Social Expenditures in Taiwan (China)

Peter C. Y. Chow

Abstract

Social expenditures in Taiwan (China) accelerated during recent decades in accordance with economic development, social transformation, and democratization. Among the various categories of expenditure, education spending received the highest priority and continues to do so up to this day. Furthermore, the government was able to match its human resource development targets with the actual needs of the economy while promoting competition among individuals for educational advancement. Spending on another priority area, social security, has risen gradually with social security programs initially covering only a small targeted segment of the population and then expanding to cover a wider cross-section of the society. Meanwhile, a comprehensive National Health Insurance (NHI) was introduced only a few years ago (in 1995). The hallmark of Taiwan (China’s) approach to social policy has thus been gradualism. This aspect has helped it avoid fiscal crises due to unsustainable social spending. However, democratization in recent years will likely to accelerate such spending.

World Bank Institute
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Foreword

This paper, entitled Social Expenditure in Taiwan (China) by Professor Peter C. Y Chow of City University of New York (CUNY), was prepared for a project on Social Development in East Asia. The project was organized by the World Bank Institute under the auspices of the Program for the Study of the Japanese Development Management Experience which is financed by the Human Resources Development Trust Fund established at the World Bank by the Government of Japan.

The principal objectives of this Program are to conduct studies on the Japanese and East Asian development management experience and to disseminate the lessons of this experience to developing and transition economies. Typically, the experiences of other countries are also covered in order to ensure that these lessons are placed in the proper context. This comparative method helps identify factors that influence the effectiveness of specific institutional mechanisms, governance structures, and policy reforms in different contexts. A related and equally important objective of the Program is to promote the exchange of ideas among Japanese and non-Japanese scholars, technical experts and policy makers.

The outputs of the project on Social Development in Asia include seven papers on topics such as pension systems, health insurance, education, and employment policies which are scheduled to be published in the WBI Working Paper series. In addition, a set of papers focusing on the social policy experience of Japan over the past fifty years is being processed separately as a book-length manuscript.

Farrukh Iqbal, Program Director
World Bank Institute
Social Expenditures in Taiwan (China)*

Peter C. Y. Chow
City University of New York
Department of Economics

Those countries that have been most successful—including, notably, many here in East Asia—have also invested heavily in their people, have put in place the right policy fundamentals, and have not discriminated against their rural sectors.

Address to the Board of Governors
Hong Kong, China

by
James D. Wolfensohn, President
The World Bank Group
September 23, 1997

The ultimate aim of economic development is to promote the well-being of people. As an economy becomes more modernized, both the demand for and supply of social expenditures increases. Hence, the growth of social expenditures in Taiwan has accelerated in accordance with economic development, social transformation, and democratization in the last three decades.

In this study, “social expenditures” include education, social welfare payments (for example, social insurance for income security, employment services, social assistance, and welfare services) as well as public health and medical care. Among these, Taiwan has been focusing most heavily on education and income security for targeted population segments—such as retirement pensions and survivors’ benefits for public service employees. Government support of education is evidenced by priority funding for education, science, and culture in government budgets as stipulated in Article 10 of the Amendments to the Constitution. Government expenditures on pensions and survivors’ benefits for civil service employees, military personnel, and other insurants have been built into their respective retirement systems. By contrast, social assistance is selectively granted to the needy only. Until the proposed National Annuity System is implemented by the year 2000, Taiwan has no nationwide income security or unemployment insurance systems equivalent to those found in the United States. Therefore, Taiwan’s social welfare system is far behind that of many industrialized economies.

In its earlier stages of development, Taiwan’s health insurance covered only government employees, military personnel, teachers and school administrative staff members, and insured laborers in a handful of occupations. The plan was gradually extended to cover farmers, fishermen, and low-income households before a comprehensive National Health Insurance (NHI) system was inaugurated in March 1995. However, despite the incomplete coverage of its social welfare system, Taiwan was able to achieve modest progress in social development compared with other developing economies at a similar level of development. Taiwan has maintained a relatively equitable income distribution in comparison with other

* Taiwan refers to Taiwan (China) throughout this paper.

1 Prior to March 1, 1995, insured persons (including those covered by labor insurance, government employee plans, and related schemes) accounted for only 57.6 percent of the total population.
developed and developing economies. The ratio of income shared by the top 20 percent of households to that of the bottom 20 percent of households fluctuated between 4.17 and 5.38 during the 1980–96 period, and the Gini coefficient fluctuated between 0.29 and 0.32. Moreover, Taiwan has also performed relatively well based on other social indicators. Table 1 below compares some selected social indicators among Taiwan, other developing economies, and industrial economies. In addition to its equitable distribution of income, Taiwan has made modest progress in many other social indicators in the past three decades: life expectancy at birth increased from 62.3 in 1961 to 71.87 in 1996 for men, and from 66.76 to 77.92 for women in the same period. The percentage of school-age children enrolled in elementary schools increased from 84 percent in the 1952–53 academic year to 99.91 percent in the 1995–96 academic year, and that in junior high schools increased from 34.85 percent to 99.75 percent in the same period. The adult literacy rate increased from 74 percent to 94 percent, the number of health personnel per 10,000 persons increased from 11.37 in 1961 to 57.53 in 1996, and the number of hospital beds per 10,000 persons increased from 3.70 in 1961 to 53.39 in 1996. According to the criteria of the United Nations Development Programme (UNDP), Taiwan’s social indicators have reached a stage of high human development similar to that found in developing economies. Other social indicators such as infant mortality and maternal mortality rates are summarized in Table 2 below. For the sake of brevity, other relevant social indicators are illustrated by a series of diagrams presented in the Appendix.

According to the Human Development Report by the UNDP, government expenditures on social security benefits accounted for 16.2 percent of the gross national product (GNP) in industrialized economies, but only 2.7 percent of the GNP in developing economies classified as those with high human development during the 1985–90 period. It was estimated that social security expenditures in Taiwan accounted for 5.87–6.81 percent of the GNP (21.2–24.6 percent of the total government budgets) in 1996. Therefore the share of social security expenditures in Taiwan, though far above that of developing economies classified as high human development, is still much lower than what is found in industrialized economies. An interesting question that arises is how the social security system in Taiwan—which is far less comprehensive and has a much smaller share in its total GNP than in industrial economies—contributes to social development to such an extent that it (according to comparisons of selected social indicators reported in Table 1) outperforms industrialized economies by UNDP criteria. Could one generalize the Taiwan experience so as to provide some transferable lessons for other developing economies? These topics are interesting not only for academic economists but also policymakers who are mapping out development plans and strategies for developing economies.

The purpose of this study is to analyze these three major categories of social expenditures—education, social welfare, and health care—in Taiwan, and to investigate how Taiwan’s social expenditure policies have contributed to its social development as reflected in its social indicators, which are better than other developing economies at similar levels of development. It is expected that through this study, one could derive significant lessons and experiences from Taiwan’s social expenditures and its resultant social development.

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2 The ratio was higher than in the Netherlands (4.5) and in Japan (4.6), but lower than in Brazil (32.1), Hong Kong (12.3), Singapore (9.6), the United States (9.1), and Korea (5.7).
3 CEPD (1996), Executive Yuan.
4 From Table 18 in Human Development Report 1994, United Nations Development Programme (UNDP 1994).
5 A broad definition of social security benefits in Taiwan includes social welfare, community development and environmental protection, as well as pension and survivors’ benefits. The figures depend on whether or not one includes community development and environmental protection in social security expenditures. The above three categories accounted for 14.4 percent, 3.4 percent, and 6.8 percent, respectively, in net expenditures of the government budget in 1996, whereas net expenditures of all levels of government accounted for 27.7 percent of the GNP in 1995. CEPD (1998), Ministry of Finance (1995).
6 The only exception is the adult literacy rate, which is 94 percent in Taiwan but 98.3 percent in industrialized economies. With no male-female distinction, one cannot argue whether life expectancy at birth in industrialized economies is longer or shorter than that in Taiwan.
Table 1. Selected Social Indicators

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<td>67.1</td>
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<td>Adult literacy rate (percent)</td>
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<td>Public expenditure on education as percent of the GNP [Figure for 1993–94]c</td>
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a. M stands for male, F stands for female, respectively.
b. The time period is 1990–95 for developing economies.
c. If private education expenditures are included.
d. If expenditures on community development and environmental protection are included.
HHD: High Human Development.
MHD: Medium Human Development.
LHD: Low Human Development.
ADCs: All Developing Countries (Economies).
IC: Industrial Countries (Economies).
Sources: Data for Taiwan, except for infant and maternal mortality rates, were derived from *Taiwan Statistical Data Book*, 1998 (CEPD 1998a).
Data for others: Except for education and social welfare expenditure, which were derived from *Human Development Report*, 1994, United Nations Development Programme (UNDP 1994); all other data were derived from *Human Development Report*, 1997. (UNDP 1997).

Table 2. Major Social Indicators in Taiwan, 1966–96

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**Note:**

A. Life expectancy at birth.
B. Infant mortality rate: death rate per 1000 live births.
C. Maternal mortality rate: death rate per 100,000 live births.
D. Illiterate rate of population aged 6 and over.
E. Female labor force participation rate.
F. Net enrollment rate for school-age children (6-14) in compulsory education.
H. Number of hospital beds per 10,000 persons.
I. Number of health personnel per 10,000 persons.
J. Percentage of population served by tap water.

**Sources:**
Social Indicators in Taiwan Area, DGBAS (1996a).

This paper is organized in the following order: The following section analyzes the development of policies for major social expenditures in Taiwan. Then a section is devoted to analyses and evaluations of Taiwan’s experiences in its development of social spending. The final section deals with lessons of the “Taiwan experience” that are transferable to other developing economies.
The Development of Social Spending Policies in Taiwan

Social expenditures and economic development have interacted with each other in many developing economies, including Taiwan. First of all, educational achievement and economic development have a reciprocal cause-and-effect relationship in the development process. The emphasis of education in Taiwan has provided the nation with the necessary labor force for its economic development, which has in turn enabled both the government and its people to be able to afford higher-quality education. Second, the pursuit of economic growth with equity in Taiwan, as epitomized in the preface of its Constitution, mandated the government to expand social welfare programs after more than three decades of development. As a result, social development and political stability were enhanced, which in turn helped economic development.

Taiwan’s economic development is well documented (Galenson 1979; Kuo, Ranis, and Fei 1981; Tsiang 1984), but the improvement of its social welfare with relatively low social spending is rarely known. It has been argued that Taiwan had been following a similar trajectory to that of Japan in its postwar economic development [“wild geese flying pattern” a la Akamatsu (1962), and Kojima (1989)]. Interestingly enough, social developments in the two economies exhibit many similarities: Both economies have relatively low shares of social welfare expenditures in their respective GNPs, yet both have achieved relatively high levels of social development. Moreover, the role of the family in both economies has been a very important function in education, health care, and social welfare.

But differing from Japan, Taiwan has had a heavy burden of national defense in its government budget. In the 1950s and 1960s, national defense usually accounted for more than 40 percent of the government budget. As a result, social expenditures accounted for less than 10 percent during this period. Moreover, the distribution of social welfare expenditures was concentrated in a small targeted segment of the population. Until the early 1990s, a great majority of senior citizens had to rely on private sources such as personal savings and family support for living allowances, health care, and extended personal care.

Relatively speaking, educational expenditures had larger shares than that of social expenditures even though the latter could have provided the authoritarian government with more effective control for sociopolitical stability, as occurred in Singapore. In the 1950s and 1960s when national defense dominated government budgets, educational expenditures still increased steadily, both in dollar amount and percentage share. This phenomenon could be explained by a multifaceted rationale. First, Taiwan’s initial equitable income distribution (owing to successful land reform in the 1950s) had reduced the demand for social welfare. Second, education was considered an investment that would complement economic development in Taiwan. The expansion of education (which would provide greater social equity and employment opportunities) could enhance the earned incomes for the working class and possibly reduce the demand for social welfare. Third, the prolonged period of authoritarian regime from 1947 to 1987 in Taiwan had repressed the demand for an institutionalized social welfare system. Finally, the traditional family system, before it was eroded by industrialization and urbanization, had played an important role in providing social welfare, which is generally run by the public sector in many industrialized economies.

Prior to the 1980s, social security programs for income maintenance in Taiwan covered only a small segment of the targeted population. Government provisions of pensions and survivors’ benefits were limited only to retired government employees, military personnel, private school teachers, and a small...
segment of insured labor. But, after more than three decades of economic development, Taiwan was able to expand those programs to cover more and more disadvantaged groups. Examples of such coverage are the provision of a monthly living allowance for aged farmers and low-income senior citizens. Moreover, as democratization gained momentum after the lifting of Martial Law in 1987, many social welfare programs were speeded up by partisan competition for voter support during the periodic elections. As a result, piecemeal social welfare programs, funded or unfunded, have proliferated rapidly since the late 1980s. A major task under way is to integrate all existing programs into a universal National Annuity System by the year 2000.

Health insurance initially covered government employees, military personnel, school teachers, and a small segment of insured laborers only, but the coverage gradually expanded to more and more groups such as farmers and fishermen. Moreover, the coverage also extended to the spouses and children of the insured in each scheme. In general, the government subsidized insurance premiums for various insured groups and compensated for the operating deficits of various insurance programs through general tax revenues. Eventually the comprehensive NHI, which integrated all existing health insurance programs into a universal one, was implemented in March 1995.

From the overview of developing social expenditure policy in Taiwan, one could argue that education was considered an ingredient for economic development, whereas social welfare was more or less a residual, or by-product of modernization. The expansion of social expenditures in Taiwan was a direct result of economic development, social transformation, and democratization. Taiwan’s social development in the postwar era went through an evolutionary process, under which the family played an important, but declining role in providing social welfare for its immediate and extended members. In this role, the family shares expenditures for informal and auxiliary education, provides for health care expenses and care-giving for family members, and supports the living allowances for elderly parents. Family expenditures on education, health care, care-giving, and old-age income maintenance probably are more cost-effective than public spending, but are hard to quantify for policy assessments.

**Education as an Investment in Human Capital**

In development literature, it is said that capital can be borrowed, technology can be transferred from abroad, but human capital has to be nurtured indigenously within a developing country. Taiwan, as one of the late industrializing economies, is no exception. Hence, the government placed a great emphasis on education, starting with the pyramid structure of the school system.

**A Profile of the Education System in Taiwan.** A bird’s eye view of the educational system in Taiwan is illustrated in figure 1. The length of education varies from person to person. Normally it takes 16 to 18 years for a child to move from kindergarten to the completion of a college education. The preschool education usually starts with nursery school or kindergarten at age 4 or 5, depending on the individual. A formal education system of 6-3-3 (six years of elementary education, three years of junior and senior high school, respectively), was in effect until 1969, when the nine-year “fundamental compulsory education” system was implemented. After that level, there are two types of three-year secondary education—senior high schools and senior vocational schools. Both require students to pass an...
entrance exam. The pass rate for senior high school students was about 24–27 percent in recent years. Those who fail the entrance exams for senior high school usually go to vocational schools.

For school-age children, nearly 100 percent enroll in elementary schools, and nearly 99.8 percent enroll in junior high schools. Moreover, there is no gender gap on educational opportunity. At the “fundamental compulsory education” level, there is no significant difference in enrollment rates between male and female students. For secondary and higher education, female students seem to do better in moving up the educational ladder. In the 1996–97 school year, 92.9 percent of female and 88.6 percent of male graduates from junior high school went to vocational and senior high schools. Moreover, 62.7 percent of female and 55.3 percent of male graduates from high schools went to college in the same school year.

Figure 1. The School System in Taiwan

In past years, the ratio of student enrollment at senior high and vocational schools was three to seven. But, this ratio has been undergoing periodic adjustments—depending on the employment structures projected by the government at various stages of economic development to be addressed below. The crossing arrows atop the secondary education level in figure 1 indicate that after completing their secondary education, students could move in either direction for higher education—they may choose either a junior college or a four-year senior college. The pass rate for four-year colleges fluctuates between 30 and 60 percent during different time periods of development in higher education. There are two types of junior colleges; in addition to the two-year and three-year junior colleges admitting senior high (vocational) school graduates, there is a five-year junior college that admits junior high school graduates.

The share of private (versus public) schools in total educational institutions increases with education level. Before compulsory education was extended to junior high school level in 1969, private schools accounted for 18 percent of junior high schools in 1965, but the number has dropped to less than 5 percent since then. In recent years, private schools have accounted for less than 2 percent of the compulsory stage of primary education. For senior high and vocational schools, private schools have accounted for 25 and 60 percent, respectively, since the mid-1980s. Since 1970, private junior colleges have accounted for more than 70 percent and private senior colleges and universities for 50 percent of total college enrollment. The proportional increases of private schools in accordance with the level of education is attributable to the disproportionate share of higher education in total educational budgets compared with the shares of primary and secondary education. This pattern is consistent with the standard pyramid of educational investment in general textbooks of educational economics.

In 1996, the numbers of students per 1,000 people at all levels of schools were distributed in the following manner: 11 in kindergarten, 91 in elementary, 53.2 in junior high, 46.2 in senior high and vocation schools, 25.7 in college (29.4, if one counts the number of those in the last two years of their five-year junior college careers), and 2.1 in graduate school. Hence, nearly one-quarter of the total population was enrolled at all levels of schools. Postgraduate education was initiated in the early 1960s, but did not mature until the 1980s.

**Social Attitudes Toward, and Government Support of, Education.** Taiwan’s emphasis on education was partly attributable to its long-standing indigenous tradition of respecting learning and scholarship in Confucian society, partly to the societal motivation of catching up with Western science and technology, and partly to the colonial legacy and government drive for the task of “national reconstruction” after 1949. The government’s dedication to education is evidenced by the increasing percentage shares of educational budgets at all levels of governments in the past three decades.

During the period that national security was the top priority and national defense accounted for the lion’s share in the government’s budget, there was a legal protection of the minimum share of educational.

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10 In traditional Chinese society, the learned scholar has the highest social status, followed by farmer, craftsman, and merchant. The indigenous philosophy of considering education as a long-term investment in human capital could be traced to an old Chinese saying: “While it takes ten years to grow the trees, it would take 100 years to nurture the educated men.”

11 “Democracy and science” was the slogan for the “May 4 Movement” for Westernization initiated by liberal intellectuals in the early 1920s during the period of Republican Chinese rule in the mainland. The Nationalist government emphasized “science and technology” but not so much “democracy” in education after it relocated to Taiwan in 1949.

12 Free public schools were established during 1930–31 with nearly one-third of school-age children enrolled. This figure reached 71 percent during the 1943–44 period. However, there was a two-tier school system that split Japanese and Taiwanese children during the colonial period. Moreover, there was some discriminatory treatment against Taiwanese in middle and higher education. After 1949, the Nationalist government declared that the fall of mainland China to Communists had been caused by the failure of education. Hence, education was emphasized as part of the task of “national reconstruction” at that time.

13 The share of educational expenditures in the total government budget started climbing from 14.1 percent in the 1960s, reached 16.5 percent in the 1970s, 18.5 percent in the 1980s, and 19.5 percent during the 1990–97 period. By contrast, the share of national defense declined from 43 percent in the 1960s to 29 percent in the 1970s, 23.6 percent in the 1980s, and to 14.9 percent during the 1990–97 period.
expenditures at all levels of government prior to the constitutional amendment of July 1997. While the constitutional protection of education expenditure in the central government budget was eroded during the period of authoritarian regime (when Martial Law was in effect), educational expenditures in governments’ budgets at the provincial and local levels generally exceeded by far the minimum percentage shares required by the Constitution. One could probably argue that the constitutional protection on education, though not being fully implemented by the central government, at least provided a legitimate basis for government support on education at a time when national security dominated national priorities and national defense gobbled up the central government’s budget. When the government extended tuition-free, compulsory education—which it had provided at the primary level since the end of World War II—to the level of junior high school in 1969, the GNP per capita was about $345.00 based on that year’s exchange rate. After the first nine years of tuition-free, fundamental compulsory education, the government has tended to provide more support for vocational schools than senior high schools at the level of secondary education since the economy took off in the mid-1960s. For higher education, the government tried to connect the educational outputs with the changing employment structures in a dynamic economy so as to minimize educated unemployment. As a result there are more rigid controls on the growth of student enrollment in public universities than in private ones.

In general, the responsibilities of educational finance at all levels of government are distributed in the following way (with some exceptions): the central government is mainly responsible for higher education, the provincial government is responsible for senior high school and vocational education, and local governments are responsible for fundamental compulsory education (elementary and junior high). But, Taiwan’s is a “fiscal centralist” economy in that the central government has also provided grants-in-aid to support primary and secondary education to minimize regional disparities. In the period of 1986–95, the composition of total educational expenditure at all levels of government was as follows: 26 percent from the central government, 36.88 percent from the provincial and municipal governments, 36.26 percent from the county and city governments, and less than 1 percent from the township government. Hence, by the final account of net expenditures at all levels of government structures—which include intergovernmental transfers—the provincial and local governments are responsible for the largest shares of total educational expenditures.

During the 1991–95 period, educational expenditures in the public sector accounted for 5.85 percent of total GNP whereas those from the private sector accounted for 1.23 percent. Therefore, the private sector accounted for less than 20 percent of total education expenditures—a ratio much lower than that in the Republic of Korea. However, these statistics only represent the percentage distribution of educational expenditures between public and private institutions. This angle underestimates, for instance, the role of families in sharing educational spending—both in-school and out-of-school expenses. In addition to tuition

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14 The latest constitutional amendments in July 1997 added an article on the “priority funding” for education, science, and culture (ESC) but abolished the legal protection of the minimum percentage shares of ESC at all levels of government budgets—for example, 15 percent at the central level, 25 percent at the provincial level, and 35 percent at city and county levels, as stipulated by Article 164 of the Constitution. The rationale for lifting the legal protection on educational expenditures was arguably to reduce the policy distortions on resource allocation and to provide more flexibility in government budgeting. The constitutional amendment was passed despite strong protests from educators and intellectuals. The government promised, in response, that the funding of education, science, and culture would not be undercut. To back this promise, the educational budget in the following fiscal year was set at 16.2 percent of the central government’s budget.

15 Article 163 of the constitution also emphasized the balanced development of education in all regions and the provision of subsidies from the central government.


17 The final accounts of government expenditures include the regular operating budgets as well as special budgets approved by the legislative bodies at all levels of government. Critics have argued that the disproportional share of educational expenditures at the local levels tended to aggravate the disparities of public schools between urban and rural areas and between the rich and poor counties—for example, school facilities in remote mountainous areas are far below the standards of their counterparts in the metropolitan areas.

18 The target set in the Educational White Paper (the blue plan for educational reform) was to raise the educational expenditures to 7 percent of the total GNP each year.
fees, textbooks, and stationary supplies, the people of Taiwan also provide their children with the necessary expenses for tutoring, for attending cramming sessions, and for private schooling for extracurricular activities such as piano lessons, dance, and other artistic pursuits. From kindergarten to college, and even into postgraduate education, the role of family support, though hard to quantify, accounts for a great deal of educational spending.\textsuperscript{19}

**THE DISTRIBUTION OF EDUCATIONAL BUDGETS AT ALL LEVELS OF EDUCATION.** In actual budgetary allocation at all levels of education, the government distributed more than 60 percent of its total educational budget for primary and secondary education and less than 20 percent for higher education in the 1950s and 1960s. However, the shares of higher education in the total budget have been increasing since the 1970s to nurture better-quality human resources and thus to develop knowledge- and technology-intensive industries. The share of higher education fluctuated between 21 and 25 percent in the 1980s and 1990s, but the share of compulsory primary and junior high education was over 40 percent, as shown in table 3 below.\textsuperscript{20}

<table>
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<tr>
<th>Fiscal year</th>
<th>Grand total</th>
<th>Education administration</th>
<th>Kindergarten</th>
<th>Primary school</th>
<th>Junior high school</th>
<th>Senior high school</th>
<th>Senior vocational school</th>
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*Source: Ministry of Education (1997b).*

\textsuperscript{19} Available statistics that are most relevant to educational expenditures shared by households are from “Structure of Household Consumption Expenditure” in DGBAS (1995). The statistics indicate that the share of “recreation, entertainment, education and cultural services” in disposable income increased from 1.62 percent in 1966 to 13.12 percent in 1995. But, there are no further disaggregate data that one can use to single out “educational expenditure.”

\textsuperscript{20} The distribution of total educational expenditures includes both private and public schools. As noted in the text, there are more private colleges and universities than public ones. Hence, this figure could overestimate the government’s support in higher education.
In terms of educational expenditure per student at all levels, there has been a trend of putting more emphasis on elementary and junior high school students relative to college students since the mid-1970s. The ratio of per student educational expenditure in four-year colleges was 8.4 and 5.4 times greater than those in elementary and junior high schools, respectively, in 1976, but these ratios dropped to 3.2 and 2.6, respectively, in 1995. In terms of current expenditure per student, the ratio for four-year colleges was 5.4 and 3.4 times greater than for elementary and junior high school students, respectively, in 1976, but dropped to 2.5 and 2.0, respectively, in 1995. It is apparent, therefore, that more resources have been allocated to elementary and junior high schools over time.

This trend indicates that the interlevel distribution of educational resources favored “fundamental compulsory education” to consolidate the foundation of the educational pyramid. As social rates of return are much higher for elementary and secondary education than for higher education, the interlevel budgetary allocation of educational expenditures as indicated above has become more and more closely correlated with the social rates of returns at all levels of education.

**Labor Force Planning Programs for Secondary and Higher Education.** A series of labor force planning programs were implemented by distributing the enrollment ratios between senior and vocational high schools in secondary education, by monitoring the number of college enrollment, and by controlling the quota of each discipline in higher education through its budgetary allocation for public colleges and universities. Though the labor force planning program could not fully project the market demand for educated labor at each specific industry level in advance, as a subset of the “indicative planning” in the overall economic development plan, it did provide the public with the general trend of employment structure so as to guide parents and students in determining educational plans.

For secondary education, the government has put greater emphasis on vocational than high school education since the economy took off in the mid-1960s. The enrollment distribution between senior high and vocational schools is adjusted periodically in accordance with the employment structure projected by a series of labor force development plans. During 1965–66, as Taiwan shifted from its “inward-looking,” import substitution plan to an “outward looking,” export-promotion development strategy, the ratio of enrollment in vocational schools relative to senior high schools was about one to one (50.3 percent versus 49.7 percent). Since then, the government has reversed the trend through its manpower development plan by targeting 60 percent vocational and 40 percent senior high enrollment. Since the 1980s, the ratio of vocational school to senior high school enrollment was nearly two to one until it stabilized at seven to three in the 1990s.

Meanwhile, there was a compositional shift among various categories of vocational schools. Owing to the transformation of the economic structure, enrollment in agricultural vocational schools dropped from 35 percent of total vocational schools during 1950–51 to 4 percent during 1986–87—whereas that in industrial vocational schools increased from 26 percent to 49 percent in the same period. After the mid-1980s, there was a slight decline in the share of industrial vocational schools and a modest increase in the share of commercial vocational schools. For the 1996–97 school year, students enrolled in commerce and industrial vocational schools accounted for 80.6 percent of total vocational school students. On the recommendation of the Council on Education Reform—which is a cabinet-level institutional setup—the government decided to promote “comprehensive high school” education by expanding the ratio of high school enrollment to that of vocational schools so that the ratio would be one to one in the near future. The changing ratio of high schools versus vocational schools and the compositional shift in vocational schools

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21 These ratios are grand totals for all schools at all levels without any separation between the private and public ones.
22 Starting with 1953, Taiwan engaged in a series of “four-year economic development plans.” Most of those plans are fairly loose examples of “indicative planning” rather than mandatory command-based economic planning.
23 The ratio was maintained about 66–68 percent and 34–32 percent from the 1980–81 academic year until the 1990s. Meanwhile, it is noted that schools that educate primary school teachers were upgraded to college level in the early 1970s.
in different disciplines indicated the changing demand for technical and college-level education as the economic structure underwent rapid transformation starting in the 1980s.

The development of higher education in the postwar era can be divided into four periods (Chen Shu-Feng 1991). The period from the end of World War II to the Kuomintang (KMT)–led Nationalist government’s relocation to Taiwan in 1949 was a period of stagnation. Economic rehabilitation and the reconstruction of infrastructure was the nation’s top priority, and the government converted only three higher education institutions left from the time when Taiwan was a Japanese colony (1895–1945) into colleges and universities, with no new universities founded. Private universities were not allowed at that time. From 1950 to 1972, except for the first three years, higher education was undergoing significant growth because Taiwan started its first four-year economic development plan in 1953. Between 1954 and 1962, there was a parallel growth between the expansion of four-year colleges and universities and two-year junior colleges. From 1963 to 1972, there was a rapid expansion of (mostly privately funded) junior colleges after the government accepted a policy report from educational advisors at Stanford University.

It was pointed out in the Stanford Report that the ratio of technicians to engineers in Taiwan was only 0.4 to 1 at that time but was about one to one or even as high as two-and-a-half to one in other industrialized economies. Hence, through government deliberation, there was a rapid expansion of junior colleges, with the greatest increases in five-year, private junior colleges, which admitted graduates of junior high schools. However, this overexpansion resulted in a subsequent period of “restrictive growth” policy in all higher education during 1973–85, until liberalization in 1986. As the demand for college education increased, the government deliberately expanded higher education by pushing college enrollment from 20 to 30 college students per 1,000 in total population between the late 1980s and the mid-1990s. Another major policy change in the 1990s was the freeze in the expansion of five-year junior colleges; at the same time four-year technological colleges were expanded to meet the increasing demand for high-quality technicians and engineers needed for the economic transformation.

The changing ratios of student enrollment in senior vocational schools and academic high schools and the expansion of higher education described above illustrates that education has been based on “social demand” projected by the government rather than “private demand” as expressed by individuals in Taiwan. The government maintains a state-planning apparatus along with a market system with open competition for college admissions and with private financing for university education. Under such circumstances, the government manipulates the supply of college graduates by controlling the growth of overall college enrollment and monitoring the quota distribution of enrollment in each academic department. This process, which is more rigid in public universities than in private ones, is controlled through the nationwide joint entrance examination.

For private colleges and universities, the government used to set up the minimum standards for facilities to be compatible with their programs, regulated tuition and other fees charged to students, and supervised the core curricula so as to fulfill nationwide standards. In some cases, the government provided private colleges and universities with grants tied to specific policy objectives such as raising the quality of their teaching faculties, promoting computer-aided methods of teaching, and so on. Owing to the limited growth and more

24 The overexpansion of the five-year junior colleges resulted in inadequate facilities, substandard faculty, overpriced tuition, and a lack of flexibility in allowing students to change majors after registering for specific categories.
25 In spite of governmental control on overall college enrollment, the net percentage of senior high school graduates entering college still increased from 38.3 percent in 1965 to 56.6 percent in 1995.
26 Political considerations made it very hard for the Ministry of Education to abolish any academic department. Hence, the rigid quota in each academic department, as pointed out by Galenson (1979), “tended to steer students into disciplines for which there was little demand.” (p. 397). Therefore, a remedial policy of dual majors was developed in the 1980s.
rigid quota of enrollment in public universities, there is a strong demand for private college education, and consequently a strong incentive for the private universities and colleges to expand their enrollment.

In general, private colleges and universities are either affiliated with religious institutions or associated with the social elite, opinion leaders, and retired politicians who have substantial influence on public policies. Therefore the growth of private colleges and universities was not constrained even under the authoritarian period. This is why the Ministry of Education has a more liberal policy on enrollment expansion in private institutions than in public ones, and as a result there are more students in private colleges than in public ones. Competition for admissions to prestigious universities is fierce for students, especially in prominent fields at prestigious institutions. Meanwhile, college and university administrators are also competing with each other to attract the most brilliant students. With few exceptions, parents and students are implicitly and explicitly guided by the ranking of each university when they fill out college admission forms. Prestigious national universities usually get the highest priority in obtaining funding from the government, whereas mediocre ones get the lowest. A similar situation occurs with regard to fund-raising for private colleges and universities.

Since the mid-1970s, the percentage of college students majoring in engineering has been the highest with more than 30 percent, and those majoring in commerce and business administration have ranked the second-highest with more than 20 percent of total college students. Meanwhile, the percentage of humanities majors dropped from 10 percent in 1975 to 6 percent in 1995. For natural sciences and fine arts, the share dropped from 4.8 percent to 2.8 percent, and from 3.5 percent to 1.7 percent, respectively, in the same period. Therefore, the changing supplies of college graduates in each discipline was, though not totally successful, intended to better match the employment structure in a dynamic economy as projected by the labor force plan. To some extent, engineering and business majors are much easier to place in the labor market than those majoring in the humanities and the arts. So, the overall labor force plan, though not without caveats, was generally justifiable during the early period of economic development.

Certainly there is a legacy when a government plans the allocation of human resources. The changing employment structure in a rapidly growing economy such as Taiwan usually results in inaccurate projections of the labor force demand. The overexpansion of five-year junior colleges in the 1963–72 period was an obvious drawback of the manpower plan. The other one was government manipulation of the enrollment ratio between vocational schools and high schools at seven to three in the 1980s. The initial policy objective in limiting the growth of high school enrollment was to increase the supply of quality labor through vocational education and to slow down the competition created by college entrance examinations. However, as a result of social progress, the demand for college education increased, and now more and more parents want their children to go through the regular track of college education by competing in the entrance examination for high school admissions. Consequently, there have been many cases in which vocational schools had a hard time recruiting students.

We have to conclude, then, that the policy of tying student enrollment at the secondary and higher levels of education with the projected labor force demand, which was justifiable in the earlier stages of economic development, may not be feasible as the economic structure becomes more complex. Therefore, a sound educational policy in the initial period of economic development may eventually become detrimental in later periods (of higher complexity). Following this realization, education policy after the

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27 One could argue that income elasticity of demand for higher education is rather high whereas price elasticity of demand is low. However, to the best of my knowledge, so far there are no rigorous quantitative studies on this subject in Taiwan.
28 Prestigious universities have historically had more alumni in the legislative and executive branches in the government, so their budget requests win approval more easily. Moreover, the quality of their programs makes funding more justifiable.
29 Starting with the mid-1990s, the policy of “university autonomy” enabled public universities to have more policy discretion in personnel and financial decisions, including fund-raising from the private sector for up to 30 percent of total operating budgets. In this way, market competition among colleges and universities is further enhanced.
mid-1980s was substantially liberalized with much less government regulation and more administrative autonomy and individual initiative. We also have to concede that the labor force program as a subset of “indicative economic planning,” though not perfect in projecting the market demand, was modestly successful by providing the public with a general tendency of labor employment structure in the earlier period of economic development.

Even though the importance of equal opportunity in education is widely recognized, there is some controversy surrounding the social equity of sharing the costs and resources of education. Students enrolled in public institutions have more resources, but share less of the cost for their education than those in private ones. The ratios of current expenditure per student between public and private schools at all levels in 1995 were as follows: 1.98 in four-year colleges, 1.8 in junior colleges, 1.75 in senior high schools and 1.8 in vocational schools. Moreover, educational costs for private colleges are much higher, whereas their quality is much lower than the public ones. Hence, there is an inherent government subsidy granted for those elites who were admitted to public universities, especially the prestigious ones. However, admissions criteria are based on open competition through a joint entrance examination for all schools. Competition offers a strong incentive for students to work hard and do well in their studies (or at least, do well in their entrance exams) so that they could be admitted to public institutions.

Another drawback is the sharing of educational resources at junior high schools. Owing to fierce competition for passing the entrance exam for senior high schools, there is a dichotomy of the “talented class” versus the “cowboy class” in many junior high schools, which are supposed to be part of the “fundamental compulsory education.” Students in the talented class are the superstars who are allocated more resources for their academic work in preparing for entrance exams whereas those in the cowboy class are usually left unattended. In response to strong criticism from many educators, the government has provided more vocational and technical curricula for those who are not heading for senior high schools. Meanwhile, there is a long-range plan to abolish the entrance exam for vocational schools by extending compulsory education from 9 to 12 years by 2001.

In general, education has been considered an investment rather than a consumption item in Taiwan. Therefore, as is the case with its export-oriented strategy, the government of Taiwan has been playing an instrumental and strategic role in investment in education and labor force planning. With its budgetary allocations on education expenditures, the central government has assumed an instrumental role in implementing a series of manpower planning programs, and managed to manipulate the outputs of education to match the employment structure in the labor market. Hence, the supply of human capital is said to better match the market demand, even though educated unemployment is not completely eradicated. Critics of the labor force planning program usually cite the imperfect projections of labor market demand in a dynamic, rapid-growth economy and the myopic, employment-oriented goals with less emphasis on individual differences, from a philosophical standpoint, among the ultimate objectives of education. Others argue that such planning may destroy the integrity of education by putting more emphasis on applied fields and ignoring subjects in the humanities and pure sciences. However, by controlling educational output in accordance with the projected trends in the labor market, indicative planning in education appears to minimize educated unemployment, which is fairly prevalent in many developing economies. Owing to this success, unemployment compensation was not an urgent policy issue until the late 1990s.

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30 Woo (1991) estimated that students at a private university paid as much as 50 percent of total educational expenses whereas those at a public university paid only 7 percent of their total costs. The quality of education is proxied by the relative student-teacher ratios in private (22.2 to 1) and public universities (10.5 to 1).
31 Though admitting the possibility of alleged underestimations, the unemployment rate never exceeded 2 percent in the last three decades until it reached 2.6 percent in 1996. In the 1994 Survey of Living Conditions conducted by the Ministry of the Interior (1994), health insurance was ranked as the first priority of social welfare policy with 34.8 percent, and job training and employment services scored less than 6 percent; unemployment compensation was not listed in the survey questionnaire. However, the government announced that “unemployment insurance” for full-time workers would be implemented by the end of 1998 (and it was).
Though education was based on social demand projected by the government, the educational system in Taiwan could be considered a mixed system that combines state planning and market competition.32 While educational outputs are manipulated by government labor force planning, rather than being determined by laissez-faire policy, educational opportunities are open and subject to bitter competition. Advancement to higher levels of education in Taiwan, which is viewed as commensurate to climbing the “ladder of social status,” depends solely on the test scores of entrance examinations.33 Hence, educational opportunities are open to the entire school-age population.34

EducatIonal Attainment in Taiwan. Examples of significant achievements in educational attainment are shown in table 4. The illiteracy rates in the population aged 15 and over dropped from 14.96 percent in 1976 to 5.68 percent in 1996. The percentage of the population aged 15 and over who completed senior and vocational schools increased from 18.93 percent in 1976 to 35.53 percent in 1996, while that ratio increased from 3.52 percent to 10.95 percent in the same period for those completing junior college. The ratio of college graduates in the population aged 15 and over increased from 3.87 percent to 8.37 percent in the same period. Hence, educational attainment increased substantially in the last two decades. In a word, the percentage of people who completed postsecondary education accounted for more than 19.32 percent of the population in 1996.35 By UNDP criteria, Taiwan’s educational attainment is comparable to that in the high human development economies.36

In an international comparison of educational attainment in the total population aged 25 and over, Taiwan has reached a level comparable to that of Japan and the United States at the level of secondary education but is still far behind both economies at the tertiary level of education. The distribution of the adult population aged 25 and over with secondary education in Taiwan in the mid-1990s was 44.5 percent, similar to the 44.5 percent figure in Japan and 44.4 percent in the United States. However, those with college education added up to only 14.3 percent in Taiwan whereas the equivalent ratio was 21.2 percent in Japan and 45.2 percent in the United States.

The improvement of educational attainment in the labor force is evidenced by the relative shifts of educated labor in the last three decades. Among the employed, those with primary education or less dropped from 77.1 percent in 1966 to 26.1 percent in 1995, those with junior high school education increased from 10.2 percent to 21.1 percent, those with vocational and senior high school education from 8.8 percent to 33.2 percent, and those with college education and higher from 3.91 percent to 20.6 percent in the same period. Hence, education attainment in Taiwan has substantially upgraded the quality of human capital, which is considered the main resource for Taiwan’s economic development.

On international cultural exchange, it is hard to argue whether education is an export or import industry in Taiwan. Taiwan accommodates more than 5,000 foreign scholars and students for advanced studies, most of them in the humanities, each year. Moreover, nearly 10,000 overseas Chinese students come to Taiwan for all

32 It is noted that educational policy has become more and more liberal in the 1990s. For example, textbooks for elementary schools, which used to be unified all over Taiwan, have been gradually privatized; textbooks for junior and high schools are to be privatized by the year 2000. The momentum of democratization has spread to all universities and colleges, with the result that most administrators are selected through direct elections with faculty-student participation.
33 Since the 1990s, a small quota for senior high schools as well as colleges and universities has been set up to recruit some gifted and talented students who were eligible for exemptions from entrance exams. Meanwhile, a major reform that will replace the entrance exams by other evaluation instruments is under way.
34 Woo (1991) argued that there was a transfer of benefits from taxpayers to the educated elites who were admitted to public universities. Since admission to all universities is entirely based on nationwide joint entrance examination scores, it is possible for children of higher-income families to repeat the entrance exam year after year. Moreover, richer parents could afford to send their children to after-school programs, and they can also hire private tutors. The effect of income distribution on educational opportunities needs further study.
36 According to Human Development Report 1997 (United Nations 1997), the gross enrollment ratio for all levels was 68 percent in 1994 for high human development in developing economies. But the overall enrollment rate for people aged 6 to 21 was 85 percent in Taiwan in 1992.
levels of education each year. However, Taiwan has sent several thousand students annually to study abroad, most of them in the United States, Japan, and Europe. On the positive side, since the early 1980s, a “reversed brain drain” with returning professionals and technicians has filled the labor force gap in high-technology industries. The stock of human capital from returning scholars and professionals has been instrumental for structural transformation in Taiwan since then. In addition, many overseas Chinese students, on completing their college education and returning to their home countries, have become managerial officers and liaison personnel for Taiwan’s multinational corporations in Southeast Asian economies. Such unplanned dividends from investment in education exemplify the education industry’s being highly internationalized in Taiwan.

Table 4. Educational Attainment of Population (Age 15 and Over)

<table>
<thead>
<tr>
<th>School year</th>
<th>Total</th>
<th>Illiterate</th>
<th>Total</th>
<th>Self-tutored</th>
<th>Primary</th>
<th>Jr. high</th>
<th>Sr. high</th>
<th>Vocational</th>
<th>Jr. college</th>
<th>College and univ.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1976</td>
<td>100.00</td>
<td>14.96</td>
<td>85.03</td>
<td>3.70</td>
<td>40.05</td>
<td>14.96</td>
<td>7.88</td>
<td>11.05</td>
<td>3.52</td>
<td>3.87</td>
</tr>
<tr>
<td>1977</td>
<td>100.00</td>
<td>14.21</td>
<td>85.79</td>
<td>3.57</td>
<td>39.12</td>
<td>15.50</td>
<td>7.94</td>
<td>11.81</td>
<td>3.78</td>
<td>4.07</td>
</tr>
<tr>
<td>1978</td>
<td>100.00</td>
<td>13.49</td>
<td>86.51</td>
<td>3.48</td>
<td>37.73</td>
<td>16.12</td>
<td>8.10</td>
<td>12.63</td>
<td>3.96</td>
<td>4.49</td>
</tr>
<tr>
<td>1979</td>
<td>100.00</td>
<td>12.84</td>
<td>87.16</td>
<td>3.51</td>
<td>36.68</td>
<td>16.64</td>
<td>8.09</td>
<td>13.48</td>
<td>4.20</td>
<td>4.56</td>
</tr>
<tr>
<td>1980</td>
<td>100.00</td>
<td>12.26</td>
<td>87.73</td>
<td>3.16</td>
<td>35.98</td>
<td>17.08</td>
<td>8.57</td>
<td>13.88</td>
<td>4.45</td>
<td>4.61</td>
</tr>
<tr>
<td>1981</td>
<td>100.00</td>
<td>11.62</td>
<td>88.37</td>
<td>3.10</td>
<td>34.84</td>
<td>17.45</td>
<td>8.35</td>
<td>15.09</td>
<td>4.71</td>
<td>4.83</td>
</tr>
<tr>
<td>1982</td>
<td>100.00</td>
<td>11.07</td>
<td>88.92</td>
<td>2.98</td>
<td>33.92</td>
<td>17.51</td>
<td>8.42</td>
<td>16.02</td>
<td>5.01</td>
<td>5.06</td>
</tr>
<tr>
<td>1983</td>
<td>100.00</td>
<td>10.58</td>
<td>89.42</td>
<td>2.91</td>
<td>32.95</td>
<td>17.69</td>
<td>8.45</td>
<td>16.93</td>
<td>5.34</td>
<td>5.15</td>
</tr>
<tr>
<td>1984</td>
<td>100.00</td>
<td>10.09</td>
<td>89.89</td>
<td>2.71</td>
<td>32.14</td>
<td>17.84</td>
<td>8.47</td>
<td>17.82</td>
<td>5.58</td>
<td>5.33</td>
</tr>
<tr>
<td>1985</td>
<td>100.00</td>
<td>9.62</td>
<td>90.38</td>
<td>2.47</td>
<td>31.25</td>
<td>17.86</td>
<td>8.83</td>
<td>18.72</td>
<td>5.86</td>
<td>5.39</td>
</tr>
<tr>
<td>1986</td>
<td>100.00</td>
<td>9.18</td>
<td>90.82</td>
<td>2.36</td>
<td>30.32</td>
<td>17.98</td>
<td>9.08</td>
<td>19.39</td>
<td>6.15</td>
<td>5.54</td>
</tr>
<tr>
<td>1987</td>
<td>100.00</td>
<td>8.76</td>
<td>91.25</td>
<td>2.06</td>
<td>29.59</td>
<td>18.00</td>
<td>9.24</td>
<td>20.19</td>
<td>6.43</td>
<td>5.74</td>
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<tr>
<td>1988</td>
<td>100.00</td>
<td>8.34</td>
<td>91.66</td>
<td>1.69</td>
<td>29.09</td>
<td>18.12</td>
<td>9.27</td>
<td>20.89</td>
<td>6.68</td>
<td>5.92</td>
</tr>
<tr>
<td>1989</td>
<td>100.00</td>
<td>7.98</td>
<td>92.01</td>
<td>1.56</td>
<td>28.48</td>
<td>18.06</td>
<td>9.52</td>
<td>21.31</td>
<td>7.01</td>
<td>6.07</td>
</tr>
<tr>
<td>1990</td>
<td>100.00</td>
<td>7.59</td>
<td>92.42</td>
<td>1.51</td>
<td>27.48</td>
<td>18.30</td>
<td>9.77</td>
<td>21.95</td>
<td>7.33</td>
<td>6.08</td>
</tr>
<tr>
<td>1991</td>
<td>100.00</td>
<td>7.15</td>
<td>92.85</td>
<td>1.41</td>
<td>26.56</td>
<td>18.38</td>
<td>9.61</td>
<td>22.77</td>
<td>7.77</td>
<td>6.36</td>
</tr>
<tr>
<td>1992</td>
<td>100.00</td>
<td>6.84</td>
<td>93.17</td>
<td>1.33</td>
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<td>23.29</td>
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<td>6.79</td>
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<tr>
<td>1993</td>
<td>100.00</td>
<td>6.59</td>
<td>93.41</td>
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<td>18.21</td>
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<td>1994</td>
<td>100.00</td>
<td>5.99</td>
<td>94.00</td>
<td>0.95</td>
<td>22.85</td>
<td>17.49</td>
<td>9.78</td>
<td>25.04</td>
<td>10.08</td>
<td>7.81</td>
</tr>
<tr>
<td>1995</td>
<td>100.00</td>
<td>5.68</td>
<td>94.33</td>
<td>0.82</td>
<td>21.52</td>
<td>17.14</td>
<td>9.65</td>
<td>25.88</td>
<td>10.95</td>
<td>8.37</td>
</tr>
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</table>


The Contribution of Education to Socioeconomic Developments. The contribution of education to economic development is manifold. At the macroeconomic level, educational attainment and the resultant accumulation of human capital significantly contributed to the growth of the economy in past decades. The improvement in the quality of the labor force and the accumulation of the stock of human capital have enabled Taiwan to transform itself from an developing economy of predominantly labor-intensive industries in the 1960s to a newly industrializing economy with modest human capital and technology-intensive industries in the 1990s.

In the growth accounting framework, it was estimated that the contribution of education, on national income, the so-called residual factor of growth (Denison 1962) accounted for 45–55 percent of the growth rates of the gross domestic product (GDP) in accordance with different weights on human capital under various
The following table summarizes the major empirical results of the contribution of education to economic growth in Taiwan in the past decades:

<table>
<thead>
<tr>
<th>Author(s)</th>
<th>Period</th>
<th>Percent of education contribution or gross residual factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Samuel Ho (1978)</td>
<td>1953–72</td>
<td>55 percent</td>
</tr>
<tr>
<td>Hou and Hsu (1972)</td>
<td>1953–70</td>
<td>47 percent</td>
</tr>
<tr>
<td>Wang and Tallman (1994)</td>
<td>1965–89</td>
<td>45 percent</td>
</tr>
</tbody>
</table>

Sources: Studies listed in the table.

At the microeconomic level, educational attainment is also reflected in the earnings of salaried employees: An earlier study by Jiang (1988) argued that the effect of education expansion on income distribution depended on the relative impacts of the “composition effect” and the “compression effect,” though “it is not possible to determine, a priori, the net effect on inequality of educational expansion” (p. 190). Jiang argued that “the change in the educational composition will eventually lower the inequality of pay if education keeps expanding” (Jiang 1988, p. 197). By decomposing earnings through educational attainment and scale of enterprises, Liu, Sakamoto, and Yang (1996) found that the marginal effect of educational attainment on earnings increased along with the increase in the scale of business enterprises (p. 168). Other studies such as Zveglich, Rodgers, and Rodgers III (1996) indicated that education had contributed to the narrowing of the “gender gap” of wage differentials because “female workers gained relative to their male counterparts in measured qualifications, particularly education and experience, in nearly every period and at all education levels” (p. 15).

In other aspects, education also contributed to social developments. The increasing female labor force participation rates (column 7 in Table 2), the rising social status of women as evidenced by educational attainment, and the changing social stratification of the educated are contributions of the “external effects” of education. In addition, equal educational opportunities and meritocracy for the educated reduce “rent seeking” activities and promote labor discipline and ethics. Both are highly contributive to the emerging institutional framework under a competitive market economy during the process of economic development. The tradition of respecting learned scholars and intellectual elites, though having eroded somewhat in the past decades, enables the educated elite to maintain their social status, and to become public opinion leaders, regardless of their economic and political powers. Educational attainment is significantly contributive to the formation of the middle class, which has enhanced the social harmony and

37 The gross residual factors in growth accounting models (whether neoclassical or endogenous) include the growth of human capital that is indexed by levels of education. Wang and Tallman (1994) used two sets of weights: 1, 1.2, and 2, as well as 1, 2, and 4 to measure primary, secondary, and higher education, respectively.

38 As education expands, the changing composition of the labor force initially increases income inequality, as more people are transferred from a low- to a high-education group. So, the “composition effect” causes more inequality at first. But, as the supply of educated labor increases, it “compresses the premium earned by the more educated.” Using the data set in 1978 and 1986, Jiang (1988) found that the composition effect is greater than the compression. So, the net effect of education on earning inequality is positive. Jiang concluded that “a persistent expansion of education beyond elementary level is still desirable in the future” (p. 194).

39 It is noted that the aggregate gender earnings ratio remained fairly constant at 65 percent between 1978 and 1992. Meanwhile, there is no discrimination in terms of educational opportunities between male and female students as reflected in the net enrollment rates of school-age population for both sexes.

40 The influence of intellectual elites on public policies is manyfold; in addition to having better opportunities to work in government, they are usually the opinion leaders in the actual policymaking process. In various public social policies, the trio of policymakers usually includes scholars, government bureaucrats, and related interest groups.
political stability in the developmental process.\textsuperscript{41} Therefore, educational development is contributive to the overall modernization process in Taiwan.\textsuperscript{42}

Nevertheless, critics have pointed out that Taiwan’s education could be characterized by a system of “formality,” biased in favor of the “diploma” rather than “learning.” According to this view, because of the fierce competition fueled by the joint entrance examination at all levels, the school education system lacks diversity, initiative, and creativity. During the authoritarian period, too much emphasis was placed on political ideology, and too little on individual differences and on nurturing leadership and citizenship in a civilian society.\textsuperscript{43} Taiwan’s educational system has consequently been under public scrutiny from interest groups and under critical review by the government since the early 1990s. A comprehensive platform for major educational reform is under way.\textsuperscript{44}


Taiwan’s simultaneous achievement of growth and equity is well recognized.\textsuperscript{45} In contrast with the Kuznet effect (1955) of economic growth (namely, deteriorating income distribution at an early stage of development in most developing economies), Taiwan’s economic miracle was accompanied by its reputable record of equitable income distribution. After decades of rapid economic development, its Gini coefficient never exceeded 0.32 and the relative income ratio between farms and nonfarm households was maintained at the range of 0.70 to 0.83 throughout the 1980s. This record is partly attributable to the government’s efforts in deliberately improving the incomes of farming households by increasing their non-farm-related income. The percentage of non-farm-related income accounted for 35.3 percent of farmers’ total income in 1964, but it increased to nearly 80 percent in the early 1990s.\textsuperscript{46}

As Taiwan becomes more industrialized, more modernized and more democratic, its changing socioeconomic structures contribute substantially to the rising demand for social welfare services. These determinant factors include the aging of the population, the changing family structure (including the growth of the nuclear family), the increase in the divorce rate and the number of single-parent families, the rise of the dual-career family, as well as the decline in family functions such as the provision of health care, personal care, and income support for aged parents. Moreover, welfare politics generated by the momentum of democratization since the late 1980s have further accelerated the proliferation of social welfare expenditures. Hence, social welfare programs, which were available only to a selectively targeted segment of the population initially, have been gradually expanding to cover more and more groups such as insured workers, aged farmers, and other less privileged groups (for example, middle- and low-income households). As a comprehensive National Annuity System is to be implemented by the year 2000,

\textsuperscript{41} Yang (1991) argued that owing to submissive education, education expansion did contribute to political stability from the 1960s to the 1980s, but it did not really contribute to Taiwan’s democratization. However, one probably could not deny that educational attainment is an important criterion for defining social class, regardless of different definitions of the so-called middle class. If one agrees that the rise of a “middle class” is an important ingredient for democracy, then education, at least indirectly, contributes to democratization.

\textsuperscript{42} For Taiwan’s social and political modernization, see Wen-hui Tsai (1993, pp. 125–40). Meanwhile, on the relationship between education and social development, Yang (1991) argued that education has only legitimized the political elites rather than equipping them with professional expertise. On the relationship between education and democratization, Lippset (1981) argued that education is only the “necessary,” but not sufficient condition, for democratization.

\textsuperscript{43} Literature on the criticism of education is voluminous. These statements are partly from the author’s own judgment and partly derived from Yang (1991) and Chen Po-chang (1991).

\textsuperscript{44} The cabinet-level Council on Education Reform, consisting of a group of scholars, has been undertaking comprehensive reviews of the current educational system. The government has promised to cooperate with the committee by adopting the committee’s proposals to the greatest extent. Proposed reforms include, but are not limited to, the following: a “small school, small class policy,” partnerships between communities and schools, an “integrated curriculum framework,” “equal access to education for disabled students” for nine-year compulsory education, the “promotion of comprehensive high schools,” a new, “balanced” curriculum for high schools, an “open policy for textbooks” at the secondary education level, and various channels for “increasing opportunities for college education.”

\textsuperscript{45} See John C. Fei, Gustav Ranis, and Shirley Kuo (1979).

\textsuperscript{46} From the Quarterly Report of National Income, DGBAS, various issues.
Taiwan’s piecemeal expansions of social welfare could perhaps be characterized as a “creeping welfare state” with an indigenous Confucian cultural and value system.

**The Coverage of Social Welfare Programs in Taiwan.** To some extent, social welfare, income security (for example, retirement pensions and survivors’ benefits) and social insurance are interchangeable in Taiwan. Currently, social welfare payments include the following categories: (a) social insurance for income security; (b) employment services, social assistance, and welfare services to the needy; and (c) medical care and public health. This section will analyze the first two programs under categories (a) and (b), and the third one will be addressed in the next-to-last section below.

Initially, social insurance for income security only covered government employees, military personnel, school teachers and educational administrative staffs, and a few occupations of insured labor. Therefore, payments for pensions and survivors’ benefits have been the most significant portion of overall social welfare expenditures until recent expansions of other welfare programs for other disadvantaged groups.

In a broad definition of social welfare expenditures—which include social welfare, community development, and environmental protection, as well as pension and survivors’ benefits—its shares in total government budgets increased from 10.4 percent in 1971 to 24.6 percent in 1996. Prior to the 1980s, expenditures for pension and survivors’ benefits were the major shares of total social welfare expenditures. After 1981, expenditures for pension and survivors’ benefits were separated from other social welfare programs. The share of social welfare expenditures in the government budget increased from 3.8 percent in 1981 to 14.4 percent in 1996, whereas that of pension and survivors’ benefits increased modestly from 5.9 percent to 6.8 percent in the same period. At the macroeconomic level, total social welfare expenditures accounted for 4.0 percent of the GNP whereas pensions and survivors’ benefits accounted for 1.88 percent in 1996.47

Social assistance includes providing a living allowance for low-income households, subsidies for medical treatment, calamities, and emergency assistance, as well as disaster and crisis relief. Welfare services include welfare for children under 12, adolescents aged 12 to 18, women, the elderly, and persons with disabilities. Employment services include vocational counseling and guidance, vocational training, and placement in the private sector. Using a more rigid criterion to define the “the poverty line” than most industrialized economies,48 the government of Taiwan estimated the percentage of low-income households eligible for social assistance to be less than 1 percent of total households, with no significant increase in the last decades.49 The rationale for a rigid criterion for eligibility for social assistance is to avoid the misuse of social entitlements and to minimize the potentially damaging effects of welfare payments on work incentive.

Table 5 below illustrates the distribution of social welfare expenditures in the 1990s. It is clear that expenditures for pensions and survivors’ benefits accounted for the largest shares in total social welfare expenditures. Before implementing NHI in 1995, expenditure for pensions and survivor benefits accounted for 40 percent during the 1990–94 period. After that, it accounted for nearly one-third of social welfare

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47 From Ministry of Finance (1996, table 3) and CEPD (1998a). The share of social welfare expenditures in the GNP was lower than the U.S. figure of 6.9 percent, but higher than the 1.9 percent in Korea and 0.5 percent in Singapore. Meanwhile, it is noted that Taiwan did not have social security taxes at all.

48 Taiwan defined the poverty line by the criterion of a “minimum cost of living,” which was about one-third to 40 percent of the annual average disposable income. In 1997, the minimum cost of living in Taipei was set at NT$6,720.00 whereas for other areas it was set at NT$6,000.00. The criterion of “minimum living expenses” was revised to tie with “60 percent of average living expenses” rather than the “40 percent of average disposable” income in November 1997. As a result, the poverty line was set at $7,750.00 in Taipei and $6,700.00 in other areas. Meanwhile, the number of households eligible for social assistance increased by a factor of 1.43. For comparison, the poverty line in the United States is set at 40 percent of the median income whereas Scandinavian economies set it at 60 percent of the median income.

49 Lee (1998) argued that although there was no significant increase in the percentage of “poor households” in the total population, there was a significant tendency of “feminization of poverty” between 1976 and 1995, under which more female-headed than male-headed households dropped below the “poverty line.” It should be noted that Lee used a different criterion of poverty: 50 percent of the grand mean of the median of disposable income.
expenditures at all levels of government. The shares of welfare services were fairly stable between 19.4 percent and 22.3 percent of total social welfare expenditure, whereas social assistance decreased from 9.4 percent in 1990 to 5.7 percent in 1995. Expenditures on employment services accounted for less than 1.5 percent. Meanwhile, the share of social insurance increased dramatically from 17.4 percent in 1990 to 33.1 percent in 1995 owing to the implementation of National Health Insurance.

Table 5. Social Welfare Expenditure of All Levels of Government (Millions of New Taiwan Dollars NTS)

<table>
<thead>
<tr>
<th>Fiscal year and locality</th>
<th>Total</th>
<th>Social insurance</th>
<th>Social assistance and relief</th>
<th>Social welfare services</th>
<th>Employment services</th>
<th>Medical care and public health</th>
<th>Expenditure for pensions and survivor benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990 Central Govt.</td>
<td>120048</td>
<td>58360</td>
<td>15461</td>
<td>5023</td>
<td>29481</td>
<td>1481</td>
<td>6914</td>
</tr>
<tr>
<td>1990 Taiwan Prov.</td>
<td>28501</td>
<td>28501</td>
<td>10805</td>
<td>9951</td>
<td>2617</td>
<td>405</td>
<td>4723</td>
</tr>
<tr>
<td>1990 Taipei Mun.</td>
<td>7248</td>
<td>6310</td>
<td>915</td>
<td>15</td>
<td>2335</td>
<td>152</td>
<td>2893</td>
</tr>
<tr>
<td>1990 Kaohsiung Mun.</td>
<td>3224</td>
<td>2493</td>
<td>544</td>
<td>10</td>
<td>996</td>
<td>72</td>
<td>871</td>
</tr>
<tr>
<td>1990 Grand Total</td>
<td>159021</td>
<td>95664</td>
<td>27725</td>
<td>14999</td>
<td>35429</td>
<td>2110</td>
<td>15401</td>
</tr>
<tr>
<td>1990 %</td>
<td>100.0</td>
<td>60.2%</td>
<td>17.4%</td>
<td>9.4%</td>
<td>22.3%</td>
<td>1.3%</td>
<td>9.7%</td>
</tr>
<tr>
<td>1991 Central Govt.</td>
<td>138783</td>
<td>65963</td>
<td>17856</td>
<td>4250</td>
<td>33449</td>
<td>2082</td>
<td>8326</td>
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<tr>
<td>1991 Taiwan Prov.</td>
<td>31030</td>
<td>31030</td>
<td>14177</td>
<td>7311</td>
<td>2429</td>
<td>457</td>
<td>6656</td>
</tr>
<tr>
<td>1991 Taipei Mun.</td>
<td>9483</td>
<td>8344</td>
<td>2044</td>
<td>16</td>
<td>2674</td>
<td>181</td>
<td>3429</td>
</tr>
<tr>
<td>1991 Kaohsiung Mun.</td>
<td>3655</td>
<td>2841</td>
<td>478</td>
<td>10</td>
<td>1108</td>
<td>89</td>
<td>1156</td>
</tr>
<tr>
<td>1991 Grand Total</td>
<td>182951</td>
<td>108178</td>
<td>34555</td>
<td>11587</td>
<td>39660</td>
<td>2809</td>
<td>19567</td>
</tr>
<tr>
<td>1991 %</td>
<td>100.0</td>
<td>59.1%</td>
<td>18.9%</td>
<td>6.3%</td>
<td>21.7%</td>
<td>1.5%</td>
<td>10.7%</td>
</tr>
<tr>
<td>1992 Central Govt.</td>
<td>169444</td>
<td>84577</td>
<td>28961</td>
<td>5784</td>
<td>37557</td>
<td>1794</td>
<td>10481</td>
</tr>
<tr>
<td>1992 Taiwan Prov.</td>
<td>31320</td>
<td>31320</td>
<td>20205</td>
<td>2046</td>
<td>2862</td>
<td>678</td>
<td>5529</td>
</tr>
<tr>
<td>1992 Taipei Mun.</td>
<td>11518</td>
<td>10226</td>
<td>1451</td>
<td>18</td>
<td>4169</td>
<td>191</td>
<td>4397</td>
</tr>
<tr>
<td>1992 Kaohsiung Mun.</td>
<td>4029</td>
<td>3013</td>
<td>578</td>
<td>10</td>
<td>1290</td>
<td>90</td>
<td>1055</td>
</tr>
<tr>
<td>1992 Grand Total</td>
<td>216311</td>
<td>129136</td>
<td>51195</td>
<td>7848</td>
<td>45878</td>
<td>2753</td>
<td>21462</td>
</tr>
<tr>
<td>1992 %</td>
<td>100.0</td>
<td>59.7%</td>
<td>23.7%</td>
<td>3.6%</td>
<td>21.2%</td>
<td>1.3%</td>
<td>9.9%</td>
</tr>
<tr>
<td>1993 Central Govt.</td>
<td>175356</td>
<td>86833</td>
<td>31289</td>
<td>3125</td>
<td>40137</td>
<td>1977</td>
<td>10305</td>
</tr>
<tr>
<td>1993 Taiwan Prov.</td>
<td>31420</td>
<td>31420</td>
<td>17914</td>
<td>3245</td>
<td>3659</td>
<td>829</td>
<td>5773</td>
</tr>
<tr>
<td>1993 Taipei Mun.</td>
<td>12286</td>
<td>10813</td>
<td>1896</td>
<td>1521</td>
<td>2404</td>
<td>287</td>
<td>4705</td>
</tr>
<tr>
<td>1993 Kaohsiung Mun.</td>
<td>5380</td>
<td>4189</td>
<td>797</td>
<td>30</td>
<td>1428</td>
<td>85</td>
<td>1849</td>
</tr>
<tr>
<td>1993 Grand Total</td>
<td>224442</td>
<td>133255</td>
<td>51896</td>
<td>7921</td>
<td>47628</td>
<td>3178</td>
<td>22632</td>
</tr>
<tr>
<td>1993 %</td>
<td>100.0</td>
<td>59.4%</td>
<td>23.1%</td>
<td>3.5%</td>
<td>21.2%</td>
<td>1.4%</td>
<td>10.1%</td>
</tr>
<tr>
<td>1994 Central Govt.</td>
<td>184402</td>
<td>91046</td>
<td>30789</td>
<td>3364</td>
<td>44708</td>
<td>2232</td>
<td>9953</td>
</tr>
<tr>
<td>1994 Taiwan Prov.</td>
<td>34340</td>
<td>34340</td>
<td>20017</td>
<td>2711</td>
<td>3962</td>
<td>900</td>
<td>6750</td>
</tr>
<tr>
<td>1994 Taipei Mun.</td>
<td>15128</td>
<td>13410</td>
<td>3212</td>
<td>1526</td>
<td>3155</td>
<td>216</td>
<td>5301</td>
</tr>
<tr>
<td>1994 Kaohsiung Mun.</td>
<td>6077</td>
<td>4507</td>
<td>1079</td>
<td>30</td>
<td>1466</td>
<td>100</td>
<td>1832</td>
</tr>
<tr>
<td>1994 Grand Total</td>
<td>239947</td>
<td>143303</td>
<td>55097</td>
<td>7631</td>
<td>53291</td>
<td>3448</td>
<td>23836</td>
</tr>
<tr>
<td>1994 %</td>
<td>100.0</td>
<td>59.7%</td>
<td>23.0%</td>
<td>3.2%</td>
<td>22.2%</td>
<td>1.4%</td>
<td>9.9%</td>
</tr>
</tbody>
</table>

(table continues on following page)
### Table 1: Social Welfare Expenditure

<table>
<thead>
<tr>
<th>Fiscal year and locality</th>
<th>Social insurance</th>
<th>Social assistance and relief</th>
<th>Social welfare services</th>
<th>Employment services</th>
<th>Medical care and public health</th>
<th>Expenditure for pensions and survivor benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>1995</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Central Govt.</td>
<td>230411</td>
<td>134464</td>
<td>66194</td>
<td>9533</td>
<td>48354</td>
<td>2053</td>
</tr>
<tr>
<td>Taiwan Prov.</td>
<td>45824</td>
<td>45824</td>
<td>25584</td>
<td>5711</td>
<td>4494</td>
<td>844</td>
</tr>
<tr>
<td>Taipei Mun.</td>
<td>18691</td>
<td>16788</td>
<td>5844</td>
<td>1860</td>
<td>3927</td>
<td>240</td>
</tr>
<tr>
<td>Kaohsiung Mun.</td>
<td>7871</td>
<td>6352</td>
<td>2694</td>
<td>40</td>
<td>1858</td>
<td>104</td>
</tr>
<tr>
<td>Grand Total</td>
<td>302797</td>
<td>203428</td>
<td>100316</td>
<td>17144</td>
<td>58633</td>
<td>3241</td>
</tr>
<tr>
<td></td>
<td>100.0%</td>
<td>67.2%</td>
<td>33.1%</td>
<td>5.7%</td>
<td>19.4%</td>
<td>1.1%</td>
</tr>
</tbody>
</table>

Note: 1. The Expenditure for pension and survivor benefits of Taiwan Province is classified under Expenditure for Education, Science and Social Insurance. Housing is included in Expenditure for Community Development.
2. The Expenditure for pension and survivor benefits of Taipei Municipality was included under Expenditure for social insurance before fiscal 1992. It is excluded in this table.
3. The Expenditure for social insurance of Kaohsiung Municipality was classified under Expenditure for social welfare foundations. It is separated and inserted as an independent item in this table. The Social assistance and relief expenditure was not included in fiscal 1992.

Sources: CEPD (1994).
Taiwan Province: Taiwan Provincial Audit Final Report, Ministry of Audit.

From table 5, one can also see that pension and survivors’ benefits, which covered only selected, targeted populations (approximately 8.5 percent of the total), dominated the entire social welfare program in Taiwan in the early 1990s. However, Taiwan’s incomplete social welfare system was supplemented by the private sector, which has been playing a significant role in promoting economic security, health care, and emergency assistance. In past decades, many social services that were generally provided by the public sector in Western industrialized economies were taken over by the family, community and other private sectors in Taiwan. Social assistance was generally regarded as the last resort for less fortunate or disadvantaged groups. It is hard, however, to quantitatively assess the impact of the private sector in providing those social assistance and welfare services.

**Development of Social Welfare in Postwar Period.** Development of social welfare expenditures in Taiwan in the postwar era consisted of expansions of the scope of social welfare programs, the degrees of protection and coverage under various insurance schemes, and the increasing numbers of eligible recipients under each program. With the expansion of social welfare programs, the share of transfer payments in household disposable income more than doubled from 5.3 percent in 1964 to 11.8 percent in 1992. However, the distribution of transfer payments among various income brackets was less than equitable. For example, transfer payments received by those households on the top 20 percent income bracket were much more than those received by households in the bottom 20 percent during 1994–96.\(^5\) In other words, the efficacy of transfer payment on income distribution is rather limited, and there is room for further improvement in distributing social welfare resources more equitably. Table 6 below indicates the impacts of various transfer payments on income distribution.

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\(^5\) According to survey data from the DGBAS, the ratios of transfer payments received by households in the top 20 percent income bracket to those in the bottom 20 percent were 2.05 in 1994, 1.36 in 1995, and 1.41 in 1996. Part of the reason for the inequitable distribution of transfer payments among different income brackets is that government subsidies of various health insurance premiums are based on the occupation, rather than income, of the insured.
Table 6. The Impacts of Government Transfer Payments on Income Distribution (percent)

<table>
<thead>
<tr>
<th>Year</th>
<th>Government expenditures on social welfare and others (percent)</th>
<th>Government revenues (direct taxes and others) (percent)</th>
<th>Total (percent)</th>
<th>Ratios of relative incomes (2) after government transfer payment (1)+(2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1970</td>
<td>4.300</td>
<td>−4.000</td>
<td>−9.000</td>
<td>−13.000</td>
</tr>
<tr>
<td>1980</td>
<td>4.300</td>
<td>−4.000</td>
<td>−9.000</td>
<td>−13.000</td>
</tr>
<tr>
<td>1982</td>
<td>4.408</td>
<td>−2.400</td>
<td>−9.600</td>
<td>−12.000</td>
</tr>
<tr>
<td>1983</td>
<td>4.512</td>
<td>−4.100</td>
<td>−11.300</td>
<td>−15.400</td>
</tr>
<tr>
<td>1986</td>
<td>4.780</td>
<td>−8.000</td>
<td>−11.000</td>
<td>−19.000</td>
</tr>
<tr>
<td>1987</td>
<td>4.882</td>
<td>−7.900</td>
<td>−11.100</td>
<td>−19.000</td>
</tr>
<tr>
<td>1989</td>
<td>5.176</td>
<td>14.500</td>
<td>−9.400</td>
<td>5.100</td>
</tr>
<tr>
<td>1990</td>
<td>5.520</td>
<td>−23.000</td>
<td>−11.000</td>
<td>−34.000</td>
</tr>
<tr>
<td>1991</td>
<td>5.310</td>
<td>−24.000</td>
<td>−10.000</td>
<td>−34.000</td>
</tr>
<tr>
<td>1992</td>
<td>5.560</td>
<td>−23.000</td>
<td>−9.000</td>
<td>−32.000</td>
</tr>
<tr>
<td>1993</td>
<td>5.760</td>
<td>−26.000</td>
<td>−8.000</td>
<td>−34.000</td>
</tr>
<tr>
<td>1994</td>
<td>5.790</td>
<td>−30.000</td>
<td>−11.000</td>
<td>−41.000</td>
</tr>
<tr>
<td>1995</td>
<td>5.930</td>
<td>−50.000</td>
<td>−9.000</td>
<td>−59.000</td>
</tr>
<tr>
<td>1996</td>
<td>6.170</td>
<td>−68.000</td>
<td>−11.000</td>
<td>−79.000</td>
</tr>
</tbody>
</table>


As one examines the development of social expenditures in Taiwan, one could easily find that policy initiatives to promote social development could be subdivided into three time periods:

A) The early period from the 1950s to the mid-1960s:
A series of land reforms undertaken by the government in the early 1950s had greatly enhanced the equitable distribution of income in Taiwan. The land reform programs (which included rent reductions, sales of public land, and the “land-to-the tiller” program) had substantially raised the relative income between farmers and the nonfarming population. These incentives greatly enhanced farming productivity and maintained the low cost of food supply for the urban labor class, which in turn contributed to low wages for developing labor-intensive, light manufacturing industries for exports. As a result, labor employment increased and wage earners benefited more than they could have gained under the import-substitution policy as dictated by the Stolper-Samuelson theorem. Hence, initial equitable distribution of income was further enhanced by the growth of labor-intensive exports during past decades of development.

Examining economic developments and government interventions in Taiwan and Korea, Rodrik (1995) argued that, among other factors, the initial conditions of equitable distribution of income and wealth in these two economies had enabled their governments “to focus on economic growth as the top priority.” In other words, land reform and equitable distribution of income at the initial stage of
development in Taiwan greatly contributed to rapid economic growth in subsequent periods. Given that income distribution was fairly equitable, and that the traditional family system still undertook many major functions for care-giving to aged parents and needy relatives, Taiwan’s social welfare system during this period was primitive and only covered military personnel, government employees, and a small portion of insured labor. The number of people insured accounted for only 5 percent of the total population by 1965.

B) THE EXPANSION PERIOD OF THE SOCIAL WELFARE SYSTEM FROM THE MID-1960S TO THE 1980S:
After Taiwan’s economy took off, its social welfare system started to expand from existing retirement and pensions programs to cover retired government employees, private school teachers and administrative staff, dependents of government employees, and spouses of retired government employees. Moreover, political pressure also forced the government to enact health insurance for different levels of councilmen and community-based public employees (heads of villages and their subsets; for example, lin and le)—who are usually the voting brokers during elections. By 1985, insured persons accounted for about one quarter of the total population. 52

Meanwhile, some social programs for children, youth, women, and community development were also initiated during this period. Between 1970 and 1981, four major social welfare bills were passed and enacted: the Welfare Law for Children in 1973, the Welfare Law for the Aged in 1980, the Welfare Law for the Disabled in 1980, and the Social Assistance Law in 1980. These laws symbolized a change: the less-privileged population had gained more and more social attention as society-at-large was becoming more affluent. However, the operating deficits of many insurance programs were mainly subsidized by the government through general tax revenues, rather than by raising insurance premiums. As argued in the next section, government subsidies on operating deficits of insurance programs and on insurance premiums for some targeted groups based on insurers’ occupations could combine the principle of risk-sharing with the entitlement of social welfare in undesirable ways. It might mislead the general public to shy further away from the social insurance principle and generate obstacles for the implementation of funded social security systems in the future.

C) THE CHANGING SOCIAL STRUCTURE AND RAPID DRIVE FOR SOCIAL DEVELOPMENT IN THE 1990S:
The 1990s were characterized by decelerating economic growth, rapid social transformation, and democratization. The enviable record of equitable income distribution in Taiwan deteriorated after the mid-1980s, however. 53 Taiwan faced a major social development challenge (equitable income distribution and social service) in the second half of the 1980s. In addition to the changing social structure owing to the dissolution of the traditional family system, and the increasing wage differentials resulting from economic transformation, there was a significant asset redistribution among households caused by a lack of policy coordination after trade liberalization. One legacy of Taiwan’s export-oriented development strategy since the mid-1960s was the accumulation of a sizeable trade surplus against the United States, which in turn resulted in strong pressure from Washington to liberalize Taiwan’s trade regime and to revalue its currency in the 1980s. After the Plaza Agreement, the currency realignment and the follow-up trade liberalization in Taiwan led to skyrocketing price hikes on nontradable goods, especially on real estate and stocks in the second half of the 1980s. So, the mismanagement of the trade surplus that generated a sharp redistribution of

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51 The labor insurance scheme began in 1950, but its scope and coverage were extremely limited until the promulgation of the National Labor Insurance Act in 1958. While the labor insurance program was launched before industrialization, Lin (1991, p. 41) argued that it was “a response to the failure of the KMT’s labor policy on the mainland rather than to labor protests in Taiwan.”
52 CEPD (1994, p. 10).
53 Wu (1997) argued that it is the income distribution per household, rather than the distribution of household income per person, that deteriorated between 1976 and 1995.
assets among households undercut Taiwan’s long term record of equitable income distribution.\footnote{At the peak of the bubble economy in 1988, the average price of residential housing was 17 times the mean of annual household savings. The skyrocketing price of real estate in metropolitan areas made it impossible for any mid-income individual to purchase a two-bedroom apartment with his or her life savings. Though the percentage of self-owned housing was reportedly 82.52 percent in 1994, the data are meaningless unless statistics on the concentration of multiple housing are made available.}

While the ratio of disposable income of the highest 20 percent to the lowest 20 percent of households was only 5.34 to 1 in 1995, the average saving per household of the highest 20 percent to the lowest 20 percent was 23.79 to 1.\footnote{From DGBAS (1996b), table 104 (Disposable income, consumption expenditure, and savings of households).} The ratio of asset distribution of the highest 20 percent of household to the lowest 20 percent was 16.83 to 1 in the 1990s.\footnote{DGBAS (1991).}

The increasing unequitable distribution of assets generated a significant “wealth effect” through capital gains and property appreciation. This “wealth effect” caused by unequitable asset distribution (including rents, interest and dividends as well as capital gains), would lead income distribution to further deteriorate.\footnote{The current system of taxing on “security transactions” rather than “capital gains” could further aggravate the deterioration of equitable income distribution, but political considerations make it very difficult to change the existing tax system.} Hence, the inconsistent policy objectives between trade liberalization and social equity has substantially undermined the enviable income distribution that prevailed after the second half of the 1980s. Because the government failed to implement appropriate taxing policy measures to deal with the asset redistribution caused by trade liberalization, Taiwan’s long-term equitable income distribution was jeopardized by its short-term shift of trade regimes. Moreover, as the money game took hold, more and more financial resources were devoted to speculation on nonproductive assets, and workers’ ethics (which had been an important asset for economic development), was substantially eroded. Hence, the negative aspect of the mismanagement of the trade surplus, and the lack of policy coordination between trade liberalization and social equity in the 1980s in Taiwan should provide some lessons for developing economies facing similar phenomena. For any economy to maintain equitable income distribution, a shift of its trade regime from protection to liberalization should simultaneously be accompanied by a set of taxing policies to wipe out the “windfall gains” from the existing owners of nontradable goods—for example, real estate and stocks.

The other factor contributing to the deterioration of income since the mid-1980s was the structural transformation of the economy. Available statistics indicate that wages and salaries of college graduates increased much faster than those of individuals without college degrees, and the incomes of administrators and managers increased 1.9 to 2 times while that of farmers and servicepeople only increased 1.5 to 1.7 times in the second half of the 1980s. The increase of the share of the elderly in the total population in the late 1980s created more and more low-income households among senior citizens. As the elderly’s share increased over time, the percentage of senior citizens aged 65 and over belonging to low-income households increased from 9.9 percent in 1990 to 27.6 percent in 1992.

In addition to this demographic transition trend, and the erosion of traditional families, the demand for social welfare services was further aggravated by the legacies of election politics as democratization in Taiwan accelerated following the lifting of Martial Law in 1987.\footnote{Social welfare payments were considered as benevolence at the mercy of the leader under an authoritarian regime. Periodic elections subsequently enhanced welfare politics owing to the buying of votes (in effect) in an immature democracy.} The election politics in Taiwan generated substantial political debts for elected officials and representatives, and the incumbent government has been under strong political pressure ever since to expand more and more entitlement programs without adding new sources of tax revenue.\footnote{A public opinion poll indicated that, while most people would like the government to expand its social welfare programs, only 18 percent were willing to pay more taxes for these expansions.} Therefore, partisan
competition by using votes-buying tactics through the welfare campaign intensified during the periodic elections in the 1990s.  

**FACTORS CONTRIBUTING TO PIECEMEAL EXPANSIONS OF SOCIAL WELFARE.** The Confucian teachings of filial piety, the traditional extended family, and the patriarchal-patrilinial kinship society in Taiwan inspired the people to use “family” as the primary provider of care-giving for elderly parents and grandparents. In that kinship society, it was perfectly legitimate for elderly parents and even grandparents to depend on their children or grandchildren for care and financial support (including a living allowance). Meanwhile, this was considered a “glorious and noble obligation” for the younger generations. Hence, in a Confucian welfare state, the family, extended families, and even the community undertake a very significant role in fulfilling the functions of social services that are generally provided by the government in the Western industrialized welfare states (Jones 1993).

Prior to the 1980s, social welfare was pretty much considered a “residual” in overall social development. Social assistance for the needy provided by the government was generally considered as the last resort. Moreover, Taiwan’s people tended to place greater value (higher utility) on those monies received from their children out of filial piety than those from government welfare programs. Under such circumstances, social welfare services provided by the government had never played a significant role in Taiwan. Hence, in terms of budgetary allocation, the priority funding of social expenditures was ranked with education at the top, followed by expenditures on health care, while social welfare spending was considered the lowest one except for pensions and survivors’ benefits for the targeted segments of the population.

Partly for that reason, economic security was institutionalized only for a targeted segment comprising less than 10 percent of the total population. For government employees, military personnel, and private school teachers, pensions and survivors’ benefits were built into their respective retirement systems. As demand for income security increased over time, more and more of the working population was brought under coverage through various retirement plans. By the end of 1996, 74.3 percent of the economically active population aged 25 and over was covered under various pension plans and retirement systems.

Governmental social assistance was granted only to truly needy individuals, who were less than 20 percent of the elderly population in the early 1990s. Dramatic changes in the social welfare benefits for the elderly occurred in the early 1990s. In May 1995, the government installed the “Temporary Statute for Elderly Farmers’ Welfare Allowance,” passed by the Legislative Yuan. It was estimated then that about 19.4 percent of the senior citizens aged 65 and over were eligible for the “monthly benefits of living allowances” for elderly farmers, and another 19.3 percent of senior citizens were thought to be eligible.

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61 The tradition for children to take good care of their parents and grandparents has eroded recently. According to a survey of income sources for senior citizens by the DGBAS, the percentage of children’s financial support in their total incomes declined from 65.8 percent in 1986 to 52.3 percent in 1993. Meanwhile, children’s support accounted for 54.6 percent of major sources of income for nonfarming groups, and 29.6 percent for farming groups. Source: Survey of Senior Citizens, 1993 (DGBAS 1993).
62 There is an allegation that these pension programs favored the loyal supporters of the ruling party (which has been in charge of the central government since 1949). This allegation could be rationalized on the grounds of political economy, in that “a benefit shared by everyone is no benefit at all” (Rigger 1995, p. 10). Despite denials from the government, there are political and social connotations in the selections of the targeted population for institutionalizing economic security programs. Politically, military personnel and government employees have been loyal supporters of the ruling party. Ethnically, prior to the 1970s, most key positions in the military and government were held by mainlanders who had come to Taiwan after 1949.
63 Teachers in public institutions (but not private ones) were considered civil service employees. Therefore, the inclusion of private school teachers in a government pension program was considered an expansion of the social welfare system. Meanwhile, those eligible for retirement pensions have the option of receiving a lump-sum payment or monthly benefits when they retire.
64 The proposal was initiated by the largest opposition party—the Democratic Progressive Party (DPP)—in the Legislative Yuan. The legislative process was completed without adequate planning and in the face of strong protest from the ruling party. The amount of monthly allowance of NT$3,000.00 was only half of the minimum living expenses set by the government. Its critics pointed out that it served only a political purpose rather than a social or economic one. Moreover, it was argued that entitlement without means-testing was not an efficient method of resource allocation and that the system was not equitable for low-income taxpayers who had to pay for...
for subsidies for “aged people with middle to low income” by the end of 1995. Consequently, in addition to those eligible for various institutionalized retirement benefits with funded revenues, another 38.6 percent of the senior citizens aged 65 and over were covered under the unfunded but institutionalized social welfare programs by the end of 1996. This is why we argued that social assistance, social insurance, and income security were mixed in one other at the beginning of this section.

Taiwan’s rapid industrialization and social transformation led to the dissolution of the traditional extended family and the erosion of social hierarchies in traditional society. The average family size decreased from 5.07 in 1977 to 3.92 in 1996. The share of the nuclear family (with four members or less) increased from 59.83 percent of total households in 1981 to 65.53 percent in 1996. In conjunction, the percentage of coresidence of elderly parents with married children declined steadily from 70 percent in the mid-1980s to 64.3 percent in 1996, and children’s support for elderly parents declined from 65.8 percent in 1986 to 48.3 percent in 1996. This phenomenal development partially resulted in the increasing demand for social welfare programs for senior citizens over time.

Therefore, Taiwan’s social welfare system could be characterized by an evolutionary process of piecemeal expansions driven by its modernization path. Taiwan’s lack of an institutionalized, comprehensive social welfare system could be attributed to the existence of the traditional family system, the equitable distribution of income and land at the initial stage, the repressed demand for social welfare under authoritarian rule, and welfare clientelism (to be discussed later). At some point, the mechanism of modernization (such as the dissolution of the traditional extended family, the speeding up of the formation of nuclear families), the aging of the population, and the deterioration of income distribution) undercuts the social functions of families. The welfare politics under democratization has further aggravated the proliferation of unfunded social welfare benefits. Moreover, there is a lack of consensus on how far the social welfare system should be implemented and to what extent Taiwan should imitate the Western welfare state. In short, it can be concluded that the piecemeal expansion of social welfare programs in Taiwan was caused by modernization, social transformation, and democratization.

In comparison with Singapore’s Central Provident Fund (CPF), which was first introduced in 1955, Taiwan’s national annuity system, even if implemented by the year 2000 as planned, would be considerably late by any criteria. What is the rationale for Taiwan’s belated social welfare system? In answer, Taiwan’s initial equity of income and land ownership owing to land reform at an earlier stage of economic development enabled the government to concentrate mainly on economic growth, as Rodrik (1995) argued. Also, urbanization in Taiwan is a lot slower than in Singapore, which is basically a city-state. Taiwan’s approach toward its social equity seemed to focus more on the “equity” of educational and employment opportunities, which was supposed to generate an even more equitable distribution of income than would have been possible otherwise. The government’s strong support of education actually reduced this entitlement. It was also noted that the proposal would “increase the difficulties [in the] planning and integrating of a universal coverage pension program.” See Joseph Lee (1995).

65 There were two categories of living allowance subsidy for middle- and low-income senior citizens based on the “minimum living expense” in 1993; the eligibility criterion for the first category (lowest income) was that one’s income could only be 1.5 times that of the “minimum living allowance,” whereas the second one specified an income level of 1.5 to 2 times. The criterion for the second category was liberalized to 1.5–2.5 times in 1995. Since then, the monthly payment has been set at $6,000.00 per month for those eligible for the first category and $3,000.00 for those in the second category.
66 Among the 1.68 million senior citizens aged 65 and over at the end of 1996, 1.23 million were covered either by pensions or unfunded old-age benefits such as farmers’ benefits, as well as living allowance for mid- to low-income households totaling 0.64 million. However, the noninstitutionalized provision of the “monthly benefits for honoring senior citizens” in some local governments controlled by the DPP covered the rest of the aged population. It was estimated that the ratio of the elderly population without monthly living allowances from pensions or welfare payments had dropped to 26.8 percent by the end by 1996, as indicated by figure 2.
67 From DGBAS (1997).
68 Lin (1991) argued that Taiwan’s belated welfare system could also be attributed to the lack of union representation and working-class consciousness (or the presence of ambiguous consciousness at best). The former was caused by political exclusion during the authoritarian regime whereas the latter is a result of a combination of the complicated class structure, the large number of small and medium-size family-owned firms, and political inhibition.
income inequity, which in turn lowered the public demand for social welfare for income redistribution. The export-led growth policy, which was focused on labor-intensive exports, generated more employment opportunities and more equitable income for the labor class than an import-substitution policy would have. The prevalence of small and medium-size familial enterprises and complicated class structure reduced the labor-management tensions commonly existing in industrialized economies. The inhibited labor movement and crippled trade union representations during the period of authoritarian regime had repressed the public demand for social welfare (Lin 1991). Moreover, during the authoritarian regime, the charismatic leader who tended to consider social welfare as the benevolence of his government had also delayed the institutionalization of a comprehensive social welfare system.

COMPARATIVE PERSPECTIVES ON THE POLITICAL ECONOMY OF SOCIAL WELFARE IN THE 1950S AND THE 1980S: IS THERE WELFARE CLIENTELISM IN TAIWAN? In terms of political economy, one interesting question to be addressed is this: why will the government of Taiwan, which was able to successfully implement the “land to the tiller” program and maintained an equitable distribution of income since the 1950s, not push for a similar housing redistribution policy of “house to the tenant” program—particularly since this lapse was contributing to the destruction of social equity in the 1980s? In fact, redistributing land ownership by taxing the “windfall profits” from land speculation in the urban areas was the cornerstone of the “principle of livelihood” formulated by Dr. Sun Yat-sen, whose teaching was epitomized in the preface of the Constitution.69 Why did the government succeed in introducing land reform during the 1950s but failed to do the same with its urban housing policy in the 1980s?

The rationale lies with differences of the political economy of regime stability between these two periods. Being exiled to Taiwan in 1949, the Nationalist government led by the KMT had to legitimize its leadership by generating social popularity and by fending off any potential challenge from the existing establishment. At that time, the most likely indigenous threat to the KMT leadership would be the rich landlords. Hence, by implementing the land reform program and by redistributing land to the tillers under an authoritarian regime that was able to insulate itself from interest groups, the KMT government would greatly enhance the legitimacy of its leadership and positively contribute to political stability in the 1950s.

However, democratization in the 1980s generated populist pressure on the incumbent. Election politics enabled the rich property owners and land developers to allegedly collude with financial giants to put strong pressure on elected officials and representatives. Therefore, even though the KMT still controls the central government, political feasibility prohibits it from carrying out the teachings of Dr. Sun Yat-sen on redistributing land ownership in urban areas. Unlike Singapore, where public housing would enhance the popularity of the incumbent, the KMT government in Taiwan, facing the political reality of periodic election under a multiparty political system, has not been able to offer a public housing program similar to the one in Singapore for the “shell-less” tenants since the 1980s.70

Wang (1997) argued that there was a tendency toward “welfare clientelism” in Taiwan, under which political parties would propose social welfare policies in favor of their own supporters, excluding competitors’ supporters from proposed programs. Accordingly, the central government—which has been and still is under the control of the KMT—has gained loyal support from its clientele by providing pensions and survivors benefits to military personnel, veterans, and civil service employees rather than

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69 Inspired by Henry George’s (1839–97) “single tax on land” (which was crystallized in his 1879 book, Poverty and Progress), Sun Yat-sen’s “principle of livelihood” was dominated by the theory of “equalization of land rights,” which advocated that land tax be imposed to socialize the unearned increment of land value owing to social progress.

70 In a fashion that is similar to the American dream, owning one’s own home is considered an important indicator of social status in Taiwan. Tenants who are resigned to never owning a home ridicule themselves as “shell-less snails.” It should be noted that the government did provide some low-cost housing for the labor class at one point. Those apartments were mainly built on public land with a long-term lease (as opposed to the purchase of land) from the government. In the end, however, the limited supply did not contribute to any significant increase of the home ownership for the “shell-less” poor.
providing a nationwide old-age income security program for all senior citizens. Similarly, one of the opposition parties, the Democratic Progressive Party (DPP), has tried to seek grass roots support through local governments under its jurisdiction by providing monthly benefits for those senior citizens who were excluded from existing retirement pension schemes. The DPP may have identified those senior citizens who had been excluded from existing income security schemes as its targeted clientele, and tried to gain its support by providing them with monthly living allowances through local government budgets. Hence, there is a proliferation of unfunded social welfare benefits since the 1990s as partisan politics for voters’ support have intensified. To some extent, welfare clientelism (Wang 1994) has demonstrated its validity in recent elections, as we see below.

In the local election held in November 1997, the DPP scored a big gain, winning 12 out of a total of 23 positions of mayors and magistrates (most of whom are in heavily populated urban areas), bringing more than 70 percent of the total population under its jurisdiction. If the unfunded old-age monthly benefits proposed by the DPP spread from the cities and counties under DPP jurisdiction to other areas, then it certainly would be detrimental to the full implementation of the funded national annuity program in the future. Hence, the negative legacies of welfare clientelism should not be overlooked at all.

With the prevailing welfare politics, social insurance programs have expanded rapidly since the late 1980s. The percentage of insured persons in total population more than doubled from 25.5 percent in 1985 to 57.6 percent in 1995, which substantially increased the financial burden on the government. In general, the government either paid or subsidized insurance premiums through general tax revenues. Moreover, the government usually supplemented the operating deficits of various programs through general tax revenues rather than raising insurance premiums. Hence, the risk-sharing principle of insurance was violated and social welfare expenditures were mixed in with payments of insurance premiums. This could also lead, among other things, to moral hazard problems and further distortions of social equity in the future.

TOWARD A COMPREHENSIVE NATIONAL ANNUITY SYSTEM IN THE TWENTY-FIRST CENTURY. The current status of old-age income security (which, as we saw, is a result of piecemeal expansions of various social welfare schemes in the past) is summarized in figure 2. Several fallouts can be identified under the current income security schemes. First of all, existing retirement benefit–pension schemes only covered 74.25 percent of the working population aged 25–64 as of the end of 1996. Hence, more than one-quarter of the working population has no insurance for old-age income security at all. Among senior citizens aged 65 and over, about 26.8 percent has no institutionalized retirement pension. The monthly payments of old-age living allowances provided by local governments under DPP are not sustainable financially, and not equitable socially at all. Therefore, Taiwan’s government intends to incorporate those without old-age income security protection, many of whom are disadvantaged groups badly in need, into the proposed National Annuity System to be implemented by the year 2000.

71 Prior to KMT’s indigenization (Taiwanization) starting in 1972 under the premiership of Chang Ching Kuo, most key positions in the party and government were held by the Mainlanders (those who emigrated to Taiwan after 1949) and their descendants. Based on this fact, the theory of welfare clientelism (Wang 1994) argued that KMT had targeted the military personnel and government employees as its clienteles, whereas the DPP, a grassroots party that was dominated by local elites, had chosen the elderly farmers and senior citizens in general as its target clientele.

72 The provision of a monthly living allowance for senior citizens with no means-testing excludes those who have already had pension and retirement benefits of any kind. However, fiscal centralism in Taiwan has forced local governments with limited leverage of autonomous tax revenues to sustain the unfunded program forever.

73 Prior to a local election in November 1997, the KMT proposed the provision of a “monthly living allowance” for senior citizens, which was similar to DPP’s proposal in Taipei county. The KMT candidate for the Taipei magistrate still lost the election, however.

74 A typical example of moral hazard could be found in the liberal admissions policy on farmers’ insurance. Since there is no age restriction on farmers’ insurance and there is generous government subsidy on its insurance premiums, the ratio of insured farmers to the actual farming population increased from 126.1 percent in 1989 to 206.4 percent in 1997.

75 Figure 2 and the following discussions were derived from CEPD (1998b).
Second, owing to piecemeal expansions of various social welfare programs, government subsidies on insurance premiums for many of the insurants were based on their occupations rather than income status. Hence, the distribution of welfare resources is far from equitable. There is substantial room for welfare reform, if one considers government subsidy to be “welfare.” Third, existing income security programs have no mechanism for transferring insurants’ equity from one retirement scheme to another. If one changes jobs involving two different insurance schemes, then the lack of a transferring mechanism would result in substantial loss to the insured. This lack of transfer mechanism in current income-security schemes could create a “lock-in effect” and reduce labor mobility in the labor market.

Fourth, the lump-sum payment for retirement benefits and pensions could lead to financial crisis if the recipients are unable to manage their retirement funds properly. A comprehensive national annuity system...
that would integrate various pension and social welfare programs to cover all of the working-age population is expected to be implemented before 2000. The principle for basic annuity is to require that all working individuals under age 64 to join the national annuity system. Except for low- and middle-income households, everyone would have to contribute part of his or her income toward a trust fund until retirement age before he or she is eligible for the basic annuity. The retirement benefits would be tied to individual contributions.

If the proposed national annuity system is implemented by 2000 as planned, then the development of Taiwan’s belated welfare state could be described as an evolutionary process in its overall modernization. Its merits and drawbacks are to be evaluated in the next-to-last section.

The Gradualism Principle in the History of the National Health Insurance System

Contrary to the social welfare system for income security that is limited to a segment of the population, and selective welfare services to the needy only, the health care system in Taiwan is characterized by its comprehensiveness and near-universal coverage. Given the legal basis for providing extensive services for sanitation and health protection to its people, the government of Taiwan was dedicated to pursue the goal of good health for all people. Owing to rapid industrialization, urbanization, and demographic transition in the past decades, the demand for health care and medical services had increased over time. Yet, the development of health care and medical service and the eventual implementation of the National Health Insurance (NHI) system was characterized by a step-by-step gradualism principle in accordance with socioeconomic development, demographic transition, and democratization.

DEVELOPMENT OF PUBLIC HEALTH AND MEDICAL CARE IN THE POSTWAR PERIOD. Based on selected indexes of health performance—such as life expectancy at birth, infant mortality rate, and maternal mortality rate—reported in tables 1 and 2, Taiwan has reached a status of “high human development” among developing economies, and has even outperformed industrialized economies in many aspects such as infant mortality and maternal mortality rates. At the bottom of table 7, one can also find that the share of total health expenditures in GDP increased from 4.2 percent in 1990 to 5.48 percent in 1996. This ratio, though still far below those in industrial economies, is far above most other developing economies. It would be interesting to study Taiwan’s health care and medical services and derive some lessons for other developing economies. A brief review of the development of public health and medical care in the postwar period would be informative for many outsiders. We divide this history into three periods:

A) THE INCEPTION PERIOD (1947–70)

During the immediate postwar period, the government reconstructed the health services system and expanded medical education from what was left by the Japanese occupation. At the grass roots level a health station was set up in each township, whereas a health bureau was set up in each city and county district. The focus of public health was aimed at effective prevention and control of communicable diseases, the implementation of family planning, and the improvement of family and environmental

76 The proposed national annuity system would require all members of the working population aged 25 to 64 to join in the system by paying monthly premiums until they retire at age 65. The distribution of premiums under the current proposal is 20 percent paid by the government, 64 percent paid by the employer, and 16 percent paid by the employee.

77 The legal basis could be traced to the following stipulations in the Constitution and its amendments. Article 155 stipulates that “the State, in order to promote social welfare, shall establish a social insurance system.” Article 157 stipulates that “the State, in order to improve national health, shall establish extensive services for sanitation and health protection, and a system of public medical service.” Section 4 of Article 9 of the Constitutional amendment also stipulates that “the State shall promote national health insurance.”

78 The following section was derived from Department of Health (1994).

79 Major functions of health stations include medical services in outpatient clinics, services in maternal and children’s health care, family planning, prevention and control of chronic and acute diseases, health education, sanitation inspections, and immunization.
sanitation. The expansion of medical education enabled medical personnel and facilities to grow rapidly. Immunization programs were implemented and free vaccinations were made available for infants and children. Therefore, many communicable diseases were brought under effective control. In 1965, the World Health Organization (WHO) declared that Taiwan was free of malaria, and has renewed that designation since then. Other plagues such as smallpox and rabies were eliminated one after another.

Table 7. Statistic of Governmental Expenditure for Health, 1990–96

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<tr>
<td><strong>Government Sector</strong></td>
<td>29,086,496</td>
<td>34,391,982</td>
<td>40,288,075</td>
<td>44,784,459</td>
<td>44,293,149</td>
<td>42,435,251</td>
<td>42,128,728</td>
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<td><strong>Health Administration Agencies</strong></td>
<td>9,041,752</td>
<td>11,475,663</td>
<td>13,845,326</td>
<td>12,362,921</td>
<td>11,569,354</td>
<td>11,839,598</td>
<td>12,715,624</td>
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<td><strong>Current Account</strong></td>
<td>7,158,324</td>
<td>8,712,812</td>
<td>8,054,565</td>
<td>6,980,612</td>
<td>7,300,088</td>
<td>8,468,411</td>
<td>9,212,364</td>
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<tr>
<td><strong>Capital Account</strong></td>
<td>1,934,824</td>
<td>2,180,359</td>
<td>2,590,761</td>
<td>3,823,099</td>
<td>4,239,346</td>
<td>4,721,580</td>
<td>5,304,808</td>
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<td><strong>Medical Care Institutions</strong></td>
<td>909,920</td>
<td>1,112,720</td>
<td>997,214</td>
<td>874,828</td>
<td>868,411</td>
<td>712,554</td>
<td>673,971</td>
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<td><strong>Insurance Sector</strong></td>
<td>62,775,500</td>
<td>79,252,648</td>
<td>98,422,260</td>
<td>111,506,334</td>
<td>129,583,707</td>
<td>194,455,104</td>
<td>221,193,127</td>
</tr>
<tr>
<td><strong>Bureau of National Health Insurance Medical Benefits</strong></td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>162,580,621</td>
<td>221,193,127</td>
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<tr>
<td><strong>Government Employees’ Insurance (and related)</strong></td>
<td>10,558,024</td>
<td>12,683,592</td>
<td>16,021,742</td>
<td>19,546,405</td>
<td>22,872,835</td>
<td>24,639,804</td>
<td>21,775,566</td>
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<td><strong>Labor Insurance</strong></td>
<td>37,647,266</td>
<td>48,348,735</td>
<td>58,551,243</td>
<td>64,774,905</td>
<td>76,439,804</td>
<td>89,278,804</td>
<td>94,587,804</td>
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<tr>
<td><strong>Farmers Health Insurance</strong></td>
<td>14,351,813</td>
<td>17,203,230</td>
<td>21,939,799</td>
<td>25,764,837</td>
<td>30,421,506</td>
<td>35,924,405</td>
<td>39,768,804</td>
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<td><strong>Councilmen Health Insurance</strong></td>
<td>199,707</td>
<td>282,878</td>
<td>488,756</td>
<td>568,261</td>
<td>648,085</td>
<td>429,323</td>
<td>—</td>
</tr>
<tr>
<td><strong>Low-Income Household Health Insurance</strong></td>
<td>18,690</td>
<td>734,213</td>
<td>1,420,720</td>
<td>1,852,036</td>
<td>1,992,197</td>
<td>1,374,958</td>
<td>—</td>
</tr>
<tr>
<td><strong>Private Sector</strong></td>
<td>89,097,000</td>
<td>107,569,000</td>
<td>109,887,490</td>
<td>112,129,218</td>
<td>134,279,756</td>
<td>146,505,974</td>
<td>146,505,974</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>180,958,996</td>
<td>221,213,630</td>
<td>248,597,825</td>
<td>282,420,011</td>
<td>319,733,382</td>
<td>371,220,120</td>
<td>409,827,829</td>
</tr>
<tr>
<td><strong>Per Capita health expenditure (NT$)</strong></td>
<td>8945</td>
<td>10,815</td>
<td>12,036</td>
<td>13,546</td>
<td>15,163</td>
<td>17,455</td>
<td>19,114</td>
</tr>
<tr>
<td><strong>Health expenditure as percentage of GNP</strong></td>
<td>4.10%</td>
<td>4.49%</td>
<td>4.57%</td>
<td>4.73%</td>
<td>4.95%</td>
<td>5.33%</td>
<td>5.44%</td>
</tr>
<tr>
<td><strong>Health expenditure as percentage of GDP</strong></td>
<td>4.20%</td>
<td>4.60%</td>
<td>4.66%</td>
<td>4.81%</td>
<td>5.01%</td>
<td>5.39%</td>
<td>5.48%</td>
</tr>
</tbody>
</table>

a. After 1995, all insurance programs were integrated into NHI.

Source: Department of Health (1997).

During this period, there were only three major health insurance schemes, covering only a small segment of the population: Labor Insurance (LI) for private sector employees, Government Employees’ Insurance (GEI), and Retired Government Employees’ Insurance (RGEI). With limited medical resources, the government’s efforts were focused more on the prevention and control of diseases and less on concrete policy measures to promote health care and medical services for all people. However, at the time when institutionalized health insurance was limited to a small, segmented population, and the government could only take care of public health, the private sector had assumed a significantly active function in health care. During this period, a great majority of medical expenditures were covered by individuals, family members, extended families, and even mutual assistance groups from respective communities.

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80 The government is dedicated to eradicating the vaccine-preventable communicable diseases by freely providing immunization shots against polio, tuberculosis, hepatitis-B, and so on, for all infants and pre-school-age children.
B) THE EXPANSION PERIOD (1971–85)

Economic development and improvement of living standards created more demand for medical services and health care. It also led to rapid expansions of medical facilities and supplies of health personnel. The total number of health personnel increased from 18,227 to 66,278, and the number of hospitals went up from 7,107 to 12,323 in the period between 1971 and 1985. As a result, the number of health personnel per 10,000 increased from 12.16 to 34.42, and the number of hospital beds per 10,000 increased from 15.99 to 38.47 in the same period.81

Among different types of medical facilities, private clinics and hospitals have grown much faster than public ones. The expansion of public clinics and hospitals were limited by the government budget. By contrast, the growth of private ones was primarily based on the market demand for health care. The systemic education of medical personnel launched in the inception period could supply the public with the necessary labor force for medical care.

In fact, the government took a “market-friendly” approach to the expansion of private clinics and hospitals. Since the colonial period (1895–1945), medical profession had been able to attract the best talents from the inhabitants of Taiwan. From a political viewpoint, as intellectual elites were attracted to a busy medical career, and benefited from these profitable businesses, they would have less time to engage in political sabotage against the government—either colonial or authoritarian. Meanwhile, the medical profession used to be considered as a benevolent social service under which the government would only collect personal income taxes but not the general business (corporate) income taxes. Hence, given the social status of the medical profession and the market-friendly approach adopted by the government, the growth of private clinics and hospitals was not checked by the existence of the authoritarian regime (1947–87).

Meanwhile, the provisions of medical services by missionary hospitals and other nonprofit institutions had greatly enhanced the quantity and quality of medical services. However, in terms of the number of hospital beds, the private sector’s capacity multiplied by 2.85 while that of the public sector went up to 3.49 times the original number during this period.82 This phenomenon reflected the relative size of medical facilities between the private and public sectors.

Government efforts in developing the infrastructure of public health care enabled the health industry to grow rapidly in this period. Policy measures for health insurance were moving at an evolutionary pace. The three major insurance programs—Labor Insurance, Government Employment Insurance (including retired employees), and Insurance for private school teachers and administrative staffs—expanded the number of their insurants steadily to nearly 40 percent of the total population during this period. Each of these programs were gradually expanded to cover the spouses and dependent children of the insured.

Among major insurance programs, the Government Employees’ Insurance program has been operating with persistent deficits that are mainly compensated by general tax revenues rather than raising insurance premiums. The operating deficits in all health insurance programs increased steadily and had exceeded 20 percent of total operating costs by the mid-1980s. Cumulative operating deficits from Government Employees’ Insurance and Labor Insurance exceeded NT$140 billion by the early 1990s prior to the implementation of NHI in March 1995. In other words, in addition to subsidies on insurance

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81 From DGBAS (1995), table 56 (Medical Facilities and Health Personnel).
82 Calculated from Department of Health (1996b).
premiums for various insurants, the government subsidized 20 percent of the operating cost of health insurance for those insurers that took care of nearly 40 percent of the total population. This legacy eventually leads to a proliferation of “entitlement,” as the government has to subsidize health insurance premiums for some segments of the population in order to persuade them to join the NHI scheme. However, we should note that medical care and health expenses accounted for 4.5–5.3 percent of household consumption expenditures during this period. In other words, individuals, families (and extended families, if any), still assumed the main responsibility for medical expenses for the uninsured.


One legacy of the rapid expansion period is an unequal distribution of medical care resources among different geographic regions. A major step of integrating the existing health and medical care system in this period was establishing a medical care network, and then promulgating the Medical Care Law and amending the Physician’s Law. This was followed by a second-stage plan that stressed the addition of primary care units, establishing district hospitals, and setting up an emergency medical care network. Meanwhile, the Farmers’ Health Insurance (FHI) program was installed in July 1989, and other insurance schemes were gradually expanded to cover more retirees and dependents of the insured. By 1994, 57.6 percent of the total population was covered under various health insurance programs.

In 1986, the government declared its determination to implement the National Health Insurance (NHI) system by 2000. Later, it was announced that NHI would be intact before 1994. On July 19, 1994, the Legislative Yuan passed the “National Health Insurance Law,” which was amended later to include the provision of “mandatory enrollment” in the program. Eventually, the plan was implemented in March 1995. Essentially, NHI integrated the existing health insurance programs within Government Employees’ Insurance, Labor Insurance, and Farmers’ Health Insurance systems and other programs, and extended the coverage to insured individuals’ dependents, spouses, and others—thus creating a comprehensive national insurance system. Anyone who has registered for residence in Taiwan for more than four months is eligible to use the NHI system. Within nine months of its actual start, the newly initiated NHI covered 92.34 percent of the total population by December 1995, and increased this to 96.27 percent by January 1997—a jump of nearly 8 million insured in less than two years. Among the remaining 3.71 percent of uninsured individuals (nearly 0.8 million), most of them belong to socially disadvantaged groups.

A COMPARISON OF THE DEVELOPMENT OF HEALTH INSURANCE SYSTEMS IN JAPAN AND TAIWAN. In many respects, the progress of Taiwan’s medical care and health insurance is similar to those in industrialized economies, especially Japan. However, NHI in Taiwan was a considerably belated development of social policy in comparison with most OECD economies. In the 1960s and early 1970s, the greatest emphasis regarding health care in industrialized economies remained on the establishment of a strengthened health care system, and the question of promoting equitable medical services. The emphasis on health promotion came at a later date in most OECD economies, as it did in Taiwan. But, in spite of their similarity in developing health care, the initiation date of a comprehensive health insurance system in Taiwan was late compared with what had occurred in Japan.

Why did Taiwan implement its comprehensive NHI at a later stage than Japan, which had its Comprehensive Health Insurance system (CHI) as early as 1961? In addition to different stages of economic development between Japan and Taiwan, there are at least three major reasons for Taiwan’s belated development of its NHI. The first one was in the different weights of national defense expenditures in respective government budgets. As noted previously, Taiwan’s government had to spend more than 40

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84 At that time, one practicing physician in villages or townships served 4,000 persons, whereas his or her counterpart in urban areas served only 1,800.
percent of its budget on national defense in the 1960s, and nearly 30 percent in the 1970s. Given the heavy burden on national defense, the legal protection on educational expenditures in the government budget, and the legacies of existing insurance programs (which required the government to cover the operating deficits through general tax revenues), the government could not afford to implement the NHI plan at an earlier date. Such a comprehensive insurance system could not be introduced until the share of national defense in government budget decreased in the 1990s. The second reason was the relative scarcity of medical facilities in Taiwan. Available medical facilities in Taiwan in the 1990s were much less developed compared with Japan when the CHI system was installed in the 1960s. Although the number of physicians per 10,000 people was 12.9 in Taiwan in 1995, comparable to a figure of 11.04 in Japan in 1960, if we exclude traditional Chinese herb specialists working as doctors, then Taiwan had only 8.7 physicians per 10,000 people in 1995, which is much less than the Japanese figure prior to the implementation of its CHI in 1960. The number of hospital beds per 10,000 people in Japan was 73.5 in 1960, but was only 52.62 in Taiwan when NHI started in 1995.85 In terms of the percentage of population covered by health insurance, Japan reached 98.7 percent in 1960 whereas Taiwan only reached 57.6 percent prior to the initiation of NHI. So, to implement the CHI in Japan would only marginally expand its coverage and modestly increase demand for medical services. The NHI system in Taiwan, by contrast, substantially increased the demand for medical care services as its insured population increased by nearly 35 percent of the total population.

Third, Japan’s democratization was completed by the early 1950s whereas Taiwan started its full-scale democratization as late as 1987, when Martial Law was lifted. Undoubtedly, Taiwan’s NHI was speeded up by strong populist pressure after democratization gained its momentum in the late 1980s. Had Taiwan been democratized at an earlier date, then the NHI system could probably come into play by populist pressure at an earlier date than the mid-1990s.

CURRENT STATUS OF THE NHI SCHEME: PROBLEMS AND PROSPECTS. At the time of writing (May 1998), Taiwan’s belated NHI has just completed its third year of operation after its initiation. Currently, NHI covers 96.27 percent of the total population, an increase of 7.9 million people in less than three years. Contracted clinics and hospitals account for 91 percent of all health institutions. By the end of 1996, administrative expenditures of NHI only accounted for 2.55 percent of total operating costs. This ratio is not only far below the legal ceiling of 3.5 percent, but is also lower than equivalent figures in other industrialized economies. Hence, NHI has achieved significant administrative efficiency in its first three years of operation.

Theoretically speaking, NHI in Taiwan is based on the principles of “self-sufficiency” and “risk-sharing.” Except for the administrative cost and subsidies of the premiums for legally targeted segments of the population,86 the government is not supposed to be responsible for any operational losses or gains. Moreover, the insurance premiums (which are shared by the employers, employees, and the government) are supposed to be adjusted periodically with a ceiling of the premium rate of 6 percent. Revenues from premiums (contributions) are expected to meet total operational expenditures with 5 percent of the total contributions to be deposited as a Security Fund to balance the incomes and expenditures in the longer run. Relative to the controversy revolving about the coverage and cost-sharing of the social welfare system, the implementation of NHI had a more widespread consensus among the public in that the “pay as you go” principle was more socially acceptable. The policy objective of having its “contribution in line with expenditures” and “self-sufficiency” in its financial structure was met in the first few years of

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85 For international comparisons, the number of hospital beds per 10,000 people was 37 in Korea, 46 in the United States, and 158 in Japan in 1995. The number of physicians per 10,000 people was 17 in Japan, and 22 in the United States in 1995.
86 In addition to paying 60 percent of the insurance premium as an employer for military dependents and government employees, the government subsidized 100 percent of the insurance premiums for low-income families and retired servicemen (70 percent for their dependents), 70 percent for farmers and fishermen, 40 percent for organized communities and members of occupational associations, 30 percent for private school teachers, and 10 percent for laborers in the private sector.
implementation. To control waste in medical care services under the NHI scheme, the government set up an auditing system to manage and supervise the providers’ contracts, and to monitor and investigate the claims. A copayment system with a lower rate for primary care clinics and higher rates for regional hospitals and medical centers is expected to encourage patients to use the primary care clinics for minor illnesses, and large hospitals only for more complicated cases and for more comprehensive care. The ceilings on various schemes of copayment include 6 percent of the average per capita income in the previous year, 30 days for the discharge of an acute patient, and one year for inpatient care.

One basic principle of keeping the cost of health insurance in check is the “equal payment for equal service” for outpatient care, and the diagnosis-related group practice of per-case payment for inpatient care. With regulations on fee schedules, the government anticipated that competition among medical care providers would improve the quality and efficiency of medical care services under NHI. However, critics pointed out that there was a lack of cost-sharing mechanism because the insured only pay a nominal registration fee regardless of the intensity of treatment.87 For inpatient care, the cost-sharing scheme is to pay additional charges for upgrading beds and part of the cost of meals during hospital stays. The lack of an appropriate cost-sharing mechanism could lead to the abuse of medical resources and eventually jeopardize the financial solvency of the NHI system.

As reported in table 7, government expenditures for health care increased from NT$180.96 billion in 1990 to NT$409.83 billion in 1996. After adjustment based on the consumer price index, there was a net increase of 88.73 percent in health spending between 1990 and 1996. By breaking down government health expenditures into government, insurance, and private sectors, one can find out from table 7 that the share of the government sector in health expenditures decreased from 16.07 percent in 1990 to 10.28 percent in 1996, while that of the private sector decreased from 49.24 percent to 35.75 percent in the same period. The share of the insurance sector, by contrast, increased from 34.69 percent in 1990 to 53.97 percent in 1996. As noted before, government subsidy on insurance premiums accounted for nearly one-third of the NHI budget after 1995. Hence, one can argue that government share in overall health expenditure was approximately 26.5 percent in 1996.

By the end of 1997, the revenues collected from premiums exceeded program expenses. However, the growth rate of these is only 3.3 percent per year, whereas that of spending was more than 7 percent since NHI was implemented. Moreover, with the expansion of the coverage of NHI and the liberalizing of the copayment waiver, the target of controlling the growth rate of expense at 10 percent per year may not be feasible in the near future. Hence, the fiscal structure of the NHI scheme must be adjusted before its eventual insolvency in the longer term.

Next, government subsidies on insurance premiums for the legally targeted population accounted for nearly one-third of the total NHI budget. Hence, Taiwan’s government seemed to assume a vital role in maintaining the financial stability of NHI. This caused a dramatic growth of social welfare expenditures in the government budget at a rate of 46.2 percent in 1995 and 25.1 percent in 1996—at a time when total government expenditures went up by only 8.4 percent and came down by 3.3 percent, respectively, in these two fiscal years.88 Direct government involvement in the NHI scheme has put the government in a shaky position of assuming the risk of managing public health, rather than spreading the risk to the insured population. In that regard, it seemed that the government of Taiwan had decided that health insurance was a “public good.” Therefore, the government subsidized health insurance premiums for various target populations through general tax revenues. Other examples of this involve NHI being extended to many

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87 The registration fee is NT$50.00 for each office visit at the primary care clinic and district hospital, and NT$100.00 at regional and medical hospitals. By converting into U.S. dollars at the current exchange rate, they are $1.43 and $2.86, respectively.

88 Calculated from Ministry of Finance (1995, table 3). The figures refer to net government expenditures at all levels of government.
areas of public health care such as insurance for AIDS patients and the management of the separation of medical services from dispensing prescriptions.  

However, any “public good” is bound to result in a “free rider” problem unless there is a clear-cut principle of cost-sharing. It seems that the legacy of piecemeal expansions of welfare has already generated a misconception about the risk-sharing principle of NHI among the general public. In addition to the lack of a cost-sharing mechanism, government subsidy on health insurance premiums would mix the insurance principle in with entitlement programs and violate the “risk-sharing” and “pay as you go” principles of any insurance system. Moreover, the government’s subsidizing various segments of the insured population based on occupational status distorts the redistributive effect of transfer payments and aggravates income inequality, as indicated before. Hence, for the NHI system to become sustainable, it is necessary to review the legitimacy and social justice of government subsidies on insurance premiums, the cost-sharing schemes for medical services, the quality of medical service provided, and alternative systems in terms of managerial efficacy. None of these reviews would be easy to accomplish given the current political constraints of immature democracy.

The expanding NHI did increase the delivery of medical services according to the statistics of the Health Department; the number of clinic visits increased 13 percent between 1994 and 1995. The number of in-hospital patients increased 9.4 percent and the average hospital stay went up from 11 days per person to 15 days in the same period. As a result, the occupancy rate of hospital beds increased from 55 percent in 1994 to 61 percent in 1995—an increase of 6 percentage points a year after the implementation of NHI. It is difficult to evaluate whether there is any social waste caused by the abuse of the NHI system. At present, there is no accurate dataset available to measure the quality of medical services in Taiwan. However, one survey has shown that the approval rate of NHI increased from 33 percent in the early days of its implementation to 78.4 percent in January 1998.

The government seems to have deliberately upgraded the delivery of medical care services by integrating health and medical care systems (the former applies to preventive care, and the latter to treatment), and by providing computerized information services so as to make immediate and adequate health and medical care services available to the people. Therefore, medical service and health care in Taiwan can be further upgraded to levels that are close to those in OECD economies. Consequently, Taiwan’s health performance—in addition to the increasing life expectancy and declining infant mortality rates reported in table 2—is reflected in the changes of major causes of death from acute infectious diseases such as gastritis, pneumonia, and tuberculosis to chronic diseases, accidents, and injuries.

Another interesting aspect is observed by comparing the role of government in health care with those of other developing economies. The Korean government, for instance, only covered administrative costs while it left insurance premiums to be entirely borne by employers and the insured. Even though government subsidies in Taiwan of insurance premiums for low-income families and retired servicemen (100 percent) may be justified for social equity, other subsidies on insurance premiums based on occupations of the insured—such as farmers and fishermen (70 percent) and community-based populations (40 percent)—were mainly attributable to political rather than socioeconomic justifications. As a result of

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89 Physicians in Taiwan used to perform a dual duty of providing medical services and dispensing prescriptions to their patients. The law required that dispensing prescriptions be separated from performing medical services after two years of implementing the NHI scheme. Therefore, Taiwan was supposed to implement the policy by March 1, 1997. Under heavy fire from pharmacists, it was postponed for one more year, to March 1, 1998.
90 After integrating into the NHI system, in addition to the 60 percent share of insurance premiums for its own employees’ insurance, the government also shared 10 percent of the insurance premiums for labor insurance and 70 percent of farmers’ insurance. The discriminatory treatment of different professions is challenged by critics on grounds of social injustice.
91 Under the NHI Act, there is a sunset clause that requires the government to review the entire NHI system after two years of its operation. At the time of writing (May 1998), it was reported that the government had decided to transform the NHI scheme into a “government-operated but privately managed” health care system based on the self-sufficiency principle.
those entitlement programs, government subsidy on insurance premiums accounted for one-third of the operating budget of the NHI system. Hence, the share of social welfare expenditures at all levels of the government budget (including pensions and survivors’ benefits) in Taiwan reached 21.2 percent in 1996, compared with only 13 percent in Korea.

There are five major policy objectives for the NHI system to pursue in the near future.\(^{92}\)

1. To expand NHI coverage by universally insuring all of the population. Because most of the remaining uninsured are in disadvantaged groups, residents in mountainous areas and offshore islands, and unemployed people, it may require further government subsidy on the marginal population who cannot afford to pay premiums, and yet are not eligible for government subsidy under the present social assistance act.

2. To maintain the financial solvency of the NHI scheme. To accomplish this goal, it is necessary to require the government to set up an actuarial model by equitably determining premiums for all insurants. In particular, as pointed out by critics, government employees should pay their premiums based on total salaries. Next, to improve the management of the Safety Fund by investing in government, corporate and treasury bonds, and by depositing the collected premiums in interest-bearing and other profitable financial assets. Then, to control medical costs charged by the providers, and to set up an appropriate cost-sharing mechanism to keep an eye on the abuse of medical resources and to build a healthy and sustainable financial system for NHI.

3. To provide equal opportunities for all insured people. Policy measures such as reducing the medical costs of residents in the mountainous and remote areas, and balancing the distribution of medical resources between urban and rural areas to increase the accessibility of medical services for everyone should be seriously considered.

4. To improve the managerial efficacy of NHI. Many policy proposals such as privatizing the NHI system and increasing managerial autonomy are still pending on legislative actions. This process needs to be speeded up.

5. To improve the quality of medical service by monitoring the providers. All of these policy measures bring us close to the “Goal of Health for All,” set by the Health White Paper announced by the Department of Health in 1994.

In summary, Taiwan’s gradualism in providing comprehensive health insurance for its people was brought on by its budgetary constraints generated by the heavy burden on national defense, the availability of medical facilities, and the late arrival of its democratization. Political calculations have resulted in the piecemeal expansion of social welfare programs under the principle of gradualism, mandating the government to subsidize insurance premiums for several segments of the population. To some extent, the government of Taiwan has considered health care as a public good, which invited direct government involvement in managing NHI. But without a clear-cut cost-sharing scheme, it is easy to encounter the free-rider problem and the abuse of medical resources.

Government subsidy on insurance premiums for low-income families may be justifiable for social equity, but not necessarily for other people based on occupation. As government subsidy accounted for a significant share of health expenditures, the risk-sharing NHI system has turned into entitlement.

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\(^{92}\) The following statements were derived from CEPD (1998b).
As demand for health care increases over time, medical resources need to be appropriately allocated to accomplish the “Goal of Health for All.” Given the increasing dependency ratio (caused by the aging of the population) and the high income-elasticity of demand for health and medical services, Taiwan may have to spend more and more on health and medical care in the future.

**An Evaluation of the Development of Social Spending in Taiwan**

Social expenditures in Taiwan are somewhat unique with divergent patterns in their respective paths of development. Investment in human capital for economic development was carried out by labor force planning programs, through government priority funding in educational budgets. Though the supply of labor was monitored by the government, a combination of government planning and market mechanism through open competition for educational advancement enabled individuals to pursue their own goals.

Considering health care as a public good, the government implemented a comprehensive national health insurance system (NHI) through a gradualist approach based on available financial and medical resources. The step-by-step expansions of various health insurance programs before eventually coming together under a unified NHI is another unique feature of Taiwan’s experience in the provision of health care. The gradualism in pushing toward the “health for all” principle through a comprehensive NHI was driven in accordance with the availability of financial and medical resources, and political considerations involving heavy national defense spending and election politics.

Since social welfare expenditures used to be dominated by the pensions and survivors’ benefits for a segment of the population, the theory of welfare clientelism seems to have some validity. A comprehensive “safety net” of income security for all people will be implemented by integrating existing pension schemes into a National Annuity System in the future. Before the comprehensive National Annuity System was initiated, piecemeal expansions of social welfare resulted in substantial legacies in terms of unfunded social welfare payments. The following evaluations could possibly offer some lessons for other developing economies when they are mapping out their social expenditures policies.

**Education:** A free, nine-year compulsory education at the primary and junior high school levels of education is required by law. By the academic year 2001, this will be extended to 12 years (the senior high school level). Periodic adjustment of the enrollment ratios between vocational schools and senior high schools, and labor force planning regarding college enrollment are intended to coordinate the supply of labor with that of market demand. The distributional pyramid of educational expenditures is consistent with social rates of return on all levels of education. The education system is a mixture of government planning and market competition, with government monitoring the outputs of education through budgetary allocation while allowing individuals to compete with each other for educational advancement. The constitutional mandate of the priority allocation of government budget on education—though eroded somewhat at the central government level during the period of authoritarian rule—is an important lesson for other developing economies, especially for those whose military expenditures dominate the overall government budgets. The rationale of having legal protection over education expenditures may not be totally justified on economic grounds, and may result in policy distortions regarding resource allocation. Nevertheless, the approach symbolizes the importance of government emphasis on education, which is critical for nurturing human capital for economic development in most developing economies.

An indicative labor force planning policy that links the output of education with market demand, though not without any adverse consequence, is another distinguished characteristic of the education system in Taiwan. Even though the eventual supply of educated labor may not completely match the dynamic market demand of the labor market at specific industry levels, the policy has at least provided a general outlook on employment structure and probably sown the seed for its future development. The
efficacy of Taiwan’s human resources was more prominent during the early stage of economic development, when the government could project the labor market demand better and control higher education enrollment tightly. As the economic structure gets more complex and the projection of labor market demand becomes more difficult in the later stages of economic development, broader guidelines with a much more flexible educational policy becomes necessary. That is one reason why the liberalization of education, especially the deregulation of higher education occurred in the late 1980s.

If education is considered an investment, then Taiwan’s education policy could offer some lessons for developing economies. For those developing economies in which the labor market is fragmented, and in which recipients of education generally are inexperienced investors, indicative planning with some flexibility to accommodate individual differences on education may be a vital alternative to the laissez-faire approach. But, any sound policy must be adjusted periodically in accordance with the changing socioeconomic environment. Meanwhile in Taiwan, the government’s emphasis on education is complemented by the full support of the private sector owing to the society’s Confucian, scholastic nature—which regards intellectual elites as highly respected role models of character development. The nonpecuniary reward of educational achievement is valued highly in a Confucian society such as Taiwan. Returns from investment in education are not limited to conventional growth accounting or rates of returns. Rather, the externality of education in Taiwan has widely spread to its social stratification, democratization, and overall modernization.

Social welfare: Taiwan’s gradualism in expanding its social welfare system—which resulted from its unique conditions of initial equitable distribution of land and income, its Confucian welfare state, and its long period of authoritarian regime—has both positive and negative lessons for other developing economies. First of all, equitable distribution of land ownership and income at the initial stage of economic development enabled the government to focus more on growth rather than income redistribution. Therefore, budgetary allocation could emphasize education and health care to nurture the necessary human capital for economic development. The export-promotion development strategy based on labor-intensive industries generated more labor employment, created more equitable income, and reduced the demand for social welfare. The traditional family in this Confucian society had already assumed a significant social service function—which was later eroded owing to developments we have discussed at length. Each of these substantially slowed down the demand for social welfare in the early stage of development.

However, a delayed social welfare system led to legacies associated with welfare politics and the proliferation of unfunded social welfare payments. Under the authoritarian regime that ruled until 1987, social welfare was considered as an act of benevolence offered by the leader or the government. The institutionalization of comprehensive social welfare, which generates benefits for all eligible people, would not mesh with such leaders’ own interests. Not surprisingly, benevolent social welfare policy under the authoritarian regime resulted in substantial damage caused by the piecemeal expansions of social welfare without funded revenues.

Interestingly, the repressed demand for social welfare turned full-swing in the other direction once democratization gained momentum. Under competitive multiparty election politics, welfare became a tool for buying votes. In this type of situation, unless the majority of the voters are mature enough to realize the eventual insolvency of unfunded welfare programs, the proliferation of unfunded entitlements could possibly become a long-term catastrophe for government finance.

Unlike Singapore where paternalistic democracy is able to require the entire working population to join the Central Provident Fund as a condition of retirement, populist pressure in Taiwan has caused the proliferation of unfunded social welfare schemes such as monthly benefits for the elderly population in
some local jurisdictions. This development might be a disincentive for the working population to join the proposed national annuity program in the future. The long tradition of nonsystemic, piecemeal expansions of social welfare has affected Taiwan’s reputable record of social equity as well. In the past, government subsidy of insurance premiums based on occupational status had blurred the line between the risk-sharing principle with entitlement to social welfare. It also undercut the redistributive effect of transfer payments and became detrimental to social equity. Moreover, operating deficits of various insurance programs were mainly compensated by general tax revenues rather than raising insurance premiums. The risk-sharing principle of social insurance was entangled with the entitlement of public assistance for the needy (in the case of subsidies for middle- and low-income households) and welfare services (in the case of subsidies for farmers’ insurance). In particular, the provisions of monthly living allowances for the aged farmers are challenged by critics in terms of their economic rationale and with regard to social justice. Hence, government transfer payments deserve public scrutiny.

Next, the lack of a national consensus on the distinctions among social insurance, welfare services, and social assistance led to program proliferation without sustainable revenue sources. The central government adopted the principle of piecemeal expansions of social welfare whereas local governments under the command of opposition parties (and independents—those not affiliated with the ruling party) seized the opportunity to generate voters’ support by locally liberalizing entitlement, as discussed earlier. This development of free rides from piecemeal expansions of various social welfare schemes could lead to an endless increase of entitlement programs without funding revenues, and could possibly affect the social acceptability of the proposed national annuity program. Hence, welfare clientelism in this immature democracy could possibly affect the social acceptance and eventual implementation of the national annuity program in the future. Moreover, until the comprehensive income security system is initiated, the tendency of welfare clientelism could lead to a groundswell of resentment as the turnover of government leadership occurs.

Taiwan’s experience offers an important lesson for other developing economies. The establishment of a sustainable social welfare system requires government leadership with a long-term vision. Since democracy and strong government leadership is not always compatible, a sustainable social welfare system requires mature public servants and intelligent voters in their constituencies. None of these is readily available in most developing economies.

Moreover, an important lesson to derive from the Taiwan case is that a long tradition of equitable income distribution could be jeopardized by a sudden shift of trade regimes. The destructive legacy of mismanagement in the wake of the trade surplus has darkened Taiwan’s enviable record of growth along with equity. Trade liberalization in the second half of the 1980s without an accompanying, appropriate taxing policy to eliminate windfall profits of nontradable goods substantially undermined social equity. The redistribution of assets had generated a new class of urban poor by the end of the mid-1980s. In spite of Sun Yat-sen’s teachings of socializing real estate profits from land speculation in urban areas, which had indoctrinated the KMT leaders in the past, the government faced political constraints of redistributing urban landownership in the 1980s. Consequently social resentment emerged among the urban poor after decades of development. An important lesson in this for a developing economy with an accumulated trade surplus is that a transition of trade regime from protection to liberalization must be accompanied by appropriate taxing policy to maintain social equity.

In terms of income security for the elderly, recipients in Taiwan are allowed to withdraw their pensions in the form of a lump-sum payment rather than annuity. Their economic security could be affected by either unanticipated inflation or individual financial mismanagement. Meanwhile, the lack of a transferring mechanism among various pension schemes could also generate a “lock-in effect” in the labor
The political pressure to grant benefits to the elderly was reinforced by the demographic transition of accelerated population aging. Similar to what had happened to Japan and other OECD economies, Taiwan faced an aging population as its economic growth started to decelerate. The percentage of people aged 65 and over in the total population was only 5.1 percent in 1985; it reached 7.81 percent in 1996, and is projected to be 10 percent in 2010. According to various population projections by the government, this percentage will be doubled by 2031. The trend of population aging in Taiwan is much faster than in Japan and other OECD economies.93

The growth rate of the economy in Taiwan declined from an average of nearly 8 percent in the 1980s to an average of 6.5 percent during the 1991–97 period. However, unlike Japan and other OECD economies—which encountered an aging population after they had enjoyed a long period of high economic growth with a per capita income in excess of $30,000—Taiwan faced the same problem while its per capita income was roughly one-third of that in Japan. This makes welfare reform to deal with the challenge of demographic transition imperative. Is Taiwan well prepared or ill-prepared for challenges facing its social welfare system at a time of decelerating economic growth? Another interesting question to be addressed is how to accommodate the demand for social welfare while maintaining the indigenous social system. It has been argued that the erosion of the traditional family system and the Confucian welfare state of mutual assistance, though not entirely avoidable during a process of modernization, could possibly be minimized by appropriately designing a family-oriented, non-Western, if not uniquely East Asian, social welfare system in the near future.

**Health Care:** The comprehensive NHI system, which was set up through the gradualist approach, is expected to be self-sufficient with no government support except for the reimbursement of administrative costs. However, the government subsidy of health insurance premiums for some segments of the population account for one-third of NHI expenditures. Can government subsidy on health insurance premiums be considered as an entitlement program? What is the rationale for government contributions of insurance premiums to various categories of insured individuals based on their occupations? Obviously, many of these subsidies came about owing to the legacy of gradualism and associated piecemeal expansions of the social welfare system. (You will remember that the government had already subsidized the operation deficits of many existing insurance programs before implementing the NHI scheme.) By increasing the government’s financial burden without additional tax revenues, NHI aggravated the overall government budget deficit from the day of its implementation—even though it was supposed to be self-sufficient.

Gradualism in implementing the comprehensive NHI was due less to the constraints in medical facilities than to the heavy burden of national defense spending prior to the mid-1980s, and the late arrival of democratization. For other developing economies that have no comparable burden involving national defense, and that have gone from colonization directly to democracy, a prolonged postponement of comprehensive health insurance may not be necessary. If the experience of Taiwan’s NHI has any educational value for other developing economies, it might be the recognition that health is a public good; there will be no healthy economy unless there are healthy people. However, the cost of this public good must be equitably shared by all of its recipients. A comprehensive health insurance system with equitable shares of operating expenses through self-sustaining premiums should be implemented as soon as possible.

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93 This is shorter than the periods of 24 years in Japan, and 50 years in Europe. See Chen Shiou Hung (1996).
Summary and Conclusions: Are There Any Transferable Experiences for Other Developing Economies?

What are the policy implications of all this for other developing economies? Are there any transferable experiences from the development of social expenditures in Taiwan? To transfer any developmental experience from any model economy to others, we must, at a minimum, address three interrelated questions:

1. Is the experience unique? Or is it relevant to other developing economies?

2. Are there any pushing forces from the model economy or from international development institutes such as the World Bank?

3. What are the attitudes of developing economies in emulating the model?

This study can only address the first question by offering assessments based on the experience in Taiwan regarding the development of social spending; the other two are beyond our scope. Taiwan’s model of developing its social expenditures includes positive and negative experiences, both of which are potentially useful as lessons.

Positive aspects include the performance of growth without relinquishing equitable income distribution, legal protection on the minimum shares of educational expenditures in the budget during the period of authoritarian rule, investment in human capital through education and labor force planning, selected social welfare programs for the needy with rigid criteria to minimize abuse, and gradualism in expanding the comprehensive national health insurance system to achieve the goal of health care for all.

The negative aspects are the unequitable distribution of assets owing to the lack of coordination between trade liberalization and taxing policy in dealing with windfall profits accumulated by existing owners of nontradable goods in the 1980s; the lack of national consensus on the distinctions among social assistance, social insurance, and welfare service; the vote-buying aspect of welfare politics and welfare clientelism without funded revenues; the mixing of social insurance for income security with entitlement; the violation of the risk-sharing principle by government subsidies on insurance premiums; and the reverse redistributive effect of transfer payments through government subsidy insurance premiums based on one’s occupation.

At a time when the government in Taiwan was expected to improve its social infrastructure (for example, institutionalizing the national annuity programs for the new dynamic industrial society), it faced a radical process of democratization without a compatible political culture. Unlike Singapore’s Central Provident Fund, which was set up at an earlier date under a paternalistic democracy, the proposed National Annuity System in Taiwan is yet to institutionalize owing to lack of a national consensus on social welfare. As a result, a comprehensive social security program for income maintenance is not available even though the GNP per capita exceeds $12,000 and the economy is listed as one of the “advanced economies” of the world by the International Monetary Fund (as of 1998). We can say, then, in conclusion, that the legacies of Western welfare politics entered Taiwan along with hasty democratization. Other developing economies with immature democracies should be determined to avoid this fate by mapping out their social welfare system at an earlier stage of economic development.
References

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Appendix

Diagram 1-A. Infant Mortality Rate 1996–96

Source: Department of Health, Executive Yuan.

Diagram 1-B. Maternal Mortality Rate 1996–96

Source: Department of Health, Executive Yuan.
Diagram 2-A. Percentage of Public Education Expenditures in Government Budget

Source: Data for Public Expenditure Education Statistics 1996, Ministry of Education.

Diagram 2-B. Percentage of Education Expenditure in Total GNP

Diagram 3-A. *Net Enrollment Rates by School-age Population Group*

![Diagram 3-A](image)


Diagram 3-B. *Gross Enrollment Rates by School-age Population Group*

![Diagram 3-B](image)

Diagram 4. Composition of Education Expenditure by Levels of Education


Diagram 5. Education Attainment of Population (Aged 6 and over)

**Diagram 6.** Educational Attainment of Population (Aged 15 and over)

![Diagram 6](image)


**Diagram 7.** Structure of Household Consumption Expenditure

![Diagram 7](image)

*Source:* Social Indicators, 1996.