

Macroeconomics of Developing Countries

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Preface

This textbook is designed to explicate principles of macroeconomic theory and is especially intended for students in low- and middle-income countries. The author has for many years taught economics including macroeconomic theory to students in and from non-industrialized countries, and the emphasis in the present book is on those elements which seem to have particular relevance to the interests of such students and to the circumstances of their countries. Thus, some of the ideas usually included and emphasized in a macroeconomic theory course which seem applicable more or less exclusively to high-income, industrialized countries such as the theoretical debate on central bank policy and interest rate manipulation have been given little importance. On the other hand, the macroeconomic implications of foreign trade have been given more than their usual share of attention.

The statistical data included have been selected from available materials on low- and middle-income countries. More empirical data have been included than is customary in a theory text on the premise that the richness of economic theory and the benefit to be derived from its study are directly related to the closeness of its link to an empirical base. The case studies included at the end of most of the chapters emphasize their theoretical-empirical interrelatedness.

The book is intended to fill an "intermediate" position in the progression in which economic theory is ordinarily presented to university students. Thus it presumes that most students using this as a textbook will have been introduced to economic theory previously. The presentation attempts to develop ideas from fairly fundamental starting points, and thus for the mature or persevering student the absence of a prior course in macroeconomic theory need pose no serious obstacle.

Edwin Charlé

Contents

Preface

v

1. Macroeconomics and the National Income	1
Introduction	1
A Brief Historical Note	2
The National Income	4
2. Subdivisions of the National Income	14
The Components	14
Interaction of Components	19
The Multiplier	20
3. Macroeconomic Impact of Foreign Trade	27
Foreign Trade and the Multiplier	29
Exports	29
Imports	31
Some Related Factors	33
The International Balance of Payments	35
Case 1	40
4. Macroeconomic Impact of Government	46
Economic Systems	47
Government Spending Multiplier	48
Transfer Payments	49
Taxes	50
Simultaneous Increase in Taxes and Government Spending	52
Marginal Propensity to Tax	52
Deficit Spending	54

Fiscal Policy 55

Case 2 56

5. Analysis of Macroeconomic Changes 62

Expanded Multiplier 62

One-time or Continuing Changes 66

Circular Flow 68

Analysis of Macroeconomic Change Using the Equation 69

Real and Monetary Changes 72

Propensities to Consume and Save 72

Theoretical Link Between Consumption and Income 77

Other Factors Influencing the Propensities to Consume and

Save 81

Case 3 82

6. Traditional and Modern Sectors 85

Traditional Sector 86

Modern Sector 88

7. Capital and Investment 91

Capital 92

Capital Markets 93

Investment 94

Factors Affecting the Level of Investment Spending 99

Level of National Income 100

Rate of Interest 105

Technology and Entrepreneurship 109

Case 4 110

8. Economic Growth 113

The Classical Model 114

The Perspective of Karl Marx 116

Growth and Dualism 117

Balanced Growth 119

The Marxist Warning 120

A Keynesian View of Growth 122

Neo-Classical Growth Theory 123

Some Statistics Related to Economic Growth 124

Case 5 126

Case 6 129

9. Prices and Inflation 131

Some Suggestions from Microeconomics 132

Likelihood of Inflation in Contemporary Societies 137

Some Consequences of Inflation 140

Control of Inflation	143
Case 7	144
10. Money and Banking	148
Money Supply	149
Central Banks	153
Commercial Banks	157
Money and the Rate of Interest	159
Case 8	164
11. Labour Force and Employment	169
The Labour Force	170
Problem of Defining Unemployment	172
Impact of Changing Economic Conditions on Employment	174
Theories of Employment and Unemployment	176
Unemployment and Inflation	180
Impact of Output Changes on Employment	181
Employment in Low-Income Areas	183
Labour Markets	185
Responses to Problems of Unemployment in Low-Income Areas	187
Case 9	188
12. A Note on the Development of Macroeconomic Theory and the IS-LM Schedule	192
Development of Macroeconomic Theory	192
A Geometrical Analysis: The IS and LM Schedules	197
Combining the IS and LM Schedules	203
<i>Index</i>	207

Macroeconomics and the National Income

Introduction

Macroeconomics is a study of theories or ideas which have been set forth to explain the economic performance of nations. It attempts to provide a theoretical basis which will aid our understanding of the level of economic achievement in a country so that one country can be compared with another and so that changes over time can be understood and controlled.

The macroeconomist is concerned with a country's total economic output, its total employment, and the "general" price level of all of its goods and services in aggregate. Thus he seeks to provide a basis for comparing, for example, the output of Peru with that of Ecuador, the rates of unemployment in France and Morocco; or Japan's economic growth rate in 1980 with its growth rate in 1970 or 1960.

Macroeconomic theory seeks to provide accurate generalizations about these situations and events so that people can better understand the economic forces affecting their lives and can thereby deal more effectively with problems such as unemployment and inflation and can find means to facilitate their country's growth.

The other major branch of economic theory is called microeconomics. Microeconomics focuses on single markets, prices for individual goods or

services, profits or investment flows in a given firm or industry. Thus it provides the basis for comparing the price of rice with the price of coffee, or the profits of the petroleum industry with the profits from copper mining. Microeconomic generalizations underlie much of macroeconomics. We refer to microeconomic ideas several times in this text even though a full introduction to the subject demands a separate treatment.

A Brief Historical Note

Formal economics has always been concerned with macroeconomic issues. The British "classical" economists (writing from about 1775 to 1850) discussed the growth of value in a country's total output and the total level of "investment" spending which seemed to make that growth possible.¹ They saw spending for investment (for buildings, machinery, tools, etc.) as tending to increase worker productivity. And this, they thought, could offset the tendency toward "diminishing returns" which would otherwise result from the pressure of rising population on the country's agricultural land. They debated at great length whether it was possible for prolonged, general unemployment of workers to exist in an economic system based on private property rights and competitively determined wages.

Karl Marx (1818-83) used macroeconomic reasoning in his prediction of the ultimate destruction of capitalism.² Capitalism is the economic system based on private property rights in the "means of production" (resources, factories, tools). Marx predicted that capitalism would be replaced by socialism or the public ownership of the means of production. Capitalism (he thought) could not survive because of a number of contradictions inherent in the system. One such contradiction was the lack of harmony between total investment spending and total savings (that part of household income not spent on consumption). Here Marx applied macroeconomic concepts in a revolutionary hypothesis.

John Hobson (in 1894) used macroeconomic reasoning in an attack on economic inequity.³ In Europe, he felt, too much wealth had been concentrated in the hands of too few people. This caused the level of their consumption spending to be low and caused businessmen there to seek markets for their goods overseas. This, he suggested, was the principal reason prompting Europe's search for colonies in Africa and Asia. Adam

¹The most prominent members usually associated with the "classical school" are Adam Smith, Thomas Malthus, David Ricardo, and John Stuart Mill. See the summaries of their theories in Ingrid Rima, *Development of Economic Analysis*, 3rd edn. (Homewood, Ill. : Richard D. Irwin, 1978), or Jacob Oser, *The Evolution of Economic Thought*, 2nd edn. (New York : Harcourt, Brace and World, 1970).

²There are many general introductions to the work of Karl Marx. See, for example, Eric Roll, *A History of Economic Thought*, revised edn (London : Faber and Faber 1961), part VI.

³John A. Hobson, *Imperialism, A Study* (New York : James Pott and Co., 1902), ch. 6.

Smith had attacked European colonialism much earlier (in 1776) also on macroeconomic grounds by suggesting that the colonies would drain off investment funds needed in Europe as the investors searched for monopoly profits which could be obtained because of governmental protection in the colonial empires.⁴

From the early 19th century various economists were concerned with the fact that periods of general economic hardship (depressions, recessions) seemed to interrupt periods of prosperity in many countries, and thus the issue of a "business cycle" reflects a long-standing macroeconomic enquiry. Most of what is studied today in non-socialist countries as macroeconomic theory involves ideas intended to guide public policy in a search for full employment and stable prices. (Much of the same theoretical foundation may be relevant to facilitate planning in socialist countries.) The focus of macroeconomics on the issue of full employment and price stability received much of its current emphasis from a book published in 1936 entitled *A General Theory of Employment, Interest and Money*.⁵ The author was John Maynard Keynes and he wrote in reaction to the cyclical downturn of the 1930s which had disastrously affected economic activity throughout the world.

Keynes argued that problems of general unemployment and cyclical downturn could not be understood solely by the application of conventional economic theory which was largely micro-focused. He suggested that sustained high levels of worker unemployment would not be removed by the automatic adjustment of prices and wages to market forces of supply and demand. He emphasized the fact that decisions to spend or save from household income and decisions to spend or not spend on investment projects are made by different groups of people with different goals and different needs. Therefore (Keynes reasoned) a country's total savings might be too much or its level of investment spending might be too little. Such a low level of demand would cause output to decline, workers would lose their jobs and be unable to find others. When such events occur, Keynes argued, the country's government ought to spend more (or tax less) to maintain the level of total spending and full employment. Thus Keynes saw investment spending as a necessary offset to the savings "leaking" from the income stream and the government as the final regulator of a total spending flow which would cause neither unemployment or inflation.

Much of modern macroeconomics has been developed in response to Keynes' suggestions. The government—even in capitalist economies—is often seen as the potential regulator of the level of economic activity. It spends more (or taxes less) to encourage more output and employment. It spends less (or taxes more) when there is a need to slow down an economy in order to avoid rising prices (inflation). Simultaneously, if it follows

⁴Adam Smith, *The Wealth of Nations* (London : Methuen and Co., 1961), bk. 4, ch. 7, pt. 2.

⁵John Maynard Keynes, *The General Theory of Employment, Interest and Money* (New York : Harcourt Brace Jovanovich, 1936).

Keynes' advice, a government expands the country's supply of money when business needs encouragement and contracts the money supply when there is fear of inflation.

This book is concerned with levels of national income, with component flows of consumption spending, investment spending, government spending and exports, and with total flows of savings, taxes, and imports. It seeks explanations for the ways in which these aggregates relate to each other and describes some of the ideas which have been suggested as solutions to the problems of unemployment, inflation, and slow growth.

National Income

Perhaps the most basic concept in macroeconomics is that which represents the total value of a country's production in a year. This may be referred to (loosely) as the "national income" or (more specifically) as the Gross National Product (GNP) or Gross Domestic Product (GDP). The GDP includes the value of all final goods and services produced within a country's geographical boundaries by both residents and non-residents and paid for either to local or foreign recipients. The GNP includes the same aggregate as the GDP except that it is reduced by the amount of earnings in the domestic economy owed to persons abroad and is increased by the claims of local residents on overseas productive units. Thus if foreigners have *net* claims against a country's economy the GNP will be less than the GDP.

Such a measure attempts to represent in a single number the level of a country's total economic performance. It contains the value of all *consumption* spending by households including their spending for food and beverages, house rent and furniture, and the services of doctors and barbers. It includes spending for new *investment* projects: new houses, factories, machines, tools and inventories. It includes spending by units of *government* on, for example, new public buildings, armaments, judges, policemen and schoolteachers. It includes *exports*: things made in the country which are purchased by foreigners. And since the attempt is to add together all of the economic outputs of the country in question, the national income total *excludes* purchases for *imports*, that is, for products which originated outside the country.

Chapters 3-7 of this book return to the four-part division of consumption, investment, government spending and net exports. But in the present section it is convenient to focus on the national total itself. Thus, we can read that for the year 1978 the GNP of Thailand was 474 billion bhat; that of India was 961 billion rupees. When these amounts are divided by the number of people in each country the result is the *per capita* GNP : 10502 bhat for Thailand; 1505 rupees for India.

We can compare one country with another through the procedure which is facilitated if we express the national totals in terms of a common

currency. The United States dollar is sometimes used for this purpose. Thus, for 1978 the per capita GNP for Thailand was equivalent to US \$490; for India it was US \$180. For the period 1960-78, Thailand's per capita GNP was growing at about 4.6 per cent per year; India's per capita GNP was growing at about 1.4 per cent per year.

Table 1.1 gives levels of GNP per capita for 30 countries. The data were taken from a publication of the World Bank entitled *World Development Report, 1980*. The data are also available from other sources including the United Nations' *Statistical Yearbook*. Many writers have suggested limitations on the use of the GNP as a basis for measuring human welfare or as a valid basis of international comparison. Our concern at this point is merely to introduce the published totals.

Table 1.1

PER CAPITA GROSS NATIONAL PRODUCT LEVELS, 1978, FOR COUNTRIES WITH POPULATIONS OVER 25 MILLION (IN UNITED STATES DOLLARS)

Bangladesh	90	Turkey	1200
Ethiopia	120	Mexico	1290
Burma	150	South Africa	1480
Viet Nam	170	Brazil	1570
India	180	Argentina	1910
Zaire	210	Iran	2160
China	230	Spain	3470
Pakistan	230	Poland	3670
Indonesia	360	USSR	3700
Egypt	390	Italy	3850
Thailand	490	United Kingdom	5030
Philippines	510	Japan	7280
Nigeria	560	France	8260
Colombia	850	Germany, Fed. Rep.	9580
Korea, Rep. of	1160	United States	9590

Source: World Bank, *World Development Report, 1980*.

The national income represents an attempt to add together the value of all the goods and services produced in a country in a year. Thus the value of every economic activity which takes place during the year should be included once but not more than once in the total. But a problem arises if a good or service is bought and paid for and then is incorporated into another product which is subsequently sold to a new buyer.

Suppose, for example, that flour is sold to a baker who uses some of it to make bread. If the bread is purchased by a household it is a final good and its value becomes part of the national income. The flour then is an

intermediate good the value of which is incorporated into the bread and thus contributes indirectly rather than directly to the national income. Likewise all of the other purchases by the baker for goods and services used in making the bread are intermediate. Their values enter the national income when the bread in which they are incorporated is sold to a final user—not when purchased by the baker. If a household had purchased flour to make bread for its own use, the purchase would have been considered “final” and contributed as such to the national income.

A *final* good or service is something purchased by a household, business firm or government unit as a final user. An *intermediate* good or service is purchased not for final use but for subsequent incorporation into some final good or service. Suppose some carpenters build a house and sell it to a family who intend to live there. The sale of the house to the resident will be a final sale and the value of the house will become part of the country's national income at the moment of sale. But many intermediate goods and services will have been purchased in the process of building: wood and nails and concrete and the services of a plumber and electrician. All of these transactions will have been intermediate. They add to the national income not when individually purchased but only as a part of the finished house, when that is sold.

Thus, many of the sales which take place in a country do not in themselves constitute a part of the national income. This is the case for raw materials moving from mine and farm to factory. It is true for fabricated parts moving from one artisan or factory to another, for materials moving to storage, and for movements of goods within the channels of wholesale and retail trade.

Intermediate purchases are economically important. But their value is incorporated indirectly, not directly, into the national income. Only those transactions which move the good or service to the “final” user are included in the national income. There is an exception to this generalization. At the end of an accounting period, say, December 31, 1981 the value of all goods being held as inventories are added to the 1981 national income. This includes stocks of raw materials, partially processed goods, parts, and completed products waiting to be sold. While this total value of all end-of-year inventories is added to the national income, the value of all inventory holdings at the beginning of the year—January 1, 1981—is subtracted from the 1981 national income. Thus, the national income of a given period is increased by an expansion of inventory value. It is reduced by the value of any decline in aggregate inventory holdings.

Sometimes it is difficult to judge whether a given sale is final or intermediate. Consider, for example, the transportation of a worker to his place of employment. If the transport is provided by his employer it will be included in the value of the final product, and will not be added separately to the national income. If the worker travels by public bus, the value of the travel could logically be considered intermediate as well and can be included in the national income not separately but as a part of the value of that good

or service which the worker is employed to produce. In practice, however, it is impossible to decide which part of public bus transport should be considered "productive" activity and which should be considered part of household "consumption". For this reason it is common practice to include it all as a final product. Notice how this results in some double counting, and how this matter of statistical convenience expands a country's national income when transport is publicly and not privately provided for.

The clothing of workers, even their food, can in a sense be considered as an intermediate cost in the production of the goods and services which they work to produce. Such clothing and food are in practice almost always accounted for as separate "final" goods, however, again as a matter of statistical convenience. The issue becomes important when we compare traditional and modern economies or when we measure rates of national economic growth.

The value of the government's contribution to national income raises similar problems. Governmental units provide goods and services to households (famine relief, medical aid, education) which constitute final consumption expenditures. Governmental units also provide goods and services which constitute inputs to business firms (technical assistance to farmers would be an example) which logically could be considered intermediate inputs to some other final product. Many governmental expenditures have large components of both final and intermediate elements (transport, education, police protection, national defence). The general practice in national income accounting is to include governmental expenditures as final products.⁶ Again, this is largely a matter of convenience. But there is an important consequence in respect to our measures of relative economic size and growth rate. Countries differ in the degree to which such things as education, police protection and judicial services are provided publicly or privately. Hence the amount of double counting differs from country to country and comparisons based on national income totals may be distorted.

We have considered at some length the exclusion of intermediate products from the national income. There are many other purchases and sales which do not constitute part of a country's national income. This is the case, for example, of goods resold after their original purchase by a "final" customer (whether household, business, or government). If an individual purchases a new home in 1975, its value becomes part of the 1975 national income. If he sells it to another individual in 1980 its value does *not* become part of the 1980 national income. There are extensive markets for "used" houses, automobiles, furniture, art works, etc. When these products were originally produced and sold their value was part of that year's national income. But if they are resold their value is not added a second time to the national income. (Individuals employed to resell goods contribute the value of their services to the current national income even

⁶See Samuel Rosen, *National Income, Its Measurement, Determination and Relation to Public Policy* (New York: Holt, Rinehart and Winston, 1963), pp. 131-35.

though the value of the commodities being resold is not included. If an agent is employed to sell an old house in 1980, his earnings, the value of his services, become part of the 1980 national income.)

Other sales which do not constitute part of the national income include the sale of "securities" (for example bonds or shares of stock) by business or governmental units. Those securities represent transfers of purchasing power, ownership rights or evidence of indebtedness. They represent transfers of significant values and have widespread economic importance. But they do not constitute the sale of a good or service to a final user and are, therefore, not part of a country's national income. (The services of those employed to sell such securities, however, constitute a part of current national income.)

Intermediate goods and services and products resold after their original purchase are examples of spending which logically should be excluded from a calculation of the national income. There are some productive activities, however, which should be included in the national income but are left out.

Part of this unintended exclusion occurs simply because some goods or services are not sold for money in an organized market. Thus if the family of a farmer produces its own food the value of that food may not be included in the national income because the evaluators have no way of knowing of its existence or magnitude. This may also occur with respect to building construction in rural areas and home production of clothing, baskets, pottery, etc. The national income accountants make estimates of the value of some of these non-marketed products and add them to the market value totals in the official national income. But the value of many of such products is never recorded.⁷

Other goods and services are omitted with no attempt to estimate the magnitude of the exclusion. Home cooked meals and laundry or baby-sitting services provided by family members for other members of the same family are examples. In rural, traditional communities the services of medical or religious practitioners and entertainers may be provided without use of formal markets or calculated wages. All are likely to escape inclusion in the national income accounting procedure.

There is an important consequence. As such activities become increasingly commercialized they move from households to business firms and thus enter the national income. When some of the meals previously cooked at home are provided by restaurants, when clothing formerly washed at home is sent to commercial laundries, when the functions of doctor, lawyer and priest become paid occupations, national income rises as a consequence. This occurs not because more is produced or because the quality of output is higher, but merely as a result of process of commercialization and prevailing accounting techniques.

⁷See Derek W. Blades, *Non-Monetary (Subsistence) Activities in the National Accounts of Developing Countries* (Paris : Development Centre of the Organization for Economic Co-operation and Development, 1975).

Use of Prices to Evaluate the National Income

Macroeconomics is an effort to understand economic aggregates or totals and thus requires a method of combining the almost infinite variety of goods and services which humanity creates and uses: tractors and haircuts, rice and railway service, etc. The unit of measure used to combine such dissimilar items is their money value.

Such use of money values to facilitate aggregation is a cornerstone of economic analysis and is an indispensable part of macroeconomics. This conceptualization of national income as an aggregate of money values, however, raises interesting and, perhaps, unexpected consequences. Anything which causes prices to rise will tend to raise the national income; anything which causes prices to fall will tend to push it down. Shifts in supply and demand, of course, affect prices. An increase in the demand for a country's products will cause their prices to rise. Thus a crop failure in country A may result in an increased demand for rice from country B, and this may cause higher rice prices, and hence, a larger national income in B.

The policy of a government which reduces the importation of foreign products competing with those produced locally would cause domestic prices and thus national income to increase. On the other hand, a government policy which keeps domestic prices low, for example, ceilings on food prices, might negatively affect the growth of the country's national income.

Pricing policies of businesses may similarly affect the national income. For example, it is commonly assumed that business firms which acquire monopoly power in a market may use that power to increase the selling prices of their products. Such a practice might raise the country's national income even though it might reduce the welfare of consumers and shift wealth from buyers to sellers. It is frequently alleged that corporations which operate in several countries may overstate reported import prices and understate reported export prices in order to understate their profits and thus avoid taxes. To the extent that this occurs, it causes the national income of the country in which they operate to appear artificially low.

The use of money as the measure of national income also raises problems because the value of monetary units (dollars, pounds, francs, rupees) changes over time. Inflation, the phenomenon of a rising general price level and a fall in the "real" value of money has been taking place in nearly every country, at rates which vary from place to place and from time to time. In all likelihood inflation will continue. How can we rely on money values to quantify economic aggregates and how are we to observe changes in the aggregates if the value of money itself is changing? How can we measure with a monetary "yardstick" which is itself changing in magnitude?

The method used to solve this problem is to find how much the monetary unit changes in value and make a corresponding adjustment in the data to

be measured and compared. The procedure involves the construction of a *price index*.

Suppose we want to compare the value of a given country's currency in 1975 and in 1980. We would select an assortment of goods and services—hopefully a group representing more or less all parts of the country's economy. We would add together the cost of buying this bundle in 1975. Then in 1980 we would find the total purchase price of an identical set. The change in the value of this bundle of goods and services would suggest how much the value of the monetary unit had changed. Thus if the sample cost 100 in 1975 and 125 in 1980 it would suggest that the general price level had risen by 25 per cent. It would also suggest that the value of the monetary unit had fallen by 25 per cent. In some countries there are separate calculations of price indexes for the goods and services purchased by consumers, for wholesale prices, and sometimes for the entire GNP. Sometimes different indexes are calculated for specific cities or regions of a country.

In constructing a price index it is difficult to ensure that the sample of goods and services assembled is genuinely representative of all prices. Buyers with different cultural backgrounds have different wants. Over time wants change so that a representative bundle of products in 1980 may not be as fully representative as the same bundle in 1900. The greater the heterogeneity of spenders, the wider the time interval involved, the greater will be the problems of making a meaningful comparison and an accurate index of price changes.

Suppose that a country's national income rose from 100 billion in 1980 to to 110 billion in 1981. Suppose also that the general price level of that country rose by six per cent in that year. It would be said that the growth in *monetary terms* was 10 per cent (100 to 110) but that *real* growth was only 4 per cent (that is, 10 per cent minus 6 per cent). The 6 per cent change in general price level suggests a price index moving from 100 to 106. If we divide the level of monetary activity at the end of the year (110) by the ratio of change (1.06), we get 104 (approximately) which suggests "real" growth of 4 per cent.

International Comparisons

A comparison of the levels of national income of two or more countries is accomplished by using the *rate of exchange*, the rate at which one country's currency may be converted into another country's currency. Such rates are primarily the reflection of forces of supply and demand. The international demand for a country's currency is created when foreigners want to buy its exports or invest within its borders. The supply of its currency available internationally is generated by its residents seeking to import or to invest abroad. Sometimes the government of a country may "fix" the exchange rate at some level other than that which would result from such