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**"FREE-MARKET" POLITICS
AND NUTRITION IN CHINA: A GRIM
FUTURE AFTER A SHORT-LIVED SUCCESS**

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INTRODUCTION

In recent years, many governments have cut back on the social services they provide to their people. Some have done so because they face financial crises; others, because of their political philosophies. The "free-market" philosophy, for example, posits that a lack of governmental interference will stimulate the economy, thus producing jobs and income. This will, in turn, ameliorate social conditions. Whatever the reasons for retrenchment, governments are usually concerned (at least superficially) that it have the smallest possible harmful effect on the population. Thus, the Reagan administration has claimed to have a "safety net" that prevents cuts in social services from harming the needy. One way in which some governments try to provide a safety net is by hypertargeting their social programs. This means that rather than providing a wide range of social programs for a large number of people or groups, the government sharply focuses a few programs on the small number of people or groups considered to be at highest risk or of particular importance.

What are the health consequences of such policies? Can governments really target their programs so effectively that the most severe health consequences of cutbacks are avoided? How is the impact measured -- in terms of mortality, morbidity, quality of life? In this paper, we examine the effects of a "free-market" policy in Chile on health in general and on the nutrition of children in particular.

BACKGROUND

From the early 1920s until 1973, the government of Chile consistently increased its involvement in the satisfaction of basic human needs. With only a few short-term breaks in the trend, each government became more involved than the last in the economy, redistribution of resources, social services and political participation in the decision-making process. Chile's economy became increasingly public-sector oriented, although large multinational capitalist enterprises remained active.

In addition, since the 1950s Chile has had a highly developed and institutionalized health care system. Access to care was extended to poor people through the National Health Service (NHS). Legislation expanded the coverage of the welfare system. Maternal and child care and nutrition programs were consistently given high priority among health programs.

Chile is one of the few countries in the world where malnutrition has long been paid serious attention by the government. The first government initiatives in nutrition took place in the mid-1920s, when medical authorities recognized inadequate nutrition as an important factor in morbidity and mortality among infants and young children. Supplemental feeding programs (primarily milk distribution and school breakfast and lunch programs) became the main government nutrition activities (see Table 1). Nutrition programs became an integral part of expanding social and labor legislation primarily benefiting blue-collar workers and their families. For example, the Allende government distributed 38,700 metric tons of powdered milk

annually to approximately three million children and mothers (comprising 60 percent of children under 15 years of age and of pregnant and lactating women). This does not include the milk provided in the school programs. In this government-funded program, eligibility was no longer restricted to NHS beneficiaries (Hakim and Solimano, 1976).

In 1970, the election of socialist Salvador Allende as president sent shock waves through the international community. In fact, however, Allende's economic and political policies were a continuation of policies begun decades earlier. The truly radical change came in 1973, when the military, headed by General Augusto Pinochet, rose up in a violent military coup against the Allende government. This coup truly brought change, not just in the form of violence, but also in the reversal of more than 50 years of political and economic programs.

The Pinochet regime opposes government measures to promote redistribution of economic resources. The allocation of economic resources should be accomplished through the free market, according to the government's team of economists, known as "los Chicago Boys." (The name is derived from the fact that many of these economists studied at the University of Chicago and adopted Professor Milton Friedman's ideology of a free-market economy.) These economists believe the "laws of economics" are the purest of scientific axioms. This has meant that the rights of individuals at all times supersede any societal rights to public services. Furthermore, the Pinochet government has virtually dismantled all institutional means by which various political and economic groups can influence the government's policies and

actions.

In terms of health policies, such principles have been interpreted to mean that health is a right of the individual. The state, for its part, must guarantee free and equal access of all individuals to health care. It is a right of the individual to choose where and from whom to seek health care (Ministerio de Salud, 1979).

Even though these principles seem unobjectionable, in a country such as Chile -- with great economic disparities and unequal access to goods and services -- this individualistic, market-oriented approach excludes a majority of the population from health services. Fortunately, this policy has not been fully implemented, in part because of strong opposition from the majority of the medical community and, more recently, from the Chilean Medical Association. However, a profound restructuring of the health sector has taken place, leading to significant changes in eligibility for and accessibility of health care, increased direct costs of health services to beneficiaries, poorer allocation of resources, less integration of preventive and curative activities, and greater regionalization.

Current health and nutrition programs are characterized by the following:

- "Hypertargeting" of high-risk groups, primarily newborns, infants, and pregnant women. This is a strategy aimed at diminishing mortality rates.

- Priority eligibility for individuals living in "extreme poverty," as measured on a scale developed by the National

Planning Office, and assessed at the community level by government institutions. According to recent estimates, 35 percent of the Chilean population lives in extreme poverty. (Ministerio de Educación, 1983).

- Incentives to increase the demand for private services. A reduction of Social Security benefits, higher unemployment, and a 50 percent increase in the monthly Social Security premiums paid by beneficiaries have reduced access to public health care by increasing its cost (Colegio Médico de Chile, 1983).

HEALTH STATUS

Chile, fortunately, has had a highly competent system for collecting health statistics since the early 1950s, and there is evidence that the reliability of mortality data has not deteriorated significantly. Nevertheless, morbidity statistics may have been affected by increased underreporting as access to health care has diminished, because of economic hardships and unemployment, among other things (Haignere, 1983).

The assessment of nutritional status is even more difficult and less accurate. Since 1975, Chile has collected data on the nutritional status of children under age six attending public outpatient clinics. However, nutritional standards and interpretations of the findings have varied. Therefore, such information is supplemented here with independent surveys and small case studies.

Mortality Statistics

Mortality rates are the most widely used indicator of health status. In recent years, they have also become accepted as

reflecting the quality of life. The infant mortality rate (IMR), in particular, is considered to be a sensitive measure of changes in the standard of living. Table 2 presents the IMR for Chile since 1927.

Infant mortality in Chile has declined steadily since World War I, with the exception of two periods (1929-1938 and 1954-1960), which were times of economic hardship. However economic hardship during 1974-1976 and 1982-1983 has not been accompanied by a slowing down in the decline of the IMR. On the contrary, the relative decline during 1975-1980 was more rapid than that during 1964-1973.

The interpretation of these trends has been the subject of analysis and speculation in Chile and elsewhere (Bakim and Solimano, 1976; Taucher, 1978; Raczynski and Oyarzo, 1981; Haignere, 1983). Most researchers point to the development of a comprehensive health system in Chile since the early 1950s, and to the progressive implementation of advanced social legislation since the 1920s. Both of these trends provided significant benefits to the working-class and indigent groups. In addition, increased use of modern contraceptives led to a redistribution of births, concentrating them in more favorable age and parity groups in recent years. Nevertheless, recent studies confirm the persistence of socioeconomic and regional differences in mortality (Raczynski and Oyarzo, 1981; Oyarzo, 1983). While the IMR has decreased among all social classes in Chile, the decline has been smallest among the low-income groups.

The health policies pursued by the government since 1974 have concentrated resources on high-risk groups. These policies

have been supported by the existence of a well-established health care infrastructure, highly trained physicians and health personnel, and a well-educated population. Together, these factors have probably enhanced the population's ability to develop "survival strategies" in response to the curtailed access to other health services.

Morbidity Statistics

A detailed analysis of changes in morbidity and the limitations of existing data is beyond the scope of this paper. Nevertheless, it is worth mentioning the morbidity rates for infectious diseases provided by the Ministry of Health. Scarlet fever, dysentery, whooping cough, measles, colds and flu, hepatitis, and typhoid fever all show clear increases since 1973. Such a trend can be assumed to reflect a general deterioration in the standard of living. Up until that time the incidence of those diseases (except for hepatitis) had been decreasing.

In particular, dysentery, measles, and typhoid fever show disproportionately high rates compared to those for the rest of Latin America. For dysentery, the rate had been declining steadily since 1969. Then in 1976, it climbed from 2.2 cases per 100,000 people to 6.2, well above the rate for any year since 1963. Every outbreak of measles was smaller than the previous one from 1964 until 1974, when the trend reversed. The most concern has been over typhoid fever, for which the rate declined from 1968 to 1973, when it reached 35.7 cases per 100,000 people. From 1974 to 1978, the rate climbed to 121. By 1981, it had diminished somewhat (to 96 per 100,000), but in 1982 it was up

again, to 111 (Colegio Médico de Chile, 1983). It is important to understand that the increase in typhoid since 1973 is unlikely to be due simply to regional or climatic changes, since the rate for all of South America remained stable during this period. Typhoid mortality rates, however, continued to decline. This is particularly interesting because it illustrates the disparity between quality of life and mortality in Chile at present.

Although any direct associations between these morbidity increases and the provision of health services or socioeconomic conditions are difficult to establish, these infectious diseases are strongly associated with crowded living conditions, inadequate sanitation, and failed immunization campaigns.

NUTRITIONAL STATUS

The role of nutritional status in the morbidity and mortality changes observed since 1974 is difficult to determine. There appears to be a decline in malnutrition among children younger than six, even though food consumption in the general population has been declining. What part do government actions play in this apparent paradox?

Since the 1930s, Chile has regularly carried out clinical surveys on the nutritional status of the population. These have shown that at birth, Chilean children conform to the international weight and height standards. Generally, children from the middle and upper classes exhibit growth and development rates comparable to those of North Americans. However, at six months of age, significant class differences in height and weight begin to appear among Chilean children. The lower- and lower-middle-class children, as they get older, fall farther behind

those from upper- and middle-income households. At each age, these differences are generally larger than those found among U.S. children from different income levels (Hakim and Solimano, 1976).

In 1975, the NHS started gathering information on the nutritional status of children younger than six attending district health centers all over the country. Based on weight for age, the proportions of normal and malnourished children were tabulated. This has provided annual information on 70-75 percent of the population under age six. These data show that the incidence of malnutrition declined from 15.5 percent in 1975 to 8.8 percent in 1982. While independent studies have shown that the NHS weighing technique results in a 40-50 percent underestimation of malnutrition, there is no reason to believe that the overall decline is unreal (CONPAN/INUAL, 1976).

Recent information indicates that the nutritional status of pregnant women and young children may have worsened since late 1982. Although the data are preliminary, they show that the percentage of pregnant women who were ~~enflaquecidas~~ (underweight) increased from 16.5 in November 1982 to 19.9 in March 1983 (Ministerio de Educacion, 1983). In infants 12-23 months of age malnutrition increased by 17 percent in the same period.

Deterioration in the nutritional status of school-children has also been reported in recent years. Among children aged 6-14 attending schools in a low-income neighborhood of Santiago, the proportion of malnourished children rose from 4.6 percent in 1980 to 15.8 percent in 1983, according to the Ministry of Education.

Those children considered severely malnourished received school breakfasts and lunches that provided one-third of their daily caloric requirement. However, of those receiving breakfasts and lunches, 23 percent were still malnourished after more than one year in the program (Ministerio de Educación, 1983).

FOOD CONSUMPTION PATTERNS

Reasonably complete and reliable information on average per capita consumption of calories and protein is available only until 1978. As shown in Figure 1, both measures improved between 1968 and 1972, when they reached their highest levels (2,480 calories and 76.4 grams of protein per capita). Between 1972 and 1975, both protein and calorie consumption declined by about one-sixth. By 1978, although these levels had risen (to 2,100 calories and 62.5 grams of protein per capita), they still remained below the levels in the 1960s. It is important to remember that because they are averages, these figures do not reflect the variation of food consumption with social class.

These trends reflect government policies affecting wages and purchasing power. Since September 1973, the government's policy has been to hold wages fixed and allow prices to fluctuate. As a consequence, real wages in 1978 -- in the midst of the economic "boom years" -- were only 76 percent of those in 1970. By 1982, real wages had risen, but to only 97 percent of the 1970 level. Not surprisingly, the group most profoundly affected by declining purchasing power has been the poor. Figure 2 shows that from 1968 to 1971, real food purchasing power for the poor increased by 33 percent. However, by October 1973, a month after the coup,

their real food purchasing power had fallen almost 50 percent. Since that date, food purchasing power among the poor has remained less than half what it was in 1971 (Valiente, et al., 1980).

The cost of the NHS's "model food ration" in 1974 was already 2,500 pesos (U.S. \$64) per month for a family of five. The minimum monthly salary for those in full-time white-collar jobs in 1978 was 2,000 pesos, and for those participating in the subsidized minimum employment program (PEM) it was only 700 pesos (Jiménez, 1979).

The Household Expenditure Survey, carried out in 1978, showed that 59 percent of the population already had food consumption levels below the nutritional requirements. No national studies have been done since then, but indirect information suggests that since 1981, low-income groups have suffered further losses in family income: Prices have increased, and employment levels and wages have declined. The unemployment rate is now around 20 percent. In addition, approximately 15 percent of the work force is employed in the PEM. At the end of 1983, general PEM programs were terminated in response to strike threats by the PEM workers. Consumer prices increased by 20 percent in the last half of 1982, and wholesale food prices increased by 49 percent in the first half of 1983 (Valenzuela, 1983). In 1982, the average person consumed only 65 percent of the recommended amount of milk and eggs and 75 percent of meat products (Colegio Médico de Chile, 1983).

In summary, since 1973, mortality rates in Chile (particularly among infants) have continued to decline, while

morbidity rates for many infectious diseases have increased dramatically. The nutritional status and food consumption levels of a significant part of the population (with the possible exception of young children) appear to have deteriorated. In the next section, we will examine the major characteristics of health and nutrition programs since the Pinochet government came to power.

HEALTH AND NUTRITION PROGRAMS SINCE 1974

Table 3 presents public expenditures for health during 1969-1979. During 1973-1979, public expenditures were lower (in constant U.S. dollars) than in 1971 or 1972. The differences in spending per capita were even greater. Another 14 percent drop in 1980 accompanied structural changes in the health sector, including the creation of 27 decentralized regional health services. The most striking feature of budget allocations was the significant decrease in capital investment. In 1974, it was 11 percent of the health budget, in 1975 it was six percent, and by 1979, it was only three percent (Foxley and Raczynski, 1983).

The military regime that overthrew Allende in September 1973 supported and even expanded nutrition programs. The government allocated significantly more financial resources to nutrition programs than previous governments had done, including those that supported a larger role of the state. Since 1976, in addition to the Supplementary Feeding Program, the government has implemented two new programs (CONIN and OFASA) designed to rehabilitate malnourished children younger than six. Even though

there is no information on the demand, the available data show that the number of beneficiaries has been increasing. This can be explained, in part, by the worsening of the economic situation of more families as the economic crisis deepens. The school breakfast and lunch program continues on a more limited basis. The National Food and Nutrition Council, primarily funded through a five-year USAID grant, received high visibility during the early years of the regime.

The main nutrition programs currently operating are summarized below:

National Supplementary Feeding Program (PNAC): From 1971 until September 1973, this program provided milk supplements to all children younger than 15 and to pregnant and lactating women, independent of socioeconomic status and type of social security coverage (see Table 1). Since 1974, the PNAC has been limited to children younger than six and pregnant and lactating women who are beneficiaries of the NHS. The caloric content of the milk provided to children below age two and to lactating women has been raised. In 1982, this program served more than one million people, at a cost of U.S. \$41 million.

In December 1982, the Ministry of Health established the Feeding Program for the Control of Undernourished Infants to replace the PNAC (Ministerio de Salud, 1982). However, for reasons not fully understood, the program was never initiated. One possible explanation is that because of the worsening economic situation, high unemployment, increased food prices, and rising malnutrition rates, the government felt it could not

afford to limit the demand for supplemental food. However, the 1983 budget for the PNAC was diminished by U.S. \$20 million (almost 50 percent of the 1982 budget) and the calorie supply for pregnant women and children 12-23 months of age was reduced (Ministerio de Educación, 1983). Since official figures for malnutrition have become confidential, it is difficult to assess the impact of PNAC at present.

NHS - OEASA* Nutrition Rehabilitation Program: Since 1975, the government has developed several programs to rehabilitate malnourished children by means of food supplements, inpatient care, nutrition education, and psychomotor stimulation. Enrollment has increased in recent years. The program served 45,000 malnourished children in 1977 and 124,000 in 1979, all beneficiaries of the NHS. The cost per month was estimated at U.S. \$2 per child in 1977. In 1982, 5,525 metric tons of food were distributed.

Corporation for Infant Nutrition (CONIN): CONIN is a private organization supported, in large measure, by government funding. Its goal is to eliminate moderate and severe malnutrition in children younger than two. The number of Nutrition Rehabilitation Centers (NRCs) increased from 11 in 1977 to 28 in 1982. Between 1978 and 1982, 12,424 children were admitted. Among children admitted to the NRCs, 54 percent had illiterate mothers; 92 percent had fathers who were unemployed, were self-employed, or had temporary jobs; and 92 percent had inadequate housing. Mortality at the NRCs was only three

*Obra Filantrópica y Asistencia Social Adventista.

percent, and 78 percent of the children had recovered at discharge (Mockenberg and Riumallo, 1981).

The CONIN budget for 1979 was U.S. \$4.1 million, equivalent to five percent of the direct annual cost of government nutrition programs. Treatment cost was approximately U.S. \$1,200 per child, at U.S. \$6.35 per day, with an average stay of 180 days. No recent data on the CONIN program are available.

Day-Care Feeding Programs: Feeding programs for preschool children enrolled in day-care centers of the Ministry of Education, the National Board of Day-Care Centers (JUNJI), and the National Foundation for Community Help (FCH) have also grown larger in recent years. In 1982, 70,060 children received food supplements at JUNJI and FCH centers, at a cost of U.S. \$18.2 million. However, this food reached only 11 percent of the low-income preschool population.

In addition, a monetary subsidy to families with children below age eight who do not qualify for social security benefits, but live in extreme poverty, has also been established. In 1982, more than 226,000 children received this subsidy at a cost of U.S. \$11 million.

DISCUSSION AND CONCLUSIONS

The above description of nutritional and health conditions in Chile shows mixed results following the implementation of the free-market approach to the allocation of goods and services. On the positive side, mortality rates, particularly among infants, have continued to decline, and in some cases, the rate of decline has accelerated since 1973. Similarly, the nutritional status of

infants and (to a lesser extent) preschool children has improved.

Enormous government effort has gone into initiating, continuing, and expanding programs to ensure the survival of infants. Other possible factors in the decline in infant mortality have been suggested: 1) The present regime has been able to harvest the benefit of the highly organized health system that previous governments built up, without itself making additional investment. 2) Births appear to have declined among women most likely to have high-risk infants; this has contributed to the decline in infant mortality without actual improvements in the health of poor infants.

The most striking feature about these successes of the Pinochet government, however, is not so much that they occurred, but how they were actually brought about. In fact, they do not appear to be the consequences of a free-market approach. Rather, a few of the socialist programs of previous regimes have been expanded while much of the economic and social infrastructure has been allowed to slowly decay.

Despite an expanding gross domestic product (GDP) from 1976 to 1980, the Pinochet government has not been able to convert that growth into purchasing power for the average Chilean. The full economic effects of the free-market policies and programs were not felt immediately, but after 10 years it is apparent that they have led to declines in investments and in agricultural production. One result is the need for massive food imports. These economic problems have probably contributed to the declines in manufacturing. By 1982, widespread bankruptcies had

occurred, and large portions of the banking sector had to be taken over by the government to prevent a total economic collapse.

These economic setbacks have had a profound influence on the well-being of the Chilean population. Rising prices, low wages, and rampant unemployment have been accompanied by declines in food purchasing power for the average Chilean, lower food consumption levels, and a general worsening of nutritional status. Other social programs, most notably housing, have been cut back, contributing to worsening living conditions for a large segment of the Chilean population. Furthermore, the sanitation infrastructure has been allowed to deteriorate, and many people have lost their connection to clean, drinkable water as a result of their inability to pay. These conditions have been accompanied by increased incidence of infectious diseases such as typhoid fever, hepatitis, and measles.

In summary, it appears that the Chilean free-market experiment has been unable to stimulate the economy or ensure the provision of the goods and services necessary to maintain and promote the well-being of the population. What health successes have occurred appear to be associated with government targeting of aid to health and nutrition programs established by previous regimes. However, as the economic conditions worsen (the GDP fell 14 percent in 1982), even an optimist has to wonder how long these targeted health programs and their successes can be maintained. Without some dramatic turnaround in the economic strategies, it is highly unlikely that any Chilean government will be able to afford such programs. (Information on government

policies on agriculture, the economy, and housing is contained in the appendix.)

Therefore, the consensus is that after 10 years of an authoritarian regime, Chile is experiencing its worst economic, political, and social crisis. Limitations on personal freedom, lack of social and political participation, high unemployment, and the paralysis of the production system have generated anguish, hunger, and helplessness among many Chileans. Any realistic approach to solving the hunger and health problems (two among many problems affecting a vast proportion of the population) has to be part of a profound political and economic change that includes the rapid restoration of democracy.

Recently, some proposals have begun to emerge. It is beyond the scope of this paper to discuss them in detail, but it is appropriate to briefly outline some of the broad economic, agricultural, and nutrition/health policies essential to a new development strategy. Of course, this strategy would have to follow political and social changes.

The priority objective of economic development should be the well-being of all Chileans, accomplished through the creation of work opportunities, satisfaction of basic needs, and improvement of the quality of life. Equal opportunities for all Chileans and a fair distribution of wealth should be the basis of the development strategy. The state, jointly with the people, must play a protagonistic role, not only in the provision of guidance and regulation to the economy, but also in economic planning and production activities.

Economic policies should include the development of a "mixed economy" with clearly defined roles for the state and the private sector; an increase in economic independence, and the renegotiation of the foreign debt in terms compatible with economic development; increased productivity to satisfy basic needs, including food, and the generation of stable employment resulting from a revival of industrial and agricultural production, public works, and the expansion of social services.

A substantial increase in food production and a shift to staple foods will require major policy changes in the agricultural sector. A significant decrease in food imports, which have increased external dependency, is also required. Medium- and long-term agricultural, food distribution, and price policies will have to be combined with emergency measures to secure a minimum availability of food and nutrients in the coming years. The increase in agricultural productivity cannot wait for the recovery of the economy as a whole (AGRARIA, 1983).

Nutrition programs will have to be continued, and probably expanded, until economic recovery is well under way. However, they must be subsidiary to other development programs aimed at reducing poverty and suffering. Of greatest importance for the well-being of present and future generations of Chileans is the restoration of comprehensive health programs, including health promotion and disease prevention, that effectively address the most pressing environmental and societal health problems.

Table 1. The Evolution of Chile's National Supplementary Feeding Program, in Terms of Powdered Milk Distributed (in Metric Tons), Eligibility Criteria, and Funding, 1924-1982.

Year	Tons of Milk	Eligibility and Funding
1924		Passage of first social security law. Provided for insured working mothers to receive milk for children younger than two.
1937		Passage of "mother-child" law extending social security coverage, including the right to receive milk quotas, to spouses and infants of insured workers. Five percent of social security revenues allocated for milk program.
Presidencies of González Videla and Juan Antonio Ríos (Radical Party)		
1943	400	
1948	500	
1951	500	
Presidency of Carlos Ibáñez (Independent)		
1954	1,300	NHS begins operation. Children 2-6 years old and pregnant and nursing women become eligible to receive milk. Program extended to all beneficiaries of NHS. Social Security allocation increased to 10 percent.
1955	1,500	
1956	2,000	
1957	1,700	
1958	2,700	
Presidency of Jorge Alessandri (Democratic Front)*		
1959	7,600	Legislation allocating 5 percent of family allowances to milk program takes effect.
1960	8,400	
1961	8,100	
1962	8,600	
1963	8,000	
1964	7,300	
Presidency of Eduardo Frei (Christian Democratic Party)		
1965	9,300	USAID initiates donations of powdered milk. Milk imports restricted in face of growing economic difficulties
1966	13,200	
1967	18,400	
1968	13,600	
1969	11,800	
1970	13,700	
Presidency of Salvador Allende (Popular Unity)†		
1971	40,500	Children aged 7-14 become eligible to receive milk for home consumption. Program no longer restricted to beneficiaries of NHS. Government provides direct allocation from general revenues for milk purchases.
1972	38,700	
1973	1	
Military Junta Regime		
1974	20,739	Program restricted to children younger than six, pregnant and lactating women beneficiaries of NHS. Higher caloric content provided to children younger than two and lactating women. Milk substitute to preschool children
1975	23,584	
1976	30,352	
1977	31,342	
1978	27,180	
1979	35,707	
1980	35,195	
1981	31,606	
1982	34,762**	

* Coalition of right-wing, Liberal, and Conservative parties with centrist Radical Party.

† Coalition of Socialists, Communists and smaller left-wing parties with centrist Radical Party.

** Provisional figure.

** Data unavailable

Source: Mapa del Programa for the period 1924-1970. Ministerio de Salud y Previsión Social for the period 1971-1982.

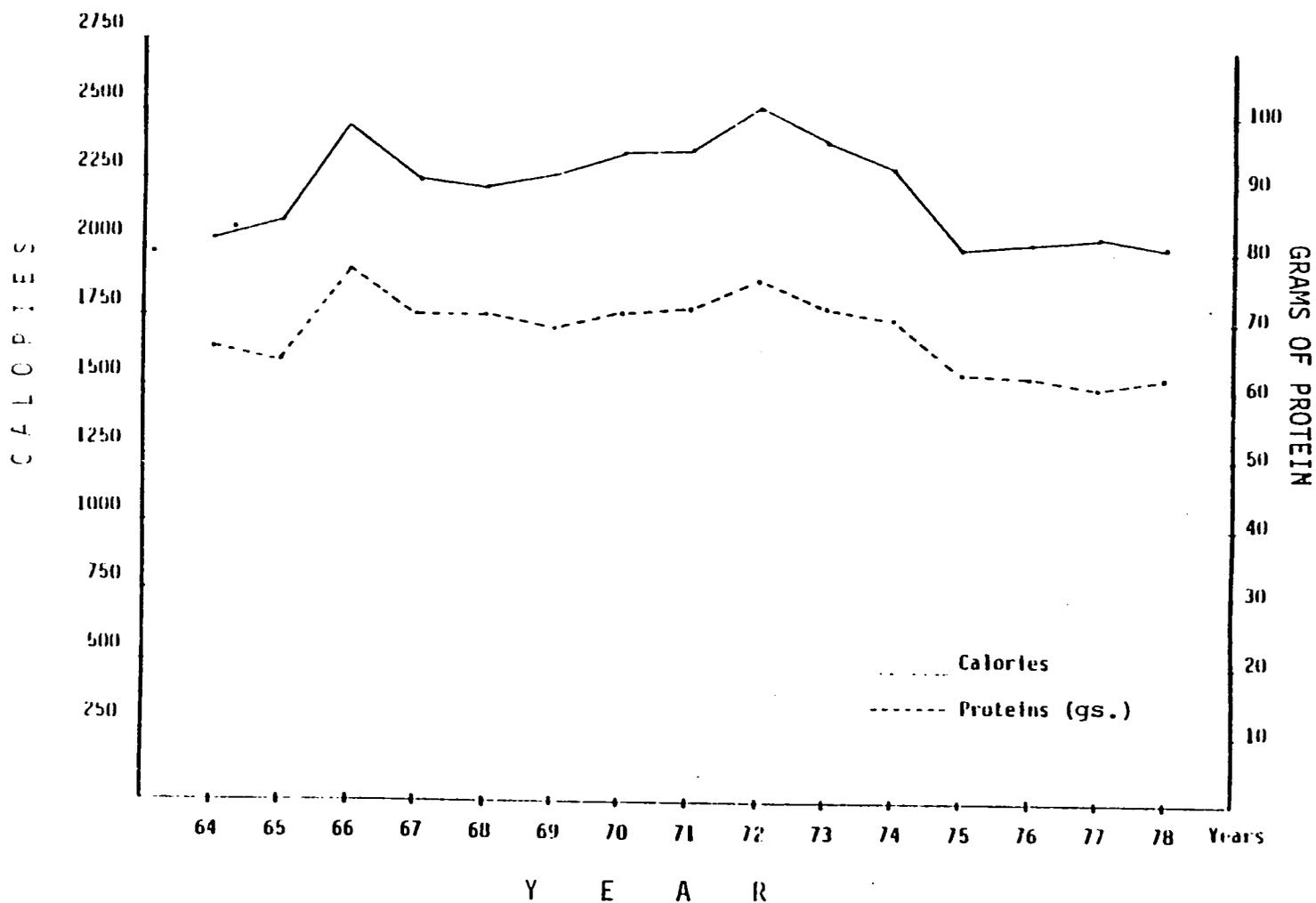
Table 2. Infant Mortality Rate (Deaths per 1,000 Live Births), Chile, 1927-1982.

Year	Rate	Year	Rate
1927	226	1972	73
1930	234	1973	66
1935	251	1974	65
1940	192	1975	58
1945	164	1976	57
1950	136	1977	50
1955	119	1978	40
1960	126	1979	38
1965	100	1980	33
1970	82	1981	27
1971	74	1982	24

Source: Instituto Nacional de Estadísticas.

Figure 1

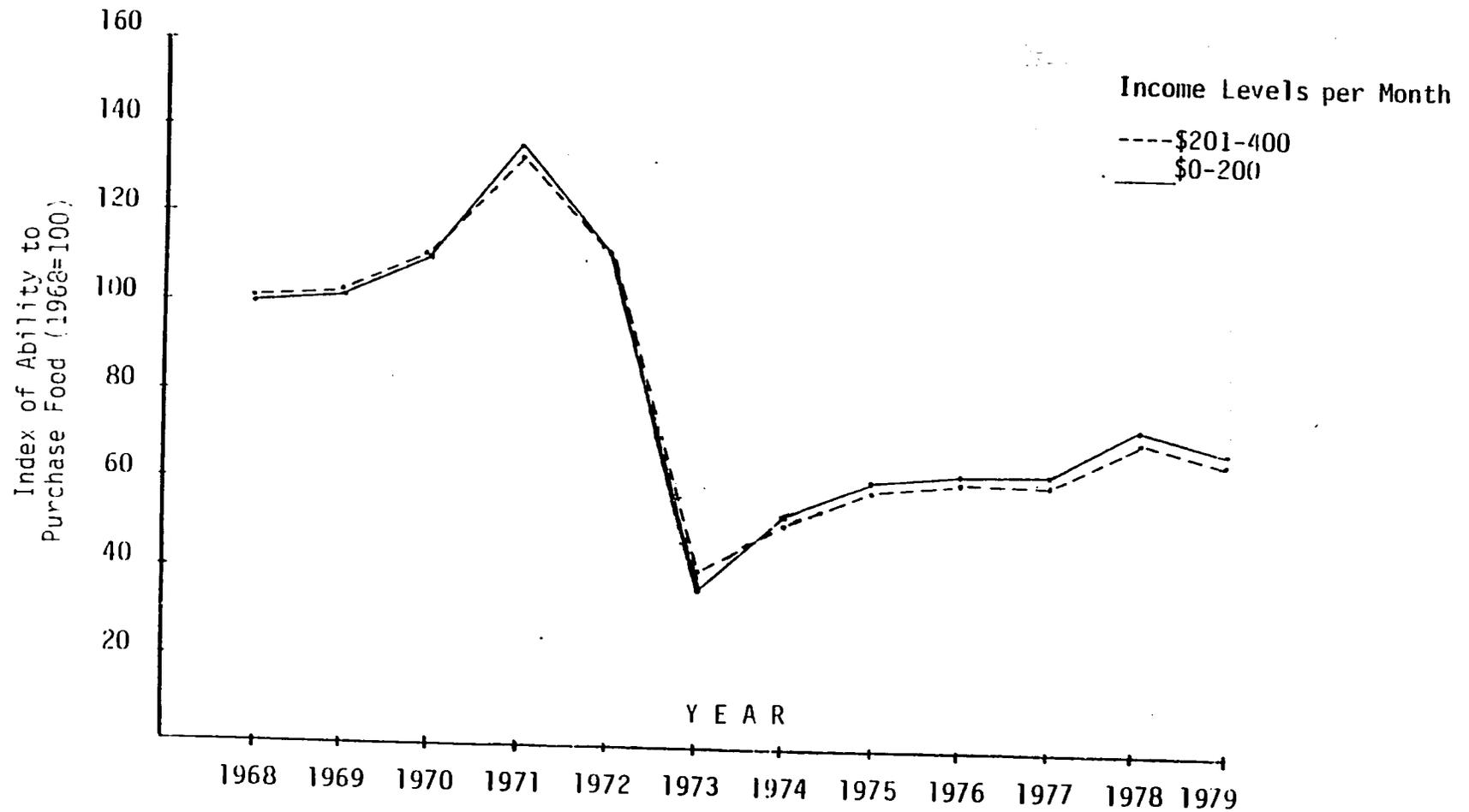
AVERAGE DAILY PER CAPITA CONSUMPTION OF CALORIES AND PROTEIN (GRAMS)
IN CHILE, 1964-1978



Source: Mardones-Santander, F., "Análisis de Cinco Determinantes del Nivel de Salud y Nutrición Infantil, Chile 1970-1979." Crecimiento y Desarrollo en la Desnutrición Infantil. J.M. Celedón (ed.). New York: UNICEF, 1981.

Figure 2

ABILITY OF THE TWO POOREST POPULATION GROUPS IN SANTIAGO
TO PURCHASE FOOD
CHILE, 1968-1979* (1968=100)



Source: Valiente, S., O. Ruiz, and J. Kain, 1980.

*Survey done in September of each year.

Table 3. Government Health Expenditures (in 1976 U.S.\$), Total and per Capita, and Percent Annual Growth, Chile, 1969-1979.

Year	Total \$ (in millions)	Per Capita \$	Growth %
1969	251.7	27.37	u
1970	299.6	31.98	19.0
1971	384.5	40.28	28.3
1972	418.0	42.99	8.7
1973	249.0	25.15	-40.4
1974	269.7	26.77	8.3
1975	230.6	22.49	-14.5
1976	238.6	22.82	3.5
1977	286.3	26.87	20.0
1978	351.9	32.41	22.9
1979	377.5	u	7.3

u = data unavailable

Source: F. Ortiz, "El Sector Salud y sus Recursos Financieros. Análisis de la Década," in *Desarrollo Social y Salud en Chile*, CPU., Santiago, 1980.

A P P E N D I X :
SOCIOECONOMIC POLICIES AND PROGRAMS

Agriculture

From the 1960s until 1973, Chilean governments encouraged agricultural expansion through the liberalization of land tenure laws and through low-interest loans. Since 1973, these policies have been almost entirely reversed.

Under the 1967 agrarian reform bill, 2.4 million hectares of land (representing 14 percent of the total irrigated land) had been expropriated from large landowners by 1969 and nearly 16,000 families had been resettled. By May 1970, the expropriated land had increased to 3.2 million hectares (16 percent of irrigated land), and some 28,000 families had been resettled (Edwards, 1972). From 1970 to 1973, under the Allende government, an additional 6.2 million hectares were expropriated (Garcelo and Muñoz, 1978). However, after the military take-over in 1973, the progress in land tenure was reversed. Nearly two-thirds of the expropriated land was either returned to its previous owners or auctioned off by the government. Another 30 percent was parceled out into plots to be paid for over a number of years. By 1979, only seven percent of the expropriated land remained in the hands of the state (Collins, 1979).

The changes in land tenure parallel changes in agricultural production. From 1967 to 1973, agricultural production increased by 41 percent. The greatest increases were registered from 1970 to 1973, with a 5 percent annual increase (Franco Mesa, 1979).

However, cultivated agricultural land has declined since 1973 as Appendix Table 1 shows. From 1975-1976 to 1982-1983, the total amount of land in cultivation dropped by 33 percent. The cultivation of cereals was down 34 percent, and that of industrially processed foods, by 72 percent.

As a consequence, food exports have declined and food imports have increased drastically. For example, from 1977 to 1981, wheat imports more than doubled (see Appendix Table 2). However, since 1981 food imports have declined somewhat.

After 1973, the balance of trade in agricultural products worsened considerably. In 1977, agricultural exports exceeded imports by almost U.S. \$86 million. By 1980, Chile witnessed a deficit in its agricultural trade balance of U.S. \$154 million (Franco Mesa, 1981).

Economic Policies and Purchasing Power

The Chilean economy has, since 1973, undergone radical changes. As Appendix Table 3 shows, from 1963 to 1972, the GDP grew at an average annual rate of 4.1 percent. However, from 1973 to 1975, the GDP declined by an average of 5.8 percent each year, and in 1975 alone, the GDP fell by 12.9 percent. Following this tremendous decline, the economy expanded again from 1976 to 1981, averaging 7.2 percent growth annually. Since that expansion period, the GDP has slumped once again, falling by 14.3 percent in 1982, and by 0.5 percent in 1983.

Unfortunately, the economic expansion during 1977-1980 did not translate into increased purchasing power. The major economic expansion occurred in the banking and financial sectors,

where enormous international loans were introduced. From 1970 to 1982, the foreign debt grew from U.S. \$3 billion to U.S. \$22 billion. By 1981, payments on the debt represented almost 60 percent of the value of exported goods and services (Haignere, 1983). These debts are held by a few major financial conglomerates. Five economic groups control more than one-third of the 250 major firms in the country and 53 percent of those firms' net assets. Therefore, the benefits of the economic "boom" from 1977 to 1980 went primarily to a small portion of the population (Dahse, 1979; Angell, 1982).

Despite the large influx of international loans, investments in the economy have been well below the pre-1970 levels. From 1965 to 1970, investments averaged 16 percent of the GDP annually. From 1970 to 1975, the figure was only eight percent, and from 1976 to 1979 (the so-called "boom" years), investments averaged only 9.5 percent of the GDP annually (United Nations, 1980). Meanwhile, other sectors of the economy, particularly manufacturing and commerce, fell below their 1970 levels. For example, during 1974-1975, industrial manufacturing as a proportion of the GDP dropped from 30 to 20 percent. Although from 1976 to 1980, the role of industrial manufacturing in the GDP grew some, it never regained its prominence of the 1960s (Haignere, 1983).

The long-term consequences of these trends have been widespread bankruptcy, high unemployment, and low wages and salaries. In 1980, 433 firms had gone bankrupt, among them some of the largest in the country (Delano, 1982). During the first nine months of 1982, the number of bankruptcies had climbed to

100. At the end of 1982, there were estimates that some six percent of the country's debtors were on the verge of default. This is even more serious, since this six percent represents some 15 percent of all debts (Latin American Regional Report, 1982).

One of the results of these economic policies has been continued high unemployment since 1974 (see Appendix Table 4). During the entire period, unemployment never fell below 10 percent. It reached 14 percent in 1975, fell to 11 percent in 1981, rose to over 20 percent in 1982. These figures do not, however, include those "employed" in the government's minimum employment program, (PEM), who work between 35 and 48 hours a week doing menial tasks for local municipalities, for which service they received approximately U.S. \$30 a month in 1981. From 1975 to 1981, they made up 3-5 percent of the work force. In 1982, they represented over six percent of the work force, and in 1983 they increased to eight percent. In 1983, a new program for white-collar workers (Programa de Ocupacion para Jefes de Hogar) was implemented and their numbers represented almost six percent of the work force. Thus, by 1983, 14 percent of the work force was working in "emergency" government employment programs (Ruiz-Tagle, 1983).

For those low-income groups that have been able to remain employed, the situation has not been much brighter. From 1974 to 1983, the Index of Minimum Real Family Income fell 37 percent. In other words, the poor lost more than one-third of their purchasing power. At the same time, the Index of Real Wages and Salaries (which includes high-income groups) rose by 29 percent.

In 1983, an average low-income family of four had only U.S. \$27 a month for all expenses. This often meant choosing between paying for a bus ride to work or buying bread and a little milk for children (Ruiz-Tagle, 1983).

Housing and Sanitation

The reduced purchasing power of the poor has been accompanied by reductions in government social services. Services with special relevance to health and nutrition are in the areas of housing and sanitation. In 1964, a deficit of houses existed. This was estimated to be 400,000 dwellings. In response to this need, the Frei government built 36,000 new houses in 1965 and 32,000 in 1968. In 1970, the estimated housing deficit was 585,000, and in 1971, the Allende government started construction of 76,000 new dwellings. However, after 1973, public-sector housing funds were abruptly cut off. Public housing construction dropped to a little over 3,000 housing starts in 1974.

The government's plan was for the private sector to make low-interest housing loans using state subsidies. However, the conditions of the loans are such that an estimated 60 percent of Chilean families cannot qualify for them. The result is a growing deficit -- 700,000 dwellings in 1980 and an estimate of more than 800,000 in 1983 (Chateau, 1981; Arellano, 1982). This has meant that thousands of families live in makeshift lean-to dwellings called mediaguas. These range in size from 10 to 20 square meters; they have no flooring, no glass in the windows, and no interior walls; and the wood is only one-half inch thick.

Many of these "homes" have been built on vacant lands that do not have access to clean water or any adequate sewage disposal system. Approximately 260,000 individuals -- seven percent of the population of Santiago -- lived in such conditions in 1982.

Paradoxically, while so many suffer the health consequences of these severe housing conditions, private-sector housing construction boomed. However, these apartments have few buyers. In December 1981, over 10,000 luxury dwellings stood empty. The 1983 estimate is as high as 13,000 (Arellano, 1982).

Evaluating sanitation is difficult and complex. Data from the Ministry of Health for the years 1970-1978 show increases in the proportion of the population with access to drinkable water and a sewerage system. However, these facts do not tell the entire story. Considerable evidence indicates a lack of upkeep of the water treatment plants. For example, in January 1982, the water treatment plant serving over 80 percent of greater Santiago had only 10 of its 16 filters operating at full capacity. Only eight of these had been equipped with the more effective coal filters. The remaining filters were in such poor condition -- clogged with sand and chemical deposits -- that their yield had been reduced by 20 percent (El Mercurio, 1982). Experts indicate that such a buildup of deposits may increase the level of microorganisms in the water, a fact that may be related to the dramatic increase in typhoid fever.

Another factor that may be affecting sanitation in Chile is the crowding of several families into one small dwelling. High unemployment, low wages, and shortages in low-income housing make it probable that this arrangement is quite common. A recent

study showed that close to 700,000 people lived in lower-class and middle-class homes containing more than one family in Santiago in 1983. Such conditions not only affect the mental well-being of individuals, but also contribute to the spread of infectious diseases such as measles, colds and flu, hepatitis, and typhoid fever. The health of people living in such conditions has been further jeopardized recently because those unable to pay their bills have had their running water cut off. During 1982, water service to 37,000 users was disconnected for this reason.

Appendix Table 1. Cultivated Land (in Thousands of Hectares), Total and by Crop, Chile, 1975-1982.

Year	Total	Cereals	Legumes and Tubers	Processed Foods
1975-76	1,302.1	969.1	188.1	144.9
1979-80	1,237.0	852.0	291.2	93.9
1980-81	1,078.8	723.9	289.1	65.7
1981-82	944.0	640.1	268.2	35.7
1982-83	870.8	635.5	194.1	41.2
1983-84*	944.1	696.8	194.5	52.8
% Change,				
1976-1983	-33	-34	-3	-72

*Projected figures.

Sources: Instituto Nacional de Estadísticas, en Consultora de Estudios Económicos y Sociales, *Algunas Reflexiones sobre Chile 1983*, Sept. 1983; and Grupo de Investigaciones Agrarias (GIA), *1983 Crisis Agraria. La difícil reactivación*. Santiago: Academia de Humanismo Cristiano, 1983.

Appendix Table 2. Total Food Imports (U.S. \$ Million) and Wheat Imports (in Thousands of Metric Tons), Chile, 1970-1982.

Year	Total Food*	Wheat+
1970	165	u
1977	323	460
1978	430	972
1979	518	727
1980	738	1020
1981	709	1034
1982	528**	992

Sources: *Franco Mesa, 1979; +Valenzuela, 1983;** GIA, 1983.

Appendix Table 3. Percentage Change in the GDP in (1970 U.S.S), Chile, 1963-1982.

Year	% Change	Year	% Change
1963	6.3	1973	-5.6
1964	2.2	1974	1.0
1965	0.8	1975	-12.9
1966	11.2	1976	3.5
1967	3.2	1977	9.9
1968	3.6	1978	8.2
1969	3.7	1979	8.3
1970	2.1	1980	7.8
1971	9.0	1981	5.7
1972	-1.2	1982	-14.3

Source: Consultora de Estudios Financieros, Económicos y Sociales, Ltda., *Algunas Reflexiones sobre Chile, 1983*. Santiago, Sept. 1983, (Table 1).

Appendix Table 4. Trends in Real Wages, Pensions and Percentage Unemployment, with and without Subsidized Employment Programs (PEM), Chile, 1970-1982 (1970=100).

Year	Wages	Pensions	Unemployment	
			With PEM	Without PEM
1970	100.0	100.0	5.7	5.7
1974	65.0	59.3	9.2	9.2
1975	62.9	52.0	16.8	14.5
1976	64.7	56.3	19.4	14.4
1977	71.4	60.9	18.5	12.7
1978	76.0	67.0	17.9	13.6
1979	82.3	75.9	17.6	13.8
1980	89.4	82.2	17.3	12.0
1981	97.7	u	15.6	10.8
1982	97.2	u	26.3	20.5

u = data unavailable

Source: Foxley and Raczynski, 1983.

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