

SWP760

**International Experience in Budgetary Trends
during Economic Development
and Its Relevance for China**

Luc De Wulf

WORLD BANK STAFF WORKING PAPERS

Number 760

A Background Study

for

China: Long-Term Development Issues and Options



Long-Term Development Issues and Options

This report is supplemented by six annex volumes published by the World Bank:

- 1 China: Issues and Prospects in Education
- 2 China: Agriculture to the Year 2000
- 3 China: The Energy Sector
- 4 China: Economic Model and Projections
- 5 China: Economic Structure in International Perspective
- 6 China: The Transport Sector

In addition, nine background papers, numbered here as they are referred to in the text, have been prepared in connection with the report. They are available as World Bank staff working papers.

- 1 The Asian Experience in Rural Nonagricultural Development and Its Relevance for China (Staff Working Paper 757)
- 2 International Experience in Urbanization and Its Relevance for China (Staff Working Paper 758)
- 3 Alternative International Economic Strategies and Their Relevance for China (Staff Working Paper 759)
- 4 International Experience in Budgetary Trends during Economic Development and Their Relevance for China (Staff Working Paper 760)
- 5 Productivity Growth and Technological Change in Chinese Industry (Staff Working Paper 761)
- 6 Issues in the Technological Development of China's Electronics Sector (Staff Working Paper 762)
- 7 The Environment for Technological Change in Centrally Planned Economies (Staff Working Paper 718)
- 8 Managing Technological Development: Lessons from the Newly Industrializing Countries (Staff Working Paper 717)
- 9 Growth and Structural Change in Large Low-Income Countries (Staff Working Paper 763)

WORLD BANK STAFF WORKING PAPERS
Number 760

A Background Study
for

China: Long-Term Development Issues and Options

**International Experience in Budgetary Trends
during Economic Development
and Its Relevance for China**

Luc De Wulf

The World Bank
Washington, D.C., U.S.A.

Copyright © 1986
The International Bank for Reconstruction
and Development/THE WORLD BANK
1818 H Street, N.W.
Washington, D.C. 20433, U.S.A.

All rights reserved
Manufactured in the United States of America
First printing February 1986

This is a working document published informally by the World Bank. To present the results of research with the least possible delay, the typescript has not been prepared in accordance with the procedures appropriate to formal printed texts, and the World Bank accepts no responsibility for errors. The publication is supplied at a token charge to defray part of the cost of manufacture and distribution.

The World Bank does not accept responsibility for the views expressed herein, which are those of the authors and should not be attributed to the World Bank or to its affiliated organizations. The findings, interpretations, and conclusions are the results of research supported by the Bank; they do not necessarily represent official policy of the Bank. The designations employed, the presentation of material, and any maps used in this document are solely for the convenience of the reader and do not imply the expression of any opinion whatsoever on the part of the World Bank or its affiliates concerning the legal status of any country, territory, city, area, or of its authorities, or concerning the delimitation of its boundaries, or national affiliation.

The most recent World Bank publications are described in the annual spring and fall lists; the continuing research program is described in the annual *Abstracts of Current Studies*. The latest edition of each is available free of charge from the Publications Sales Unit, Department T, The World Bank, 1818 H Street, N.W., Washington, D.C. 20433, U.S.A., or from the European Office of the Bank, 66 avenue d'Iéna, 75116 Paris, France.

Luc De Wulf is a senior economist in the Asian Department of the International Monetary Fund.

Library of Congress Cataloging-in-Publication Data

Wulf, Luc de, 1942-

International experience in budgetary trends
during economic development and its relevance for
China.

(World Bank staff working papers ; no. 760)

Bibliography: p.

1. Budget--China. 2. Budget--Developing countries.

I. Title. II. Series.

HJ2172.W85 1986 336.51 86-1561

ISBN 0-8213-0710-X

Abstract

This study compares China's government finance sector with that of other low-income countries and draws lessons from the structural differences between the public sectors of low- and middle-income countries. In light of China's objective to move to a middle-income status by the end of the century, and its recent progress in implementing economic reforms, such a study appears very timely.

Table of Contents

	<u>Page No.</u>
1. INTRODUCTION.....	1
2. FUNCTIONS OF THE PUBLIC SECTOR.....	3
Allocation.....	4
Redistribution.....	5
Stability.....	6
Growth and Development.....	6
3. EXPENDITURE DEVELOPMENTS.....	7
International Experience.....	7
Aspects of International Experience Relevant for China.....	24
4. REVENUE DEVELOPMENTS.....	44
Review of Studies on the Evolution of Taxes in the Development Process.....	45
China's Tax System: A General Assessment.....	57
V. CONCLUSIONS.....	69
APPENDIX.....	72
BIBLIOGRAPHY.....	75
 <u>Tables in the Text</u>	
3.1 Annual Growth Rates of Gross Domestic Product and Government Consumption in 75 Developing Countries.....	11
3.2 Budgetary Expenditure as Share of GDP, International Sample of Countries, 1977.....	14
3.3 Functional Budgetary Expenditure as Share of Total Budgetary Expenditure, International Sample of Countries, 1977.....	16
3.4 Determinants of Functional Expenditure Categories, as Share of Gross Domestic Product.....	18
3.5 State Budgetary Expenditure by Activity, 1957-82.....	25
3.6 Public Enterprises: Selected Indicators.....	27
3.7 State Budget Expenditure by Activity, 1950-82.....	32
3.8 Price Subsidies in the State Budget.....	35
3.9 Estimates of Public Costs in Education, 1982-2000.....	44
4.1 Ratios of Tax Revenue to Gross National Product in Selected Developing Countries: Time Series.....	46

4.2	Ratios of Tax Revenue to Domestic National Product in Developing Countries.....	47
4.3	Selected Developing Countries: Income Buoyancy of Major Taxes, 1953-55 to 1966-68.....	49
4.4	Trends in the Tax Structure of Developing Countries.....	52
4.5	Composition of Central Government Revenues, Around 1980.....	53
4.6	Tax Revenue by Type of Tax and by Group of Developing Countries.....	54
4.7	Buoyancy of Budgetary Revenues, 1979-82.....	60
4.8	Selected Elements of Nonneutrality in the Chinese Tax Systems and their Objectives.....	64

Appendix Tables

1.	Overall Budgetary Operation, 1979-82.....	72
2.	State Budget Expenditure by Activity, 1950-82.....	73
3.	Budgetary Revenue, 1979-82.....	74

1. INTRODUCTION

1.01 China's long-term development plan envisions that, by the year 2000, the gross value of its industrial and agricultural output will be four times that of 1980, which will permit its population to have achieved a "relatively comfortable standard of living, maybe a per capita income of about \$800."

This means that by today's standards, China will move from a low-income country to a middle-income country. Such a change may have substantial implications for the structure of its economy, and the experience of other countries that went through such a change may be instructive.

1.02 This paper compares China's government finance sector with that of other low-income countries and draws lessons from the structural differences between the public sectors of low- and middle-income countries. Cross-section data and time-series analyses are used. Cross-section data have the advantage of being more readily available and of referring to a given time period during which the countries are subject to the same general set of contemporary influences broadly defined. The effect of some economic, demographic and other relevant variables on public sector developments can be isolated, but only at a high level of generality. Time-series data are also used. They can shed light on budgetary developments during the process of growth and development, yet they cannot hold constant the effects of changes in social, ideological and political forces conditioning the developments of the government sector.

This paper was prepared by Luc De Wulf (Senior Economist in the Asian Department of the International Monetary Fund). The views expressed are solely those of the author. The contribution of Pedro Rado is gratefully acknowledged.

Hence, one should not expect that the impact of rising living standards on the public sector, as isolated from a historical perspective, will always coincide with that drawn from cross-section data. However, the paper starts with the proposition that the structure of the public sector varies with the stage of economic development as measured by the growth of per capita income.

1.03 This study of international experience of budgetary developments and the lessons it may have for China comes at an appropriate time. China's government finance has recently been subjected to a number of major changes, in part reflecting deliberate budgetary policy measures, but largely because the budget had to accommodate policy measures taken in other sectors of the economy. Subsidies grew because increases in procurement prices were not fully reflected in higher consumer prices; wage increases were absorbed by the enterprise sector, which transferred lesser amounts of profits to the budgets, and budgetary expenditure on investment fell sharply. As a result of these changes, the overall size of the budget fell from about 35 percent of GDP in 1978 to about 30 percent in 1982, while its composition also changed.^{1/} Tax revenue became more important (49 percent of total revenue in 1982 against 42 percent in 1978), while the share of profit transfer fell (from 56 percent in 1978 to 48 percent in 1982.) On the expenditure side, consumer subsidies gained in importance (20 percent of total expenditure in 1982 against 6 percent in 1978), at the expense of investment expenditure which was drastically reduced for stabilization purposes as budgetary revenue had fallen. (It fell from 43 percent in 1978 to 25 percent in 1982.) Because of this

^{1/} Shares refer to expenditure and revenue breakdown using the IMF Government Finance Statistics definition (Appendix Table 1).

contraction of overall expenditure, the overall fiscal deficits were contained and amounted to only 0.6 percent of GDP in 1982.

1.04 In part to correct these trends and in part on their own merit, several tax and expenditure policy changes were recently introduced. Income tax has replaced the system of profit retention and transfers of state-owned enterprises; commodity tax was changed by the introduction of a value-added tax by multiple rate changes, and several other taxes and levies were introduced.^{2/}

1.05 The paper is organized as follows. Chapter 2 sets the background of the discussion by outlining various functions of the government sector. Chapter 3 analyzes international trends in budgetary expenditure and compares these with China's present situation, while Chapter 4 presents a similar analysis for budgetary revenue. Chapter 5 presents some conclusions.

2. FUNCTIONS OF THE PUBLIC SECTOR

2.01 The functions of the public sector can perhaps best be analyzed when grouped around the implementation of four major tasks: (a) resources must be allocated in such a way that the needs of society--as perceived at any given time and within the limits of resource availability--are efficiently catered to; (b) incomes should be distributed in a way that is perceived as equitable; (c) the economy should be made to operate at a high level of resource utilization and with a stable value of money; and (d) economic growth and development

^{2/} In July 1983 the enterprise profit tax was introduced, and in October 1984 several new taxes were introduced while other taxes were changed.

should be stimulated.^{3/} These four functions can be called the Allocation, Distribution, Stability, and Growth Functions. The relative importance of these four functions, the constraints imposed by the economic environment, and the social and political system chosen will greatly influence the size and structure of the Government.

Allocation

2.02 The government supplies some goods and services, sufficient quantities of which, if any, would not be supplied otherwise. Pure public goods are those which are consumed in equal amounts by all and, because no voluntary payments can be expected, their financing is based on compulsory payments. Defense and public administration are typical examples. Other goods could be supplied by voluntary contributions, but the authorities may decide that their consumption is so meritorious that the government should supply them, either in full or in a supplementary fashion. Education and public health are typical examples. For simplicity's sake, goods catering to social and meritorious wants are often referred to as public goods.

2.03 Supply through the budget of public goods does not imply that they must be produced by the public sector as private contractors could supply roads, health and education services, and be paid for by the budget. State-owned enterprises, state hospitals or even state schools are therefore not a necessity. Yet most governments take a very active part in producing many public goods and operate a large public sector which is not covered by the budget.

^{3/} Richard A. Musgrave (1959).

2.04 Public goods should be paid for by the beneficiaries only as another set of policies is responsible for effecting the desired income distribution. However, in the absence of an objective assessment of who benefits from public goods, no such tax and fee structure is obvious.^{4/}

2.05 The allocation function of the public sector set no limits or guidelines for the size of the public sector, as it only points out that public goods are to be provided and, from the above, it is clear that even the definition of public goods is not a purely technical matter. Values adhered to by those in a position to influence budgetary decisions are often very important. These values change over time and differ greatly across countries.

Redistribution

2.06 Income distribution in an economy depends on many factors, including wage structure, market structure, wealth distribution, and availability of educational opportunities. Often the income distribution that would prevail in the absence of corrective action by the government sector is not the desired one, and a tax-transfer system--in addition to administrative and regulatory measures--is relied upon to make the desired correction. Monetary transfers, preferential and subsidized supply of goods and services, a subsidized social security system, and deliberate biases in the budgetary expenditure structure can all be used to provide a higher standard of living to some

^{4/} The main issue here is whether public benefits are enjoyed on an equal per capita basis by all citizens or whether such benefits bear some relation to the income of the beneficiaries. In the latter case, the income elasticity of the demand for public goods would be the relevant variable. As even the professional literature has not reached an agreement on this issue, it does not appear reasonable to expect politicians or administrators to come up with an agreed-upon tax and fee schedule.

segments of the population. Progressive taxes are also used to keep income differentials within acceptable boundaries. The scope for income redistribution through the budget depends on political preferences and on other instruments in place that affect income distribution.

Stability

2.07 An uncontrolled economy tends to have drastic fluctuation in prices and employment. Apart from relatively short-term swings, maladjustments of a secular nature may arise towards unemployment and inflation. Public policy must assume a stabilizing function in order to hold the departure from high unemployment and price stability within tolerable limits. Tendencies towards instability are greatly affected by the volatility of investments. In many cases, enterprise investments are more volatile than government sector investment and, therefore, are often a source of instability. Hence, the emphasis on stability in budget policy greatly varies among countries, as a result of structural differences and their tolerance of unemployment and inflation.

Growth and Development

2.08 In the past, economic growth and development was the result of private sector activity. However, this outcome was often seen as unsatisfactory and the government has, in recent decades, taken greater initiative through both regulatory and budgetary actions to promote growth and development. The political system greatly influences the relative weight given to these different channels, with socialist countries reserving a greater role for the budget, both in the mobilization of resources and in the actual investment process.

2.09 While clearly delineated in theory, budgetary actions needed to implement allocation, income redistribution, stability, growth, and development objectives are not clearly distinguishable from each other, because policy measures often have multiple effects. Nevertheless, these theoretical distinctions may help in the analysis of the structure of China's government finance within the context of public sector developments of other developing countries.

3. EXPENDITURE DEVELOPMENTS

International Experience

3.01 Although public expenditure is constrained by the capacity countries have to finance this expenditure, expenditure developments are analyzed first, as they are at the center of the public finance issue. Time-series data are analyzed, followed by cross-section data, after which the factors that appear to influence the development of the difference components of the total expenditure are scrutinized.

Wagner's Law of Expanding State Activity in the Context of Time-Series Analysis^{5/}

3.02 Adolph Wagner, a German economist of the nineteenth century, formulated a "law" of increasing state activity and expenditure. Although there is some doubt about how Wagner meant his law to apply, his generalization can best be interpreted as predicting an increase in the ratio of government expenditure to national income as per capita income rises in the course of industrialization. He attributed this to growing administrative and protec-

^{5/} See Richard Goode (1984).

tive actions of the government in response to more complex legal and economic relations, increased urbanization, and rising cultural and welfare expenditure. He apparently considered the latter services luxuries, characterized by income-elastic demand, that is, demand that rises faster than income. Wagner also anticipated the growth of public enterprises, but agreed that this would not necessarily involve increasing government expenditure.

3.03 There have been numerous attempts to test Wagner's law. Although findings differ, they generally confirm the tendency of the share of total government expenditure in national income to rise. This tendency can be seen in the following figures for the ratio of total government expenditures (of all levels of government) to gross national product or gross domestic product (in percentages) in five industrial countries in about 1890 and 1970.^{6/}

	1890	1970
Canada	9	32
France	14	49
Germany, Fed. Rep.	13	32
United Kingdom	9	33
United States	7	30

This rising trend has not always been a smooth one, and interruptions and reversals have occurred.^{7/}

^{6/} The figures for the two dates and five countries are not strictly comparable because of differences in concepts and coverage.

^{7/} Wars have often led to an acceleration of this trend and to a permanent upward displacement of the expenditure to GDP ratio. While temporary, war expenditure has often led to lessening of the tax resistance, thereby accelerating the otherwise "normal" trend in rising expenditure to GDP ratio. Alan T. Peacock and Jack Wiseman (1961), pp. 24 sq.; Richard A. Musgrave (1969), pp. 87-90.

3.04 Further statistical evidence is provided by the estimates of the income elasticity of government expenditure in constant prices over the period 1950-77 for twelve industrial countries, including the five mentioned above and Austria, Denmark, Finland, Ireland, the Netherlands, Sweden, and Switzerland.^{8/} The elasticities (measured as the percentage increase in government expenditure divided by the percentage increase in GDP) range from 1.4 for the United Kingdom to 2.7 for Sweden; the median value is 1.8.

3.05 Wagner's generalization, however, is not a genuine law in the sense of offering a firm basis for predicting the behavior of individual countries. Among industrial countries, large differences between countries and between periods in the same country can be observed. It also is not clear to what extent developing countries can be expected to follow the same course as industrial countries. Wagner's law seems to have been intended to apply only to industrial countries, but that does not rule out the possibility of a wider application.

3.06 Few time-series studies have been made pertaining to developing countries. Enweze, using data for the late 1950s and 1960s, found positive income elasticities for total expenditure in thirteen out of fifteen countries and positive elasticities for most of the principal functional categories in the majority of the fifteen countries.^{9/}

3.07 Using national income account statistics, it is possible to obtain fairly long series on government consumption expenditure in a large number of developing countries. In the majority of these countries, government consump-

^{8/} Morris Beck (1981), p. 68.

^{9/} Cyril Enweze (1973) p. 445; Irving J. Goffman and Dennis J. Mahar (1975) pp. 57-74.

tion has been growing faster than GDP. Table 3.1, which is based on the World Bank's World Development Report 1982, shows the annual growth rates of GDP and government consumption (both measured in constant prices) in 1960-70 and 1970-80 for 75 developing countries. Since estimates were not available for all the countries for both periods, there are 134 pairs of observations in the table. Among the 129 cases in which GDP was increasing, government consumption was increasing more rapidly than GDP in 88 cases (68 percent of the total); it was increasing at the same rate or less rapidly in 35 cases (27 percent of the total); and it was decreasing in six cases. In the five cases in which GDP was decreasing, government consumption was increasing in three cases and decreasing more rapidly than GDP in two cases. Although the statistics omit important parts of government expenditure--capital outlays, transfer payments and subsidies, interest payments, and net lending--they shed light on fiscal problems that many developing countries have experienced during the 1960 and 1970s. It seems very likely that many developing countries will continue to face demands that will cause government expenditure to grow faster than national income.

3.08 One reason for this likelihood, which is implied in Wagner's law, relates to an international demonstration effect that causes people in poor countries to wish to emulate the consumption standard of rich countries.^{10/} Political leaders of low- and middle-income countries today will not have the same attitudes toward spending for education, health, and various economic and social services that existed in the industrial countries when they were at a comparable stage of development. Furthermore, citizens in the poor countries are unwilling to accept standards that existed in the past.

^{10/} Ragnar Nurske (1953) pp. 58-75.

Table 3.1. ANNUAL GROWTH RATES OF GROSS DOMESTIC PRODUCT
AND GOVERNMENT CONSUMPTION IN SEVENTY-FIVE DEVELOPING COUNTRIES,
1960-70 AND 1970-80 /a
(Percent)

Country /b	Gross domestic product		Government consumption /c	
	1960-70	1970-80	1960-70	1970-80
Kampuchea, Democratic	3.1	...	2.6	...
Chad	0.5	-0.2	4.4	-1.7
Ethiopia	4.4	2.0	4.7	3.2
Somalia	1.0	3.4	3.7	10.8
Mali	3.3	4.9	6.2	7.5
Burundi	4.4	2.8	19.2	3.6
Rwanda	2.7	4.1	1.1	14.0
Burkina	...	3.5	...	7.3
Zaire	3.4	0.1	8.5	-2.2
Malawi	4.9	6.3	4.6	2.5
Mozambique	4.6	-2.9	6.8	-4.0
India	3.4	3.6	-0.2	4.2
Sierra Leone	...	1.6	...	4.3
Central African Republic	1.9	3.0	2.2	-2.6
Pakistan	6.7	4.7	7.3	4.3
Benin	2.6	3.3	1.7	2.0
Niger	2.9	2.7	2.0	3.0
Madagascar	2.9	0.3	2.7	0.2
Sudan	1.3	4.4	12.1	-4.2
Togo	8.5	3.4	6.7	10.1
Ghana	2.1	-0.1	6.1	0.8
Kenya	6.0	6.5	10.0	9.0
Lesotho	...	7.9	...	15.2
Indonesia	3.9	7.6	0.9	12.9
Yemen Arab Republic	...	9.2	...	10.8
Mauritania	...	1.7	...	15.1
Senegal	2.5	2.5	-0.2	3.0
Angola	4.8	-9.2	9.1	3.0
Liberia	5.1	1.7	5.6	2.8
Honduras	5.3	3.6	5.3	7.6
Zambia	5.0	0.7	11.0	1.4
Bolivia	5.2	4.8	8.9	7.3
El Salvador	5.9	4.1	6.4	6.1
Cameroon	3.7	5.6	6.1	5.8
Thailand	8.4	7.2	9.7	9.2
Philippines	5.1	6.3	5.0	7.2
Nicaragua	7.3	0.9	2.2	9.7
Papua New Guinea	6.5	2.3	6.5	-0.6
Congo, Peoples Republic	2.7	...	5.4	...
Morocco	4.4	5.6	4.4	14.7
Peru	4.9	3.0	6.3	6.2

Table 3.1. (cont'd)

Country /b	Gross domestic product		Government consumption /c	
	1960-70	1970-80	1960-70	1970-80
Nigeria	3.1	6.5	10.0	11.3
Jamaica	4.4	-1.1	8.6	6.7
Guatemala	5.6	5.7	4.7	6.4
Ivory Coast	8.0	6.7	11.8	8.1
Dominican Republic	4.5	6.6	1.9	2.2
Colombia	5.1	5.9	5.5	4.9
Ecuador	...	8.8	...	13.5
Paraguay	4.2	8.6	6.9	5.6
Tunisia	4.7	7.5	5.2	9.5
Syria	...	10.0	...	16.1
Lebanon	4.9	...	5.9	...
Turkey	6.0	5.9	6.7	6.4
Korea, Republic of	8.6	9.5	5.5	8.3
Malaysia	6.5	7.8	7.5	9.9
Costa Rica	6.5	5.8	8.0	5.9
Panama	7.8	4.0	7.8	5.8
Algeria	4.3	7.0	1.5	10.8
Brazil	5.4	8.4	3.5	8.1
Mexico	7.2	5.2	9.5	9.9
Chile	4.5	2.4	4.7	0.9
South Africa	6.3	3.6	7.0	4.9
Portugal	6.2	4.6	7.7	8.7
Argentina	4.2	2.2	1.2	12.1
Yugoslavia	5.8	5.8	0.6	4.6
Uruguay	1.2	3.5	4.4	3.6
Iran	11.3	...	16.0	...
Iraq	6.1	...	8.1	...
Venezuela	6.0	...	6.3	...
Trinidad and Tobago	4.0	...	7.1	...
Greece	6.9	4.9	6.6	6.9
Singapore	8.8	8.5	12.6	6.4
Israel	8.1	4.1	13.8	3.3
Libya	...	2.2	...	21.6
Kuwait	...	2.5	...	12.8

Ellipses indicate data are not available.

/a In some cases, rates are for 1961-70 and 1970-79.

/b Countries are listed in ascending order of estimated per capita GNP in 1980.

/c Consumption of all levels of government.

Source: World Bank, World Development Report 1982 (Oxford University Press 1971), pp. 112-13, 116-17. Data compiled by Goode (1984).

3.09 The expenditure/GDP share in real terms is often claimed to increase at a much smaller rate than in current terms.^{11/} This is so, because differential productivity growth between the public and the private sector, combined with the fact that the public sector tends to maintain competitive wage rates with the private sector, drives up unit labor costs in public sector programs. This argument has been used to explain part of the rising trend of government expenditure in industrialized countries.^{12/} Although similar evidence is not available for developing countries, it would be surprising if such a trend were not operative there too. However, even if the extreme case were true and real public expenditure to GDP ratio remained constant over time, it would only be of limited interest to budget officials who must finance the current expenditure.

Cross-Section Data: General

3.10 The size of the government sector also seems to be systematically related to per capita income when cross-section data from a large sample of countries are analyzed. Based on data from 91 countries, total expenditure for low-income countries (defined as countries whose per capita income is less than \$300) was found to be 21 percent of GDP, against 28 percent for middle-income countries and 37 percent for industrial countries (Table 3.2). Hence, per capita income seems to exercise an upward pressure on public expenditure.

^{11/} Morris Beck (1976), pp. 15-21 and Morris Beck (1979), pp. 313-356.

^{12/} Additional arguments are (a) the tendency of the public sector to purchase goods and services from elements of the private sector experiencing relatively low productivity growth, (b) the increased emphasis on the indexation of public transfers, (c) rigidities in the public sector production functions that have limited the government's ability to respond to shifts in relative input prices, and (d) the inability of statisticians to measure gains in productivity correctly in the public sector. Peter Heller (1981), pp. 61-74.

Despite the above-mentioned demonstration effect and the fact that at any given time all countries are exposed to much the same value system concerning the role and responsibilities of the public sector, poor countries have smaller public sectors than middle-income and rich countries. It is therefore tempting to conclude that when a country moves up the income ladder, the public sector tends to grow. This finding is obviously consistent with Wagner's Law of Expanding State Activity, as illustrated in time-series data.

Table 3.2. BUDGETARY EXPENDITURE AS SHARE OF GDP,
INTERNATIONAL SAMPLE OF COUNTRIES, 1977
(In percent of GDP)

	Low-income countries /a	Middle-income countries	Industrial countries
General public services	4.3	4.2	3.1
Defense	2.5	3.6	2.5
Education	2.9	3.9	5.1
Health	1.9	1.8	4.5
Social security and welfare	0.9	3.0	11.8
Housing and community services	0.3	0.9	1.1
Capital assets acquisition	3.8	5.3	2.2
<u>Total</u>	<u>20.7</u>	<u>27.9</u>	<u>36.8</u>

/a With incomes less than \$300 in 1977.

Source: Derived from Alan A. Tait and Peter S. Heller (1982), "International Comparisons of Government Expenditure," IMF Occasional Papers, No. 10, (Washington, DC), Table 10, pp. 28-29.

3.11 One explanation for this development is that the growth of government spending is limited by the capacity to finance it; whether from domestic resource mobilization, borrowing from the domestic banking sector or foreign borrowing. It is often asserted that this constraint is more binding in less developed countries than in more developed ones, and that in the former, total

spending is limited by fiscal capacity while in the latter, the size of the public sector responds primarily to demands for services and transfer. Although this assertion appears plausible and will be subjected to more detailed analysis in the next chapter, it exaggerates the difference between groups of countries. Both the demand for services and the supply of resources affect government expenditure in all countries.

Cross-Section Data: Detailed Review of Developments in Selected Expenditure Categories

3.12 Table 3.2 provides the average share of GDP for central government expenditure classified by function, for three groups of countries: low-income, middle-income, and industrial. Table 3.2 shows that, on average, middle-income countries spend a larger share of their GDP on defense, education, social security and welfare, and on the acquisition of capital assets than do low-income countries. Industrial countries spend a still larger share of their GDP on education, health and social security and welfare, but spend less on defense, general public administration, and acquisition of capital assets. Let it be emphasized that these observations are based on an inspection of average shares spent by large numbers of countries, averages which hide the often large dispersion of observations around the averages. For instance, while industrial countries tend to spend a larger share of their GDP on education, there are many exceptions and in several low-income countries, that share is larger than in some industrial countries. (For example, Burundi, Kenya, and Mali spend a larger share of their GDP on education than do Austria, Denmark, and Iceland.) The averages given in Table 3.2 reveal only tendencies and hide many exceptions.

3.13 Data on the functional expenditure categories as shares of total central government budgetary expenditure (Table 3.3) are based on the same

sample of countries. Of course, these statistics are nothing but the combination of the relative share of total expenditure in GDP and the share of expenditure categories in GDP. Yet, by presenting the data this way, the attention is focused on the financing of various government expenditure categories.

Table 3.3. FUNCTIONAL BUDGETARY EXPENDITURE AS SHARE OF TOTAL BUDGETARY EXPENDITURE, INTERNATIONAL SAMPLE OF COUNTRIES, 1977
(As percentage of total budgetary expenditure)

	Low-income countries /a	Middle-income countries	Industrial countries
General public services	19.8	14.5	7.7
Defense	13.6	12.1	6.3
Education	14.6	13.5	13.8
Health	5.5	4.2	12.2
Social security and welfare	4.3	11.7	31.4
Housing and community services	1.4	3.1	2.9
Capital assets acquisition	19.2	18.1	5.5
<u>Total Allocated</u>	<u>78.4</u>	<u>77.2</u>	<u>79.8</u>

/a With incomes less than \$300 in 1977.

Source: Derived from Alan A. Tait and Peter S. Heller (1982), "International Comparisons of Government Expenditure," IMF Occasional Papers, No. 10, (Washington, DC) Table 11, pp. 30-31.

It shows, for instance, that although low-income countries spend only 4.3 percent of their GDP on general public services, these expenditures absorb about 20 percent of their total budgetary resources. Middle-income countries, which spend about the same share of their GDP on these expenditures, need only 15 percent of their budgetary resources for their financing. A similar situation prevails for other expenditures where low-income countries spend similar shares of GDP on particular functions, yet must devote a larger share of their budgetary resources to it than middle-income countries. Low-income countries seem to require a large share of budgetary resources for the provi-

sion of basic public sector goods and services over which the authorities have little or no discretion. After financing these basic general services (for instance, basic levels of education and health expenditure), they seem to have discretionary spending power over a much smaller share of the budget than countries at a higher income level. Only when total budgetary resources increase, and this is positively related to income growth, can other expenditure be accommodated.

3.14 A study of the effects of both income growth and other variables on the subcomponents of budgetary expenditure was presented in two recent papers prepared by Tait and Heller.^{13/} The authors tested for differences between countries with high and low per capita income and, where discontinuities were found, they reported the results separately for the groups. The results obtained provide a framework for the comparison of functional and economic expenditure patterns of countries having similar economic and demographic positions; they do not, however, establish normative expenditure patterns.

3.15 The summary of the findings of the Tait-Heller study is given in Table 3.4. One striking feature of these results is that per capita income is not always the variable that contributes most to the explanation of differences in expenditure pattern between countries. Other major contributing factors include demographic ones and the degree of urbanization. This contrasts with the premise of many other cross-section studies of government revenue and expenditure which use per capita income as a proxy for most other underlying demographic, social, and economic differences. Furthermore, no combination of variables could explain more than a small share of total

^{13/} Alan A. Tait and Peter S. Heller (1982), and Peter S. Heller and Alan A. Tait (1983).

variation in the expenditure pattern among countries. Many variables not included in the analysis affect the pattern of public expenditure.

Table 3.4. DETERMINANTS OF FUNCTIONAL EXPENDITURE CATEGORIES,
AS SHARE OF GROSS DOMESTIC PRODUCT

Expenditure category	R ² or share of total variation explained	Variable found to significantly affect the share of the particular expenditure in GDP <u>/a</u>
General services	0.32	Percentage of population aged 14 and under (+) Share of population in urban areas (-) Share of total public expenditure in GDP (+)
Defense	0.15	Percentage of population ages 14 and under (+)
Education	0.28	Share of population in urban areas (+) Per capita income (+) Share of population in urban areas (-) Enrollment rate in primary and secondary schools (+) <u>/b</u> Share of total public expenditure (net of defense)(+)
Health	0.62	Percentage of population over age 65 (+) Access to clean water (+) <u>/b</u> Population per hospital bed (-)
Social security and welfare	0.80	Per capita income (+) Percentage of population over age 65 (+)
Housing and community amenities	0.21	Share of labor force in industry (+) Per capita income (+) for income less than \$1,750, otherwise (-) Share of population in urban areas (+) <u>/b</u>

/a (+) indicates a positive relationship; (-) indicates a negative relationship.
/b Only for countries with per capita income larger than \$1,750.

Source: Alan A. Tait and Peter S. Heller (1982), "Intergovernmental Comparisons of Government Expenditure," IMF Occasional Papers, No. 10, (Washington, DC), Table 3, pp. 10-11.

3.16 Only for the expenditure category of social security and welfare and the category of health expenditure were the authors able to explain more than half of the variance in the expenditure to GDP ratio among countries ^{14/} (as reflected in an R^2 of 0.82 and 0.62). For other expenditure categories, a much smaller share of the variance was explained, despite the fact that some variables showed a clearly significant relation.

3.17 General Public Services. This includes financial administration, external affairs, planning, statistics, and other aspects of general administration such as order, safety, and justice. Only 32 percent of the observed variance was explained. The most significant explanatory variable was found to be the share of total public expenditure in GDP. Running a larger government sector requires larger general public services expenditure. While this is not a surprising result, it implies that there do not appear to be economies of scale in running a government.

3.18 Increased urbanization tends to reduce the share of general public services in GDP. This reflects the fact that catering to a geographically concentrated population yields economies that are larger than those diseconomies required by such concentration (for instance, justice and order are often said to be needed more in urban than rural areas). The share of population 14 years old and younger also exercises a positive influence on the share of general public services in GDP. However, it is not at all clear why this is so.

3.19 Defense. The defense expenditures are not well explained ($R^2 = 0.15$) by the variables used in the analysis, mainly because defense

^{14/} Such an explanation is consistent with the hypothesis that differences among countries were caused by those factors but does not prove that was so.

expenditure ratios varied widely among countries. Israel, Oman, Jordan, Syria, and Iran had ratios to GDP of 10 percent or more in 1977, no doubt influenced by recent war in the region. In contrast, the following countries spent less than 1 percent of their GDP on defense: Bangladesh, Barbados, Mauritius, the Bahamas, Fiji, Mexico, Sri Lanka, Costa Rica, Madagascar, El Salvador, Jamaica, and Nepal. Nevertheless, statistical significance was obtained for the percentage of population aged 14 years old and under, and for urbanization; it is again not clear why this is so.

3.20 Education. Less than one third of the variation in this expenditure was explained by the variables retained ($R^2 = 0.28$). Per capita income proved to be a highly significant determinant of the share in GDP of public expenditure for education, mainly at incomes below \$1,750. In these countries, a great need for education exists; a need that in countries with higher per capita incomes is partly fulfilled by the private sector. Also, when "basic" educational needs are fulfilled, the public sector tends to spend its resources elsewhere. For countries with incomes larger than \$1,750, the ratio of educational expenditure to GDP was strongly associated with the enrollment ratio in secondary schools. The enrollment in primary schools was significant for all countries. This tends to bear out the observation that expenditure on education by government is believed to be important for basic primary education in low-income countries, but that the attitude changes when per capita income is over \$1,750 and more importance is attached to secondary school enrollment. Surprisingly, the percentage of population under the age of fifteen was not a statistically significant influence on the ratio.

3.21 It is interesting to note that for countries in the sample, the spread between actual expenditure on education and that predicted, using the

relations between such expenditure and the variables found to be significant in the study, was the smallest of all the functional categories studies. This suggests a greater unanimity and concern among countries in relation to government expenditure and education.

3.22 Health. Over 60 percent of government expenditure on health was explained by the proportion of population aged 65 and above and by the ratio of population to hospital beds ($R^2 = 0.62$). The age structure of the population was found to be the most significant variable affecting health expenditure. Countries with small shares of their total population in the 65 years-and-above bracket probably focus on the diminution of epidemic diseases and on preventive medicine, which is rather inexpensive, while the more expensive curative medicine and caring for sick and dying people absorbs more resources when the population ages.

3.23 The statistical relation between the population per hospital bed and health expenditure becomes rather strong at levels of per capita income in excess of \$1,750 and probably reflects greater preoccupation with the quality of medical care at higher incomes.

3.24 As in educational expenditure, the spread between actual health expenditures and those predicted by the results of the Tait-Heller study was relatively small.

3.25 Social Security and Welfare. The Tait-Heller study was most successful in explaining statistically the expenditure ratio for social security and welfare. This category includes expenditures for social security; old age, sickness, and disability payments; military and civil government pensions; and other welfare expenditure. The per capita income of the country, the percentage of population over the age of 65, and the share of the

labor force employed in industry were all positive and statistically significant influences. No discontinuity between high-income and low-income countries was discovered, which suggests that the low expenditure for this function in most developing countries reflect mainly demographic and economic factors rather than other social and political forces.

3.26 Instead of transfer payments for welfare purposes, many developing countries provide subsidies for food and other articles of mass consumption through below-cost pricing by public enterprises or through payments to private enterprises. Many of these subsidies do not show up in the statistics used by Tait and Heller because financial relations between public enterprises and the central government are not reported in a way that would reveal them. As such subsidies are more frequent in low-income and middle-income countries than in industrialized ones, the high positive relation between per capita income and social security and welfare expenditure may be somewhat exaggerated.

3.27 Other Expenditure. Expenditure for roads and other forms of transportation and for communications were positively related to the rate of growth of the urban population and negatively related to both the share of manufacturing and the share of agriculture in GDP ($R^2 = 0.23$). The expenditure ratio for housing and community amenities was positively related to per capita income in low-income countries but not in high-income countries ($R^2 = 0.21$).

3.28 Wages and Salaries. Wage expenditures in the budget were largely found to be determined by the functional expenditure breakdown. Hence, countries that spend a large share of their GDP on education will also have substantial wage payments, reflecting the fact that teacher salaries comprise

a large share of total expenditure on education. This conclusion was also confirmed by a later, more detailed study of government employment and pay (Heller-Tait 1983). This study also found that government salaries in developing countries were about 4.4 times per capita income, but only 1.9 times per capita income in member countries of the Organisation for Economic Cooperation and Development (OECD). Yet, when compared with wages and salaries in the nonagricultural private sector, government wages lag considerably. This suggests that government sector employees in developing countries were not able to translate their numerical weight (they constitute an average 44 percent of nonagricultural employment in these countries) into commensurate strength in their wage rate relative to their peers in the modern component of the private sector.

Economic System

3.29 Does the character of the economic system have predictable influences on government spending distinguishable from those of the economic, demographic, and other "objective" factors? This question appears to have been little studied in regard to developing countries. A careful study by Pryor (1968) compared public consumption expenditure (defined as government current expenditure for goods and services and transfer payments) in seven market economies and seven centrally planned economies, all of which are industrial or semi-industrial countries. The author found that the nature of the economic system played a statistically significant role in accounting for differences in public consumption expenditure for education but not in

expenditures for defense, welfare, and health.^{15/} The recent study by Heller and Tait covering a large number of countries found that neither the degree to which an economic system is centrally planned nor the nature of the political regime was a statistically significant influence on the size of general government employment.^{16/} However, centrally planned economies tend to spend a larger share of their GNP on capital expenditures than do other countries.

Aspects of International Experience Relevant for China

Functions of the Government Sector in China and its Impact on the Size and Composition of Budgetary Expenditure

3.30 As of the early 1980s, China's state budgetary expenditure amounted to about 32 percent of GDP, about the same share as in the 1957, if in both periods the subsidy expenditure is included with other budgetary expenditure (Table 3.5).^{17/} This size of the budget is much higher than the average for low-income countries (20.7 percent, see Table 3.2) and slightly higher than the average for middle-income countries (27.9 percent). However, as there is in each case a wide dispersion around the averages, these statistics indicate only that China's budget expenditure is a relatively large share of its GDP, not that China is an exception. As a matter of fact, the Gambia, with a per

^{15/} Federic L. Pryor (1968), pp. 285-92, passim. The market economies were the United States, Federal Republic of Germany, Austria, Ireland, Italy, Greece, Yugoslavia; centrally planned economies included Czechoslovakia, German Democratic Republic, the USSR, Hungary, Poland, Romania, and Bulgaria.

^{16/} Heller and Tait (1983).

^{17/} Subsidies are not explicitly entered in the budget as an expenditure, but as reductions in profit transfers from the enterprise sector to the budget. In conformity with the standard budget nomenclature, they are treated here as expenditure (IMF 1974).

capita income of \$208 in 1977, had expenditure equal to 35 percent of GDP in 1977, while 14 out of 50 countries included in the sample of middle-income countries had expenditure/GDP ratios in excess of 32 percent. Although not an exception on this score, China is unique in that it was able to finance nearly all its expenditure without running a substantial deficit. In a sample of 62 low- and middle-income countries in 1980, budget deficits averaged 7 percent of GDP.

Table 3.5. CHINA: STATE BUDGETARY EXPENDITURE BY ACTIVITY, 1957-82
(As percentage of GDP)

	1957	1965	1977	1981	1982
Total expenditure in the budget	28.7	28.9	27.2	24.3	23.4
Of which:					
Capital construction	11.7	9.8	9.7	7.2	6.3
Modernization	...	...	0.5	0.9	0.9
Working capital	2.0	1.7	2.1	0.5	0.5
Product development	0.2	1.6	0.7	0.5	0.5
Geological survey	0.6	0.5	0.5	0.5	0.5
Industry, transport, commerce	1.0	1.0	0.5	0.5	0.5
Agricultural support	0.7	1.1	1.6	1.6	1.6
Education, culture, health	2.0	2.8	2.9	3.7	4.0
Of which:					
Education	(...)	(...)	(1.7)	(2.0)	(2.1)
Defense	5.2	5.4	4.8	3.7	3.6
Administration	2.0	1.6	1.4	1.5	1.6
Subsidies	...	...	...	8.1	7.7
Of which:					
Daily necessities	(...)	(...)	(...)	(6.4)	(6.2)
Domestically produced agro-inputs	(...)	(...)	(...)	(...)	(0.5)
Operating losses of state enterprises	(...)	(...)	(...)	(0.9)	(0.7)
<u>Total Budgetary Expenditures</u>					
<u> Plus Subsidies</u>	<u>...</u>	<u>...</u>	<u>...</u>	<u>32.4</u>	<u>31.1</u>

Sources: Ministry of Finance; Appendix Table 2.

3.31 Before engaging in a more detailed comparison of China's budgetary expenditure with those of the international sample presented in the previous section, it may be instructive to review briefly the major functions of China's public sector, along the lines discussed in Chapter 2.

3.32 Allocation. In China, as in all other countries, the government sector supplies those goods that, due to their joint consumption and non-excludability characteristic, are not supplied any other way. The range of these goods is no broader in China than elsewhere. With respect to merit goods (that is, these goods the government has determined so meritorious that they should be consumed in larger amounts than would occur without government involvement), China's option to operate along socialist principles and its explicit commitment to the social welfare of its citizens may at first appear to argue for a larger government sector. Furthermore, state-owned enterprises are dominant in large segments of the economy and planning of production, investment, and consumption is widespread. However, all this does not have to result in a larger government budget, as some of this intervention is effected through regulations which imply only little budgetary expense, and as the operation of state-owned enterprises is neither unique to socialist countries nor necessarily implies a budgetary burden.

3.33 Many nonsocialist countries operate a large sector of public enterprises (Table 3.6), and operate them at a substantial loss. For a sample of public enterprises in developing countries, this loss was estimated at about 4 to 5 percent of GDP, half of which was reflected in budgetary accounts. This compares with budget-financed deficits of state-owned enterprises in China of about 1 percent of GDP in the early 1980s. As is the case in other countries, some state-owned enterprises in China obtain substantial bank

financing to finance their deficit. Although less visible or open to scrutiny, this phenomenon has received substantial attention in the Chinese press.^{18/}

Table 3.6. PUBLIC ENTERPRISES: SELECTED INDICATORS

	Output of public enterprises as percentage in GDP at factor cost	Investment of public enterprises on percentages in gross fixed capital formation	Overall deficit (-) as a share of GDP
"World" average	9.4	17.1	-2.0 (-4.2) /a
Industrial countries	9.6	15.0	-1.7 (-3.5) /a
Developing countries	8.6	27.0	-3.9 (-5.5) /a
Africa	17.5	32.4	-3.1
Asia	8.0	27.7	-5.6
Europe	6.6	23.4	-1.6
Western Hemisphere	6.6	22.5	-2.5

/a Data in parentheses refer to the average deficits for those countries where it was possible to account for the current government transfers to public enterprises.

Source: M.P. Short (1984), Public Enterprises in Mixed Economies: Some Macroeconomist Aspects (Washington, DC: The International Monetary Fund).

3.34 State-owned enterprises in many countries appear to have a tendency to operate at a loss or at low profitability levels and, instead of being powerful instruments of resource mobilization, often become a financial burden for the rest of the economy. This does not have to be so (IBRD, World

18/ It is often related in the accumulation of excessive and often unsalable inventories by the commercial sector, which used to be obliged to purchase all output of the industrial sector. In this way, the industrial sector often remained "profitable" and transferred a share of its profits to the budget, while the commercial sector required bank credit to finance its inventories. This has been termed "financing of covert deficits" and contrasted with the relatively moderate bank financing of the "overt" deficit.

Development Report 1983, Chapter 8). Conflicting objectives, insufficient operational autonomy, inadequate incentives linked to performance, and bureaucratic rather than commercial management style--all these have prompted attempts at reform in many countries, of which China's ongoing reforms of the enterprise system is one.

3.35 All in all, it does not appear that the role of China's budget as allocator of resources requires a larger government budget than in other countries at similar levels of development.

3.36 Redistribution. A progressive tax structure can be used to improve income distribution. However, taxes contribute to an improvement in the income distribution only in a relative sense; they can make some people less well off, but never make them better off. The latter is the role of expenditure policy.

3.37 In China, urban incomes are similar across regions, are largely determined by the national wage structure, and are about twice as high as rural incomes.^{19/} Until very recently, rural income differences within each region and locality were limited by the method of remuneration through work points in the communes but they varied greatly across regions as they depended on local productivity. The introduction of the production responsibility system and the greater latitude given to private economic activity may increase income differences within both the urban and rural regions. At the same time, faster growth of rural incomes in recent years has narrowed urban-rural income differentials somewhat.

^{19/} In 1982, urban per capita income is estimated at Y 535 while rural incomes amounted to Y 270. If subsidies were included, urban incomes would be closer to Y 700 per capita.

3.38 In addition to price and wage policies and various regulations, the present income redistribution policies are implemented mainly through a tax and transfer system between the central government and local governments, and through a set of subsidies to urban dwellers. The tax-transfer system redistributes income regionally and thereby ensures a greater uniformity of government services, while the subsidies are granted through both a national system of subsidized prices for basic consumer goods and multiple price subsidy schemes operated locally (such as transport, energy, housing). The need for implementing income distribution policies by operating an expensive subsidy scheme results from rigid wage and price structures which have not been adjusted to take fully into account changes in procurement prices for agricultural commodities and productivity changes. The granting of subsidies was an expedient--yet expensive--way of buying time to permit the necessary wage and price reform legislation to be enacted. In the meantime, price subsidies granted by the budget absorb 6 percent of GDP, with additional subsidies paid through other channels. On fragmentary information, it seems that such an amount is fairly high when compared with the amount of subsidies granted by other many countries.^{20/}

3.39 Stability. In recent years, the budgetary role of fostering economic stability has focused on restraining investment activity. Buoyant investment tends to be an endemic problem in China's planned economy; managers work under tight output targets and give precedence to attaining quantity over

^{20/} Comparison of subsidies across countries is complicated by the fact that these subsidies are often granted through permitting losses in state-owned enterprises. The financial relations of the budget and banking system with these enterprises rarely permits a clear view of these subsidies.

quality; and successive political campaigns have stressed high investment targets. While budgetary policy has reflected these trends, it has also been a major instrument for implementing corrective policies.

3.40 Growth and Development. Since the foundation of the People's Republic, China has chosen a growth pattern that has relied on very high levels of investment and on a predominant role of the budget in the financing of this level of investment. As a share of national income, accumulation has ranged from a low of about 10 percent (1962 and 1967-69) to a high of 44 percent (1959). In most years, the accumulation rate amounted to between 25 and 33 percent. These investment shares are very high when compared with those of other developing countries and are at the level of upper-income countries.^{21/} Furthermore, the budget has taken a dominant role in mobilizing the necessary resources and channeling them to the various sectors.^{22/}

Functional Breakdown of Future Expenditure Trends in China

3.41 From the international experience in expenditure developments, one is left with the impression of great differences. Yet, the similarities suggest that the options of policymakers are limited. First, there is the resource constraint. If expenditure is limited to budgetary revenue plus foreign borrowing, the resource constraint will be stricter than if substantial deficit financing is adopted. In many low- and middle-income countries, credit from the domestic banking sector and the domestic sale of central

^{21/} For low-income economies (except India and China), the average share of gross domestic investment to GDP was 14 percent in 1981 and 25 percent for both middle-income and upper-income countries. IBRD (1983), Table 5, pp. 156-157.

^{22/} Up to 1980, 80 to 90 percent of total capital construction investment expenditures was channeled through the budget. Since 1980, this share has fallen to about 50 percent. China (1984), pp. 323.

government bonds have supplemented budgetary resources, often jeopardizing financial stability and drawing resources away from other sectors in the economy. Over the years, China has aimed at a balanced budget policy, or at least for a budget deficit not in excess of net foreign capital inflow, and in recent years, has received only a small amount of bank credit from the People's Bank of China and has sold some Treasury bonds. Whether such a policy is the most appropriate one for the next couple of decades is an important policy issue, one that could decisively influence the size of budgetary operations. Deficit financing amounted to about 7 percent of GDP in a recent sample of 61 developing countries, yet many of these countries had serious balance of payments and inflation problems. If China were to increase its deficit from about 1.5 percent of GDP ^{23/} to, for instance, 7 percent of GDP, this would allow the budgetary expenditure to expand considerably. However, such a policy would have to be coordinated with appropriate policies in other sectors, particularly a monetary policy.

3.42 Budgetary policy is also constrained by the fact that its expenditure pattern should respond to the shift in demand for public goods and services. The international comparison has shown that levels of income and demographic factors are the main variables affecting such demand, with institutional differences between market and centrally planned economies having only limited influence on their structure of recurrent expenditure. These factors will now be analyzed with respect to expenditure on investment, consumer subsidies, health, and education.

^{23/} Based on the IMF Government Finance Statistics methodology (IMF 1974).

3.43 Investment. As noted above, China spends not only a much larger share of its GDP on investment than most other low-income countries (20 per cent versus 14 percent), but also channels a larger share of these funds through its budget. Capital construction expenditure (that is, investment in plant and equipment in state-owned enterprises) alone amounted to 20 percent of total budgetary expenditure in 1982 (Table 3.7), while spending on moderni-

Table 3.7. CHINA: STATE BUDGET EXPENDITURE BY ACTIVITY, /a 1950-82
(As percentage of total expenditure)

	1950	1957	1965	1977	1981	1982	1982 Inclusive of subsidies /a
Total expenditure in budget	66.8	91.2	87.8	91.3	84.9	85.3	90.8
Of which:							
Capital con- struction	18.4	40.7	34.0	35.7	29.7	26.8	20.4
Modernization investment	...	--	--	2.0	3.7	3.7	2.8
Working capital Product	...	6.8	5.9	7.8	2.0	2.0	1.6
development	...	0.7	5.4	2.6	2.1	2.3	1.7
Geological survey	...	2.1	1.6	2.0	1.9	2.0	1.5
Industry, trans- port, commerce	...	4.0	3.4	1.7	2.1	2.1	1.6
Agricultural	...	2.6	3.7	6.0	6.6	6.9	5.3
Education, culture and health	7.3	9.1	9.8	10.7	15.4	17.1	13.0
Of which:							
Health	(...)	(...)	(...)	(2.5)	(3.5)	(...)	(...)
Education	(...)	(...)	(...)	(6.3)	(8.3)	(8.9)	(6.7)
Defense	41.1	18.1	18.6	17.7	15.1	15.3	11.6
Administration	...	7.1	5.4	5.1	6.3	7.1	5.4
Subsidies	...	...	...	...	...	...	25.9

/a Refers to total budgetary expenditure as referred to in Chinese budget documents. For 1982, the breakdown is given for budgetary expenditure increased by the amount of the subsidy expenditure.

Sources: Ministry of Finance, Appendix Table 2.

zation and product development amounted to another 4.5 percent. In this respect, China resembles Romania and Hungary which, with per capita income levels of \$2,100 and \$2,540, respectively, invest 30 percent and 33 percent of their GDP and devote 21 and 38 percent, respectively, of their total budget to capital expenditure.

3.44 In recent years, economic reforms have given enterprises and local authorities both larger financial resources ^{24/} and the authority to use these resources. Combined with their incentives to add to their productive capacity and to their stock of residential buildings, these authorities have greatly expanded their investment activity. As a result, the share in capital construction expenditure channeled through the budget which amounted to 80-90 percent as late as 1979 has fallen to only about 50 percent. In an effort to stimulate investments in the priority sectors of energy and transportation, extrabudgetary investments are now more tightly controlled and a larger share of investable funds is to be channeled through the budget (for example, 10 percent tax on extrabudgetary funds introduced in 1983 and the substitution of the profit tax on state-owned enterprises for the profit transfer system).

3.45 Hence, the fall of the share of investment expenditure in the budget may not continue and may even be reversed. As a rule of thumb, investment expenditure may reclaim about 25 percent of total expenditure, ^{25/} as against 24 percent in 1980 and 20 percent in 1982. This share could be reduced if sizable bank financing of investments of state-owned enterprises were to

^{24/} Enterprise-retained funds rose from Y 25.3 billion in 1978 to Y 49.1 billion in 1982.

^{25/} With a budget of 30 percent of GDP, this implies that budgetary investment expenditure would amount to 7.5 percent of GDP against 6.3 percent in 1982.

substitute for budgetary resources. Such a substitution has already taken place with respect to working capital of state-owned enterprises,^{26/} and through the granting of considerable amounts of short- and medium-term equipment loans.

3.46 Price Subsidies. In recent years, these subsidies are the most rapidly growing component of budgetary expenditure. They are granted mainly to daily consumer goods and, to a lesser extent, to agricultural inputs. Price subsidies were first granted in 1953, but their scope was gradually expanded and by 1984, about 37 commodities were subsidized. Most subsidies are granted to foodgrain, edible oil, and cotton. Other subsidized consumer goods include meat, eggs, vegetables, and household coal. Agricultural inputs benefiting from price subsidies include urea, electric power, and diesel fuel. Aside from the subsidies that are explicitly reflected as budgetary expenditure, some subsidies are granted by enterprises and local governments, and through other budgetary entrees. While no comprehensive estimates are as yet available to assess the magnitude of this latter category of subsidies, there is now wide agreement that they are considerable.^{27/}

3.47 In 1982, price subsidies included explicitly in the state budget amounted to Y 32 billion, double the amount for 1979, which itself was twice as high as in 1978. These subsidies rose most rapidly in 1979 and 1980 when the increase in procurement prices for agricultural goods was not matched by

^{26/} Such working capital amounted to about 2 percent of GDP in both 1957 and 1977, but only 0.5 of GDP in 1982.

^{27/} The State Planning Commission estimated that rent subsidies of Y 3.5 billion were granted in 1979-81; urban transportation enterprises often run large deficits. A Government Insurance Scheme is provided free to civil servants at a cost of Y 78 million in 1981.

similar increases in urban retail prices (Table 3.8). Price subsidies for daily consumer goods exclusively benefit urban dwellers and amounted to Y 141 per capita in 1982, slightly less than in 1981 (Y 151). This is equivalent to one third of the average per capita income of staff and workers.

Table 3.8. CHINA: PRICE SUBSIDIES IN THE STATE BUDGET, 1978-82

	1978	1979	1980	1981	1982
	<u>(In billion yuan)</u>				
Daily consumer goods	7.8	13.9	22.0	30.5	29.9
Domestic	(...)	(...)	(...)	(21.7)	(24.2)
Imported	(...)	(...)	(...)	(8.8)	(5.7)
Agricultural inputs	...	2.1	2.0	2.2	2.1
<u>Total</u>	<u>...</u>	<u>16.0</u>	<u>24.0</u>	<u>32.8</u>	<u>32.0</u>
	<u>(Percentage of budgetary revenue) /a</u>				
Total price subsidies	...	12.7	18.3	23.6	22.4
	<u>(In yuan per capita for urban population) /b</u>				
Total price subsidies on daily consumer goods	45	75	115	151	141

/a Total revenue refers to data in Appendix Table 1.

/b Total price subsidies divided by urban population (China 1984, p. 103).

Source: Ministry of Finance.

3.48 As pointed out earlier in this paper, the cross-section study has shown that welfare and social security expenditure tends to increase with increases in per capita income, as such expenditure was intended to reduce income differences and provide the less fortunate citizens with a basic minimum standard of living. In China, the recent sharp increase was not in response to the desire to reduce income disparities and to provide minimum

living standards. Rather, the subsidies rose sharply because rural terms of trade were improved without permitting the cost of living in urban areas to increase as a result of it.

3.49 Had wages and other urban incomes been adjusted upward to compensate for higher procurement and retail prices, it would have been possible to avoid this sharply rising subsidy expenditure in the budget and to avoid the substantial administrative and other costs caused by the subsidy and ration schemes. This approach was not taken, because the increases in procurement prices in 1979 were decided in a very piecemeal fashion without fully focusing on the budgetary implications. Furthermore, Chinese policymakers and the public have taken great pride in achieving basic price stability, which would have been shattered by the simultaneous increase in retail prices and incomes. Also, the wage system is an extremely complex one, being made up of a basic wage, wage supplements, and bonuses. It is, therefore, often maintained in China that to calculate an increase in the take-home pay of staff and workers that compensates fully for retail price increases would be immensely complex. In that view, a wage reform would have to precede the elimination of the price subsidies.

3.50 Most countries rely on social security and welfare systems to eliminate the extremes of income distribution. These systems require large expenditures. In Table 3.4, it was shown that budget expenditure on social security and welfare were positively related not only to per capita income, but also, and independently, to the share of the population 65 years and older and the share of the labor force in industry. Current forecasts anticipate a

considerable aging of the population by the year 2000,^{28/} and a gradual increase in the share of the industrial labor force. On both accounts then, and to the extent that the international experience is relevant for China, China should anticipate that its social security and welfare expenditure will increase. Depending on the institutional arrangements, such expenditure might appear explicitly in the budget or might result in higher costs for local authorities and enterprises, and ultimately in reduced budgetary revenue. Official statements, made in connection with the promotion of the one-child family and the future burden on these single children for the welfare of their parents and grandparents, already suggest that the need for a better articulated social security and welfare system is being perceived.^{29/}

3.51 Income inequalities between provinces and between rural and urban areas may also tend to become gradually less acceptable. State policies to alleviate these inequalities have, in the past, relied on equalizing the supply of public services across provinces by requiring rich provinces to transfer a share of their tax revenue to the state budget, which in turn transfers them to poor provinces. This income equalization policy may have to be expanded, but its cost will not directly appear in the budget as "welfare and social security payments," but under the heading of other functional expenditure categories.

3.52 In short, the future developments of welfare and social security payments are very uncertain and depend on how much income inequality within

^{28/} The 65-and-over age group, as a percentage of total population, may increase from 5 percent (the 1982 census) to about 9 percent in 2000.

^{29/} The People's Insurance Company is launching a pension scheme presently open to staff and workers of collective enterprises; it will be expanded to commune members. Premiums are paid by the enterprises.

and between regions will be accepted and what methods will be adopted to reduce inequalities. Also, it will depend on the extent to which the living standard of urban workers will be protected by a system of overemployment in state and collective enterprises, supplemented by a growing private sector or whether the hardship of unemployment will be mitigated by a system of social security and welfare payments. In this choice, much more is involved than financial transactions and budgetary responsibilities. Yet, one might anticipate that the budget will have to accommodate larger social welfare payments, although in the medium term, these transfers may not have to be as large as those in the average to middle-income country (that is, 3 percent of GDP) because of China's present wage and employment policies.

3.53 Health Expenditure.^{30/} China's total national expenditure on public health is estimated at 3.3 percent of GDP. This is slightly higher than the 2.7 percent of GDP which was expected from the analysis of the relation between public health expenditure and GDP in a sample of 19 countries. In that study, the income elasticity of public health expenditure was estimated at 1.2. The budget finances about 30 percent of total health expenditure, placing budget-financed public health expenditure at close to 1 percent of GDP.^{31/}

3.54 This share of health expenditure in the budget is only about half what budgets in other low-income countries spend on public health (1.9 percent, see Table 3.2) or what would be expected from the relations documented

^{30/} This discussion is largely based on IBRD (1984a) and on the supplementary papers prepared for that report.

^{31/} IBRD (1984a), pp. 64 and 78. These shares are very close to the 0.8 percent share given in Table 3.5.

by the Tait and Heller study (Table 3.4), according to which China's budgetary health expenditure was expected to be 2.3 percent of GDP. Despite the low share of public health expenditure in the budget, China's achievement in public health is impressive; life expectancy exceeds that of other developing countries (67 years against 50 years) and of middle-income countries (60 years) and is similar to that of upper middle-income countries (65 years).^{32/} China's emphasis on preventive medicine, the large share of total health expenditure paid outside the budget, and the fact that salaries of its medical personnel are lower than that in other countries ^{33/} probably explain most of this low share of health expenditure in the budget.

3.55 An aspect of China's health expenditure with a bearing on their future development is the substantial differences in state health expenditure across provinces and autonomous regions. Higher-income provinces spend much more on health than low-income provinces, and urban areas spend much more than rural areas. In fact, 1981 state health expenditure in urban areas amounted to Y 26.2 per capita as against Y 2.8 in the rural areas.^{34/} Similarly, large differences exist between provinces.

3.56 The share of total health expenditure in GDP will probably increase in the future and so will the share of such expenditure in the budget. The

^{32/} IBRD (1983), Table 1, pp. 148-149.

^{33/} In China only 24 percent of total health expenditure is accounted for by salaries for medical personnel (IBRD 1984a, p. 76). This expenditure is higher in most other countries where salaries of health personnel substantially exceed those in other sectors in the economy. In China, salaries of health personnel are very low in the rural areas; in urban areas they are about the same as the salary and wages of staff and workers in state-owned enterprises.

^{34/} IBRD (1984a) p. 66.

reasons for this are: (a) the gradual aging of the population will cause expensive curative and caring medicine to increase at a time when most of the benefits of preventive medicine have already been reaped in many areas; (b) the income elasticity for medical expenditure exceeds 1.0 in most countries that have been studied, in part because of the demand for quality medicine, which relies on more advanced and expensive technology; and (c) large disparities in medical expenditure across the country may become more unacceptable, requiring greater efforts by the public sector in the rural areas where about 80 percent of the population resides.

3.57 It is difficult to quantify these trends which will all be working at the same time. Yet the Heller-Tait study suggests that a 1 percent increase of the population aged 65 years and older tends to increase the share of budgetary expenditure on health in GDP by 0.12 percent. Hence, if between now and the year 2000 this group of the population increases from 5 percent to 9 percent,^{35/} one could expect sizable upward pressure on expenditure (maybe 0.5 percent of GDP). Similarly, if an income elasticity of 1.2 were to apply to these expenditures, an increase of incomes up to the year 2000 from \$250 to \$800 would mean that health expenditure would increase from about Y 8.25 per capita (3.3 percent of GDP) in 1982 to Y 40 per capita (4.9 percent of GDP). Although the effects of those two factors on budget expenditure are not necessarily cumulative, they could combine to exercise considerable upward pressure on total health expenditure in China. If China's budget is to continue to shoulder 30 percent of this expenditure, it will have to devote a larger amount of resources to that purpose. Forecasting such expenditure as

^{35/} This implies a more than doubling of the number of people in this age group between 1980 and 2000 (IBRD 1984a) Vol. II, Table A-9.

1.5 percent of GDP or 5 percent of a budget that itself amounts to 30 percent of GDP appears reasonable and conservative.

3.58 Education.^{36/} Both as a percentage of its GDP and as a share of its total budgetary expenditure, China spends less on education than most developing countries. Whereas budgetary expenditure on education in other low-income countries amounts to 2.9 percent of GDP or close to 15 percent of total budgetary expenditure, in China those shares are only 2 percent and 7 percent, respectively. Taking other than budgetary expenditure into account, the conclusion that China spends less than other developing countries on education--3 percent versus 4 percent--is confirmed. This may be surprising in light of China's educational achievements, which are considerably higher than those of other low-income developing countries (for instance, China's literacy rate of 69 percent compared with that of other low-income countries of 40 percent). A major reason for this low total spending on education is the low unit cost of education in primary education, which can be traced to low salaries of teaching staff and underspending on educational materials and buildings. Unit costs in China's primary education, in terms of percentage of GNP/capita, is only one third of that in other developing countries; in secondary education it is the same, but it is 10 times as high for tertiary education. Salaries constitute a smaller share of total recurrent costs of education (60 percent, 50 percent, and 30-35 percent in primary, secondary, and tertiary education, respectively) than in other developing countries (90 percent, 60-75 percent, and 40-45 percent, respectively). Teachers'

^{36/} This section is largely based on the paper by IBRD (1984b).

salaries at the primary school level, although somewhat raised in recent years, still appear low.

3.59 In the future, budgetary expenditure on education will be affected by different pressures. First, there is the goal to introduce a nine-year basic education system, a diversified secondary school system that would enroll 50 percent of students in technical and vocational programs, and a doubling in university enrollment. Second, the demographic shift in population will reduce the number of school-age children. Third, a considerable effort will need to be made in the construction of new buildings and the rehabilitation of existing ones.

3.60 Recurrent costs of providing universal primary education will increase considerably between now and the year 2000 as the number of primary students increase by about 10 percent. The recurrent cost of expanded secondary education will be expensive, mainly because of the quadrupling of students in upper-secondary education. The number of teachers in secondary schools will have to be increased considerably--the actual increase being dependent on the development in the student/teacher ratio. The increased enrollment in technical and vocational programs will turn out to be very expensive as the cost per student enrolled in these schools is about 5 to 10 times higher than for students enrolled in general secondary schools. The doubling of university enrollment will also require substantially larger resources. Yet, there is considerable scope for savings in staff, space, and equipment utilization in this sector.

3.61 By the year 2000, substantial capital expenditure will have to be made, mainly to accommodate the large increase of students in secondary and vocational schools.

3.62 Table 3.9 gives a summary of budgetary expenditure that might be required to fulfill these goals by the year 2000. These estimates are approximations based on the most recent data and assuming that several cost-saving measures will be implemented. Total recurrent expenditure may turn out to be about Y 35 billion in 2000 compared with Y 13.5 billion in 1982. To this, one may add the expenditure for acquisition of equipment of about Y 21 billion in the period 1983-2000, or somewhat more than Y 1 billion a year. The expenditure for additional school buildings was not estimated because of lack of data. Total budgetary expenditure of Y 36 billion out of a GNP of Y 1.7 trillion (four times the level of 1980) amounts to 2.1 percent, or about the same share as in 1982. Even when capital expenditure is added to this amount, it appears that China's educational goals can be attained without undue financial stress. This implies, however, that teachers' salaries increase no faster than GNP per capita and that several measures be implemented to reduce recurrent costs. However, rising incomes in the rural areas, in part due to the introduction of the production responsibility system, and the realization that teachers' pay is low by any standard, may result in an upward adjustment of teachers' salaries in rural areas. This would, of course, result in additional budgetary allocations.

Table 3.9. CHINA: ESTIMATES OF PUBLIC COSTS IN EDUCATION, 1972-2000
(In billions of yuan in 1982 prices)

	<u>Recurrent costs</u>		<u>Capital costs equipment only</u>	
	1982	2000	1983-200	Per annum
Primary education	4.9	7.6	2.3	0.07
Secondary education	5.5	23.0/18.7	15.0	0.79
University education	3.1	6.9	5.0	0.26
Of which: Secondary teach training	(0.6)	(1.4)	(0.8)	(0.04)
<u>Total</u>	<u>13.5</u>	<u>37.5/33.2</u>	<u>22.3</u>	<u>1.12</u>

Sources: IBRD (1984) China: Long-Term Issues and Options, Annex A: Issues and Prospects in Education, Table 5.7, p. 55.

4. REVENUE DEVELOPMENTS

4.01 This chapter reviews generally observed patterns in the level and structure of the tax system during the development process, discusses the most relevant underlying factors determining changes in the patterns of taxation in developing countries, and examines their relevance for China.

4.02 In the economic literature, many studies have analyzed trends in taxation during the development process.^{37/} These studies vary in terms of coverage and methodology. Some studies have examined developing countries while others have examined the evolution of the now developed countries. In their methodology, some studies have relied on time-series data, others on cross-section analysis.

^{37/} Some of the most relevant studies are those of Chelliah (1971) Goode (1984), Musgrave (1969), Hinricks (1966), and Tanzi (forthcoming).

4.03 Findings of most studies are largely in agreement in concluding that higher levels of development are generally associated with increasing shares of taxation in economic activity. The above conclusion is largely a factual observation and not a theory that could support a cause-effect relationship. Therefore, higher levels of taxation are not necessary to achieve higher levels of development, or vice versa, despite the fact that the two phenomena are generally associated. In what follows, findings of relevant studies are reviewed and tentative explanations of the factors that have determined trends on taxation are presented.

Review of Studies on the Evolution of Taxes During the Development Process

Trends in the Level of Taxation

4.04 The results of some important time-series studies on the level of taxation are summarized and combined below. Table 4.1 below presents the evolution of the level of taxation for eight developing countries which have shown significant development during the last few decades. It shows three time periods: 1953-55, 1966-68, and 1978-80.

4.05 The average tax burden--defined as the ratio of tax collections to gross national product--shows a steady increase over time. It rose, first, by nearly 40 percent (from 9.7 percent of GNP in the 1953-55 period to 13.4 percent of GNP in 1966-68) and, thereafter, continued rising by a further 30 percent, reaching 17.3 percent of GNP in the 1978-80 period. While all countries of the sample showed an increase in tax burden, those countries which had a lower initial level of taxation (such as Korea, India, and Pakistan) showed a sharper increase in their tax burden rates. Those countries which had a higher initial level of taxation (Thailand, Sri Lanka, and Brazil) showed a

**Table 4.1. RATIOS OF TAX REVENUE TO GROSS NATIONAL PRODUCT
IN SELECTED DEVELOPING COUNTRIES: TIME-SERIES
(Percentages)**

	1953-55	1966-68	1978-80 /a	Percentage increase in rate 1953-55 to 1978-80
India	6.3	11.6	14.1	123.8
Morocco	10.0	16.5	21.2	121.2
Korea	5.7	11.8	17.1	200.0
Philippines	7.0	9.8	12.3	75.7
Pakistan	6.2	8.3	14.5	133.9
Thailand	10.8	12.8	13.4 /a	24.1
Brazil	15.3	20.6	23.2	51.6
Sri Lanka	16.3	15.7	22.2	36.2
Average	<u>9.7</u>	<u>13.4</u>	<u>17.3</u>	<u>78.4</u>

/a Ratios to gross domestic product.

/b Data for 1978-81.

Sources: Data for 1953-55 and 1966-68 from R. Chelliah, "Trends in Taxation in Developing Countries," IMF, Staff Papers No. 18 (July 1971); and data for 1978-80 from V. Tanzi, "Quantitative Characteristics of the Tax System of Developing Countries," in Modern Tax Theory for Developing Countries, Newberry. D., and N. Stern, editors (Washington, DC) IBRD.

smaller increase in tax burden. As a result, by the end of the period (1978-80), the tax ratios for all countries in the sample became more homogeneous than was the case 25 years earlier.

4.06 Broad-based, cross-section studies that have compared levels of development of several countries with the corresponding levels of taxation have also concluded that higher levels of development are generally associated with higher levels of taxation. A recent study compared levels of economic development (measured by GDP per capita) with levels of taxation (measured by taxation to GDP) for over 80 developing countries during the 1977-80 period

(Table 4.2). Countries with lower levels of development (countries with average per capita income of around \$200 but not exceeding \$300) tend to have much lower levels of taxation (13 percent of GDP) than countries in higher-income groups. The level of taxation for the two intermediate groups (with average per capita income of \$510 and \$1,086) is much higher than the former group but there is no significant difference between them: 18.5 percent and 17.8 percent of GDP, respectively; while the level of taxation for developing countries with higher per capita income (averaging \$2,540) reaches over 20.5 percent of GDP. In brief, as countries develop, tax revenue seems to grow faster than income. This then appears to permit the share of government expenditure in GDP to grow when incomes grow.

Table 4.2. RATIOS OF TAX REVENUE TO DOMESTIC NATIONAL PRODUCT IN DEVELOPING COUNTRIES /a
(As percentage of GDP)

	Income (US\$)		Total taxes	Taxes on:				
	Per capita	Average		Income	Domestic goods and services	Foreign trade	Social security	Other
Group I	300	206	13.2	2.9	3.8	5.7	0.5	0.3
Group II	300 y 650	510	18.6	5.1	4.5	7.2	1.8	--
Group III	650 y 1,550	1,086	17.8	6.2	4.2	5.2	1.7	0.5
Group IV	1,550 y	2,544	20.6	8.0	5.1	4.0	3.1	0.4
China /b			13.8	1.8	11.1	0.9	--	--

/a Data for the three latest years for which information is available; generally 1978-80.

/b Period 1979-82. Data exclude gross profits remittances from public enterprises to the budget which are regarded as nontax revenue. If these remittances are regarded as tax revenue, the rate of taxation to GDP would exceed 30 percent.

Sources: V. Tanzi, "Quantitative Characteristics of the Tax Systems of Developing Countries," in Modern Tax Theory for Developing Countries, Newbery, D. and N. Stern, editors (Washington, DC: IBRD); and Ministry of Finance.

4.07 Tax elasticity and tax buoyancy coefficients measure the relationship between changes in the overall tax levels and the corresponding percentage increase in GDP. Coefficients higher than one indicate that taxation grew faster than GDP; a coefficient of one means that taxation grew at the same rate as GDP; and a coefficient smaller than one indicates that taxation grew at a slower rate than GDP. The automatic response of tax collections to higher levels of income, in the absence of any discretionary measure affecting tax flows, is measured by the tax elasticity coefficient. This coefficient, therefore, measures the built-in response of taxation to income. On the other hand, the flow of taxes may also reflect the impact of measures taken by the authorities as they seek to boost revenue, promote specific activities, or pursue other economic objectives. Such measures create new or eliminate existing taxes, change the rate of existing taxes, grant and eliminate exemptions or special incentives and changes in tax administration or tax enforcement. The overall performance of taxation--including the effect of built-in responses and discrete measures--is measured by the tax buoyancy coefficient, which is defined as the ratio between the rate of growth of taxation (including the effect of automatic responses as well as that of discrete measures) and the rate of growth of income.

4.08 A comprehensive study on tax buoyancies for 27 countries over a 13-year period (from 1953-55 to 1966-68) shows an average coefficient of 1.4 (Table 4.3). This coefficient indicates that the rate of growth of overall tax collections has been 40 percent faster than the corresponding growth in GNP in this period. Between 1953-55 and 1966-68, and with only one exemption, taxes grew either at a faster rate than, or at a largely similar, rate to GDP.

Table 4.3. SELECTED DEVELOPING COUNTRIES: INCOME
BUOYANCY OF MAJOR TAXES, 1953-55 TO 1966-68

Country /a	Income taxes	Taxes on production and internal transactions	Taxes on international trade	All taxes /b
India	1.70	4.10	1.50	2.40
Morocco	4.10	4.30	1.00	2.20
Korea, Republic of	2.60	1.70	2.30	2.20
Honduras	3.60	5.20	0.89	2.10
Paraguay	1.20	1.50	3.70	2.10
Chile	1.80	2.40	1.40	1.00
Tunisia	5.10	1.30	2.90	1.70
Philippines	1.90	1.10	5.60	1.60
Pakistan	1.30	2.50	0.83	1.50
Jamaica	2.70	1.90	0.92	1.50
Congo, Dem. Rep. of	0.50	..	0.51	1.50
Guyana	1.30	1.30	1.70	1.50
Brazil	0.95	1.90	0.37	1.30
Thailand	2.40	1.30	1.10	1.30
Turkey	1.50	0.85	1.80	1.30
Indonesia	0.97	0.91	1.80	1.20
Kenya	1.30	2.00	0.90	1.10
Guatemala	2.50	2.70	0.21	1.10
Lebanon	0.67	1.30	0.97	1.00
Ecuador	0.46	-0.70	1.00	0.97
Trinidad and Tobago	0.97	1.20	0.71	0.97
Costa Rica	1.60	6.80	0.22	0.92
Sri Lanka	0.50	6.80	0.38	0.91
Ghana	1.10	11.70	0.33	0.69
Average /c	..	..	..	1.40

/a The countries are ranked according to the income elasticity of total tax revenue.

/b The relation to total taxes excluding social security contributions. The percentage change in tax revenue is divided by percentage change in GNP. This measure, it may be noted, has been calculated by relating changes in actual tax revenue to changes in income and, hence, differs from the coefficient of built-in elasticity, which is calculated with respect only to the "automatic" increase in tax revenue in response to economic growth or increase in income. Here, the interest is more in the total relative increase in tax revenue, whether owing to economic growth, or changes in the tax structure and rates, or improvement in compliance and enforcement.

/c Unweighted average.

Source: From R.J. Chelliah (1971) "Trends in Taxation in Developing Countries," IMF, Staff Papers, Vol. 48, No. 2, p. 265.

Trends in the Tax Structure

4.09 Time-series as well as cross-section studies show that through the development process, income taxes and taxes on domestic production and consumption gain in relative importance at the expense of taxes on international trade and other smaller taxes. This conclusion is somewhat oversimplified in that it is based on the breakdown of total tax revenue only in very few categories. Hence, it masks important changes in the tax structure that take place within the categories used. For example, the substitution of the value-added tax for cascading commodity taxes does not appear when all commodity taxes are lumped together, despite the fact that such a substitution constitutes a considerable improvement of the previous commodity tax system.

4.10 The developments in the tax structure during development are largely explained by the development of readily available taxable bases (tax handles) and by advances in the taxation techniques and a better understanding of the economic impact of various taxes.

4.11 It is generally accepted that, as development progresses, more favorable conditions are created for the use of income taxes or of more sophisticated commodity taxes. Because of these conditions, it becomes less necessary to rely on those taxes that have disincentive effects (for instance, export taxes) or that unduly discriminate against the consumption of imports. In the early stages of development, taxes are collected in a simple institutional environment where production takes place in a small-scale--mainly rural--environment, which precludes the levying of taxes that require more than the most rudimentary accounting systems. Hence, land taxes, taxation of exterior signs of luxury consumption, and taxation of foreign trade are very important sources of budgetary revenue. When development progresses, produc-

tion and distribution take place in a much more structured environment; financial institutions become articulate, large-scale industry gains in importance, and wage payments become a large source of household income. Domestic industrial production gains with respect to imports and their exemption from taxation becomes less acceptable, while a more literate taxpayer population keeps more sophisticated accounts.

4.12 In addition to the development of the economic structure, new taxation techniques were introduced in some countries and gained gradual acceptance in others. Value-added taxation, for instance, was first introduced in France, spread to the European Economic Community, and is now adopted in many developing countries.

4.13 The results of two broad-based studies on the evolution of the tax structure throughout the development process are summarized in Table 4.4 below. This table combines the results of two different studies. The first three columns of Table 4.4 show changes in the structure of taxation as derived from a broad-based, cross-section study of some 85 countries, while the latter three columns show the results of a time-series study of some 30 countries over a 13-year period (from 1953-55 to 1966-68). Although the two studies are not fully comparable--the later study has a narrower tax base as it does not include social security taxes--both studies suggest that during development, the relative share of taxes on international trade tends to decline while the share of income taxes tends to increase. The trend of taxes on domestic goods and services seems less consistent. The cross-section study shows a five-point decline in their share in total tax revenue. This, however, does not reflect a declining reliance on these taxes (Table 4.1 shows that, as a share of GDP, these tax receipts increase when income increases);

Table 4.4. TRENDS IN THE TAX STRUCTURE OF DEVELOPING COUNTRIES
(As percentage of total taxes)

	Cross-section studies /a levels of development			Time-series studies /b levels of development		
	Lower	Intermediate	Changes	Lower	Intermediate	Changes
Income taxes	21	33	(12)	22	24	(2)
Taxes on domestic goods and services	29	24	(-5)	30	38	(8)
Taxes on interna- tional trade	43	30	(-13)	38	33	(-5)
Social security	4	9	(5)	-- /c	-- /c	--
Other	3	4	(1)	10	5	(-5)
<u>Total</u>	<u>100</u>	<u>100</u>		<u>100</u>	<u>100</u>	

/a From Tanzi, V. (forthcoming), "Quantitative Characteristics of the Tax System of Developing Countries," in Modern Tax Theory for Developing Countries, Newbery, D. and N. Stern, editors (Washington, DC: IBRD). Lower levels of development correspond to countries with a per capita income of less than \$300 and intermediate level of development corresponds to developing countries with an average per capita income of \$1,086.

/b Table 4.3 from a sample of 30 countries; data in the columns "lower levels of development" corresponds to data of the 1953-55 period, and that of "intermediate levels of development" corresponds to the same countries in the 1966-68 period.

/c Data exclude social security taxes.

rather it results from the sharp growth in income taxes and receipts from social security taxes. The time-series study, on the other hand, indicates an eight-point increase in their share of total taxes, in part because this study does not include the revenue from social security taxes which rose sharply and which were included in the cross-section study. The basic trends of changes in the structure of taxation are confined in a broad-based, cross-section study prepared by Goode (1984) (Table 4.5).

Table 4.5. COMPOSITION OF CENTRAL GOVERNMENT REVENUE, AROUND 1980 /a
(Percentages)

Country group (number)	Taxes			Social security contributions	Nontax revenues
	Income and profits	Domestic goods and services	Inter-national trade		
Industrial countries (20)	33.3	26.0	3.7	25.0	9.0
Semi-industrial countries (15)	25.3	30.6	14.5	13.0	11.1
Middle-income countries (55)	23.7	23.1	28.9	4.1	14.9
Least-developed countries (14)	17.0	21.7	41.6	1.6	13.0

/a Unweighted arithmetic means of the percentages for each country in the group. Data will not add to 100 percent because of the omission of property taxes and other minor taxes, and rounding. Major oil-exporting countries are excluded.

Source: R. Goode (1984), Government Finance in Developing Countries (Washington, DC: The Brookings Institution).

4.14 As stated earlier, further insights into the changes in the structure of taxes are revealed through more disaggregated analysis of the share of individual tax categories in total tax revenue (Table 4.6).

4.15 Income taxes are again shown to rise in relative importance with rising incomes. The share of corporate income taxes more than doubles when moving from countries in the lower to the higher per capita income bracket, reflecting the fact that, with development, more and more production takes place in the corporate sector which is easier to tax than the noncorporate sector. The professional literature does not agree on the final resting place of the corporate income taxes. There are some researchers ^{38/} who believe that a large share of corporate income taxes is reflected in higher output

^{38/} Marian Krzyzaniak and R.A. Musgrave (1963).

Table 4.6: TAX REVENUE BY TYPE OF TAX AND BY GROUP OF DEVELOPING COUNTRIES
(As percentage of total taxes)

Per capita income		Total taxes	Income taxes				Domestic taxes on goods and services					Foreign trade			Social security	Wealth and property	
			Range	Average	Total	Individual	Corporate	Other	Total	General sales, turnover, VAT	Excises	Other	Total	Import duties		Export duties	Other	Property	Other
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
300	206	100.0	20.83	9.09	11.03	1.71	29.45	13.38	12.64	3.43	42.55	32.01	11.01	0.14	3.53	2.33	2.39
300 Y	650	100.0	25.95	10.20	15.03	1.58	26.18	8.60	12.61	4.97	39.05	30.62	7.25	0.17	8.58	2.24	2.81
650 Y	1,550	100.0	33.06	11.85	20.78	7.03	24.09	8.89	10.43	4.77	30.07	24.07	8.40	0.07	9.15	2.94	3.72
1,500 Y	2,544	100.0	39.19	12.97	24.79	2.25	24.13	7.65	11.38	5.09	20.39	18.24	2.57	0.06	14.48	2.75	2.62

Source: From Tanzi, V., "Quantitative Characteristics of the Tax Systems of Developing Countries," in Modern Tax Theory for Developing Countries, Newberry, D. and N. Stern, editors (Washington, DC: IBRD).

prices, in which case the distinction between them and commodity taxes is not as strong as it would appear from statistics such as those of Table 4.6. On the other hand, other researchers ^{39/} believe that corporate income taxes reduce the return to capital and, as such, are correctly termed "income" taxes.

4.16 Personal income taxes also increase their share of total taxes although their growth is not as rapid as that of corporate taxes. But when personal income taxes are grouped together with social security contributions, which is legitimate as both draw largely from the same base, their rate of growth and relative size rise markedly. Their combined share increases from 12.5 percent to 27.5 percent of total taxes, as one moves from countries in the lower to the higher per capital income bracket.

4.17 The share of taxes on domestic goods and services fall slightly. These taxes are a heterogeneous group. Some are of a general nature, such as the general sales tax and the value-added tax, while others are excise taxes on liquor, cigarettes, luxury goods, jewelry, cars, motorcycles, and travel. In the general sales taxes, no distinction is made between those turnover taxes with a cascading effect and those that avoid such an effect. Hence, the broad categories in which these taxes are grouped will, of necessity, give only some general indications of the patterns of changes. As is shown in Table 4.6, column 9, collections from general sales and turnover taxes account for over 13 percent of total taxes in countries with lower levels of per capita income, but they account for only about 8 percent of total taxes for the other developing countries. However, to the extent that the overall tax

^{39/} Arnold C. Harberger (1962), p. 215.

burden (as a proportion to GDP) increases with higher levels of development, this decline in tax does not necessarily imply that its collections fall in relation to GDP. On the contrary, the share of these falls in GDP rises from 3.8 percent to 5.1 percent when going from poor countries to countries with a higher per capita income (Table 4.2). Collections from selective taxes on domestic goods and services show a fairly stable pattern, accounting for about 11 percent of total taxation in all groups of countries. Only for countries with lower per capita income are the revenues of excise taxes less important than those of more general commodity taxes.

4.18 Table 4.6 also shows that the sharp decline in the relative share of taxes on foreign trade is a result of a relative decline in both import duties and export taxes. The decline is steady across the different country groups. Import duties fall from 32 percent to 18 percent of total taxes, but are still the second-most important revenue source after corporate income taxes. Export taxes fall from 11 percent to less than 3 percent of total taxes, in part reflecting the widely shared conviction that only in exceptional circumstances can export taxes avoid harming the export sector.

Conclusions from the International Experience

4.19 The evolution of the tax system reflects not only changes in the structure of the economy, but also changes in the policy objectives of the governments and the use of taxation as an instrument to achieve new policy objectives such as income distribution, stabilization, and economic growth. International differences in tax structure also reflect the specific social and political structure of each country and the role assigned to the government. Countries with centrally planned economies often assign fewer objectives to tax policy than market economies because wage and price policies,

combined with central planning, tend to implement some of the policy objectives that in market economies are the realm of tax policy. The tax structure may also depend on the required level of tax revenue as with higher revenue requirements; it becomes difficult not to rely on every potential tax base, irrespective of the economic and efficiency implications. In turn, the required level of taxation depends, inter alia, on the scope of budgetary responsibilities undertaken by governments.

China's Tax System: A General Assessment

Tax Reform as a Continuous Process

4.20 Options for changing the structure of taxation in developing countries must give due attention to the economic conditions prevailing in the country as these impose severe limitations on the structure of the tax system.

4.21 Low-income countries are often characterized by a large agricultural sector, small-scale and scattered industrial production, the small share of the total work force earning wages, and foreign trade tending to be very important. Those circumstances limit tax policy options, often resulting in the reliance on taxes that are inefficient, arbitrary, and discriminatory. Presumptive taxation, compulsory delivery of agricultural produce at below-market prices, and export taxes are often used to tax the agricultural sector. Heavy reliance on commodity taxation, inclusive of import taxes and excise taxes, is used to extract the major budgetary contribution from the urban areas. With wage employment and other incomes (rents, interests, small business income) widely scattered and difficult to account for, individual income taxation is mainly limited to civil servants and employees of large firms, and contributes little to overall budgetary revenue. Enterprise

taxation, except for the very few large--often foreign-owned--firms, is often calculated on a presumptive basis, so that these taxes tend to reflect sales rather than income. In addition, revenue needs encourage low-income developing countries to exploit all possible tax bases, often resulting in the existence of a large number of taxes, each of which raises only small amounts of revenue.

4.22 When the economy develops, these often primitive methods of taxation gradually lose their raison d'etre and should be replaced by taxes that are more attuned to the more advanced stage of development. Hence, tax reform should be a continuing preoccupation of the budgetary authorities. Old taxes should be perfected or removed and new taxes should be introduced. In this process, the experience of other countries can be used as a guide as it suggests the direction that can be taken, shows what is feasible, and permits mistakes to be avoided. However, the international experience has its limitations, certainly in the case of China whose economy differs greatly from that of the countries whose data were used in the statistics referred to earlier in this chapter. One of the limitations pertains to the fact that no country's tax structure is perfect; all could benefit from reform. Thus, the average of these imperfect tax structures cannot possibly be used as a "norm" for China. They hint at what is possible, not at what should be. Furthermore, the deviation from the mean in the sample studied is also rather large, suggesting that there are many exceptions to the trends referred to above.

4.23 Based on the international experience and some widely recognized criteria for an ideal tax system, some remarks on the present taxation system in China are now presented.

Tax Reform in China

4.24 China's tax system should be evaluated in light of the objectives it must implement. It may be useful to analyze to what extent China's tax system is aimed at fulfilling the objectives of allocation, distribution, stabilization, and growth and development mentioned in Chapter 2 of this paper. To implement these objectives, the tax system should be buoyant, neutral, predictable, and efficient. These criteria will now be discussed in turn.

4.25 Buoyancy. If government expenditure tends to grow at the same rate as GDP, taxes should also follow this growth pattern if deficits are not to emerge. If government expenditures are to grow more rapidly than GDP--and the international comparison showed that this has been the case in the past--the budgetary revenue should grow more rapidly than GDP, that is, the revenue buoyancy should exceed unity. In recent years, the buoyancy of budgetary revenue was only 0.5, namely, revenue rose only about half as fast as GDP. As a result, the share of revenue as a percentage of GDP fell from 32.2 percent in 1979 to 29 percent in 1982 (Table 4.7). The buoyancy of revenue from the consolidated industrial and commercial tax (CICT), which in 1982 amounted to 40 percent of total budgetary revenue, was 1.2. Profit remittances to the budget stagnated and, because they amounted to about half of total budgetary revenue, were the main cause of the overall low buoyancy of total budgetary revenue. Some small budgetary revenue categories rose rapidly while others fell or again stagnated. Customs duties (3 percent of the total) rose sharply as a result of higher imports, while income taxes from collective enterprises (14 percent of total) kept pace with GDP growth. Receipts from the agricultural tax and depreciation funds (each 2 percent of total) stagnated. Agricultural tax receipts stagnated as they were kept stable to stimulate agricul-

Table 4.7. BUOYANCY OF BUDGETARY REVENUES, 1979-82

	Annual growth in percent	Buoyancy
Total revenue	4.2	0.52
Industrial and commercial tax	9.5	1.2
Gross profit remittances	--	--
Enterprise taxes (collectives)	4.9	0.6
Customs duties	21.81 /a	2.7
Agricultural tax	--	--
National income	8.1	--

/a Customs duty collections grew very fast through 1981, but fell in 1982.

Source: Appendix Table 3.

tural production, while the rules for remittances of depreciation funds were changed, permitting enterprises to retain for their own use a large share of these funds.

4.26 The stagnation of profit remittances from state-owned enterprises was caused by the reforms affecting state enterprises, which let them retain for their own use a much larger share of their total profits than before. The growth in the CICT revenue reflects the substantial industrial output growth in the 1979-82 period.^{40/}

4.27 Restoring the buoyancy of budgetary revenue should be a priority of tax reform in the next few years. It is also perceived as such by the Chinese

^{40/} Profits and taxes are a higher share of gross output in heavy than in light industry (25.4 percent versus 19.5 percent) in 1982; China (1984), p. 293. As such, budgetary revenue should tend to be less buoyant in years such as 1981 when light industrial output growth was combined with a decline in heavy industry, as compared with years where heavy industry grows faster than light (for instance, 1982). However, this underlying trend does not show up in the aggregate data, as during the last few years, many other factors influenced revenue trends.

authorities who aim at increasing the share of budgetary revenue in GDP.^{41/} Several measures are presently being introduced to raise the buoyancy of budgetary revenues.

- (a) Income taxes on state-owned enterprises are introduced to substitute the transfer of profits to the budget. The present system is, of necessity, a complex one: a basic tax rate of 55 percent, plus a readjustment tax that guarantees that the enterprise income taxes are similar to the profit transfers of 1982, plus a scheme that permits enterprises to retain a larger share of their increased profits. Such an elaborate system was chosen because of the distorted price system that causes profitability across sectors to vary widely. The tax system provides incentives for an enterprise to increase its profitability, as its marginal profit retention exceeds the average profit retention. It is, thereby, hoped that enterprise profitability, a condition sine qua non for improved tax buoyancy, will be enhanced.
- (b) Exemptions and lower tax rates, granted to commune- and brigade-run enterprises to assist them in their early years, were frequently retained beyond the time period originally intended. As of 1983, the tax regime of many of these enterprises was normalized, a move that should benefit budgetary revenue.

4.28 The present experimentations with a value-added tax (VAT) in the machinery, electric fan, sewing machine, and bicycle sectors are not intended

^{41/} Minister Wang Bingqian (China Daily, April 5, 1984, p. 4) stated that revenue should amount to 30 percent, or at least 28 percent of national income, as against 26.6 percent in 1983. He referred to the Chinese definition of revenue and national income.

to raise additional revenue, as output prices are not to be affected by the change. However, it appears that budgetary revenue could suffer from the introduction of the VAT, as VAT rates on some final output are about the same as the CICT rates, thereby foregoing most of the tax revenue that, under the CICT regime, was paid on the inputs incorporated in the final VAT commodity.^{42/} Before introducing the VAT to other sectors of the economy, this issue should be carefully monitored.

4.29 Agricultural income has risen sharply in the last few years. Gross value of industrial output (GVAO, inclusive of output of the brigade-run enterprises), rose by 22 percent between 1979 and 1980, while per capita rural income rose by 69 percent. Although some of the increase in per capita income results from increases in the industrial production by brigade and team-run enterprises ^{43/} which are taxed separately, the more prosperous rural sector did not increase its contribution to budgetary revenue. This situation should be reversed if the buoyancy of the overall budgetary revenue is to be improved. Yet this will not be an easy matter if the experience of other developing countries, where agricultural taxation has often proven elusive, is relevant for China.

4.30 In many countries, income taxes--both on individual income and enterprises' revenue--have proven to be most buoyant. This comes because the

<u>42/</u>	<u>Previous CICT rate</u>	<u>Present VAT rate</u>
Agricultural machines	5	6
Other machines	5	10
Bicycles	13	16
Electric fans	25	25

^{43/} Production brigade- and team-run enterprises rose by 44 percent between 1979 and 1982, at which time it amounted to about 12 percent of gross value of agricultural output.

relative share in national income of the income tax bases (wages, revenues of modern, often industrial enterprises) tends to grow. To the extent that China's economic development will broadly follow the same structural changes, it might be advisable to structure the tax system in such a way as to take maximum advantage of this change, unless revenue as a share of GDP falls.

4.31 Neutrality. Taxation should aim to be neutral with respect to its economic impact, unless a nonneutral impact is desired. Neutrality pertains to effects on consumption, production, income distribution, location of production, etc. A truly neutral tax would have uniform commodity taxes on both domestic production and imports, a proportional tax on all individual incomes--including the prorated share of an individual's share in collectively run enterprises, and agricultural income--and a uniform tax on state-, brigade-, and team-run industrial enterprises. For administrative reasons, but mainly because the tax system is to achieve a multitude of objectives, many deviations of neutrality are built into the tax system. Table 4.8 lists a few of the nonneutral aspects of the Chinese tax system, together with a suggestion of their objectives. Some of these objectives are fully shared by many other developing countries (for example, attract foreign investment, use progressive rates in income taxation, discriminate against imports), while others are unique to China (tax measures to get around the effects of the irrational price system).

4.32 The programs of tax reform should closely analyze each one of these nonneutral elements, query their purpose, and analyze whether or not there is a more efficient way of achieving the objective. The outcome of such an analysis would leave quite a number of nonneutral elements in the tax system, but may well establish that the multitude of commodity tax rates and customs

Table 4.8. CHINA: SELECTED ELEMENTS OF NONNEUTRALITY IN THE CHINESE TAX SYSTEM AND THEIR OBJECTIVES

Element	Objective
The new income tax for state-owned enterprises applies both a 55 percent flat rate and an adjustment tax that differs greatly from one enterprise to the other.	Profitability of enterprises differs widely and results from the distorted price system. The adjustment tax aims at equalizing the after-tax profits of enterprises.
Selected sectors are exempted from the new income tax.	These sectors are "special" and deserve special treatment not possible even under the flexible system of income tax.
Small enterprises are taxed according to an eight-grade progressible scale. Further income tax is foreseen on the after-tax profits.	Small enterprises operate under diseconomies of scale and deserve a lighter tax burden
Product taxes and value-added taxes are levied at highly differentiated rates (about 400 rates).	In combination with the profit markup, the product tax and value-added tax tend to "standardize" profit margins across enterprises. Taxation of "luxury" consumption.
Customs duties at differentiated rates are levied in addition to value-added tax and product tax.	Protection of domestic production and revenue purposes.
Personal income tax with graduated rates.	Impose heavier tax on high incomes than on low incomes. However, the high exemption is intended to avoid taxation of normal wage earners.
Foreign investment is taxed differently from domestic investment; interest payments on foreign exchange borrowing from sources other than the Bank of China is taxed.	Attract foreign investors and stimulate them to borrow from the Bank of China.

duties serve no real purpose and that a much simpler rate structure would do. While the distorted prices prevent the application of a more conventional tax system to the profits of state-owned enterprises, a complex tax regime may

have to be relied upon for some time to come. Yet, its administration should aim at the greatest possible uniformity and clarity.

4.33 It must be recognized, however, that the full dividend of generating a more neutral tax system will only be realized when taxes are viewed as economic instruments and allowed to function as such. This is not possible if administrative orders, quotas, and other management restrictions, rather than prices and taxes, guide resource allocation.

4.34 Predictability. Economic agents need certainty with respect to their tax liability if they are to take such tax liability into account in their decisionmaking. This is true as much for consumers as for industrial producers. The absence of such predictability will have agents adjusting their actions so as to minimize their tax liability, in the process going counter to the other objectives of the tax system. The predictability criterion requires that the tax system is both clear and certain.

4.35 Clarity requires that tax rules leave little or no scope for interpretation. Clear legal provisions and accounting rules must be established and adhered to, so that both taxpayer and tax administration have a clear and agreed-upon understanding of determining the taxpayer's profits and obligations. Precise definitions of costs, tax bases, and allowable deductions, etc. become more crucial when enterprises have a stake in their own profitability. As such, the enterprise reforms initiated in 1979, and even more so the 1983 reform of the taxation of the income of state-owned enterprises, require improved standards of accounting. It is not clear whether present accounting standards and norms meet these higher requirements. If not, there is undue scope for the manipulation of accounts, not necessarily criminal, by the enterprises, and for adjustments made by the tax administra-

tion. In that case, final settlement of disputes may rely more on the cleverness and bargaining strength of those involved, rather than on clear-cut accounting rules and legal provisions.^{44/} The efforts presently under way to improve the accounting standards should make the work of auditing of enterprises' accounts a much simpler task than it is at present. Concomitantly, the technical skills of enterprise accountants should also be raised.

4.36 Certainty of taxation relates to the fact that, if taxes are to enter the decisionmaking process of the taxpayer, the taxpayer should be reasonably sure what tax rules will apply during the time period relevant for his decisionmaking. Hence, certainty argues for relative stability. This requirement was well understood when the Chinese administration decided that the 1979 profit retention agreements were to remain for five years and that the contracts with farmers under the production responsibility system could last up to 15 years. However, recent tax reforms do not seem to provide the decisionmakers with the necessary stability of tax regimes. The 1983 income tax on enterprises superseded the 1979 retention scheme that was to be in effect for at least five years, and that was followed by a totally new taxation system of profits of state-owned enterprises in 1984.^{45/} Furthermore, although the 1983 system is clearly spelled out, enterprises know that some enterprises benefit from still other taxation methods and at times try to apply such methods themselves, not being quite sure whether they will be

^{44/} If future tax reforms were to introduce resource taxes and taxes on working capital and on fixed assets, these difficulties could increase considerably.

^{45/} In the event, the October 1984 tax reform, among other changes, introduced a resource tax, widened the application of the value-added tax, and changed many rates of the other commodity taxes; the enterprise profit tax was left largely unchanged.

permitted to do so or not. The need for certainty argues for a tax reform that is well thought through and gradually introduced, not for unplanned and uncoordinated fragments of reform measures, unless too much uncertainty remains--uncertainty that will undermine the very purpose of the reform.

4.37 Efficiency. An efficient tax system is set up to implement its objectives; it has a high enforcement rate and low administrative costs. Obviously, efficiency is an ideal that can only be approached, never really reached.

4.38 Most taxes have as their primary objective to raise revenue; in addition, some taxes have secondary objectives such as redistributing income, affecting consumption, or channeling investments toward certain regions or sectors. Because of structural differences between economic sectors, it is necessary to have several taxes if each of these sectors is to contribute effectively to the budgetary revenue effort. Furthermore, administratively, it is often not possible to operate a hermetic system where the totality of the intended tax base is taxed. Hence, taxpayers are often subjected to several taxes in the hope that all will bear a reasonable share of the total tax burden. To the extent that taxes have other than revenue purposes, they discriminate among taxpayers according to well-specified criteria. Therefore, an efficient tax system tends to be rather complex. In the real world, however, tax systems are much more complex than necessary, thereby often undermining their efficiency. The multiplicity of taxes and tax rates often make the tax system less transparent than one would wish. These taxes, at times, are holdovers from previous periods (often pre-industrial or colonial) or were introduced during periods of budgetary crises. In other countries, some taxes have a multiplicity of rates as a result of the urge for fine-tuning or simply

for reasons that are long forgotten. In any event, such a tax system prevents any analyst from grasping its incidence with any precision, or from judging the revenue and price effects of particular tax changes. Furthermore, tax changes may be rendered difficult by the need to submit so many changes to legislative procedures, each of which tends to be subjected to objections from particular interest groups.

4.39 In China, the tax system is comprised of relatively few taxes and revenue sources, yet many rates apply. For instance, there are hundreds of rates of commodity taxes. While, in principle, the rate differentiation should permit a progressive impact of the tax burden by applying higher rates to these commodities deemed to be "luxury," no one really knows what the final tax incidence of the commodity tax is. From the evidence of other countries that use highly differentiated rates for their commodity taxes, it would be surprising if any substantive income distribution goals are achieved by this category of rates.^{46/} Well-designed excise taxes on broad categories of luxury commodities can provide a moderate progressivity.^{47/} In this sense, there may be justification for having some differentiation of the commodity tax rates, yet care should be taken to tax a sizable portion of total consumption at the "luxury" rates, otherwise the desired progressivity will only be an illusion, acquired at significant administrative expense.

4.40 Another tax with multiple rates is import duty. As is the case in most countries, many rates are stipulated and a detailed product classifica-

^{46/} The VAT in the EEC used different rates to achieve income redistributive objectives, but to little or no avail. See Luc De Wulf (1983), pp. 360-63.

^{47/} Sybren Cossen (1977), Excise Systems (Baltimore: The Johns Hopkins Press), Chapter 4.

tion is provided. The objective of this tariff appears to be to raise revenue, protect domestic production, and distribute income. Aside from the fact that several of these objectives are contradictory (revenue-raising and protective), it is unlikely that in the maze of rates, anyone really understands the economic impact of the customs duty system. It may be true that the domestic prices of imports are not greatly affected by the existence of import duties so that import taxes do not really matter for the time being. Yet, a long-term view of the Chinese tax system must assume that, in future, domestic prices of imports will be affected by these duties, so that an early analysis of their economic impact is warranted.^{48/}

5. CONCLUSIONS

5.01 The international review of expenditure and revenue trends during the development process has suggested that in most countries, these trends follow a pattern when moving from lower-income levels to higher-income levels. This pattern appears more clearly with respect to revenue trends than with respect to expenditure trends. Income growth tends to affect the structure of the economy which sets the limits or expands the scope for revenue-raising efforts. The responses of budgetary authorities to these structural changes and altering scope has been quite similar. Taxation of individual incomes and

^{48/} Luc De Wulf (1980) p. 35 concludes that "(1) commodity tax revenue be raised by taxes that differentiate between products according to their nature rather than their origin; (2) differentiated sales taxes or excise taxes rather than customs duties be used to achieve the distributional objectives; and (3) tariff protection be coordinated with other policy tools to obtain the production-incentive structure considered adequate for the various sectors of the economy."

enterprise profits, and noncascading general commodity taxes became more important, while foreign trade taxes lost ground.

5.02 With expenditure trends, the situation is somewhat different as income growth was not found to be a determinant factor in explaining the structural difference in expenditures among countries. Demographic and other factors were also found to affect greatly the expenditure structure.

5.03 It is most likely that the factors found to influence the expenditure and revenue structures in the countries analyzed in this study, will also be found to be relevant for China. Whether, and to what extent, these influences will actually pattern budgetary policy in China will greatly depend on China's response to these influences, a response that will be fashioned by China's own economic and political reality. The trends referred to in this paper are not to be interpreted as "norms" against which China's own development must be evaluated, or as laws of budgetary development. Their importance resides, rather, in that they show what is "feasible" or "normal" in a statistical sense. In making medium- and long-term budgetary plans, it would be prudent to take into account the various factors that were found to influence the budgetary trends, and to verify to what extent the structural and political differences between China and the countries used in the international comparisons (mainly market economies) warrant deviation from these trends. In this way China could benefit from the experience of other countries while taking its own particular situation into account. For instance, as a socialist country with several policy instruments in place to avoid the extremes of income inequality (for example, wage and price policies, collective or state ownership of factors of production), China may put less emphasis on those elements of tax policy that make the tax structure progressive (graduated

individual income taxes, property taxes, and inheritance taxes). Also, the taxation of enterprise income will be influenced by the ownership structure of the enterprises and, for the time being, by a price structure that causes profitability among enterprises to differ greatly. However, economic reforms and the gradual development of the economy may lead to freer markets, greater differentiation in individual income and wealth, and the need to grant greater operational autonomy to state-owned and collective enterprises. In addition, with the price reform gradually taking hold and eventually greater mobility of capital prevailing, the price-induced differences in profitability among enterprises may gradually diminish. All in all, it is likely that the economic structure and policies in China will, over time, move closer to those prevailing in other developing countries, at which time the criteria of buoyancy, neutrality, predictability, and efficiency that apply in these countries will also hold for China. It would be surprising if a convergence of the China's tax structure and that prevailing in other developing countries were not to emerge. A forward-looking tax reform should anticipate this emergence.

Table 1. CHINA: OVERALL BUDGETARY OPERATION, 1979-82 /a
(In billions of yuan)

	1979	1980	1981	1982
<u>Total Expenditure and Net Lending</u>	<u>146.9</u>	<u>146.6</u>	<u>144.8</u>	<u>150.1</u>
Of which: Capital construction investment	(51.5)	(41.9)	(33.1)	(30.9)
Subsidies	(19.6)	(27.4)	(37.3)	(39.0)
<u>Total Revenue</u>	<u>126.3</u>	<u>131.6</u>	<u>139.0</u>	<u>143.0</u>
Total revenue	53.8	57.2	63.0	70.0
Nontax revenue	72.5	74.4	76.0	73.0
Overall surplus (+) or deficit (-)	<u>-20.6</u>	<u>-15.0</u>	<u>-5.8</u>	<u>-7.1</u>
Financing	<u>20.6</u>	<u>15.0</u>	<u>5.8</u>	<u>7.1</u>
Domestic	<u>17.0</u>	<u>12.8</u>	<u>2.6</u>	<u>7.3</u>
People's Bank of China	<u>17.0</u>	<u>12.8</u>	<u>-2.3</u>	<u>2.9</u>
Use of deposits	8.0	4.8	-2.3	--
Loans (net)	9.0	8.0	--	2.9
Nonbank /b	--	--	4.9	4.4
Foreign /c	<u>3.6</u>	<u>2.2</u>	<u>3.2</u>	<u>-0.2</u>
Gross foreign borrowing	3.6	4.3	7.3	4.0
Amortization	--	2.1	4.1	4.2

(As a percentage of GDP)

Expenditure	37.6	34.1	31.6	30.4
Revenue	32.3	30.6	30.3	29.0
Surplus (+) or deficit (-)	-5.3	-3.5	-1.3	-1.4
Bank financing	(4.3)	(3.0)	(0.3)	(0.5)

/a These budgetary statistics represent a consolidation of the budget of the central government, provinces, counties, and municipal governments. Intergovernmental transfers are netted out. Omitted are extrabudgetary expenditure and revenue of the provinces and local governments.

/b Treasury bonds.

/c Gross foreign borrowing and amortization are, respectively, given by, lending by, and repayments to the Bank of China to or from the Ministry of Finance, denominated in foreign currency. They are thus not necessarily shown in the balance of payments and some could be considered domestic financing.

Sources: Ministry of Finance. Format conforms to the IMF, 1974, Draft Manual of Government Finance Statistics (IMF, Washington, DC).

Table 2. CHINA: STATE BUDGET EXPENDITURE BY ACTIVITY, 1950-82
(In billions of yuan)

	1950	1957	1965	1977	1981	1982
Total expenditure in budget	6.808	30.421	46.633	84.354	111.497	115.331
Of which:						
Capital construction	1.250	12.371	15.849	30.088	33.063	30.915
Modernization investment	...	...	...	1.710	4.156	4.270
Working capital	...	2.082	2.755	6.568	2.284	2.363
Product development	...	0.229	2.523	2.235	2.374	2.632
Geological survey	...	0.627	0.771	1.726	2.185	2.305
Industry, transport and commerce	...	1.236	1.591	1.443	2.368	2.383
Agricultural support	...	0.799	1.729	5.068	7.368	7.988
Education, culture and health	0.502	2.776	4.559	9.020	17.136	19.696
Of which:						
Health	(...)	(...)	(...)	(2.082)	(3.881)	(...)
Education	(...)	(...)	(...)	(5.300)	(9.240)	(10.240)
Defense	2.801	5.511	8.676	14.904	16.797	17.635
Administration	...	2.168	2.534	4.332	7.088	8.160
Memorandum items:						
Subsidy payments	...	...	...	...	37.300	38.000
Of which:						
Daily necessities	...	...	...	7.000/a	29.400	30.800
Agricultural inputs	...	...	...	...	2.100	2.200
Operating losses of state-owned enterprises	...	...	...	...	4.200	3.600
Total budgetary expenditure plus subsidies	...	...	...	...	148.797	151.531

/a Estimated from Y 7.8 billion in 1978.

Source: Ministry of Finance.

Table 3. CHINA: BUDGETARY REVENUE, 1979-82 /a
(In billions of yuan)

	1979	1980	1981	1982
Tax revenue	<u>53.8</u>	<u>57.2</u>	<u>63.0</u>	<u>70.0</u>
Taxes on net income and profits	7.7	7.5	7.6	8.4
Enterprises /b	(4.5)	(4.5)	(4.4)	(5.2)
Agricultural tax	(2.9)	(2.8)	(2.8)	(2.9)
Other	(0.3)	(0.2)	(0.4)	(0.3)
Taxes on goods and services	<u>43.5</u>	<u>46.3</u>	<u>50.0</u>	<u>56.9</u>
General sales taxes /c	(42.5)	(45.4)	(49.1)	(55.9)
Sales tax	(1.0)	(0.9)	(0.9)	(1.0)
Taxes on international trade	2.6	3.4	5.4	4.7
Customs duties	(2.6)	(3.4)	(5.4)	(4.7)
Nontax revenue	<u>72.5</u>	<u>74.4</u>	<u>76.0</u>	<u>73.0</u>
Gross profit remittances from state enterprises	68.9	70.9	72.7	68.6
Depreciation funds	2.5	2.7	2.6	2.6
Other	1.1	0.8	0.7	1.8
Foreign aid grants	(--)	(--)	(0.4)	(0.3)
Total revenue /d	126.3	131.6	139.0	143.0
<u>Memorandum Items:</u>				
Tax revenue as a percentage of gross domestic product	13.8	13.3	13.7	14.2
Total revenue as a percentage of gross domestic product	32.3	30.6	30.3	29.0

/a This includes all revenue, with the exception of extrabudgetary revenue received by the central government, provinces, local governments, and municipalities.

/b Collective enterprises.

/c The consolidated industrial and commercial tax.

/d According to the definition contained in the IMF, 1974, Draft Manual on Government Finance Statistics (Washington, DC).

Source: Ministry of Finance.

BIBLIOGRAPHY

- Beck, Morris, 1976, "The Expanding Public Sector: Some Contrary Evidence," National Tax Journal, Vol. XXIX, No. 1 (March), pp. 15-21.
- _____, _____. 1979, "Public Sector Growth: A Real Perspective," Public Finance, Vol. XXXVI, No. 3, pp. 313-56.
- _____, _____. 1981, Government Spending: Trends and Issues (New York: Praeger).
- Chelliah, Raja J., 1971, "Trends in Taxation in Developing Countries," IMF, Staff Papers, Vol. 18, No. 2, July, pp. 254-331.
- China, 1984, State Statistical Bureau, Statistical Yearbook 1983 (Hong Kong: Economic Information and Agency).
- China Daily, April 5, 1984.
- Cnossen, Sybren, 1977, Excise System (Baltimore: The John Hopkins Press).
- De Wulf, Luc, 1980, "Taxation of Imports in LDC: Suggestions for Reform," Journal of World Trade Law, Vol. 14, No. 4 (July/August).
- _____, _____. 1983, "Taxation and Income Distribution," in Sybren Cnossen, ed., Comparative Tax Studies (Amsterdam: North Holland Publishing Company).
- Enweze, Cyril, 1973, "Structure of Public Expenditure in Selected Developing Countries: A Time-Series Study," Manchester School of Economic and Social Studies, Vol. 41, No. 4, December, pp. 430-463.
- Goffman, Irving J., and Dennis J. Mahar, 1971, "The Growth of Public Expenditures in Selected Developing Nations: Six Caribbean Countries, 1940-65," Public Finance/Finances Publiques, Vol. 26, pp. 57-74.
- Goode, Richard, 1984, Government Finance in Developing Countries (Washington: The Brookings Institution).
- Harberger, Arnold, 1962, "The Incidence of the Corporation Income Tax," Journal of Political Economy, Vol. 70, No. 3 (June), pp. 215-240.
- Heller, Peter, 1981, "Diverging Trends in the Shares of Nominal and Real Government Expenditure in GDP: Implication for Policy," National Tax Journal, Vol. XXXIV, No. 1, pp. 61-74.
- Heller, Peter and Alan A. Tait, 1983, "Government Employment and Pay: Some International Comparisons," Occasional Papers, No. 24, (Washington, DC: The International Monetary Fund).
- Hinricks, H., 1966, A General Theory of Tax Structure Change During Economic Development (Cambridge, Mass.: Harvard Law School).

- IBRD, 1982, World Development Report 1982 (New York: Oxford University Press).
- _____, 1983, World Development Report 1983 (New York: Oxford University Press).
- _____, 1984a, China: The Health Sector (Washington, DC).
- _____, 1984b, China: The Long-Term Issues and Options, Annex A: Issues and Prospects in Education (Washington, DC).
- IMF, 1974, Draft Manual on Government Finance Statistics (Washington, DC).
- Krzyzaniak, Marian and R.A. Musgrave, 1963, The Shifting of the Corporation Income Tax: An Empirical Study of Its Short-Run Effect Upon the Rate of Return (Baltimore: The John Hopkins Press).
- Musgrave, Richard A., 1959, The Theory of Public Finance (London: McGraw Hill).
- _____, _____, 1969, Fiscal Systems (New Haven and London: Yale University Press).
- Nurske, Ragnar, 1953, Problems of Capital Formulation in Underdeveloped Countries (Oxford: Basil Blackwell).
- Peacock Alan T. and Jack Wiseman, 1961, The Growth of Public Expenditure in the United Kingdom, National Bureau of Economic Research (Princeton: The Princeton University Press).
- Pryor, Frederic L., 1968, Public Expenditure in Communist and Capitalist Nations (Homewood, Illinois: Irwin).
- Short, M.P., 1984, Public Enterprises in Mixed Economies: Some Macroeconomic Aspects (Washington, DC: The International Monetary Fund).
- Tait, Alan A. and Peter Heller, 1982, "Intergovernmental Comparisons of Government Expenditure," Occasional Papers, No. 10 (Washington, DC: The International Monetary Fund).
- Tanzi, Vito, 1983, "Tax Systems and Policy Objectives in Developing Countries: General Principles and Diagnostic Tests" (unpublished paper).
- _____, _____, (forthcoming), "Quantitative Characteristics of the Tax Systems of Developing Countries," in Modern Tax Theory for Developing Countries, Newbery, D. and N. Stern, editors (Washington, DC: IBRD).

The World Bank

Headquarters

1818 H Street, N.W.
Washington, D.C. 20433, U.S.A.

Telephone: (202) 477-1234

Telex: WUI 64145 WORLDBANK

RCA 248423 WORLDBK
Cable Address: INTBAFRAD
WASHINGTONDC

European Office

66, avenue d'Iéna
75116 Paris, France

Telephone: (1) 47.23.54.21

Telex: 842-620628

Tokyo Office

Kokusai Building
1-1 Marunouchi 3-chome
Chiyoda-ku, Tokyo 100, Japan

Telephone: (03) 214-5001

Telex: 781-26838



ISSN \$ 6.95 ISBN 0-8213-0710-X