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A STUDY OF FINANCIAL FLOWS IN THE PHILIPPINES

by

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NOTES FROM THE AUTHORS:

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INTRODUCTION

What Is A Flow of Funds System of Accounts?

As originally conceived by Copeland and others[1] a flow of funds system of accounts presents a comprehensive picture of the circuit flow of payments and receipts, which portrays transactions in financial instruments and existing assets as well as transactions in current output of goods and services. Its main features, therefore, are that it reflects flows arising from the financial processes taking place in the economy (i.e. the creation and the exchange of money and other credit instruments) and also flows arising from non-financial processes. The assumption underlying such a presentation is that there are interrelationships among the financial and non-financial transactions, and that when these are organized into a body of accounting measurements those interrelationships will become clear.

In subsequent work, however, the Federal Reserve shifted its focus away from the comprehensive picture as originally envisioned towards a presentation of the investment account of the nation on a sources and uses basis.[2] That is, in the current presentation of the flow of funds as published in the Federal Reserve Bulletin, emphasis is

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[1] M.H. Copeland, A Study of Moneyflows in the United States (New York: National Bureau of Economic Research, 1952)

[2] Compare the presentation in "A Quarterly Presentation of Flow of Funds, Saving and Investment" in the Federal Reserve Bulletin August, 1959, with the Analysis of Copeland, cited above.

on the manner in which capital investment is financed rather than on the presentation of the picture of all types of transactions and how they are financed. This shift can be viewed in two parts: first, a change in focus toward the analysis of how investment is financed; second, a shift towards using the flow of funds accounts as a set of sources and uses statements. These adjustments in Federal Reserve presentation reflect the develop ment of a more articulate demand for sources and uses accounts for the purpose of analyzing financial market conditions in the short run.

We share this perspective and emphasize in our analysis the potentials of sources and uses statements which underlie the traditional flow of funds accounts. Most of our analysis is based directly on the sources and uses statements. We also think that many of the other tables underlying flow of funds accounts -- particularly the sectoral balance sheets -- are of great use in analysi as well. We utilize this information not simply to analy short-run changes in investment activity, as important as these are. We also think that a major use of these accou is for the improvement of long-term planning. The kinds analyses we make furnish information which expedite the development of expenditure behavior by sector. In this w we show how it is possible to construct sectoral budgets both for current and capital accounts -- which can then b

integrated into long-term planning. We also feel that these accounts make possible a more penetrating analysis of expenditure patterns by sectors.

Why Have a System of Financial Accounts?

There are many reasons for having a set of financial accounts in a developing country. These reasons are connected with the investigation of expenditure behavior, with the refinement of investment and saving estimates, and with the improvement of our understanding of the financial process and its relationship to output growth. We list below the specific reasons why a system of financial accounts is beneficial.

1. At the present time estimates of capital formation are prepared on a commodity-flow basis for the nation as a whole. When estimates of investment are made on an expenditure basis, it is possible to prepare them on a sectoral level in such a manner as to make possible the investigation of expenditure behavior by sector. Obviously the motivation for capital expenditures can be expected to vary from sector to sector.[3] We would expect, for example, that corporations have an investment demand function with somewhat different explanatory variables than households, where the major item of expenditure is residential dwellings.

[3]Most of existing studies of investment functions have been for non-financial corporations, from company income statement and balance sheet records.

Closely associated with the transfer of capital formation estimates to a sectoral basis is the possibility of making estimates of sources of financing. We maintain that sources of finance are related to investment in the sense that certain types of investment require certain kinds of financing. This means that the composition of sources is related to the composition and magnitude of investment, and that a study of the former throws light on the size and composition of investment.

2. When sectoral accounts are prepared on a source and uses basis it becomes possible to construct a sectoral budget. We have done this in several ways by constructing sectoral capital budgets, and analyzing the main items in those budgets. Existing budgets and assumptions about expenditure behavior, when combined, become the basis for projections of sectoral budgets. We think that this is very useful as a device to improve overall planning accuracy and particularly improve the possibility of overall planning implementation. Much has been written recently about the need to integrate government budget with macroeconomic plans.[4] However, the question naturally arises, why should not budgets of sectors other than government be integrated with economic plans? This question is particularly pertinent in mixed economies where a large share of investment activity

[4]United Nations, Government Budgeting in Economic Planning in Developing Countries (New York, 1965); see also Albert Waterston, Development Planning: Lessons of Experience (Baltimore: Johns Hopkins, 1965), especially pp. 201-241.

is undertaken by non-government sectors.[5] In the Philippines, for example, about nine-tenths of investment activity is undertaken by the business and household sectors. In order to make an economic plan a realistic document from the standpoint of both estimation and implementation, it is necessary to draw up sectoral budgets encompassing these sectors so that they can be integrated into the national investment plan. The accounting aspects of the integration of financial budgets with the total plan are covered in existing publications and will not need further explanation here.

3. The original scheme for national accounts as developed by the United Nations included five major accounts: the consolidated national product and expenditures accounts, personal income and outlay account, government receipts and expenditures account, a combined capital formation account and the foreign transactions account. In none of these accounts was the enterprise sector singled out for special detail. To the extent that there was a sectoral focus the accounts focussed primarily on consumer and government sectors. In general the sectoral identity of enterprise transactions was suppressed because they were consolidated in other types of transactions. In the

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[5]Richard Hooley, "Private Saving in the 1960's: An Experiment in Financial Account," in G.P. Sicat, The Philippine Economy in the 1960's (Quezon City: University of the Philippines, 1964).

new system of national accounts as revised by the United Nations, however, enterprises receive much more attention. There is a separate enterprise account, and non-financial enterprises have a subsidiary account separate from financial institutions. This change in the national scheme is a reflection of the increased importance attached to the behavior of enterprises in a mixed economy, and the necessity of redressing the long neglect of obtaining informatic for an enterprise sector. The accounts which are shown in this publication make it possible to fill in the gaps with respect to enterprise behavior for the Philippines--be it on capital or on current account. Not only are the estimates sectored in a way which makes them easily integrated into the national accounting system, but the methods of estimation contain certain novel aspects which will be of interest to research workers in national accounting systems who may wish to derive expenditure estimates for other developing countries.

4. Economists are aware of the great power of the consumption function as an analytical construct. If the use of an aggregate demand function has been highly successful in analyzing consumer demand, then the question naturally arises why we cannot develop similar constructs for analysing the aggregate demand of other sectors. Undoubtedly this view is behind the proliferation of effort toward estimating aggregate investment functions in recent

years. We think there is good reason to explore the possibility of expenditure functions for major sectors in a developing economy such as the Philippines. We are particularly interested in explaining capital investment behavior and make some effort to construct such expenditure functions for the corporate, non-corporate and household sectors. We feel that these efforts are important for the advancement of econometric models, because without an investment function macro-theoretical models will always appear to us deficient in realism. We think that such expenditure functions are highly important for effective planning, and we have made some tentative efforts at estimation of sectoral capital expenditure functions.

5. We hope that the existence of information on financial flows and financial institutions will work toward a better understanding of the relationship of money and intermediation in growth. Up to the present time, this topic has received largely "impressionistic" treatments. The relationship of financial institutions to growth has been handled in a relatively generalized manner. We suggest that the relationship runs specifically from types of finance to volume and composition of expenditures by sector. For example, if life insurance finance is short, then residential housing expenditures (uses) which depend primarily upon life insurance as a financial source will be particularly affected. This means that the line of

causality goes from life insurance finance (source) to residential construction (use) and also a line of causality from life insurance as an institutional source to the household sector as the using sector. This view is based upon the presumption that finance is not a homogeneous commodity (service) but a differentiated one with varying degrees of substitution among competing services. We feel that genuine progress on the relationship of financial institutions to growth will await the investigation of hypotheses of this character in specific growth situations. We have undertaken some preliminary investigations in the introduction to this study and we hope that these investigations will prove suggestive to others. We do not present them as final or exhaustive research results. Rather we present them in the hope that others will carry them further and in that way enlarge our understanding and comprehension of these aspects of the growth process. But we wish to emphasize the importance of these investigations being conducted on the data of a developing country. Up to this point highly detailed estimates of financial flows have been mainly prepared for developed countries, where the uses of the results have been essentially for analyzing short-term changes in the money and capital market. Our concern is mainly with the relationship of the money and capital markets to saving and investment behavior in the context of long-term growth. It should now be evident

that the money and capital markets in a country such as this, as well as the investment behavior which is connected with them, are undergoing rapid structural change.

6. In concluding this list of uses of aggregate financial accounts, it should be emphasized that their construction is an indispensable tool to the improvement of savings and investment estimates for the country as a whole. In practice, when these estimates are prepared for the country on an aggregate basis, the statistical error involved is almost certain to be unmanageably large. An advantage of preparing financial flow accounts such as these is that a totally independent basis for saving and investment estimates is attained because these accounts are based not on commodity-flow but on expenditure records. Moreover, we show in subsequent sections of this report how, for some sectors, expenditure records can be surprisingly accurate. We have even worked out a model for estimating the sampling error in expenditure estimates, and that model indicates that depending upon the sector, expenditure estimates can give results which are accurate to within 10 to 15% of a population parameter. In short, the use of expenditure data, heretofore little utilized in the preparation of national accounts, involves the working up from micro-data to macro-data. This process not only enables one to sector in ways previously thought impracticable but also yields a check on macro estimates which is indispensable

in improving the statistical reliability of aggregate estimates. Obviously, it is only with some minimum level of statistical reliability that the kinds of theoretical and econometric investigations which we have been suggesting can ever be undertaken with the promise of useful results. We feel that on the whole the estimates of financial flows which we have prepared here meets those minimum statistical reliability standards. Where they do not, the reader will find warning flags thrown up when we feel that the data may contain unusually large statistical errors.

II

METHODS OF ESTIMATION

In any system of quantitative measurements the methods of estimation are of paramount importance to users of those data. They are critical in clarifying the meaning of the results because methods of estimation ultimately determine conceptual content, and not the other way around, as is commonly assumed. Areas of special strength or weakness in the data should be indicated so the practicing researcher can make allowance in applications of the system to specific problems. In this study a description of estimating methods is particularly useful because we have made some alterations in the usual sectoring categories to make the system more consonant with LDC institutional behavior. Also, we have made extensive use of micro data in building our system, and a description of the methods employed is of importance viewed simply as a technique of measurement in itself.

We have divided economic units into five major sectors, with each sector sub-divided into twelve subsectors. Subsectors are formed to encompass units of essentially homogeneous behavior. The sectoral classification is as follows:

I. Financial Sector - includes all banking, insurance, and investment activities. The subsectors are:

   1) The Central Bank of the Philippines

   2) Commercial Banks - includes the Philippine National Bank and private commercial banks;

3) Insurance - includes private life and non-life insurance companies, private pension plans and mutual funds, the Government Service Insurance System, and the Social Security System of the Philippines. The last two are administered by the Philippine Government;

4) Other Financial - includes all savings banks (private and public), rural banks, development banks, and finance and investment companies.

II. Government Sector - includes two subsectors:

1) The National Government

2) Local Governments - includes chartered cities, municipal and provincial hospitals.

III. Business Sector - includes the following subsectors:

1) Government Corporations - includes all government owned or government controlled business corporations

2) Private Corporations - includes commerce and trade, mining, manufacturing, public utilities (transportation, communication, electric and power, ice and storage) services, private hospitals, hotels, and private schools, and construction;

3) Farm Corporate - includes corporate farming, fishing pearl culture, and forestry.

4) Non-corporate business

IV. Rest of the World Sector - includes all external transactions.

V. Household Sector

There are some unusual features in this sectoring scheme. We treat government corporations separetely from private corporations because in this country government-controlled firms have different canons of behavior from private firms. At the very least we can assert that the former are not profit maximizers. Just what constitutes the goal structure and accepted canons of conduct for

government firms will become clearer in subsequent discussions. We also separate agricultural corporations from the rest of business because we think that a study of the behavior of these giants of the agricultural sector holds special interest for development economists. They account for a significant portion of agricultural output. Their organization, financing and capital-intensive input structure (and typically, their agricultural performance) provide a sharp contrast to the remainder of agriculture.

We have drawn the line between households and business (corporate and non-corporate) at a different point than other studies, and this is one of the most unique aspects of our sectoring scheme. In the U.S. and elsewhere the consumer sector (households) is separated from producing firms (business). We take the position that the sharp bifurcation between producing and consuming activities does not reflect reality in Philippine society where households often engage in an array of productive activities from farming to small commercial and handicraft activities. We feel that it would be fictitious to treat these latter activities as if they were undertaken by business firms. The household goal structure and decision-making apparatus are obviously worlds apart from the unconstrained profit (and/or sales) maximization behavior of modern business. In the traditional household consumption

and production decisions are interdependent, and saving and investment activities are best viewed from the standpoint of a total portfolio approach which considers the assets (and equity) of the household as the pivot of the household's total wealth accumulation activities. That is to say, in contrast to the household in an industriali society which provides for saving, deposits, claims on insurance, durable goods, etc. out of income received, th traditional household regulates labor inputs with a view towards accumulating land, inventory and similar assets of a business nature which will serve as a wealth stock tailored along the lines of the household's portfolio preference. The important point is that the household's configuration of portfolio preference is not that of a co sumptio unit, but of a combined wealth producing-consumi unit.

How does one deal with this problem? One way is to fabricate an exclusively consumption-oriented household sector by separating household consumption activities fro household production activities, and putting the latter into the non-incorporated business sector. An alternative approach is to leave small producing units in the househol sector and shift into the business sector only those units above a certain size. We have chosen the latter alternati because it produces a household sector with a behavior configuration much closer to reality. There are also str

statistical reasons for choosing this method. We have defined a household firm as one employing 5 workers or less,[1] and these are included in the household sector. All firms with a labor force of over 5 workers go into the business sector. In agriculture, as was already pointed out, all corporations go into the business sector. Most of the remaining non-corporate farms are small holdings, and are included in the household sector.

2. Data Framework: The Definition of Accounts

The framework of our system of financial flows consists of a set of standardized interlocking accounts organized by sector and subsector. Transactions are grouped according to types of goods and services involved. Two broad classification stand out: financial and non-financial.

Non-financial fund flows arise from receipts or payments in the following transactions:

1) Payroll - includes wages, salaries, and bonuses;

2) Interest - on bonds, loans, mortgages and other lendings and borrowings;

3) Dividends - on stocks and other investments;

4) Rents and royalties - on properties and rights;

5) Net withdrawals by proprietors - refers to non-corporate business and the household sector;

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[1]This corresponds to a firm with assets of about 25,000 pesos in 1961.

6) Insurance premiums - includes life and non-life insurance premiums, contributions to mutual fund and pension plans or retirement schemes, and contributions to social security systems;

7) Insurance benefits - includes benefits received from and paid to life and non-life insurance, mutual funds, pension plans or other retirement schemes, and social security;

8) Grants and donations - includes grants-in-aid, charity contributions, and other voluntary contributions;

9) Taxes - includes corporate and income taxes, property taxes, sales taxes, excise, licenses, and penalties;

10) Tax-refunds - includes refunds of any of the taxes mentioned under no. 9);

11) Real estate transfers-transfers due to sales or foreclosure proceedings; and

12) Other goods and services - includes all goods and services not elsewhere classified.

Financial sources arise from changes which occur in the following financial variables:

1) Currency and deposits - includes cash and deposits such as demand, time savings, and foreign deposits;

2) Gold and treasury currency;

3) Bank loans other than mortgages-divided into short-term and long-term loans;

4) National Government obligations - includes only government bond issues;

5) Local Governments obligations;

6) Corporate securities - includes holdings in and new issues of stocks and securities;

7) Mortgages - includes mortgages arising from real estate and plant and equipment as securities;

8) Trade accounts receivables and payables arising from the ordinary course of business;

9) Miscellaneous assets and liabilities - all other assets and liabilities not elsewhere classified. This account is a residual formed by subtracting accounts 1 through 8 from total assets and liabilities.

The above accounts give the general framework of the system. The specific accounts may vary from subsector to subsector however, depending on the nature of their transactions, in which cases adjustments in account nomenclature are necessary.

Non-financial flows are derived directly from the basic flow records, such as the income statements of firms or the record of government receipts and expenditures contained in the Auditor's Report. But financial flows must be derived from basic stock records, such as the balance sheets of firms or the balance sheet of the national government. Financial flows are derived by taking the first difference of opening and closing stocks. This last requirement sets up one of the most difficult estimation problems, because it requires that balance sheets of micro-units be aggregated and scaled-up into sectoral balance sheets. On the whole, micro-data are more plentiful on flow variables such as sales, taxes and the like. Furthermore, benchmark population parameters of flows are readily available from the census, national income accounts, etc., whereas the same sources are likely to give scanty

data, if any at all, on stocks. We felt compelled to exert every effort to construct sectoral balance sheets on a solid foundation, often utilizing micro-data in ways that will be further explained below. In this effort we were motivated by a desire to greatly strengthen the uses side of the accounts. This is important because only with a detailed and accurate uses side can the financial flow accounts make the unique contribution to the tools of monetary and fiscal analysis that they were designed for.

C. SOURCES OF DATA

Governmental Units

Governmental units or instrumentalities (bureaus, commissions, and special offices) collecting statistical data as part of their administrative or regulatory function were among the most important sources of data. The units included were the Central Bank of the Philippines, the Office of the Insurance Commissioner, the Office of the Government Service Insurance System and the Social Security System, the General Auditing Office, the Office of the Securities and Exchange Commissioner, the Office of the Land Registration Commissioner, the Bureau of Mines, the Economic Research Division of the Department of Agriculture and Natural Resources, and the Office of the Public Service Commissioner. The Bureau of Census and Statistics also provided us with valuable benchmark data.

The Central Bank of the Philippines furnished the accounting data for the Financial Sector (except Insurance) and the Rest of the World Sector. The Office of the Insurance Commissioner furnished the accounting data for all private life and non-life insurance companies and for non-profit pension plans and mutual funds. Data for the Government Service Insurance System and the Social Security System were derived from their published annual reports; other details were furnished by their offices.

The General Auditing Office publishes annual reports of the transactions of both the national and local governments, but the more detailed phases of such transactions were furnished directly by the GAO office.

The Office of the Securities and Exchange Commissioner made available its files of financial statements of firms and enterprises included in our samples for commerce and trade, manufacturing, services, construction, and corporate farms.

Transactions in real estate and chattel were furnished by the Office of the Land Registration Commissioner, from annual reports submitted by all provincial Register of Deeds to this office; the Bureau of Mines furnished most of the data on mining, part of the data having been furnished by the Office of the Securities and Exchange Commissioner and the Manila Stock Exchange. The Office of the Public Service Commissioner gave us access to its very valuable files of

financial statements for enterprises engaged in communication, transportation, electricity and power, and ice and storage.

The publications of the Bureau of Census and Statistics were of course, the major sources of data for parameters such as population aggregates and sales benchmarks.

Private Business Firms

The data base of the private business Sectors consisted of the financial statements of a sample of approximately 1,000 small and large firms. The financial statements of many of the large corporations were made available to us by the Manila Stock Exchange. From 1957 on, the financial statements of all corporations are available at the Securities and Exchange Commission. Records of all utility firms engaged in transport (bus, taxi, etc.) communications, ice and cold storage and electric power, both corporate and non-corporate, are available at the Office of the Utility Commission. All of these offices opened their files to us and made possible the construction of a well balanced sample of small and large units in each major sector. For small corporations in manufacturing and commerce prior to 1957, and for nonincorporated enterprises in both these sub-sectors, however, we had to contact a sample of firms directly.

D. DATA COLLECTION

Sampling Methods

Some of the subsectors, such as government, the Central Bank, commercial banks and insurance represent 100 percent coverage. These are sectors which either contain only one or a few units, or where micro-unit data are already aggregated by regulatory authorities (e.g., commercial banks). But for a number of sub-sectors this is not the case, and for these we developed methods of estimating population from samples. We used sampling techniques for the following subsectors:

Other Financial - investment and finance companies;

Private Corporate Business - commerce and trade, manufacturing public utilities, and services;

Farm Corporate;

Non-corporate, non-financial business.

Except for corporate farms, the sampling method used was the same for all these subsectors. The population was first classified according to size of total assets and/or number of workers. In this way large and small enterprises were separated. All the largest enterprises were automatically included in the samples. About half of the number of enterprises in each sample consisted of large enterprises while the other half was made up of small enterprises chosen at random.

Much has been written about the unequal distribution of wealth in the Philippines. To our knowledge, however, no

measurements of wealth distribution have been undertaken.[2] While this is an unfortunate situation which we cannot remedy here, we do find it necessary to substantiate some earlier statements concerning the nature of wealth distribution and its significance for sampling methods.

Let us turn to the manufacturing sub-sector and ask the question: what is the distribution of assets among firms? To answer this question we constructed a Lorenz curve of manufacturing firms in terms of total assets. The basic data came from our sample of 224 manufacturing firms, which we combined with data from the Bureau of Census Survey of Manufactures. The latter gives information on fixed assets of all (approximately 7,000) manufacturing firms, and also on the largest 1,000. We combined these data to derive the Lorenz curve shown below. The striking inequality of asset ownership is revealed by Figure 1. Less than 10 percent of manufacturing firms control ninety percent of all the assets. Our worksheets show the extraordinary fact that the largest thirty firms account for approximately 25 percent of total manufacturing assets. Figure 1 indicates that about two percent of firms (approximately 140 firms) account for 60 percent of manufacturing assets.[3] This is highly significant from a statistical

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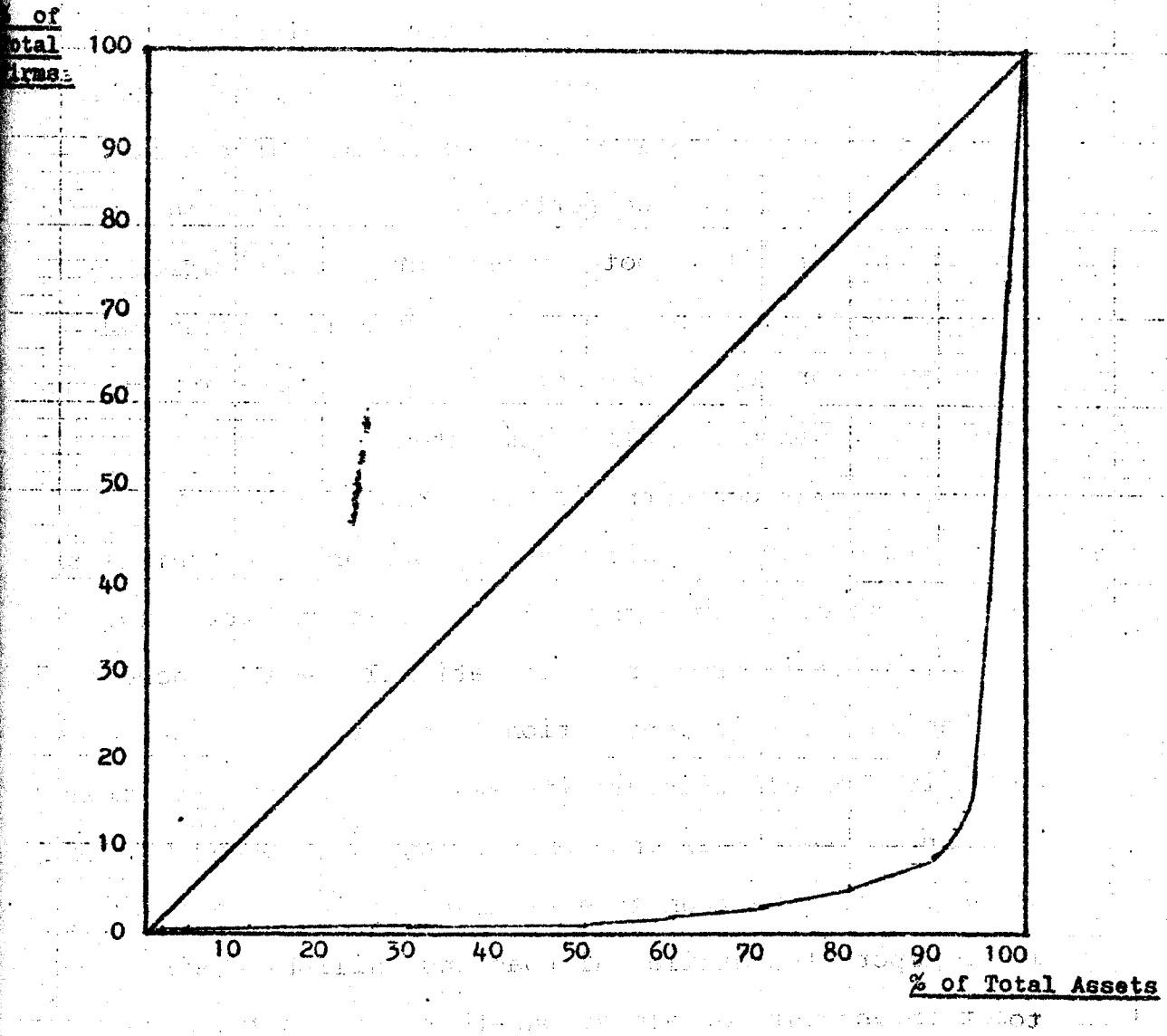
[2] Surveys of income and expenditures are available from the Philippine Statistical Survey of Households.

[3] None of these statements would be materially changed if we had used sales instead of assets to measure size.

FIGURE 1

Lorenz Curve of the Distribution of Assets

Among Manufacturing Firms, 1961



Source: Financial Statements of 224 Manufacturing Firms and Republic of the Philippines, Bureau of Census and Statistics, Economic Census of the Philippines, 1961, Vol III.

standpoint. The implication is that if we cover the largest two percent of firms by a full count we have accounted for 60 percent of our population parameter. This can be achieved with a sample of about 140 large firms. For this reason we decided to obtain information on the largest 100 manufacturing firms, which gave us coverage of about 50 percent of assets. We then sampled an additional 124 smaller firms to obtain information on the 50 percent uncovered portion of the population. This sample was stratified both by product classification as well as by size. This procedure obviously reduces all sampling errors by 50 percent since the upper part of the size distribution is fully enumerated.

The size concentration of firms that we have demonstrated for manufacturing is more or less typical of other branches of industry. In electric utilities the concentration is greater: the National Power Corporation and Manila Electric Corporation together control over two-thirds of electric utility assets. In communications one firm - the Philippine Long Distance Telephone Co. - accounts for more than three-fourths of industry assets; in transport the Manila Railroad and Philippine Airlines together account for almost one-third of assets. Concentration in commerce and services is lower than in manufacturing, but still substantial. On balance, therefore, it is possible in most cases to account for at least one-third and possibly as much as two-thirds of the total assets

of any industry group by making a full count of the largest 50 to 100 firms, and in a number of cases this can be achieved by enumerating only a handful of firms. The remainder can be covered by traditional sampling techniques. This method of obtaining information three important advantages: (1) it reduces by about one-half the size of the standard error for estimated parameters; (2) it increases accuracy of recorded information by greatly lightening the clerical burden and refocusing it on highly relevant material; and (3) it decreases the cost of gathering information and consequently increases the number of variables that can be covered.

We were also able to apply these estimating techniques to the agricultural sector in spite of the fact that concentration ratios in this sector are not as high as in industry.[4] A number of the larger agricultural operations have been incorporated. We found that by taking all agricultural corporations as a group, we were able to cast a statistical net over a significant portion of agricultural assets - we estimate the percentage at 20 percent.

The significance of our method is not limited to the statistical advantages of accuracy and economy. An investigation of Philippine data for large and small firms

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[4]The Philippines is often called a "feudal" society, and this would imply very high concentrations of wealth in agriculture. While this is true for parts of Luzon (e.g. Pampanga and Tarlac), it is not a faithful picture of land ownership in areas such as Ilocos or Cotabato. The latter regions reduce the high concentration ratios in agriculture substantially.

indicates that large and small firms are heterogeneous in terms of production behavior. To show why this is so, suppose we had data on assets and number of workers employed for a random smaple of large and small firms. On the plausible view that a larger firm (in terms of assets) would employ a larger work force, we could write the expression

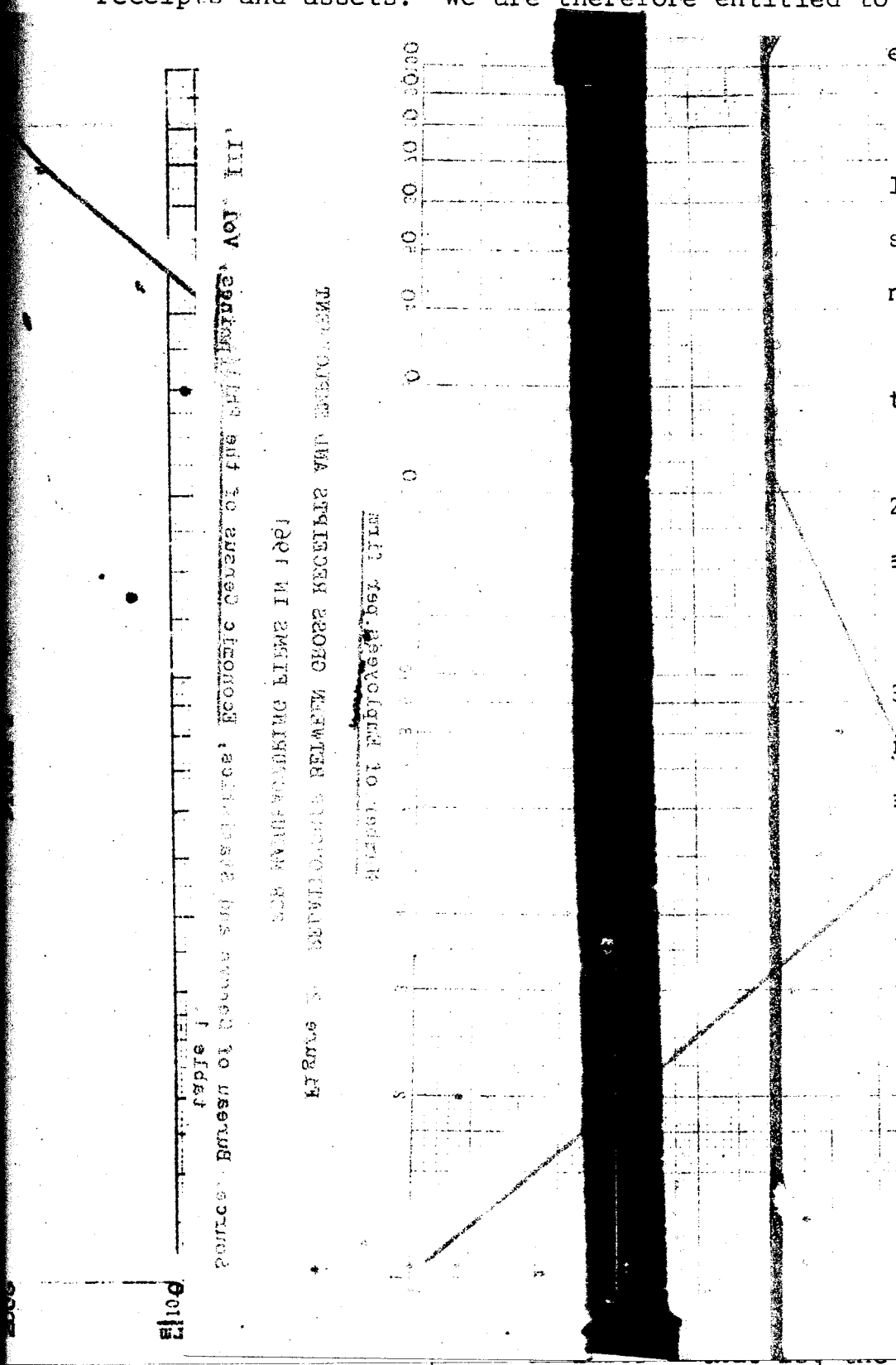
$$A = N^{\chi}$$

where A is value of assets, N the number of workers employed in each firm, and χ an exponent measuring the relationship where $0 > \chi < \infty$. (This expression implies an intercept of zero, which is justified by the fact that when assets are zero the required workforce is likewise zero). The capital-labor ratio is then derived as

$$\frac{A}{N} = N^{(\chi-1)}$$

We are under the impression that $\chi \approx 1$, and therefore $A/N \approx 1$, over all values of N. However, data derived from the 1961 Census of Manufactures suggest otherwise. In Figure 2, below, we present on gross receipts and employment for different size firms in 1961. We have derived these data from the 1961 census by computing the average receipts and average number of employees per firm for all three-digit classifications in manufacturing. From our worksheets of financial data for a sample of 225 manufacturing firms, we know that there is a simple linear relationship between gross

receipts and assets. We are therefore entitled to establish



of buildings and equipment to labor. Of course, for any sample of firms in the same industry it is true that F = aT, where F is fixed assets, T total assets and a, a constant.

receipts and assets. We are therefore entitled to establish the following relationships. From Chart 2, we have

$$\log GR = 1.5 \log N$$

or,

$$GR = (N)^{1.5} \qquad (1)$$

where GR is gross receipts per firm in thousand pesos and N is employees per firm. We also know from the financial data in our worksheets that the size of assets per firm is a simple linear function of sales (or gross receipts). We can express this as

$$GR = A\alpha \qquad (2)$$

where A denotes tangible assets and α is a constant. Then substituting equation (2) into (1) we get

$$\alpha A = (N)^{1.5} \qquad (3)$$

But since we are looking for the relationship of size of firm to the capital-labor ratio we divide both sides of the equation by N and obtain

$$\alpha \frac{A}{N} = N^{\frac{1}{2}} = \sqrt{N} \qquad (4)$$

The above expression indicates that the capital-labor ratio rises as firm size (measured by asset size) increases. For example, suppose for simplicity that $\alpha=1$. Then when (N) size of workforce is 9, the capital-labor ratio $(\frac{A}{N})$ is 3. However, when the work force is 100, the capital-labor ratio is 10 -- an increase of more than threefold.[5]

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[5]The capital-labor ratio is usually thought of as the ratio of fixed capital to labor - that is, the ratio of buildings and equipment to labor. Of course, for any sample of firms in the same industry it is true that F = aT, where F is fixed assets, T total assets and a, a constant.

We believe that the changing capital-labor ratio as one moves from smaller to larger firms is highly significant, particularly from the standpoint of employment generation, and we will investigate this further in a later section of this monograph. It reflects differences in behavior patterns among firms, since firms with markedly different factor composition may be expected to react to economic phenomena in different ways. For example, a rise wage rate should raise costs more for small than large firms; and a rise in the peso cost of imports would affect the small, labor intensive firms less than the large ones. Presumably the large firms would be more dependent on (imported) capital equipment.

The importance of this to a study of financial flows should be obvious. Any economic study, insofar as it attempts to utilize aggregate quantitative data, must organize them into classifications which reveal uniformities of behavior among economic units. It is clear that at least one of the relevant classificatory categories is firm size. We will show later that large differ in significant respects in terms of such financial behavior such as the proportion of earnings paid out in dividends, the proportion of new capital raised by equity issues as opposed to loans etc. Therefore we conclude that for the Philippines, and possibly

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We might add, however, that it would also make sense to measure capital as fixed capital plus inventories (but excluding financial assets), since the size of inventory stocks will constitute an important component of tangible capital in a number of cases.

for other LDC's as well, classification of firms by asset size as well as industry group confers important analytical as well as statistical advantages on the investigators.

Methods of Data Collection

A standard accounting form was constructed for each subsector and/or type of industry. This was done to distinguish the different kinds of transactions characteristic of each subsector, and to facilitate the recording of accounting data. The resulting accounts contained detailed information on receipts, expenses, profits and dividends, types of assets and liabilities, kinds of loans, paid-in-capital, and retained earnings. The standard accounting form used for manufacturing and commerce is reproduced in Figure 8.

For some subsectors, a more detailed form was prepared to accommodate intangible assets (such as goodwill and rights), kinds of inventories (such as crops, fertilizer and work animals in agriculture), kinds of deposits, kinds of loans (whether short-term or long-term), and other financial details depending on the activities of the subsectors.

These forms were completed by a team of research assistance who went personally to the government offices and/or private enterprises. Data for the years 1957 to 1965 were collected for commerce and trade, manufacturing, mining, and farm corporate from the Securities and Exchange

FIGURE 3

Standard Accounting Form Used for Recording Data on Manufacturing and Commercial Firms

Financial Variables

e Statement	1950	1951	1952	1953	...1965
of Goods Sold					
ng and Administrative Expenses					
income and credits					
e tax					
ncome after tax					
ciation and depletion					
est expenses					
nce Sheet					
nts receivable					
tories					
current assets					
rate investments					
assets - cost					
assets - book					
and improvements					
Assets					
borrowing (short-term)					
nts payable - trade					
current liabilities					
-term Liabilities					
-in capital					
ed surplus					

Commission. Data for prior years were secured directly from the firms by questionnaires and a follow-up where necessary. Data for public utilities were secured from the Public Service Commission for all years, 1948 to 196 The Central Bank of the Philippines requested data from the finance and investment companies included in the sam accounting forms. Data for mining for the years earlier than 1957 were secured from the Bureau of Mines and the Manila Stock Exchange.

Methods of Data Processing

After the micro-data were recorded on standardize forms (see Figure 3), it was found that for about 15 per- cent of the returns data were incomplete for some accoun items. These gaps were completed individually for each the reporting units. That is, the gaps were filled for each firm before aggregating. The procedure used was to interpolate the missing data for each account from the da available years. This involved estimating the average change. For example

$$\overline{\Delta A_j} = \frac{A_{j t_n} - A_{j t_o}}{t_n}$$

where A_j is the value of the jth asset account and $\overline{\Delta A_j}$ i the arithmetic mean of annual changes in that account. n is the number of years of available data, and therefore t years on which the mean value is based. Suppose, for exa

that we have data on the value of A_j in periods t_1 through t_4 but not for periods t_5 and t_6. First compute

$$\overline{\Delta A_j} = \frac{A_{j_{t_4}} - A_{j_{t_1}}}{3}$$

Then estimate t_5 and t_6 directly,

$$t_5 = t_4 + \overline{\Delta A_j}$$
$$t_6 = t_5 + \overline{\Delta A_j}$$

In the event that the unknown values are between two sets of known values, only a small change is required. Suppose A_j is known for the periods t_1 to t_3 and t_6 to t_8 and we wish to estimate it for the years t_4 and t_5. Then the value of $\overline{\Delta A_j}$ becomes

$$\overline{A_j} = \frac{A_{j_{t_1}} - A_{j_{t_3}}}{3}$$

and t_4 and t_5 are then

$$t_4 = t_3 + \overline{\Delta A_j}$$
$$t_5 = t_4 + \overline{\Delta A_j}$$

Obviously one can interpolate backwards in the same fashion.

Not all accounts in the balance sheet were included in the standard forms. All the excluded accounts were later grouped into a single account called "other assets" on the asset side and "other liabilities" on the liability side. When the accounts were combined, the difference between total assets and the sum of all the defined asset account was entered into "other assets", and the differences between

total liabilities and the defined liability accountw were entered as "other liabilities". In other words, other assets and other liabilities are residual accounts, while total assets and total liabilities and capital were both observed variables.

It should be clear that this editing has to take place before any aggregation of accounts is undertaken. Otherwise the missing data will be aggregated as zeros. Clearly it is far better to add in values interpolated on the basis of averages than to aggregate zeros.

In some cases, an entire financial statement might be missing for a particular year. In that event we have the problem of estimating A_j , A_k , ... and also F_j , F_k , ... where the A and F indicate asset and flow accounts respectivel and j, k, ... are the different accounts such as cash and fixed assets (asset accounts) or sales and earnings (flow accounts). In such a case we would first estimate the balance sheet accounts in the manner described above. Then we proceeded to estimate the income accounts in the following manner. For the years in which data are available we derive a coefficient.

$$\beta = \frac{\sum_{t=1}^{n} S_t}{\sum_{t=1}^{n} A_t}$$

where n is the number of time periods for which data are available (t_1, t_2, ... t_n) and S and A are sales and total

assets, respectively. Assuming we know A_t and wish to estimate S_t we proceed as follows:

$$S_{t_1} = \beta A_{t_1}$$

$$S_{t_2} = \beta A_{t_2}$$

We estimated each of the remaining flow variables in the same way, i.e., by deriving a coefficient measuring the ratio between that variable and total assets. We finally arrived, therefore at a series of coefficients equal to the number of flow variables to be estimated.

The importance of the procedure utilized here is that the relationships between accounts within the financial statement are preserved. We feel that it is better to preserve structure within the financial statement rather than to let it change in wholly arbitrary ways. When one utilizes the aggregate financial data, one can be sure that any changes that are reflected in the composition of accounts are observed changes. We were pleased to note that the ratio of sales and other flows to assets is fairly stable for a sample of firms, in spite of the fact that it may change sharply from year-to-year for individual firms.

Another adjustment that must be made to the data concerns the elimination of arbitrary valuations to assets. Asset values as recorded in the standard accounting form (Figure 3) are supposed to be recorded at cost. This is

the usual basis for valuation in the context of business accounting. However, sometimes arbitrary revaluation of assets occurs, either in an effort to increase the capital surplus (equity) of a firm, or in connection with the merger or consolidation of two firms. These arbitrary revaluations of assets are removed for each firm. The amount of the arbitrary surplus write-up can be determined by an analysis of the equity and profit accounts. It is an accounting definition that

$$\Delta E_t = (P_t - D_t) + \Delta C_t$$

where ΔE_t is the change in the equity account during time period t, P_t is net profit after taxes D_t is cash dividends paid and ΔC_t is the addition to paid-in capital, all during time period t. In practice it is generally possible to reconcile the change in equity with retained earnings. Small gaps in the equality may appear because of statistical errors but large gaps between the two sides of the equation are invariably a warning flag to the reseracher that 'paper' revaluations are present. Whenever $\Delta E_t > (P_t - D_t + \Delta C_t)$, the excess is taken as a measure of the amount of surplus write-up. This process is also useful in tracking down mergers. Knowledge of the merger of two or more companies is important because this can be utilized in monitoring coverage of the sample as closely as possible.

Scaling Procedures and Adjustments in Timing

When the procedures described in previous sections are completed we have a consistent record of flows and stocks for each micro-unit. For a number of sectors it was then simply a matter of summing the information for each account for each year over the total number of units. This was true for commercial banks, life insurance companies and government corporation subsectors. For some subsectors, however, we had only samples, and it was necessary to scale-up the aggregate value in order to arrive at population estimates for each variable.

For those sectors which we did not have 100 percent coverage, we obtained information on at least one population variable each year for each sector. For example, for manufacturing we had the annual census data giving the population totals for manufacturing sales, fixed assets, and inventories. We then computed the ratio of sales in our sample to sales of all manufacturing firms and used this ratio to blow up our manufacturing sample income statements. We used sales rather than fixed assets as a basis for scaling up because our population totals for fixed assets taken from the census are at depreciated cost. We have no basis for asserting that the age of fixed assets in our sample is the same as that in the population. Our sample firms show assets at cost, depreciated and undepreciated. In the absence of the same kind

of information from the Census and Survey of Manufacturers, we decided to use sales. From the balance sheet we took the ratio of the population assets to our sample and used this ratio to blow up the sample balance sheets. The blow-up was made for abroad but fairly homogeneous groups of firms. For example manufacturing, public utilities, wholesale and retail commerce - all were blown up separately. The approximate percentage coverage of the samples for the major sectors were as follows:

Non-financial corporations, 76%

Non-incorporated, non-financial firms, 41%

Farm Corporate, 21%

A statistical model for estimating the degree of variance of these estimates has been constructed and is shown as an appendix to this chapter. We ran the model through once for manufacturing corporations (where coverage was approximately 50 percent) and we found the standard error for sales to be 9 percent while that for total assets is 12 percent.*

The reader who is interested in calculating the corresponding standard errors for other variables may do so by substituting the appropriate data into the equations shown in the model in the appendix.

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*The corresponding percentage for other sectors where the coverage is greater than in manufacturing will be correspondingly smaller.

The last adjustment that must be made is for differences in timing. We have constructed the financial flows on the basis of a calendar year, so that all flows are a twelve-month period ending December 31. This means that all sectors which are not on a calendar year basis must be adjusted. This is true for the government sector and government corporate sub-sector.[6] Data for a small minority of business firms are also on a year ending other than December 31. In these cases we adjusted the data for timing for each firm individually before combining into sectoral statements.

Thus far we have described the derivation of each sector and sub-sector's financial statement, and the methods used to combine the financial statements of individual micro-units into sectoral statements. There are two additional steps necessary to derive the traditional flow-of-funds statement. First, the sectoral financial statements must be re-cast into sources and uses of funds statements. Essentially this consists in combining selected flow transactions from the sectoral income statement with the first differences of selected asset changes from the sectoral balance sheets. The resulting statements are called "sources and uses" statements. For many purpose these are the most useful collections of data because they

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[6]The adjustment is made in the usual way -- of averaging two fiscal years to obtain a calendar year.

give vast detail on the sources of financing for each sector. The traditional "flow of funds" tables are highly compressed summaries of sources and uses by sector derived from the basic sources and uses tables. Everything that is in the flow-of-funds tables is in the sources and uses tables, but all the details in the sources and uses tables are not in the flow-of-funds tables.

The flows show for each sector represent direct estimates. In the household sector, however, some transactions are direct estimates while some are estimated as residuals. All the household capital expenditure items are direct estimates, some made for the first time as a part of this study. We chose to estimate these transactions directly because of the importance we attach to investment expenditure activities in this study. Some other non-financial flows, such as household wage income, property and entrepreneurial income and consumption expenditures, were taken directly from the national income accounts. Most of the purely financial flows however, were estimated as residuals. For example, the change in currency in the hands of households is estimated as a residual as follows:

$$C^{CB} = C^{F} + C_u{}^{B} + C_u{}^{H}$$

therefore,

$$C_u{}^{H} = C_s CB - (C_u{}^{F} + C_u{}^{B})$$

where C stands for changes in currency, the subscripts s and u denote sources and uses, respectively, and the superscripts CB, F, B, and H denote the Central Bank, financial, business and household sectors, respectively. The reason why it is necessary to estimate household financial flows as a residual is because we do not have access to reliable surveys of household assets.[7] We therefore are unable to estimate the magnitude of estimating errors directly for this sector, but we have computed derived errors of estimate by combining errors of the other sectors.

The rest of world sector accounts were constructed from data taken from the balance of payments prepared by the Central Bank. Accounts were regrouped to coincide with the concepts of the financial flows study.

Summary

We have approached the measurement of financial flows in this country with the conviction that less developed countries do not present insuperable problems of estimation simply because they are less developed. We have endeavored to show that certain peculiarities of LDC's -- such as the unequal distribution of wealth -- present the statistician with rich opportunities to improve measurement

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[7] Surveys of household assets are difficult everywhere, but are particularly difficult in LDC's. For an experiment in surveying household assets in the Philippines, see Philippine Statistical Survey of Households, 1965.

accuracy. In order to grasp these opportunities, however, the investigation has to be conducted with sufficient flexibility to make possible departing from conventional estimation methods and employing substitutes when circumstances require it. We have included a model for estimating the sampling error for those sectors where sampling methods were utilized, and we think this aspect of the measurement procedure is unique, for developed or less developed countries. Equally important, we have changed somewhat the conventional meaning of concepts when the character of economic activity here served to require it. An example of this is the separate estimate of capital formation expenditures in kind which is shown alongside the usual (monetary) expenditure estimates. We did this to make it easier to utilize the financial data in analyses of capital formation, which is one of the main purposes of this data system. Finally, we have described in complete detail all sources of information as well as all data processing procedures, so that others may be in a position to reproduce our results and extend them in any direction they wish.

Financial Flows in the Philippines 1949-1962

Introduction

In this chapter we analyze the size and structure of financial flows in the Philippines during the period following World War II. Since the major function of a financial system is to convert saving into investment, the most reasonable procedure is to start with an analysis of the aggregate financial flows for the economy as a whole. Then we move to an analysis of saving behavior, which is equivalent to analysing the supply side of financial flows. We then shift our attention to the volume and composition of capital expenditures, which is tantamount to the demand (or user) side of financial flows. In a final section we focus attention on those institutions which are the intermediaries of financial flows, trying to explain the observed structure of flows and changes therein by reference to changes in the behaviour of these institutions, as well as other relevant dimensions of the financial system. We will also attempt to indicate in a rough way how changes in the financial system have been related to known shifts in some major economic parameters, and to comment on some major policy directions.

It is not possible to obtain a clear perspective on the character of this financial system by analyzing Philippine data alone. Throughout the paper we therefore

make continual intercountry comparisons between this financial system and those of Japan and the United States. We have chosen these two countries so that we can get a sharper contrast by comparing the Philippine financial system with that of a highly developed country, and one which is developing rapidly.

Changes in Size and Structure of Financial Flows

A cursory inspection of the Philippine financial flows as shown in Appendix Table 1 shows substantial growth. In the early years of the period (1949 to 1951), financial flows were averaging in the neighborhood of five to six hundred million pesos annually, as contrasted with about 3 1/2 billion pesos by the end of the period.[1] When the size of aggregate financial flows is related to income, then in the eralier part of the period, aggregate financial flows amount to approximately 10 percent of national income, whereas towards the end of the period they amount to about 30 percent of national income. While the nominal increase in aggregate flows is about six-fold, and the real increase (found by relating aggregate flows to the change in the wholesale price index) is a little more than four-fold.

It is tempting to explain this increase in aggregate financial activity by referring to increases in the size of capital expenditure. Unfortunately the facts do not support

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[1] The size of financial flows is measured by summing the net change in financial assets over all sectors.

such a simple explanation. For example, in the early years aggregate capital expenditures were about three times the volume of aggregate financial flows. By the end of the period, capital expenditures were approximately the same size as financial flows. The implication is that the proportion of investment activity coursed through the financial system increased significantly between 1949 and 1965. Just what changes in behavior and in institutional structure made this possible must be temporarily deferred, until we come to a discussion of changes in sectoral behavior later in the paper. A further inspection of the table on financial flows (Appendix 1) will indicate the financial instruments which accounted for the major share of this increase in financial activity. There were substantial increases in the use of currency and demand deposits but a much larger share of the responsibility for the increase in financial flows must go to "other deposits". These other deposits include mainly savings and time deposits and also marginal deposits which from time to time were required by Central Bank regulations. A still more important instrument, however, was short-term liabilities. Short term loans increased by 4 to 5 times over the period in question. Long-term liabilities also increased dramatically. By the end of the period they were making a very substantial contribution to total financial activity. But the most outstanding increase

was registered by trade credit which, particularly towards the end of the period, became one of the most important instruments in total financial activity. In a later section we will analyze the structure of trade credit and show how it is used to distribute bank credit throughout the economy. On the whole, it appears that the important role of trade credit in the Philippine financial system is similar to the role of trade credit in the financial system of Japan; and both of these cases contrast sharply with the relatively unimportant role played by trade credit in the financial system of the United States.

Let us turn now to the question of the structure of financial flows in the Philippines in contrast with that of other countries. The data in Table 1, below, show the size of financial flows in relation to national income, and also to capital expenditures for the Philippines, Japan and the United States.[2] It is clear from these data that the ratio of financial flows to national income is roughly the same for the Philippines and the United States but very much greater for Japan. The ratio is about one-fourth for both United States and the Philippines; but for Japan it is about two-thirds. Measured in this way,

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[2]In making intercountry comparisons here as elsewhere, the years 1958-1962 have been used. These particular years were selected for reasons of data comparability and availability.

TABLE 1

Aggregate Financial Fund Flows and Their Relationship to National Income in the Philippines, Japan and the United States*

hilippines: mill pesos)	Fin. Flow+	N.I.	F. Flows/N.I.	Capital Expenditures	F. Flow/ C. Exp.
1958	1,421	9,837	14.4%	1711	83.2%
1959	2,714	10,709	25.3%	1982	136.9%
1960	2,683	11,370	23.6%	2322	115.5%
1961	5,496	12,334	44.6%	3124	175.9%
1962	3,648	13,477	27.1%	3678	99.1%
V. 58-62			27.0%		122.1%
apan: (bill yen)					
1958	4,676	9,561	48.9%	2469	189.3%
1959	7,472	10,539	70.9%	4041	184.9%
1960	8,701	12,816	67.9%	5126	169.7%
1961	12,995	15.156	85.7%	7475	173.8%
1962	12,006	17,348	69.2%	7295	164.6%
V. 58-62			68.5%		176.5%
nited States: (bill. dollars)					
1958	76.	370	20.5%	93.	81.7%
1959	98.	402	24.4%	120.	81.6%
1960	69.	417	16.5%	114.	60.5%
1961	98.	430	22.8%	112.	87.5%
1962	123.	460	26.7%	126.	97.6%
V. 58-62			22.2%		81.8%

+Represents total funds raised (i.e. net acquisition of financial assets) by all sectors.

*In this and the following tables, the data on currency amounts are given in millions of Philippine pesos, billions of Japanese yen and billions of U.S. Dollars.

Source: Appendix Table 1 Bank of Japan, A Study on Flow of Funds in Japan; Federal Reserve Board, Federal Reserve Bulletin, various issues; U.N. Yearbook of National Accounts.

financial intermediation is very much higher in Japan than either the Philippines or the United States.[3] Turning to the ratio of aggregate financial flows to total capital expenditures, the data indicate that the United States has the lowest ratio--82 percent average for the period -- the Philippines the next highest (122 percent) and Japan the highest (177 percent). We have here an indication that the financial system is used more extensivel both in the Philippines and Japan to finance capital expenditures, and that it is used much more extensively in Japan than in either the Philippines or the United States. Later, when we come to an analysis of capital expenditures by sector, particularly the private corporate and household sector, we will be able to comprehend the major factors that work here. In conclusion then, we can say that the Philippine financial system is relatively large by the comparison with the U.S., and a substantial volume of capital expenditures is now financed by that system. It is however very much smaller on any basis than the Japanese financial system.

The Rate of Saving

In the discussion that follows we will focus on the rate of gross national saving. The preference for

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[3] As we shall see later on, however, the reasons for the lower levels in the case of the Philippines and the U ited States are quite different.

gross over net savings arises out of two considerations. First, gross saving which includes an allowance for capital replacement has a special meaning for developing countries where technology in use is changing rapidly. Secondly, in making comparisons among countries, variations in methods of estimating the share of saving devoted to capital consumption and replacement are likely to give particular difficulty when making comparisons among countries where different estimating conventions are in force.[4]

The data in Table 2, below, show the volume and the rate of gross saving in the Philippines from 1950 to 1962. For the period as a whole, gross saving has been 18.2 per cent of income--making net saving roughly 14 per cent of income. These are reasonable rates for an LDC but certainly not extraordinarily high for a growing economy. For most of the years in question, households have contributed a little over one-half of total gross saving while business corporations have contributed another one-fourth. The remainder has been contributed by government and other sectors--primarily non-incorporated business enterprises.

This estimate for saving for the Philippines differs in several respects from estimates which have been published previously.[5] One of the differences is that non-monetary

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[4]Variation in tax laws are a major reason for these variations in estimating methods.

[5]See R. Hooley, Saving in the Philippines, (Quezon City: University of the Philippines, 1963)

saving is included here. That is to say, that part of owne investor saving (primarily in the agricultural sector) whic is not monetized has been included. This consists of irrigation construction such as the digging of canals on farms which has been undertaken without the use of monetize inputs, the planting and development of perennial crops utilizing non-wage labor, and other improvements such as land clearing.

In all of these cases, non-monetary investment and non-monetary saving are distinguishable while also being identically equal and inseparable. About one-half of the household sector's saving takes the form of residential construction and the acquisition of other consumer durables while the remainder is used for the acquisition of financia assets. Moreover, the data in Table 2 show that while household saving was devoted primarily to the acquisition o tangible assets in the early years of the period, it has recently shifted towards the acquisition of financial asset In quantitative terms, about one-fourth of household saving was in the form of financial saving in the early 1950's whereas about one-half was in the form of financial assets in the early 1960's (see table 2).[6]

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[6]These percentages are averages for the first and last 4 years of the period. We have to discount the high percentages shown for 1950 and 1954 because there were year in which the statistical discrepancy was particularly large (see Appendix, Table 1).

Table 2

Rates of Savings 1950 - 1962
(Bill. Peso)

Year	Household Saving	Household Finance Saving	Household Fin. as % Household Total	Gross National Saving	GNP	GNS/GNP (%)
1965			50			
1964			50			
1963			40			
1962	2.3	0.9	39	3.8	15.7	24.2
1961	1.8	0.7	39	3.2	14.2	22.5
1960	1.5	0.2	13	2.4	13.0	18.5
1959	1.0	0.05	5	2.1	12.2	17.2
1958	1.1	0.05	5	1.8	11.2	16.1
1957	1.1	(0.1)	9	1.9	10.5	18.1
1956	0.8	0.05	6	1.3	9.6	13.5
1955	0.7	0.4	57	1.1	8.8	12.5
1954	0.7	0.5	71	1.1	8.2	13.4
1953	0.8	(0.2)	(25)	1.4	7.9	17.7
1952	0.7	0.1	14	1.6	7.4	21.6
1951	0.8	0.2	25	1.5	7.0	20.3
1950	1.0	0.7	70	1.3	6.4	20.3
			Average: 1950-62			18.2

Source: Appendix Table 1

We note that this shift in the composition of household saving, while apparent during the entire period, took a decisive turn in the late 1950's. The likely causative factor in that shift was the change in interest rate policy which began in 1960. The rise in interest rates was not only on the lending but also on the borrowing side. Deposi rates of interest, which had hovered between 2-3/4 and 3 per cent during the previous years rose to at least 6 to 7 per cent. A number of non-banking institutions undertook the issue of short-term notes at 12% which were successfull floated in large volumes.

If one looks at the data in Table 2 quickly, it doe not appear that there was any sharp increase in the nation' rate of saving over the entire period. But this impression is somewhat misleading. The rate of gross saving in the nation as a whole was in the neighborhood of 20 percent for the period from 1950 to 1953. Thereafter, from 1954 to 195 it dropped to about 13% and did not pass 20% again until 19 As previously pointed out, we should view the early 1950's as an unusual period because these were the years in which the economy was still rebuilding its capital stock from the destructive effects of the War. The Philippines as a count received more war damage than any other country in Asia during World War II. Reconstruction of the productive (business and government) capital stock was not completed until about 1952. This means that reconstruction of the stock of residential housing as well as its expansion to

meet the needs of the greatly expanded population (which grew rapidly during the war) augmented the rate of household investment and saving to abnormally high, temporary levels.

We feel, therefore, that the national saving levels of the mid-50's are the fairly normal levels for the country, if one discounts the post-war reconstruction of the late forties and early fifties. On that basis, we might think of the rate of gross saving as increasing from something around 15 percent to a little under 25 percent. This is a respectable, although not an extraordinary increase for an LDC over a period of about 15 yaars.

In order to get a better perspective on Philippine saving behavior, we present in Table 3 rates of saving for this country, Japan and the United States. The nationwide rate of gross saving in the Philippines of 20 percent is somewhat lower than the U.S. rate of 22 percent. Both countries lag behind Japan's 34 percent by a wide margin. What is interesting is that the rates of saving by sector differ even more. The contribution of Philippine households to the national saving rate is about 12 percent, which is somewhat less than that of households in the United States and Japan. Similarly, the rate of household saving out of 14 percent is substantiallly lower than the rates of 17 and 20 percent for the U.S. and Japan. However, these differences are small in relation to income differentials in the three countries which range from approximately $6,000 per capita for the U.S. to $200 for the Philippines. The results

Rates of Gross Saving in Philippines, Japan and the United States
(1958 - 62)

Philippines	All Sectors	% of GNP	Households	% of Household Income	% of GNP	Corp. Bus.	% of Corp. Income	% of GNP	Gov't	% of Current Revenues	% of GNP	GNP
1962	3,849	24.6	2,222	17.1	14.1	811	69.3	5.1	164	9.3	1.0	15,615
1961	3,243	21.5	1,811	14.8	12.1	514	59.8	3.4	169	11.2	1.3	14,912
1960	2,401	17.9	1,498	13.6	11.9	295	52.4	2.2	135	9.5	1.0	13,390
1959	2,340	18.8	1,370	13.3	11.0	380	59.1	3.6	161	13.3	1.3	12,430
1958	2,018	17.2	1,115	11.6	9.5	363	63.7	3.1	142	12.9	1.2	11,738
AV. 58-62		20.0		14.1	11.72		60.9	3.5		11.2	1.2	
Japan												
1962	7,550	36.188	3,372	21.7	16.1	2365	87.2	11.3	1830	41.0	8.8	20,863
1961	6,858	36.9	3,101	23.1	16.7	2421	89.9	13.0	1688	42.9	9.1	18,596
1960	5,472	35.8	2,405	21.2	15.7	1861	89.7	12.2	1149	36.7	7.5	15,308
1959	4,279	33.4	1,946	19.8	15.2	1329	89.3	10.4	886	35.2	6.8	12,794
1958	3,101	27.3	1,485	16.8	13.1	846	86.5	7.5	651	28.7	5.7	11,342
AV. 58-62		33.9		20.5	15.4		88.5	10.9		36.9	9.1	
U.S.												
1962	131	23.0	83	18.1	14.5	43	74.1	7.3	-12	-19.6	-2.1	569
1961	114	21.5	75	17.4	14.1	35	51.0	6.6	-13	-22.8	-2.4	529
1960	121	23.6	76	18.4	14.8	30	69.8	5.8	- 3	- 5.7	-0.1	511
1959	110	22.4	65	16.5	13.2	36	73.5	7.3	- 7	-14.3	-0.2	491
1959	93	20.4	67	18.1	14.7	24	66.7	5.2	-13	-27.6	-3.5	455
AV. 58-62		22.2		17.7	14.3		67.0	6.4			-1.7	

SOURCE: Estimates of gross savings are taken from Flow of Funds Statements for U.S. and Japan, and Sector Statements of Saving, Appendix Table 1; Income by Sector is from U.N., Yearbook of National Accounts. Government Sector includes federal and local units on a consolidated basis.

suggest that the household rate of saving has little relationship to income.[7]

The rate of saving for the Philippine corporations is 3-1/2 percent of GNP as contrasted to 6-1/2 percent for the United States and 15-1/2 percent for Japan. These wide differences in the rate of corporate saving partly reflect the differing size of the corporate sector in the three countries which is obviously relatively larger in Japan and the U.S. than it is in the Philippines. However, in the same table there is also evidence to indicate that the rate of retained earnings in Philippine corporations is less than in U.S. corporations, and substantially less than in Japanese corporations. Philippine corporations retain about 60 percent of their income while their Japanese counterparts retain almost 90 percent.

Perhaps the sharpest contrast, however, is with respect to the government sector. The Philippine government sector contributes a volume of saving equivalent to little over 1 percent of GNP whereas the Japanese government contributes saving equal to 9 percent of GNP. (We cannot make the same comparison for the United States because of the absence of a government capital account in the U.S. system of national accounts). If the contribution of the Philippine government was anywhere near as large as that of

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[7]Differences in income distribution could be introduced as an additional explanatory factor.

the Japanese government, Philippine national saving rates would be very much higher than they are at present.

If we look at the contribution of the major sectors over time, it is clear that Philippine households have increased their contribution to national saving considerably. The same can be said with respect to corporations--which, have nearly doubled their contribution in the five-year period 1958-1962. The government contribution, however, has remained static. Substantial upward shifts in household saving rates are shown for both the Philippines and Japan. When one turns to the U.S. one does not find the same changes in national or household saving rates. These disparities in the degree of shift in saving rates seems to correlate with the already noticed tendency of the Japanese and Philippine financial systems to grow faster than that of the United States.

We can conclude this cursory analysis of saving behavior in the post-war period by observing that changes in the national saving rate may have had some effect on the increase in financial intermediation. The national saving rate has risen because Philippine households have increased their saving rates substantially. Private corporations continue to account for a much smaller share of national saving, partly due to the small size of their sector and partly due to the relatively modest rate of retained earnings. This has set the stage for a steadily growing household-

corporate intersector transfer. But more important than the changes in sectoral saving rates has been the shift in the composition of saving. Over the past decade and a half, the composition of household saving has changed from being predominantly in tangible form to the present situation where approximately one-half is in financial form. The impact on the financial sustem has been to greatly increase the volume of resources flowing into it. In subsequent sections of this paper we must attempt to trace the factors responsible for this shift in composition in terms of the financial history of the period.

Capital Expenditures

The total of capital expenditures, by sector, are shown in Appendix Table 1. These estimates represent total expenditures on new equipment and durables of all kinds. The data on capital expenditures are more inclusive than capital formation as traditionally defined due to the inclusion of expenditures on consumer durables in our figure, which are customarily omitted. In addition, our estimates also include capital formation of a non-monetary character (Appendix Table 1, row B). Such capital formation (which occurs almost exclusively in agriculture)[8] represents additions to the stock of durable assets made without the use of purchased inputs. This occurs, for example, in the

[8]There is also some - but a very small amount - in unincorporated enterprises.

case of the planting and initial culture of perennials when done outside commercial farms. It occurs when frontier land is cleared to make it suitable for agricultural activities. It also occurs when additions to livestock herds are affected without the use of purchased feeds. In the early post-war years, non-monetary capital formation accounted for about 10 percent of total private capital formation. In recent years it accounts for approximately 5 percent. The reason for the decline is that while the rate of capital formation in agriculture has remained constant over the entire period, the rate in non-agriculture has risen substantially.

Let us look at the estimates of capital expenditure as summarized in Table 4 below. The data indicate that for the country as a whole capital expenditures have been approximately 18 percent of GNP for the period 1958 to 1962. This contrasts with rates of 22 and 32 percent for the United States and Japan, respectively. Thus the rate for the Philippines is substantially lower than that for the other two countries.[9] But in recent years--1961-62--the rate has been in the neighborhood of 20 to 23 percent, tending to close the gap between the Philippines and the U.S. In no event, however, is the rate in the Philippines anywhere near that in Japan.

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[9] The difference between the rates for the Philippines and the U.S. is greater than it appears because of the omission from the U.S. estimates of government sector investment expenditures.

Table 4

Capital Expenditures+ and Their Relation to Gross National Product, by Sector

Philippines: (mill pesos)	Country-Wide	% GNP	Household	% GNP	Corp. Bus.	% GNP	Gov't	% GN
1962	3678	23.0	1367	8.9	1597	10.2	273	1.
1961	3124	20.8	1209	8.0	1282	8.7	286	1.
1960	2322	17.3	1025	7.6	900	6.7	195	1.
1959	1982	15.9	991	8.0	535	4.3	173	1.
1958	1711	14.6	1029	8.7	372	3.2	242	2.
AV. 58 - 62		18.3		8.2		6.6		1.
Japan: (bill. yen)								
1962	7295	35.0	1212	5.8	3949	18.7	2129	10.
1961	7475	36.0	1017	4.9	4894	23.5	1564	7.
1960	5126	33.4	804	5.2	3059	19.6	1262	8.
1959	4041	31.8	653	5.1	2272	17.8	1116	8.
1958	2469	21.7	442	3.9	1196	10.5	831	7.
AV. 58 - 62		31.6		5.0		18.0		8.
United States: (bill. dollars)								
1962	126	22.1	72	12.6	34	5.9	#	
1961	113	21.3	63	11.9	33	6.2	#	
1960	113	22.1	65	12.7	31	6.0	#	
1959	120	24.0	74	15.0	32	6.5	#	
1958	93	20.4	56	12.3	21	4.6	#	
AV. 58 - 62		21.9		12.9		5.8		

+For the Philippines, capital expenditures are less than capital formation by t amount of non-monetary capital formation, which ranges from 5-10 per cent of monetize capital expenditures.

#Zero by definition. Capital expenditures by the government are not recognized in the U.S. system of national accounts.

There are also intersting differences in the sector distribution of capital expenditures. The United States ha the highest rate of expenditures in the household sector--12 percent. This is followed by 8 percent for the Philippines and only 5 percent for Japan. The higher rate of household expenditures on durables for the United States is understandable in view of the high level of consumer income there, leading to what Oshima has called high levels of consumer asset formation.[10] (See RES article) The rather high rate of household investment expenditures in the Philippines constrasts sharply with the low rate in Japan. The Japanese level of household expenditures here is certainly influenced by the peculiarity of Japanese housing construction which is not capital intensive.[11] In the Philippines, expenditures for housing represent a very large part of total household capital expenditures. A rough estimate of the distribution of capital expenditures b household would undoubtedly show a very high concentration of such expenditures. In fact, it seems probable that a Lorenz curve constructed of household capital expenditures would show a greater curvature than a Lorenz curve constructe for income distribution by households.

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[10] Harry Oshima, "The International Comparison of Size, Distribution of Family Income with Special Reference to Asia," Review of Economics and Statistics, November, 196

[11] This point is emphasized by Henry Rossofsky, Capital Formation in Japan (New York: Free Press of Glencoe, 1961).

Turning now to capital expenditures by corporate business, roughly 7 percent of GNP is accounted for by that sector in the Philippines and 6 percent in the United States. These rates contrast sharply with the rate of 18 percent for Japan. This contrast is partly due to the low level of capital expenditures in the Japanese household sector which has freed capital resources for accumulation in corporations. It is partly a function of the large size of the corporate sector in Japan. Actually, the level of capital expenditures in the Philippine corporate sector is somewhat higher than might have been anticipated. That the rate of corporate capital expenditures should in fact equal that of the U.S. demonstrates that the Philippine rate has been high in recent years. Indeed, if the trend shown in the data is a faithful representation of longer term trends, then the rate of capital expenditures in the Philippine corporate sector will soon be higher than the corresponding rate in the U.S.

When one turns to the government sector, the difference in behavior between Japan and the Philippines again becomes very marked. The extremely low level of capital expenditures as a percent of national income -- approximately 2 percent -- is in marked constrast with the 11 percent for Japan. Unfortunately, it is not possible to calculate the same percentage for the United States. However, it is clear that on any basis the Philippine government sector is extremely low, and that if that

sector's rate were higher, it would substantially raise the country's overall rate of investment expenditures.

Inter-Sectoral Financial Flows

The material presented thus far on the distribution of saving and capital expenditures by sector implies growin intersectoral flows of financial resources. The direction and magnitude of these flows are shown in Table 5. The household sector in the Philippines registered a financial surplus which was approximately 40 percent of the size of its aggregate capital expenditures. This contrasts with a figure of 200 percent for Japan. Obviously, Japanese households shift a far larger fraction of resources to other sectors than do Philippine households. However, Philippine households shift a larger fraction of investible resources to other sectors than do American households where the comparable figure is only 16 percent of capital expenditures. The extraordinary volume of resources shifte by Japanese households is essentially a product of the low level of household capital expenditures, particularly on residential housing, and the high rate of household saving. In contrast, United States households have high rates of saving but high rates of capital expenditures as well, and this tends to keep the surplus transferred from the U.S. household sector at modest levels relative to levels of household capital expenditure.

Table 5

Financial Surplus (deficit) by Sector[+]

ilippines: ll. pesos)	Household Surplus	% Cap. Exp.	Corp. Bus. Surplus	% Cap. Exp.	Gov't Surplus	% Cap. Exp.
1962	855	62.4	(786)	49.3	(99)	36.3
1961	602	49.8	(768)	49.9	(117)	40.9
1960	473	40.6	(605)	67.2	(60)	30.8
1959	379	34.3	9	29.0	(12)	6.9
1958	86	8.8	(461)	2.4	(100)	41.3
1957	160	17.5	(78)	21.4	(120)	44.4
1956	195	31.8	(68)	21.7	(144)	143.0
1955	68	10.5	43	35.2	(171)	99.1
1954	(120)	15.5	(18)	9.4	(167)	219.7
1953	(112)	12.4	(93)	33.2	87	142.7
1952	(180)	20.1	(160)	49.4	(58)	65.2
1951	(108)	12.1	(210)	67.7	74	132.1
1950	252	33.4	(80)	39.4	(173)	133.1
1949	212	25.1	(154)	55.1	(47)	62.6
58 - 62	479	39.1	(461)	(41.5)	(78)	(31.2)
an: (bill. yen)						
1962	2155	177.0	(1548)	40.1	(299)	14.0
1961	2084	204.9	(2473)	50.1	124	7.9
1960	1601	199.1	(1198)	39.2	(113)	9.0
1959	1293	198.0	(943)	41.5	(240)	21.5
1958	1043	235.9	(300)	25.1	(80)	9.6
. 58 - 62	1635	202.9	(1299)	(39.3)	(122)	(9.2)
S.: (bill. dollars)						
1962	11	15.2	9	26.4	#	-
1961	12	19.0	2	5.7	#	-
1960	11	16.9	(1)	3.2	#	-
1959	(9)	12.2	4	12.5	#	-
1958	11	19.6	3	14.3	#	-
. 58 - 62	7	16.5	3	11.1		

[+]A financial surplus is an excess of gross sector saving over capital expenditures. Sector deficits are shown by parentheses.

#Government saving and investment are both zero by definition.

OURCE: Appendix Table

Turning now to behavior of business firms, the deficit in the Philippine corporate sector averages approximately four-tenths of total capital expenditures which is almost the identical percentage for Japan. In this respect corporate financial behavior is the same in the two countries. In contrast, the corporate sector in the United States has a small surplus, which is to say American corporations typically save more than they spend for capital expansion. The size of this surplus is small howev being only about one-tenth of corporate capital expenditure

This broad contrast in corporate financial behavior between the two LDC's and the U.S. is to be expected. As Domar has shown,[12] given conventional depreciation practice based on original cost, and assuming a constant ratio of capital investment to output, the share of capital expenditures covered by the depreciation allowances will vary inversely with the rate of growth of output. The rate of growth of corporate sector output will often be higher in an LDC because this is a sector that is expanding its share of activities rapidly in those countries. For example, corporate sector output between 1958 and 1962 grew by 177 percent, 105 percent and 61 percent respectively for Japan, the Philippines and the United States. Finally, in LDC's

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[12] Evsey Domar, "Depreciation, Replacement and Growth," reprinted in Essays in the Theory of Economic Growth, (N.Y.: Oxford University Press, 1957).

the ratio of fixed to working capital is generally lower than in developed countries, and this is an additional factor tending to minimize the size of capital consumption allowances there and favor reliance on outside financing. For example, capital consumption allowances account for approximately 33 percent of corporate savings in the Philippines in contrast to 50 and 65 percent in Japan and the United. States.

The deficit of the Philippine government was approximately one-third of its capital expenditures during the period, whereas the deficit of the Japanese government was only one-tenth of its capital expenditures. We are not able to make the same calculations for the American government since as previously pointed out, the U.S. government accounts do not have a capital dimension to them.

The overall impression that one gets from these data is that sectoral budgets are more in balance in the U.S. than they are in either the Philippines or in Japan. It is not difficult to explain this with respect to households, and we have mentioned several factors accounting for the size and trend of deficits in this sector. In the case of the corporate sector other forces are at work, and we have outlined what appear to be the main ones. Finally, we noted the small size of deficits in the Philippine government sector. We can only suggest that this is a reflection of the stultification of political development

in the past, without going further at this time into this fascinating but complex dimension of nation development.

There are some interesting trends in the growth of intersectoral financing in the Philippines during the post-war period. In 1949 and 1950 households had large surpluses while the corporate and government sectors had large deficits. These deficits represented the reconstruction of corporate and government capital facilities which were damaged during World War II. That these deficits were financed by households was apparently due to extremely high retail prices and households' anticipations that these price levels were temporary. These anticipations made possible the diversion of available resources to the reconstruction of the capital stock in the corporate and government sectors. In the beginning of 1951, however, retail prices began to decline, and households were then free to undertake reconstruction of their capital stocks, which lasted through 1954. This was reflected in the continual household budget deficits during these years. When this household reconstruction activity was completed, household budget deficits declined, and by 1955 had turned positive again. Thereafter the household surplus increased steadily, reaching a peak of almost a billion pesos in 1962, which amounted to about 2/3 of household capital expenditure. In other words, from 1955 onward the Philippine household sector was becoming a steady and ever growing source of

surplus funds for intersectoral transfer. These funds were absorbed by the corporate sector where deficits reflecting sharply rising investment expenditures, rose from a negligible figure in 1954 to very substantial amounts in 1960, 1961 and 1962. Indeed, by the end of the period Philippine corporations were financing more than half of their capital expenditures from intersectoral flows -- mainly from the household sector. In the government sector, surpluses have been marked by an erratic pattern, but averaging in the neighborhood of 100 million pesos a year throughout the entire period. That is to say, in contrast to the household and the corporate sectors which were tending to increase the intersectoral flow of funds, the government sector maintained approximately the same absolute size of deficit and intersectoral transfers throughout out the period. This means that the percent of government capital expenditures covered by intersectoral flows actually declined during the period.[13] Thus the government sector in the Philippines has actually exerted a negative effect on financial development. The entire impetus for financial development has come from the household and corporate sectors.

What kind of securities were used to effect his growing intersectoral flow of funds in the Philippines?

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[13]If expressed as a ratio to national income, they would reflect a declining trend.

In the previous section we have pointed out that trade credit and bank loans were particularly important. But let us look also at the total maturity structure of financial flows in the three countries. This is done in Table 6. It is clear that the maturity structure of financial flows in the Philippines represents an approximately even division between short and long-term instruments. This contrasts sharply with the United States, where short-term instruments account for approximately 1/5 of intersectoral financial flows and the remainder is accounted for by long-term debt. The situation in Japan is closer to that of the Philippines than the U.S. where 60 percent are long term. These differences in the maturity structure of financial flows among countries are reflected in the different financial institutions in those countries and in the prominence of trade credit and bank loans, as was pointed out earlier. There is no obvious trend with respect to maturity structure over time so far as the Philippines is concerned. That is to say, there is no obvious tendency to switch either toward or away from these short-term instruments in their important role as facilitating devices for intersectoral flows. It is possible, however, that if the issue of government securities becomes more important in the future, the proportion of long-term instruments would increase.

Analysis of Sources and Uses by Sector.

Let us turn our attention now to the sources and uses of funds for the major financial and operating sectors. In

Table 6

Maturity Structure of Financial Flows

Phil.:	Tot. Fin. Flows #	Sht. term Fin. Flows+	Long Term Fin. Flows	Sht. term as % total	Long term as % total
1962	3648	2252	1396	63.5	36.5
61	5496	2617	2879	47.6	52.4
60	2683	800	1883	29.8	70.2
59	2714	1453	1261	53.5	46.5
58	1421	1002	419	70.5	29.5
Av.				53.0	47.0
U.S.:					
1962	123	28	95	22.8	77.2
61	98	23	75	23.5	76.5
60	69	18	51	26.1	73.9
59	98	9	89	9.1	90.9
58	76	14	62	18.4	81.6
Av.				19.9	80.1
Japan:					
1962	12006	7202	4804	65.4	34.6
61	12995	8204	4791	63.1	36.9
60	8701	5194	3507	59.7	40.3
59	7472	4630	2842	61.9	38.1
58	4676	2475	2201	52.9	47.1
Av.				60.6	39.4

defined as the total net acquisition of financial liabilities for all sectors.

+ Short-term defined as change in gold and treasury currency, currency and bank deposits, consumer credit, security credit, bank loans and other loans (one year or less), and trade credit.