that, as is the case with other components and dimensions of globalization, much depends on the interaction between external factors and domestic conditions. In that regard, it may be more important to ensure that all discriminations against women in property rights, family law, employment opportunities, access to education and health services, political participation, and, in general societal status, are eliminated.

(c) War and violence

After a steady increase in war and violence since the 1950s, the aggregate level of conflict begun to decline in the 1990s (see Figure 10 lower panel, from Gurr, Marshall, Khosla, 2000), after the end of the Cold War. However, those trends differ by regions, with SSA still maintaining high levels of conflict during the 1990s (Gurr, Marshall, Khosla, 2000). The end of the Cold War, which in general fostered a trend towards greater democratization and decentralization, in the case of Africa seems to have led to the continuation of old social and ethnic divisions. Gurr, Marshall, Khosla (2000) speculate that in addition to poverty and failed democratic transitions, the third general reason why conflicts in Africa had not abated is that relatively little international efforts have been devoted to promoting the solution of African countries by comparison to those allocated to the post-Communist states.

Some of the painful results from those conflicts, in addition to deaths, are (a) increases in orphans, people incapacitated to work, refugees and displaced population; (b) destruction of infrastructure; (c) increases in food insecurity and malnutrition in the medium term because agricultural land was rendered useless due to land mines; and (d) exacerbation of health problems, such as the spread of HIV/AIDS and different infectious problems. Direct DALY losses from war and violence amount to about 2.6% of all total causes among the poorest 20% of the world population (Gwatkin and Guillot, 1999), but the indirect losses are far greater.

The globalization dimension comes from the fact that the contemporary conditions in many of the countries suffering war and violence cannot be separated from the ebb and flow of the empire-building activities of European countries during the previous globalization wave, and from the expansion and then sudden end of the Cold War during the current one. While the world will never know what would have been the evolution of the affected regions in the absence of the colonial experience and the Cold War (and different people may have opposite views on how those counterfactuals would have been), it is clear that, in many countries, violence and war should not be seen only as a domestic responsibility that can, in good conscience, be left alone to be solved internally by the countries suffering from it.

(d) Global Environment

Environmental threats to human health are numerous. Some of them are more localized, such as lack of access to safe drinking-water; inadequate basic sanitation in the household and the community; indoor air pollution from cooking and heating using inadequate fuels and inadequate solid waste disposal. Some others, have intermediate reach, including water pollution from populated areas, industry and intensive agriculture; and urban air pollution from motor cars, coal power stations and industry. Finally, some have global implications: climate change; stratospheric ozone depletion and transboundary pollution air and water pollution, acid rain, loss of biodiversity, desertification and deforestation (WHO, 199…). Poor environmental quality has been calculated to be directly responsible for around 25% of all preventable ill-health in the world today, mostly in the form of diarrhoeal diseases, acute respiratory infections, malaria, other vector-borne diseases, chronic respiratory diseases and childhood infections.

The development pattern with the extension and intensification of agricultural production systems, the process of industrialization, and increase utilization of energy sources, has important implications for air, water and soil pollution, hazardous wastes

and noise, and exposure of agricultural and industrial workers to different health risks, and global warming.

Although there are uncertainties about the magnitudes, rates and regional patters of climate change, studies suggest that much of the world will be impacted by climate change linked to the greenhouse effect. Not only the mean temperature is likely to rise, but also the incidence of extreme events such as heat spells, droughts, and floods (Rosenzweig and Hillel, 1998). Already El Niño/Southern Oscillation (ENSO), the most important ocean-atmosphere phenomenon to cause global climate variability on inter-annual time scales, is occurring at shorter intervals: the average difference in years between those events since the mid 1950s to the beginning of the 1980s was more than 8 years; since the 1980s the average interval dropped to 5 years.

The number of people killed, injured or made homeless by natural disasters, in part associated to El Niño events, has been increasing lately. Recently, there has been also a growing recognition of the relationship between El Niño and some diseases transmitted by mosquitoes, such as malaria, dengue and Rift Valley fever (WHO, 2000). Also, in 1997, heavy rain and floods in the Horn of Africa were followed by outbreaks of cholera. In 1998 in Central America, unusual weather patterns, including hurricane Mitch were followed by a resurgence of cholera (WHO Report on Global Surveillance of Epidemic-prone Infectious Diseases, 199.).

Looking into the future, projected climate change (IPCC, 1996) is not expected to affect all countries equally. Global agricultural production appears to be sustainable in the aggregate, but crop yields and productivity changes will vary considerably across regions, with consequences for food security and nutrition. By many of the measures, a majority of the countries in Sub-Saharan Africa (already a hot region with large tracts of arid or semi-arid land) appears to be the most vulnerable to temperature increases. Also countries in South and Southeast Asia will be affected by increasing irregularity and intensity in tropical storms, as well as Pacific Island Nations, which will suffer potential losses of costal land due to sea-level increases, saltwater intrusion into water supplies and

also increased damages from tropical storms (Rosenzweig and Hillel, 1998). As a consequence of the expected climate changes, the number of people at risk of hunger is also projected to rise in 2060 by between 38 to 300 million under the intermediate projections, compared to a baseline without climate change (Rosenzweig and Hillel, 1998).

This appears to be a significant global spillover from the actions of some nations that affect the welfare of others, and merits a concerted world effort.

V. SHAPING GLOBALIZATION TO IMPROVE HEALTH

As globalization proceeds, different dimensions relevant for health outcomes will be affected: economic growth, employment opportunities, and incomes; life-styles and food consumption patterns; government revenues, operations, and investments; the balance between the public and private components of the health systems; and local and international environmental issues, among others. Those changes will result in different profiles of health and risks across countries and social groups.

It is crucial then to consider how to help shape the forces of globalization to ensure that there are more winners than losers and that health outcomes benefit the poor while improving on average. Yet, better international conditions will not be enough without a solid policy and institutional domestic framework in developing countries. Globalization does not substitute for appropriate national policies. On the contrary, to fully benefit from trade liberalization, access to new technology and other aspects of globalization, it is of paramount importance that low-income countries develop appropriate national policies. Those should include stable macroeconomic policies, open, efficient and competitive markets, good governance and the rule of law, a vibrant civil society, and programs and investments that eliminate discrimination and expand opportunities for all, with special consideration for disadvantaged groups, particularly poor women. Pro-poor policies become even more important as the at-risk groups are exposed to the competitive forces, risks, and opportunities brought about by

globalization. Internal peace and reconciliation are a prerequisite in conflict-torn countries (Diaz-Bonilla, 2000). Within that framework, countries need to develop efficient and equitable health systems. A detailed review of the domestic policy alternatives to attain that objective is presented in WHO, 2000, and will not be further elaborated here.

Although certainly acknowledging the importance of domestic policies and institutions, we concentrate here, however, on some international issues: they mostly relate to aspects that require collective action and policy coordination, and/or that need additional funding from industrialized countries. In what follows we first discuss several international initiatives and issues related to health systems and outcomes. Then we briefly comment on aspects related to the level, variability and social inclusiveness of growth, looking at trade and financial issues. Finally we mention two issues that constitute a general background to the efforts needed to improve health equitably: the persistence of war and violence, and environmental concerns.

V.1. International Health Issues and Initiatives

The reasons to tackle health problems with a concerted effort at the international level, including the need for additional funding, are multiple. The first, and most important, reason is humanitarian: every 3 seconds a children dies in the developing world, mostly from diseases that could have been prevented with scientifically available and (for the world as a whole) financially affordable measures, linked to better health care, nutrition, and infrastructure.

The second reason has to do with economic development in poor countries. It is known that poverty leads to illness and diseases, and that communicable diseases, such as HIV/AIDS, TB and malaria, are themselves major causes of poverty. Also, it has become increasingly clear that investments in improving health can lead to accelerated and more equitable economic development. Recent studies suggest that countries where 10-15% of the population are HIV positive, the growth rate of GDP per capita can decline by up to

1% per year for decades; on the other hand, Africa's GDP would have probably been about $ 100 billion larger if malaria had been tackled 30 years ago, when effective control measures first became available, while now the total cost of malaria to the Sub-Saharan region is 1% of the region's total GDP, not counting other costs associated with malaria's impact on trade and foreign investment. For many of the most prevalent infectious diseases, the economic benefits far exceed the costs of controlling or reducing their incidence (WHO, 1999; 2000). Better health outcomes, equitably distributed also contribute to social and political stability.

The third reason should be self-interest on the part of industrialized countries. The increase in population and travel makes impossible to insulate the health of the people in industrialized countries -a relatively small percentage of world's total-, when the majority of the population in the planet suffer from a collection of diseases. Eventually, that reservoir of health, environmental and humanitarian problems, will end up affecting rich countries through multiple channels, with potentially critical implications for the economic and physical security of developed nations and regions. For instance, delaying another decade the answer to HIV/AIDS may result in this disease taking hold in China, India, many of the states of the former Soviet Union, and Eastern Europe, reaching a scale far beyond the current epidemic in Africa. For other diseases, not acting now may mean that microbes or viruses develop resistance to drugs, as may happen with drug-resistant TB, which may become as widespread as ordinary TB and make its treatment much more expensive (Heymann, 2001n). On a positive note, helping developing countries put under control communicable diseases will add to their economic vitality and political stability, making them better partners for the industrial democracies.

Facing the challenge of the preventable communicable diseases in poor developing countries requires additional funding and collective action. Most of these diseases can be prevented or easily cured with available vaccines and drugs, but poor countries and poor people do not have access to them. As already mentioned, a number of health interventions can drastically reduce mortality from the main diseases, such as supervised medication regimes for TB; nets impregnated with insecticide against

mosquitoes, and wide distribution of malaria treatment among children and pregnant women; prevention programs for HIV/AIDS or access to care programs that can slow the advance of HIV. WHO and different UN agencies, governments, the private sector, and NGOs have already developed, or are working to develop, other effective interventions. But additional funding is needed. According to WHO estimates, the needed expenditures would amount to an additional annual investment of 10 billion US dollars per year for about fifteen years, or about 0.04% of the combined GDP of the industrialized nations (WHO…). In order to reduce the impact of those diseases poor countries need to spend about 60 US dollars per capita, while in fact they are spending 5-10 US dollars per person on health each year. At that level of expenditures health systems cannot deliver a reasonable minimum of services: even with the best structure and organization, there will not be enough money to pay for the health staff, medicines and vaccines (WHO…)

Several initiatives are already in progress. Some of them aim at developing drugs and medicines for the diseases of poverty, funding research that would not have happened otherwise for lack of market demand. Examples, as already mentioned, include venture capital funds such as the New Medicines for Malaria Venture and the Global Alliance for TB Drug Development, to finance the research and development of new medicines that normally would not have a market potential, and, therefore, pharmaceutical companies would not invest in their development. In other cases, the objective is to develop cost-effective treatments, such as the partnership including WHO, the Eli Lilly Company, several generic manufactures and Médecins sans Frontières to form a Green Light Committee aimed at reviewing research proposals designed to evaluate the most cost-effective treatment of multi drug-resistant TB (Heymann, 2001).

Other initiatives attempt to reduce the costs of drugs actually in the market to make them more accessible to poor countries and people. Some firms have donated drugs free-of-charge to help eliminate infectious diseases, such as SmithKline Beecham and Merck for the treatment of lymphatic filariasis, Merck for the treatment of river blindness, Novartis for leprosy and Pfizer for trachoma. In addition vaccine manufacturers have occasionally donated vaccines during outbreaks of disease, such as

meningitis, for polio eradication, and for vaccine trials in developing countries (Heymann, 2001).

Regarding HIV/AIDS, WHO, UNAIDS and other UN Agencies, initiated several months ago a joint effort with 5 pharmaceutical companies, to reduce the prices of medicines needed to slow the progression of AIDS, which at that time reached 10,000 to 15,000 US dollars per person per year. Those negotiations cut the price to about a tenth of what they used to be, but they did not go further. This dialogue got in part sidetracked by the legal dispute between the South African government and some of the leading pharmaceutical companies over the 1996 South African National Drug Policy, and the 1997 Medicines Act 90, which implemented key elements of the National Drug Policy, including generic substitution, greater competition in public drug procurement, and improved drug quality. With the pharmaceutical companies recently declining to continue the legal challenge, new opportunities appear to explore how to make sure that affordable medicines are available for the poor, while at the same time maintaining an intellectual property regime that supports future innovation. A recent WTO/WHO workshop (March 2001) has explored the specific idea of establishing a world mechanism, including alternatives to finance it, to allow price differentiation in favor of developing countries according to some criteria of eligibility, and for certain essential drugs. This is an initiative that requires further analysis and support.

Even with cheaper drugs, the needed treatments may be beyond what many African health systems and patients can afford. Recently in the Abuja meeting of African head of state of April 26, 2001, the U.N. Secretary General Kofi Annan called for developed nations to increase funding for the fight against AIDS by at least $7 billion a year, and challenged African heads of state to exercise better leadership and give more resources to the struggle.

In the late April meetings of the World Bank and the IMF, the proposal got the approval of the International Monetary Fund and the Group of Seven industrialized countries. Also the governing committee of the World Bank approved the idea of a

global "trust fund," operating under the auspices of the bank and the United Nations that would finance the campaign. The total of annual contributions is still under negotiation, with estimates ranging from 2 billion US dollars (or double the current amount spent by international donors) to the 7-10 billion US dollars suggested by U.N. Secretary General. In the next months countries will be asked to make a specific dollar commitment before a special United Nations meeting on AIDS scheduled for June (Washington Post, May 1). Still cheaper drugs and funding, may not be sufficient to confront successfully the AIDS pandemic unless governments build up their health care systems to administer the drugs and monitor the health of those receiving, and provide strong leadership.

There are also other programs targeting specific diseases such as Roll Back Malaria and Stop TB. Roll Back Malaria involves UNDP, UNICEF, WHO and the World Bank. It helps health systems deliver cost-effective interventions including better health care, insecticide-treated bednets and improved environmental management, while trying to get the support of the public and private sector to develope new malaria drugs and vaccines. STOP TB, based at WHO, is a partnership of countries with serious TB problems, UN and other international organizations, bilateral donors, scientific and public health institutions and NGOs. It promotes the use of a cost-effective approach, called Directly Observed Treatment, Short-course (DOTS).

Other funding mechanisms include the Global Alliance for Vaccines and Immunization, which combines contributions from private sources such as the Gates Foundation, with funds from national governments and which is testing out a new model of allocation of funds as countries "compete" for money to improve their vaccination coverage through "bids" that are evaluated for quality and feasibility (WHO…).

What is needed to succeed is an adequate combination of lower prices of medicines and health products, additional funding, and revamping of health systems. For the future, continued work on new vaccines and medicines for the “diseases of poverty” is also paramount. Most of the money for these efforts must come through increased development assistance, combined with debt relief in the case of HIPCs. It must be

additional money, without affecting the current low levels of funding for other development priorities (WHO…).

Also collective action at the international level is needed for the surveillance and prevention of the spread of infectious diseases, and for building a world-wide food safety system. The first issue requires strengthening the global outbreak alert and response network established by WHO in April 2000, and building national capacity for epidemic alert and response. Regarding food safety issues it is necessary to build capacity for epidemiological tracking and mapping of food-related diseases, to improve data collection efforts; to improve the collaboration between Ministries of Agriculture and Ministries of Health; to establish a preventive and holistic approach to reducing the risk of food-borne illness throughout the food system; and joining efforts between industrialized and developing countries try to develop such systems.

A final issue relates to the negotiations or revisions regarding Intellectual Property Rights, Services, Government Procurement, and related issues, all of which may affect the operation of health systems. It is important to keep a tight focus on key developmental objectives, such as improvements in the level and equitable distribution of health status in developing countries, during the negotiations or revisions regarding Intellectual Property Rights, Services, Government Procurement, and related issues.

The WTO's TRIP regime has led to a heated debate over its potential to push up drug prices and health care costs, while crippling the local pharmaceutical industry in developing countries. This possibility require further analysis, while at the same time recognizing that the outcome may well depend on how developing countries use the still considerable room they have under TRIPs to design their own national laws to address public health concerns (Correa, 2000; Wajtal, 2000). But developing countries, and particularly the poorest ones, will need technical and financial support to establish IP systems that really address their health and, more generally, development objectives. And, as indicated, industrialized countries should refrain from trying to force on developing countries obligations that go beyond WTO requirements. Finally, another

issue to be considered is the regulatory and administrative costs of those regimes for poor countries: developing countries should not be asked to spend financial and human resources on administration and enforcement that may well exceed what industrialized countries are spending as percentage of their own GDP (Diaz-Bonilla et al, 2001).

A more general problem, that includes but transcends IP issues, is access by developing countries to affordable drugs. Other trade related aspects, besides IPR, that affect costs of medicines and health inputs and equipment in general include: the degree of competition in the industry and distribution (which may be related to competition policy issues); tariffs and non-tariff trade barriers that keep domestic prices high (which is related to further trade liberalization); non-transparent government procurement practices (which may be exposed with negotiations on government procurement); and trade in health services (with broad implications from brain drain to the structure of health insurance). Within this complex subject, the joint WTO/WHO initiative on exploring price differentiation in favor of developing countries according to some criteria of eligibility, and for certain essential drugs, merits strong support.

V.2. Trade Issues

Developing countries have historically faced high trade barriers in industrialized countries in those products that better reflect the human and natural resource endowments of low-income countries. Clear cases have been agriculture and textiles. The Uruguay Round began to address some of the constraints and asymmetries prevailing until the mid 1990s, but did not solve most of the problems neither did it redress the imbalances suffered by developing countries in international trade.

This is not the place to discuss in detail the interest of developing countries within the WTO process (see, among others, Oyejide, A. T. 2000). However, two issues will be briefly mentioned: agriculture, because its impact on growth and food security; and textiles, due to its links to growth and gender issues. Other trade-related issues such as IP regimes and services were discussed in the previous section.

A general point is that developing countries, as small players in the global trade, economic, and political arenas, should be interested and active participants in the design and implementation of international rules that limit the ability of larger countries to resort to power politics and unilateral action. Also, domestic legal and institutional frameworks in developing countries may be strengthened by the implementation of internationally negotiated rules that limit the scope for rent-seeking and arbitrary protectionist measures. The developing countries as a group have much to gain from continued progress toward a transparent, rule-based, world trading system.

*(*a) Completing the Unfinished Agenda of the Uruguay Round in Agriculture

While many developing countries have significantly reduced distorting domestic agricultural policies during the last decade or so, the possible benefits these countries and the world can enjoy, however, are thwarted by the subsidies of developed countries. Under the UR agreement, there is still a lot of scope for the developed countries to subsidize farmers, including the use of export subsidies. These tariffs and other distortions such as subsidies continue to be huge obstacles for developing countries striving to break into export markets and have been estimated to cause annual welfare losses of $19.8 billion to these countries –the equivalent to about 40 percent of the official development assistance given to developing countries in 1998 (World Bank 2001). Further disciplines in this regard should include tightening the criteria for "green box" policies (containing non- or minimally distorting subsidies), defining the measure of domestic support by product rather than by aggregate value for the whole agricultural sector, and eliminating the exemptions under the "blue box" (which allows direct payments to farmers). Least developed and developing countries with food security problems, however, will still be allowed “special and differential” treatment on these issues. This requires a better characterization of the variety of food insecurity situations (Diaz-Bonilla et al, 2000).

Also, if the developing countries are to succeed in diversifying their agricultural sectors, they need expanded access to markets in developed countries. They need to have the developed countries: increase the volume of imports allowed under the current regime of tariff-rate quotas (TRQs, which replaced the previous system of rigid quotas with the combination of a quantitative quota and a high tariff for the eventual out-of-quota imports); make the administration of the TRQs more transparent and equitable; further reduce tariffs, particularly those still high in some key products; and complete the process of tariffication in the cases where exemptions were granted. Also, eliminating, or at least reducing, tariff escalation in non-agricultural products is important for developing countries. Rising tariffs undermine the possibilities of expanding production and exports of processed goods that use agricultural inputs, exploiting "forward linkages" in the value added chain.

(b) Completing the liberalization of textiles

As negotiated in the Uruguay Round, in January 1, 1995, began the 10-year transitional program known as the Agreement on Textiles and Clothing (ATC). Before the UR Agreement textile and clothing quotas were negotiated bilaterally and governed by the rules of the Multifibre Arrangement (MFA). In a major departure from basic GATT rules, particularly the principle of non-discrimination, it allowed the application of selective quantitative restrictions on textile imports. As a result, a large portion of textiles and clothing exports from developing countries to the industrial countries was subject to quotas under this special regime. With the new ATC, WTO Members have committed themselves to remove the quotas by 1 January 2005 and to integrate the sector fully within WTO rules.

This process was to be carried out progressively in three stages of 3 years, 4 years, and 3 years, with much of the liberalization happening at the end. Concurrent with the integration process, there is a commitment to enlarging the bilateral quotas carried over from the former MFA until all products are integrated into the new system, and the quotas end to be applied. A special aspect of the ATC is the special transitional safeguard mechanism (Article 6) to protect Members against damaging import surges. Developing

countries have raised concerns about the pace of the implementation process, while worrying about the possibility of further delays beyond the end date of 2005.

V.3 Capital flows, Debt, and Financial Crises

Capital flows have important positive effects on the economy in terms of efficiency and allocation of savings and investments, discipline of imprudent domestic policies, and diversification of risks (Guitian, 1998; King, 1999; Eichengreen, 2000). At the same, capital mobility complicates risk management for individual financial firms, makes macroeconomic management more challenging, and the financial integration it fosters increases the risk of cross-border contagion, leading to economic and financial crises. Gerald Corrigan (2000) has noted that, "the last twenty years have witnessed a substantially greater number of serious shocks than occurred in the preceding thirty-five years of the post-war period".

Here is not the place to review the discussion on how to improve the international financial system to better prevent crises, first, and administer them later, if prevention failed (see Guitian, 1998; King, 1999; Eichengreen, 2000; Citrin and Fisher, 2000; Drage and Mann, 1999; and the different issues of Bank of England's Financial Stability Review). In any case, the general conclusions are the macroeconomic policy framework (most notably monetary and exchange policies) must be appropriately designed, and that a strong prudential framework should be developed to help ensure a sound financial sector and a high standard of risk management. Also transparency and good governance in private financial organizations, and the public sector (especially those agencies with regulatory and oversight responsibilities), appear crucial. Adherence to international standards is also important, and the process of setting and promoting them has accelerated lately, covering a wide range of topics, including data dissemination; the transparency of fiscal, monetary and financial policies; banking supervision and regulation; securities and insurance regulation; payment and settlement systems; accounting and auditing; corporate governance; and insolvency regimes.

In terms of crisis management, the issues of the source and conditionality of public money, rules for orderly standstills and workouts, and the participation of the international private sector, appear central.

However, not only good policies and institutions in developing countries or adequate mechanisms of crises prevention and management may be sufficient. Historically, several of the shocks to international markets have come from policy changes in industrialized that led to gyrations in exchanges rates, interest rates and capital flows, with destabilizing effects on the weaker economies of the developing countries. The need for policy coordination among the main industrialized countries is as important, and as difficult to attain, as ever.

Although they have important implications for growth, poverty and health outcomes, those problems exceed the remit of a health-focused discussion of globalization.

The more direct issues linked to international financial aspects are the Heavily Indebted Poor Country Initiative (HIPC) and the level and application of foreign aid.

By February 2001, 22 countries out of 41 eligible for assistance were getting debt service relief under the HIPC Initiative. The IMF and World Bank calculate that projected debt service relief will amount to around $34 billion over time. Of the remaining countries that have yet to comply with the process the main reason is that they are affected by conflicts (9 over 14). There are also 4 cases that would not be covered by the Initiative because they could reach sustainable debt burdens after traditional relief mechanisms and 1 case that would not seek assistance under the Initiative (IMF and WB, Development Committee, April 19, 2001). The report envisages difficulties to move faster with new cases because most of the "countries which have yet to qualify for HIPC relief are either currently engaged in, or have recently ended, internal or cross-border armed conflict, or are struggling with severe governance problems".

In a companion report ("The Challenge of Maintaining Long-Term External Debt Sustainability," April 20, 2001) the IMF and the WB have indicated that the debt reductions expected may not be attained in countries affected by natural disasters, war, or health threats such as the AIDS epidemic, and if export performance is calculated at the trend growth rate of 4.2% (1990-1999) instead of the baseline HIPC calculations (over 6 per cent), the NPV of the debt to exports ratios will actually increase. These analyses along with the fact that even under current projection several of the countries involved may still be allocating substantial percentages of their budgets to debt service payments (which compare not favorably with social expenditures such as health and education; see Table 11), and that some low-income countries with debt burdens such as Haiti and Bangladesh, among others, are not eligible for HIPC assistance, has led to further request to expand and make more generous the current initiative, including full cancellation of World Bank and IMF loans (OXFAM, 2001). Another specific proposal is to link debt reduction/elimination with an all-out campaign against HIV/AIDS in the countries part of the HIPC Initiative (Abuja Summit of African heads of state, December, 2000)

Implementation of the HIPC Initiative should be accelerated and broadened. In general, donors should commit themselves to a credible path towards the 0.7 per cent aid target within the next years.

V.4. War and Democracy

In the nineties there have been several encouraging trends regarding conflict and democracy: according to some estimates (Gurr et al. 2001) the number and intensity of armed conflicts have been cut in half and a growing number of successful power-sharing settlements ended ethnic fighting, while during the last decade democratic governments outnumbered for the first time autocratic ones (and now the ratio is about 2:1). These trends appear to have been fostered by democratic practices of conflict management and international support for peace-building in divided societies (Gurr et al 2001).

But, at the same time, there are negative developments that need to be addressed. Violent armed conflict still rages in large sections of Africa and some countries in Central Asia. Those countries tend to be trapped in vicious cycles of health and nutrition humanitarian disasters, war, bad governance, and lack of development. The interaction between food insecurity, environmental degradation, and conflict, each one feeding into the other, has also been noticed (Messer, Cohen, and Marchione, 2001).

Gurr et al, also identify different countries with fragile democracies lacking internal capacity for sustained peace-building, some of which have reverted to autocracy or are at high risk of doing so. They are poor, and tend to live in "bad neighborhoods" marked by "persistent armed conflict and non-democratic governments strong enough to fight wars but not to carry out reforms" (Gurr et al 2001).

In both cases, continued international engagement and support is crucial to bring peace and reconciliation in the first group, and to sustain fragile transitions towards democracy, the rule of law, and sustainable development, in the second. If the international community does not remain engaged, regional security problems and humanitarian crises will keep on recurring. In the case of countries in conflict it may be required to cut off the supply of arms, to maintain patient and continuous diplomatic and political engagement, and to provide financial and other support to help stabilize neighboring countries. Yet international engagement is no guarantee of successful conflict management, and history shows that most ongoing societal conflicts have taken some time to subside, with the median being 17 years (Gurr et al, 2001).

For the countries in democratic transition, they would need foreign aid to support development, with health, nutrition, and food security interventions at the core of such effort.

The global trends away from armed conflict, toward democratic governance, and the negotiated settlement of societal conflicts are the result of sustained and coordinated efforts to make them happen. Democratization and conflict management begin with civil

society, reinforced by political and material support from international and regional bodies, the U.S. and European states, and non-governmental organizations (Gurr et al, 2001). Health, nutrition, food security and development programs must include conflict prevention and mitigation components, so that investments are not consumed in conflict Reciprocally, relief and post-conflict reconstruction programs need to have health, nutrition, food security and agricultural and rural development components if they are to help break the cycle of hunger and conflict (Messer et al, 2001).

To quote Messer et al (2001) "such a transformation of development and relief efforts requires new policies and programs:

- Official aid agencies and nongovernmental organizations, in partnership with developing country governments and communities, should develop conflict early-warning systems incorporating social, cultural, political, and economic factors;
- Relief and development assistance in pre-, active, and post-conflict zones must reach the most vulnerable civilians and nurture peaceful development;
- Aid agencies should work with women and men in affected communities to identify appropriate seeds, tools, labor organization, land and water management, and links to government agencies and markets to achieve rehabilitation of agricultural production and build local capacity to respond to hunger and prevent conflict;
- Aid should be delivered in ways that demand accountability from those delivering it; and
- Government planning and aid programs should include "peace" considerations and conditions, assessing the likely impact of policies on food security, equity, and poverty alleviation."

V. 5 The Global Environment

Global environmental issues are complex, involving climate change, sea-level rise, and increases in carbon dioxide, ultraviolet radiation, and ozone, among other factors. The analysis of future trends are surrounded by uncertainties, given the lack of complete understanding about the physical climate system, and the potential interactions

with current and future economic, social, and technical changes, including population growth, consumption patterns, and nature of innovations. It may take place slowly or accelerate in the coming decades (Rosenzweig and Hillel, 1998). Some of the changes expected may affect seriously the health and nutritional situation of already vulnerable populations in developing countries (see section IV.4. (d)). Deterioration in the environmental conditions may reinforce vicious cycles of conflict over resources, humanitarian crises, and lack of development.

Most proposals to confront the challenge of accumulation of CO2 and other greenhouse gases, combine conservation of energy, substitution of energy sources, reduction of deforestation and increases in the area of tree plantations, investment in new technologies, and adaptive strategies in crop practices (Rosenzweig and Hillel, 1998).

The decisions may not be easy, having tangible costs in the short run, while facing some uncertain prospects for the longer term. In order to tackle those issues countries members of the United Nations adopted the Framework Convention on Climate Change in 1992. Under the Convention, both developed and developing countries must adopt national programs for mitigating climate change and developing strategies for adapting to its impacts. They are also to take climate change into account in their relevant social, economic, and environmental policies; cooperate in scientific, technical, and educational matters; minimize the effects of response measures on developing countries; and promote education, public awareness, and the exchange of information related to climate change. Additional commitments apply to developed countries only, including stabilizing greenhouse gas emissions at 1990 levels by the year 2000 and providing financial and technological support to developing countries.

The 1997 Kyoto Protocol constituted a second step in the global campaign to address climate change. There have been different negotiations to define the operational details of the specific mechanisms to reach the agreed percentages of CO2 emissions.

The last meeting was in November 2000, in The Hague, where still several issues were left unresolved. Recently, the new US Administration announced that it retired its support to the Protocol.

As argued before, whatever the costs and uncertainties, the issue of climate change has important health, nutrition and food security ramifications for a significant percentage of the developing countries, particularly some of the poorer ones. They may pay a high cost if delays and lack of commitment allow the process of adverse climate changes go unchecked. It is ironical that some voices in industrialized countries claim that developing countries may be enjoying unfair trade advantages from presumed lax environmental regulations (which, if true, would have only local effects), while some industrialized countries, through low taxation of energy sources, which amount to a disguised subsidy, are enjoying massive cost advantages while at the same time contributing to possible adverse effects on the health, nutrition, and food security of some of the poorest of the planet.

V.6. Some Concluding Comments

The participation of countries in the globalization process is far from uniform and poses the risk of leaving the poor even more vulnerable to diseases, with the potential to further widen international health disparities in the future. The institutional fabric of globalization and the rules and regulations governing global exchange are still evolving and need to be framed to enhance the beneficial aspects, and reduce potential negative impacts on health.

According to the framework presented in section II, we identified three meanings of globalization: as more interaction across nations and people; as a creation of international legal, institutional and regulatory regimes; and as the presence of significant spillovers from the behavior of nations and individuals -all three meanings with economic and non economic components. It can be argued that greater levels of interaction (economic and non-economic) has led to improvements in the economic welfare and

democratic institutions of many industrialized and developing countries, and that most (but not necessarily all) of the difficult current cases are those that, over time, got "deglobalized" (at least along some key variables of world economic integration), mostly because of war and civil unrest. At the same time, the creation of international regimes, although deplored by some as limiting the sovereignty of nations, may be seen, perhaps more accurately, as creating civilized rules of behavior that should support the creation of opportunities for all humankind. The possibility of de-linking from the world, through policy changes, is very difficult given changes in technology and population.

Finally, it is clear that there are important international spillovers, from financial crises to environmental deterioration and spread of diseases that call from collective action. Industrialized nations, as main economic, political, social, and environmental influences on the global context within which developing countries must live, cannot avoid their key responsibilities to make this world a better one, especially for the poor. Unilateralism and isolationism will not solve those global problems, and will only make more difficult to do it later.